United States Department of Agriculture

Colville National Forest Land Management Plan

Final Programmatic Environmental Impact Statement

Volume III. Appendices A through K

Forest Service Colville National Forest September 2019

Cover Photo: Curlew Valley (from Vulcan Mountain)

Colville National Forest
Land Management Plan
Stevens, Ferry, and Pend Oreille Counties of Washington State

Final Programmatic Environmental Impact Statement

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Abstract: This final environmental impact statement (FEIS) documents the analysis of six alternatives (no action, proposed action, and alternatives P, R, B, and O) developed by the Forest Service for the programmatic management of approximately 1.1 million acres administered by the Colville National Forest. For ease of reference, the accompanying revised land management plan (revised forest plan) reflects the preferred alternative (alternative P). The alternatives are described in chapter 2. The no action alternative would keep in place the management direction from the 1988 land and resource management plan (1988 forest plan), as amended. Alternative P is the preferred alternative.

The proposed action and alternatives P, R, B, and O address the following needs for action: (1) maintain or restore ecological conditions that contribute to the recovery and viability of terrestrial plant and wildlife species; (2) manage forest vegetation conditions to be more resilient to disturbances; (3) address climate change implications and vulnerabilities; (4) address changed social and economic conditions and preferences in light of ecosystem capacity; (5) accelerate improvement in watershed condition across the forest; and (6) integrate watershed and aquatic strategies across the forest.

Alternatives P, R, B, and O address new information and concerns that emerged during the implementation of the 1988 forest plan and comply with Federal laws, regulations, and policies. These alternatives also address significant issues (unresolved conflicts with the proposed action) that were identified from comments received during the scoping and public involvement period.

The Forest Service will use the predecisional administrative review process, also referred to as the objection process described in 36 CFR 219 Subpart B of the 2012 planning rule. This process gives an individual or entity an opportunity for an independent Forest Service review and resolution of issues before the approval of a plan revision; this subpart identifies who may file objections to a plan revision, the responsibilities of the participants in an objection, and the procedures that apply to the

review of the objection. Generally, individuals and entities who have submitted substantive formal comments related to this plan revision during the opportunities for public comment for this decision may file an objection.

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Appendix A. Public Involvement Summary

Introduction

This appendix summarizes the collaboration and coordination efforts for the Colville National Forest plan revision. It describes how the Colville National Forest engaged with the public, stakeholders, Tribes, and other agencies throughout this effort. The first section of the document, Collaboration and Public Involvement Effort, provides information on meetings, workshops, and process used for sharing information and obtaining input. Appendix B, Coordination with Other Public Planning Effort, briefly displays the planning and land use policies on adjacent and overlapping lands and how the Colville National Forest took that guidance into consideration.

Collaboration and Public Involvement Effort

Recognizing that our partners and the general public have valuable ideas, knowledge, opinions, and needs that can inform and improve management of the Colville National Forest, the planning team developed a public involvement plan designed to provide opportunities for meaningful dialogue and collaboration throughout the plan revision process. The following information is a synopsis of the key collaborative processes.

2004 Public Meetings

A Notice of Intent to revise the Colville National Forest plan was published in the Federal Register on March 9, 2004. Public involvement for the Colville National Forest plan revision began in 2004 with community workshops about the need to change the existing forest plan. Workshops were held in communities throughout northeastern Washington. Meetings with representatives from local counties began in 2004, and are being held on a continuing basis throughout the forest plan revision process. Government-to-government consultation with Tribal nations and staff-to-staff consultation with their resource specialists began early in the process and continues. Additional meetings with interest groups, user groups, State and Federal officials, Tribal staff, and industry groups have been held.

2004–2011 Agency Meetings

Federal agencies the Forest Service works closely with are Washington State Department of Natural Resources, Washington State Department of Fish and Wildlife, the Department of Homeland Security, Bureau of Land Management, Bureau of Indian Affairs, Bureau of Reclamation, Federal Highway Administration, and the U.S. Fish and Wildlife Service. A 2007 Memorandum of Agreement with the Washington State Association of Counties provides a framework for our work with the three local counties. Three federally recognized Tribes have engaged at varied levels: the Colville Confederated Tribes, the Kalispel and Spokane Tribes. See Table A-2 for a list of meetings.

2006–2008 Collaboration Working Groups

In March 2006, a more involved public participation opportunity was initiated as revision of forest plans for the Colville and Okanogan-Wenatchee National Forests continued. These collaborative efforts have provided the Forest Service with an excellent opportunity to focus on key planning issues, and listen to the public stakeholder dialogue around these issues as participants sought to reach areas of common ground and understanding. In March 2006, the Colville National Forest began its collaboration process separate from the Okanogan-Wenatchee.

Separate meetings were held in each county to spread the word about the collaborative forest planning process. In April 2006, the Forest held a 3-day Forest Summit at an educational retreat center on the Forest. Participants gathered mid-afternoon on Friday and left mid-afternoon on Sunday. Working groups were provided four different in-depth sessions to both work together and get to know each other. The working groups had six day-long meetings, held between late April 2006 and January 2007, and continued the meeting structure begun at the summit, with time for information/education, time for working groups to use that information to discuss and formulate recommendations, time for cross-group communication, and time for informal conversation.

In the fall of 2008, the Colville National Forest hosted a series of public workshops to help the agency evaluate inventoried roadless areas (IRAs) within the Forest for their potential recommendation as wilderness. Informational kick-off meetings were held in Colville and Spokane in September 2008, and collaboration workshops were held in September, October, and November of 2008, in Pend Oreille, Stevens, and Ferry Counties, respectively.

2011 Scoping Period

On June 30, 2011, a Notice of Intent to prepare an environmental impact statement and revised land management plan was published in the Federal Register. The Forest Service published a combined notice announcing the proposed actions for the Colville and Okanogan-Wenatchee National Forests were available for public review and comment. The 90-day comment period per the 2011 notice drew 27,274 comment letters, of which 889 contained unique and substantially different comments.

In addition, public open houses were held in Colville, Republic, Omak, Spokane, and Newport consecutively in July 2011. Two informational webinars were held on August 9 and September 1. News releases were sent to both Forests' public affairs news media distribution lists from which many local and regional news outlets published the story.

2014 Colville NF Establishes Separate Planning Team

Public meetings and outreach efforts continued through 2013, based on the information related to both forests. After reviewing comments received during the scoping period, the regional forester determined that the most effective process to reflect public input and resource needs at that time was to separate the Colville and Okanogan-Wenatchee National Forests' plan revision effort. In August 2014, the Colville and Okanogan-Wenatchee National Forests opted to separate their planning efforts and the Colville proceeded to revise its plan along a different timeline.

2015 Public Coordination

In preparation for the release of the draft environmental impact statement and revised forest plan, the Forest released a summer newsletter and list of frequently asked questions in July, and a fall newsletter in October. The Forest updated the mailing list and forest plan website, and held informational meetings with USFWS, WDFW, and counties.

2016 Formal Comment Period

A 90-day public comment period for the draft environmental impact statement and draft revised plan was initiated by publication of a Federal Register Notice on February 19, 2016. Another notice was published in the Federal Register on March 25, 2016, to extend the public comment period for an additional 45 days. During the 135-day comment period, plan revision information was available to the public electronically on the Forest website and an online open house site, and available in paper copy and on CD at local libraries and each Forest office. The Forest Supervisor and plan revision team members continued to meet with Tribal representatives, State and Federal agencies and elected officials, and county

commissioners, as well as interested groups and agencies, to provide information and discuss potential concerns. Forest Service representatives were invited to over 20 meetings with interested groups to discuss the draft plan revision documents and process. In addition, the Forest scheduled four community of interest meetings, three webinars, and four listening sessions to provide information and gather comments and suggestions from the public.

The Forest received 926 comment letters, of which 363 contained unique or substantially different comments. Letters, emails, form letters and public comment forms from Tribes, individuals, organizations, agencies, businesses and groups from 25 states as well as British Columbia and Quebec, Canada; however, this does not include State or country affiliation for all of the comments received. The Forest analyzed 2,058 comments from these comment letters to identify possible changes to existing alternatives or need to develop new alternatives.

Coordination with State, Federal, and Local Governments

Coordination with State, Federal, and local governments occurred throughout the planning process. A majority of the coordination that resulted in substantive plan language was around topics of mutual interest such as wildlife management, potential wilderness areas, and managing across agency boundaries. More formal presentations and briefings were held with State, local, and Federal elected officials including the city of Colville, town of Republic, town of Ione, Pend Oreille, Stevens, and Ferry County Board of Commissioners, and congressional representatives. The briefings and presentations focused on issues and key topics such as continued economic uses, access, and protections.

Tribal Meetings

Due to the level of use of the Forest by Tribal members and the unique interests of area Tribes, the Colville National Forest conducted extensive Tribal consultation and scoping of Tribal communities throughout the forest plan revision process. This consultation process reflects a long-standing commitment by the Colville National Forest to share the stewardship of public lands with area Tribes. Throughout the plan revision process, Tribal consultation was conducted at the government-to-government level with concerned Tribes according to established memoranda of understanding and pertinent laws and regulations. Additionally, the forest scoped Tribal communities and individual Tribal members that use the Forest. These efforts were made to assure that affected Tribes were given the opportunity to participate in the planning process as required by the National Environmental Policy Act and other laws and regulations. At these meetings, a wide range of concerns related to almost every aspect of land management were raised. The primary Tribal concerns were:

- Confederated Tribes of the Colville Reservation:
    - No new wilderness proposed in a management area “buffer zone” where the reservation borders the Colville National Forest, to allow for forest health treatments. Treatments would reduce the threat of wildfire and insect and disease infestations to the forests and communities on the reservation, and would continue to allow activities to be conducted under the Tribal Forest Protection Act (concern regarding impairment of the Tribe’s reserved rights);
    - The Tribe does not support “blueprint “ of Northeast Washington Forest Coalition (NEWFC), as reflected in alternative B.
- Kalispel Tribe:
    - Timber volume targets are lower than shown to be feasible;
    - Collaborative designations of active management areas and restoration areas need to be verified and checked against known resources issues before being accepted or implemented;

- ♦ Emphasize enforcement efforts and funding for controlling illegal OHV uses in the Colville National Forest;
- ♦ Maintain the wilderness characteristics of all designated roadless areas. Support for the Colville National Forest proposed wilderness recommendations;
- ♦ Cee Cee Ah Creek is high interest area for the Tribe, concern that it is not included as Key Watershed. Would like more effort put into CCA Creek related to fish habitat improvement activities.

- Spokane Tribe:
  - ♦ Concern for protecting archeological sites and areas of cultural significance.

Table A-1. Listing of key Tribal meetings and discussions

Date	Meeting	Location
10\21\2003	Meeting with Colville Confederated Tribes and Natural Resource Council	Nespelem, WA
1\23\2004	Spokane Tribe meeting	Wellpinit, WA
3\29\2005	Colville Confederated Tribes Natural Resources Director	Phone discussion
3\31\2005	Colville Confederated Tribes Natural Resources Director	Phone discussion
5\3\2005	Colville Confederated Tribes Natural Resources Committee meeting	Nespelem, WA
5\19\2006	Meeting with Colville Confederated Tribes	Okanogan, WA
8\27\2007	Letter from Colville Confederated Tribes	Letter to Rick Brazell
9\11\2007	Letter to Colville Confederated Tribes	Letter to Tribal Chair
6\10\2008	Colville Confederated Tribes meeting	Okanogan, WA
8\27\2008	Colville Confederated Tribes meeting	Okanogan, WA
9\30\2008	Colville Confederated Tribes Natural resources staff	Phone discussion
7\8\2009	Colville Confederated Tribes meeting	Nespelem, WA
7\9\2009	Kalispel Tribe Natural Resources Department meeting	Usk, WA
11\20\2010	Colville Confederated Tribes-Natural Resources Committee meeting	Nespelem, WA
8\29\2013	Spokane Tribe meeting	Wellpinit, WA
11\4\2014	Spokane Tribe meeting	Colville, WA
11\12\2014	Colville Confederated Tribes meeting	Colville, WA
12\15\2014	Kalispel Tribe Natural Resources Department meeting	Usk, WA
3\23\2015	Kalispel Tribe Natural Resources Department meeting	Colville, WA
6\30\2015	Colville Confederated Tribes meeting	Colville, WA
10\15\2015	Colville Confederated Tribes meeting	Colville, WA
12\16\2015	Colville Confederated Tribes meeting	Nespelem, WA
1\5\2016	Kalispel Tribe Natural Resources Department meeting	Usk, WA
2\10\2016	Letter to Colville Confederated Tribes	Letter to Tribal Chair
2\10\2016	Letter to Kalispel Tribe	Letter to Tribal Chair
2\10\2016	Letter to Spokane Tribe	Letter to Tribal Chair
3\14\2016	Letter to Colville Confederated Tribes	Letter to Tribal Chair
3\14\2016	Letter to Kalispel Tribe	Letter to Tribal Chair
3\14\2016	Letter to Spokane Tribe	Letter to Tribal Chair
3\16\2016	Colville Confederated Tribes Council meeting	Nespelem, WA

Date	Meeting	Location
7\21\2016	Email to Colville Confederated Tribes	Email to Colville Tribal Historic Preservation Officer
7\26\2016	Email to Spokane Tribe	Email to Spokane Tribal Historic Preservation Officer
8\3\2016	Kalispel Natural Resources Department meeting	Usk, WA
11\15\2016	Colville Confederated Tribes Council meeting	Nespelem, WA
2\16\2017	Kalispel Tribe and Colville NF Executive meeting	Usk, WA

Additionally, there were meetings and phone calls with various stakeholders upon request and as needed to discuss and clarify comments received and to provide information.

Table A-2. Listing of collaboration and public involvement meetings and discussions

Date	Meeting	Location
5\15\2003	Stevens Co. Public Lands Advisory Committee meeting	Colville, WA
5\28\2003	USFWS Little Pend Oreille Wildlife Refuge meeting	Colville, WA
6\6\2003	Bureau of Land Management meeting	unknown
10\27\2003	Public Meeting	Metaline Falls, WA
10\28\2003	Public Meeting	Newport, WA
10\29\2003	Public Meeting	Spokane, WA
10\30\2003	Public Meeting	Colville, WA
12\3\2003	Public Meeting	Republic, WA
12\5\2003	Backcountry Horseman of Washington meeting	Cle Elum, WA
1\17\2004	Pacific Northwest 4-Wheel Drive Association meeting	Auburn, WA
1\17\2004	Washington State 4-Wheel Drive Association meeting	Auburn, WA
2\11\2004	Pacific Northwest Ski Areas Association	Snoqualmie Pass Summit, WA
3\30\2004	Colville NF Range Permittee meeting	Colville, WA
6\5\2004	Colville NF Recreation Residence Special Use Permittees meeting	Metaline Falls, WA
6\22\2004	Inland Empire Chapter of Backcountry Horsemen	Spokane, WA
11\29\2004	The Mountaineers and environmental groups meeting	Seattle, WA
1\20\2005	Environmental groups meeting	Wenatchee, WA
3\18\2005	Forest Industry meeting	unknown
6\13\2005	Discussion of consultation process with members of USFWS and NOAA	Wenatchee, WA
7\2005	Public meeting	Colville, WA
8\9\2005	Okanogan County Planning Department meeting	Okanogan, WA
8\15\2005	Ferry Co. Commissioners	Republic, WA
8\23\2005	Colville, Okanogan, Wenatchee Roadless Area Task Force	Wenatchee, WA
9\12\2005	Pend Oreille Co. Commissioners	Newport, WA
9\13\2005	Stevens Co. Commissioners	Colville, WA

Date	Meeting	Location
1\11\2006	Conservation Northwest meeting	Kettle Falls, WA
2\6\2006	Regional Ecosystem Office Regional Interagency Executive Committee meeting	Portland, OR
3\11\2006	Public Collaboration Information meeting	Deer Park, WA
3\8-17\2006	County Orientation meetings	Colville, Newport, Republic, and Spokane, WA
3\22\2006	Washington Trails Association	Wenatchee, WA
3\22\2006	Eastern Washington Cascades & Yakima Provincial Advisory Committee meeting	Wenatchee, WA
3\30\2006	Okanogan Valley Backcountry Horsemen	Okanogan, WA
3\31\2006-4\2\2006	Forest Plan Summit	Chewelah, WA
4\8\2006-5\30\2006	Community Check-in meetings	Ione, Newport, and Republic, WA
4\15\2006-5\27\2006	Collaboration Working Group meetings	Colville, Newport, and Republic, WA
4\18\2006	Sierra Club and WOC environmental community task force meeting	unknown
4\20\2006	Sierra Club and WOC environmental community task force meeting	unknown
4\29\2006	Forest Health Working Group Public meeting	Chewelah, WA
5\13\2006	Recreation Working Group Public meeting	Chewelah, WA
5\17\2006	Meeting with Congresswoman McMorris-Rodgers staff	Colville, WA
5\22\2006	Stevens Co. Commissioners meeting	Colville, WA
5\31\2006	Forest Plan Collaboration Round-up meeting	Colville, WA
6\27\2006	Okanogan Co. Commissioners	Okanogan, WA
6\28\2006	Community Check-in meeting	Republic, WA
7\7\2006	Environmental Coalition meeting	unknown
9\30\2006	Collaboration Working Group Public meeting	Chewelah, WA
10\21\2006	Collaboration Working Group Public meeting	Colville, WA
11\11\2006	Wilderness Collaboration Working Group Public meeting	Chewelah, WA
1\20\2007	Collaboration Working Group Public meeting	Chewelah, WA
3\1\2007	Forest Plan Collaboration Roundup meeting	Colville, WA
5\1\2007	Okanogan Backcountry Horsemen	Okanogan, WA
6\4\2007	Okanogan Co. Commissioners	Okanogan, WA
3\29\2008	Tri-County (Ferry, Pend Oreille, Stevens) Forest Plan Revision Summit	Colville, WA
6\16\2008	Northeast Washington Forestry Coalition meeting	Colville, WA
8\21\2008	Northeast Washington Forestry Coalition meeting	Colville, WA
9\6\2008	Collaboration kick-off meeting with Congresswoman McMorris-Rodgers staff	Colville, WA
9\6\2008	Wilderness Collaboration Orientation meeting with public	Colville, WA
9\12\2008	Wilderness Collaboration Information meeting	Spokane, WA
9\20\2008	Wilderness Collaboration Workshop	Cusick, WA

Date	Meeting	Location
10\4\2008	Wilderness Collaboration Workshop	Colville, WA
10\8\2008	U.S. Customs and Border Protection meeting	Phone discussion
10\28\2008	Okanogan County Commissioners meeting	Okanogan, WA
11\1\2008	Wilderness Collaboration Workshop	Republic, WA
11\10\2008	WA State Dept. of Natural Resources meeting	Phone discussion
11\15\2008	Wilderness Collaboration Integration meeting	Colville, WA
12\5\2008	Meeting with Senator Cantwell and staff	Portland, OR
12\15\2008	Okanogan County Commissioners meeting	Okanogan, WA
1\23\2009	WA State Dept. of Fish and Wildlife	Phone call
1\27\2009	Meeting with Senator Cantwell's staff	Spokane, WA
1\29\2009	U.S. Customs and Border Protection meeting	Colville, WA
3\9\2009	U.S. Customs and Border Protection meeting	Colville, WA
4\16\2009	Eastern WA Resource Advisory Committee meeting	Spokane, WA
5\1\2009	Nature Conservancy meeting	Wenatchee, WA
7\2\2009	Tri-County Commissioners briefing on PWA evaluations	Colville, WA
7\30\2009	Eastern Washington Resource Advisory Committee meeting	Colville, WA
3\8\2010	U.S. Customs and Border Protection meeting	Colville, WA
3\8\2010	Okanogan Backcountry Horsemen Association meeting	Okanogan, WA
12\3\2010	Backcountry Horsemen of Washington Public Lands and Advocacy Committee meeting	unknown
2\15\2011	Washington State Dept. of Fish and Wildlife	Wenatchee, WA
5\2\2011	Pend Oreille County Commissioners meeting	Newport, WA
5\3\2011	Stevens County Commissioners meeting	Colville, WA
5\3\2011	Public Lands Advisory Committee (PLAC) meeting	Colville, WA
5\9\2011	Ferry County Commissioners meeting	Republic, WA
6\7\2011	U.S. Customs and Border Protection meeting	Colville, WA
6\20\2011	Ferry County Commissioners meeting	Colville, WA
6\27\2011	Ferry County Commissioners	Correspondence with Republic District Ranger
7\13\2011	State Agency meeting with WADNR, WADoE, WDFW,	Wenatchee, WA
7\11\2011	Ferry, Pend Oreille & Stevens County Commissioners, and Congresswoman McMorris-Rodgers staff at Forest Plan Revision meeting	Colville, WA
7\18\2011	Ferry County Commissioners, Conservation NW, and The Lands Council at Forest Plan Revision meeting	Colville, WA
7\25\2011	Ferry County Commissioners meeting	Republic, WA
8\1\2011	Ferry County Commissioners meeting	Republic, WA
8\29\2011	Ferry, Pend Oreille & Stevens County Commissioners meeting	Phone conference
9\23\2011	WA State Dept. of Natural Resources meeting	unknown
10\3\2011	Ferry County Commissioners meeting	Republic, WA

Date	Meeting	Location
10\10\2011	Pend Oreille County Commissioners meeting	Newport, WA
10\24\2011	Ferry County Commissioners, Congresswoman McMorris-Rodgers staff, Boise Cascade, and Vaagen Bros. Lumber, Inc. at Forest Plan Revision meeting	Colville, WA
2\21\2012	Ferry County Commissioners meeting	Republic, WA
4\2-3\2012	Public Lands Advisory Committee meeting	Colville, WA
4\27\2012	Ferry & Stevens County Commissioners, Public Lands Advisory Committee, and public meeting	Colville, WA
4\30\2012	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
5\14\2012	Pend Oreille County Commissioners meeting	Newport, WA
6\12\2012	Ferry & Stevens County Commissioners, Ferry Co. Planning Commission, Public Lands Advisory Committee, and Stevens Co. Land Services meeting	Colville, WA
6\18\2012	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
8\8\2012	Ferry & Stevens County Commissioners, Ferry Co. Planning Commission, Public Lands Advisory Committee, Stevens Co. Land Services, and public meeting	Colville, WA
8\13\2012	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
10\22\2012	Pend Oreille County Commissioners meeting	Newport, WA
11\5\2012	Ferry County Commissioners meeting	Republic, WA
11\14\2012	US Fish and Wildlife Service consultation process meeting	Wenatchee, WA
1\14\2013	Pend Oreille County Commissioners meeting	Newport, WA
1\22\2013	Pend Oreille County Commissioners meeting	Newport, WA
5\28\2013	Pend Oreille County Commissioners meeting	Newport, WA
6\10\2013	Pend Oreille County Commissioners meeting	Newport, WA
6\18\2013	Okanogan County Commissioners meeting	Okanogan, WA
7\8\2013	Pend Oreille County Commissioners meeting	Newport, WA
7\16\2013	Ferry, Pend Oreille, Stevens and Okanogan county meeting (Quad County)	Colville, WA
7\19\2013	Ferry, Pend Oreille, Stevens and Okanogan county meeting (Quad County)	Colville, WA
12\2\2013	Pend Oreille County Commissioners meeting	Newport, WA
2\25\2014	Public Lands Advisory Committee meeting	Colville, WA
6\30\2014	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
8\4\2014	Meeting with NE WA Regional Transportation Planning Organization	Colville, WA
12\8\2014	Ferry County Commissioners meeting	Republic, WA
1\14\2015	Meeting with WA Cattlemen's Association representatives	Spokane, WA
1\15\2015	Meeting with NEWFC	Colville, WA
1\20\2015	Ferry & Pend Oreille County Commissioners, and Public Lands Advisory Committee meeting	Colville, WA

Date	Meeting	Location
1\20\2015	Pend Oreille County Commissioners meeting	Newport, WA
1\30\2015	Meeting with WA Dept. of Fish and Wildlife	Spokane, WA
2\26\2015	Meeting with NEWFC	Colville, WA
3\2\2015	Pend Oreille County Commissioners meeting	Newport, WA
3\4\2015	Meeting with Border Mgmt. Task Force	Republic, WA
3\6\2015	Meeting with WA Dept. of Fish and Wildlife	Colville, WA
3\9\2015	Ferry County Commissioners meeting	Republic, WA
3\25\2015	Meeting with Tri County Economic Development District board members	Colville, WA
3\27\2015	Meeting with NEWFC and AFRC members	Colville, WA
4\7\2015	Ferry County Commissioners meeting	Republic, WA
4\13\2015	Ferry County Commissioners meeting	Republic, WA
4\20\2015	Pend Oreille County Commissioners meeting	Newport, WA
4\27\2015	Ferry County Commissioners meeting	Republic, WA
4\29\2015	Pend Oreille County Commissioners meeting	Newport, WA
5\4\2015	Ferry County Commissioners meeting	Republic, WA
5\5\2015	Pend Oreille County Commissioners meeting	Newport, WA
5\7\2015	Stevens County Commissioners meeting	Colville, WA
6\13\2015	Ferry County Commissioners meeting	Republic, WA
6\15\2015	Ferry County Commissioners meeting	Republic, WA
6\16\2015	Ferry, Pend Oreille & Stevens County Commissioners meeting	Phone conference
6\16\2015	Pend Oreille County Commissioners meeting	Newport, WA
6\23\2015	Stevens County Commissioners meeting	Colville, WA
6\23\2015	Ferry & Pend Oreille County Commissioners, and Congresswoman McMorris-Rodgers staff at Forest Plan Revision meeting	Colville, WA
6\29\2015	Stevens County Commissioners field meeting	Colville National Forest
7\4\2015	Stevens County Commissioner meeting	Colville, WA
7\10\2015	Stevens County Commissioner meeting	Colville, WA
7\13\2015	Ferry County Commissioners meeting	Republic, WA
7\14\2015	Stevens County Commissioners meeting	Colville, WA
7\20\2015	Pend Oreille County Commissioners meeting	Newport, WA
7\21\2015	Public meeting	Colville, WA
7\28\2015	Ferry, Pend Oreille, Stevens and Okanogan counties	Letter from county commissioners
8\4\2015	Spokane County Commissioners	Email
9\10\2015	Ferry, Pend Oreille, and Stevens counties	Kettle Falls, WA
9\11\2015	Ferry, Pend Oreille, and Stevens counties	Kettle Falls, WA
9\16\2015	Pend Oreille County Economic Development Council meeting	Ione, WA
9\17\2015	Ferry, Pend Oreille, and Stevens counties	Colville, WA
10\6\2015	Stevens County Commissioner meeting	Colville, WA
10\23\2015	Ferry, Pend Oreille & Stevens County Commissioners meeting	Newport, WA

Date	Meeting	Location
11\10\2015	Meeting with State agencies – WDNR, WDOE, and WDFW	Conference call
11\24\2015	Meeting with US Fish and Wildlife Service	Spokane, WA
12\9\2015	Meeting with congressional representatives for WA State Senators Murray and Cantwell, and WA State Congresswoman McMorris-Rodgers	Washington, DC
12\29\2015	Meeting with representatives of Ferry and Stevens County Cattlemen's Associations	Colville, WA
1\7\2016	Ferry, Pend Oreille & Stevens County Commissioners meeting	Colville, WA
1\7\2016	Meeting with representatives of Seattle City Light and Pend Oreille County PUD	Colville, WA
1\14\2016	Meeting with AFRC	Colville, WA
1\21\2016	Meeting with NEWFC	Colville, WA
1\26\2016	NE WA Tourism Strategies meeting	Colville, WA
1\28\2016	Meeting with congressional representative for WA State Congresswoman McMorris-Rodgers (Friedman)	Colville, WA
2\17\2016	Meeting with Pend Oreille County Economic Development Council	Usk, WA
2\24\2016	Meeting with NE WA Regional Transportation Planning Organization	Colville, WA
2\24\2016	Meeting with Tri County Economic Development District	Colville, WA
3\3\2016	Meeting with Kettle Falls Rotary Club	Kettle Falls, WA
3\8\2016	Meeting with Selkirk Trailblazers club	Ione, WA
3\15\2016	Meeting with US Air Force Survival School representatives	Newport, WA
3\22\2016	Community of Interest meeting with nonmotorized recreation interests	Colville, WA
3\23\2016	Community of Interest meeting with motorized recreation interests	Colville, WA
3\29\2016	Meeting with US Air Force Survival School representatives	Newport, WA
3\31\2016	Meeting to discuss history of potential wilderness area evaluations with members of public	Colville, WA
3\31\2016	Meeting with NEWFC	Colville, WA
4\12\2016	Meeting with Republic RD grazing permittees	Republic, WA
4\13\2016	Meeting with Three Rivers RD grazing permittees	Kettle Falls, WA
4\14\2016	Meeting with Newport RD grazing permittees	Newport, WA
4\14\2016	Meeting with US Customs and Border Patrol	Kettle Falls, WA
4\19\2016	Community of Interest meeting with conservation interests	Colville, WA
4\20\2016	Community of Interest meeting with grazing interests	Colville, WA
4\21\2016	Meeting with AFRC	Colville, WA
4\21\2016	Meeting with NEWFC	Colville, WA
4\23\2016	Meeting with Pend Oreille County Democrats	Sacheen Lake, WA
5\2\2016	Meeting with Ferry County Natural Resources Board	Republic, WA

Date	Meeting	Location
5\5\2016	Meeting with Pacific NW National Scenic Trail Advisory Council	Port Townsend, WA
5\10\2016	Meeting to discuss history of potential wilderness area evaluations with members of public	Kettle Falls, WA
5\11\2016	Meeting with Colville Rotary club	Colville, WA
5\18\2016	Meeting with Colville High School students	Colville, WA
5\19\2016	Meeting with NEWFC	Colville, WA
5\25\2016	Meeting with NEWFC	Colville, WA
5\26\2016	Meeting with Evergreen Mtn. Bike Alliance	Colville, WA
6\16\2016	Meeting with NEWFC	Colville, WA
8\11\2016	Field trip meeting with WA State Senator Cantwell, members of her staff, NEWFC and Conservation NW representatives, and Colville National Forest staff	Kettle Crest National Scenic Trail
9\28\2016	Meeting with US Fish and Wildlife Service	Spokane, WA
10\28\2016	Ferry, Pend Oreille & Stevens County Commissioners meeting	Colville, WA
11\7\2016	Ferry, Pend Oreille & Stevens County Commissioners meeting	Colville, WA
12\6\2016	Tri County Forest Group meeting	Colville, WA
3\9\2017	Coordination meeting with WA Dept. of Fish and Wildlife	Spokane, WA
7\11\2017	Meeting with staff representatives for WA State Senator Patty Murray	Colville, WA
10\26\2017	Meeting with staff representatives for WA State Senators Murray and Cantwell, and WA State Congresswoman McMorris-Rodgers	Washington, DC

Information Made Available to the Public on the Forest Plan Revision Website

A summary of comments and identified significant issues has been posted to the project website.

To meet the requirements of the 1982 planning rule provisions, an analysis of the management situation was prepared. Availability of the analysis documents and the initial working draft plan was published in the Federal Register with a Notice of Availability on February 19, 2016.

Following the Notice of Availability published to the Federal Register, the Draft Forest Plan and DEIS were posted to the Forest website. Additionally, information was posted about how to comment, plan development, collaboration, newsletters, and meeting information.

The final revised forest plan, final EIS, and record of decision will be posted to the Forest website. Supporting documents, such as specialist reports, maps, consulting agencies' letters, and objection period documentation, will also be posted and made available to the public.

Appendix B. Coordination with Other Public Planning Efforts

Overview

Per the provisions of the 1982 planning regulations, the responsible official shall review the planning and land use policies of other Federal agencies, State and local governments, and American Indian Tribes. In addition, the Chief of the Forest Service, Tom Tidwell, has called for an "all-lands approach" to accomplish ecosystem restoration. This will involve landowners and stakeholders working together across boundaries to decide on common goals for the landscapes they share. In order to facilitate this all-lands approach, it is important to understand the goals and anticipated activities of landowners adjacent to the national forest.

In preparing the Colville forest plan, the planning team reviewed the objectives expressed and evaluated the interrelationships. For the most part, the revised Colville forest plan complements these other planning efforts. These plans, assessments, and strategies were considered in the development of plan components to ensure as much alignment as was practicable. Management approach sections of the plan articulate identified issues and opportunities for coordinating with various partners across administrative boundaries, particularly State, local, Tribal, and Federal agencies. The primary agreements are in managing for safe and healthy vegetation conditions, protection of air and water quality, providing for quality core wildlife habitats with connectivity, and maintenance of high scenic values. Cross boundary issues include managing for wide ranging species and wildfire across agency boundaries, and working together to improve efficiency. While there were some differences related to the differing missions, no conflicts requiring alternative development were identified.

The following sections provide a summary of goals and activities of landowners adjacent to the national forest. Table B-1 lists the other public planning efforts that were considered in the plan revision process.

Table B-1. Planning and land use policies of State, local, Tribal governments and other Federal agencies in the greater landscape, considered in the plan revision

Planning Document	Agency	Description
State		
WDFW Strategic Plan (2017-2019)	Washington State Dept. of Fish and Wildlife (WDFW)	The plan includes goals such as conserving and protecting native fish and wildlife, and providing sustainable fishing, hunting, and other wildlife-related recreational and commercial experiences.
WDNR Strategic Plan (2010, updated 2014-2017)	Washington State Dept. of Natural Resources (WDNR)	Goals stated in the plan include protecting and maintaining working forestlands, habitats, and other natural resources, building partnerships to retain working forests, improving forest practices rules and strengthening implementation and compliance, developing renewable energy resources on State lands, and addressing the challenges of climate change.
Memorandum of Understanding (2013)	Washington State Dept. of Transportation (WSDOT)	The MOU between the USDA Forest Service, Pacific Northwest Region, and the WSDOT documents the steps necessary to coordinate transportation activities involving highways on National Forest System land to ensure the public's safe access over these highways.

Planning Document	Agency	Description
Washington State Scenic and Recreational Highways Strategic Plan (2010-2030)	Washington State Dept. of Transportation (WSDOT)	The plan establishes goals and performance measures consistent with the State's transportation policy goals.
Strategic Plan (2014-2019)	Washington State Parks and Recreation Commission	The plan states that the Commission has the broad responsibility to manage developed parks and recreation areas along with trails, ocean beach, marine parks, watercraft launches, and historic buildings and areas.
WDOE Strategic Plan (2015-2017)	Washington State Dept. of Ecology (WDOE)	The plan includes goals such as protecting and restoring land, air, and water, preventing pollution, and promoting healthy communities and natural resources.
Water Quality Implementation Plan (2006), and addendum (2013)	Washington State Dept. of Ecology (WDOE)	A detailed plan developed by the Colville National Forest and Ecology to reduce pollution and measure progress toward meeting water quality standards for waterbodies on the forest that do not meet water quality standards. The plan identifies how much pollution needs to be reduced or eliminated to achieve water quality standards.
County		
Ferry County Comprehensive Plan (2013, updated 2016)	Ferry County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Pend Oreille County Comprehensive Plan (2013, updated 2015)	Pend Oreille County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Stevens County Comprehensive Plan (2008)	Stevens County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Okanogan County Comprehensive Plan (2014)	Okanogan County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Local		
Ferry County Community Wildfire Protection Plan (CWPP) (2006, updated 2015)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.
Pend Oreille County Community Wildfire Protection Plan (CWPP) (2011)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.
Stevens County Community Wildfire Protection Plan (CWPP) (2007, updated 2015)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.

Planning Document	Agency	Description
Okanogan County Community Wildfire Protection Plan (CWPP) (2013)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.
Tribal		
Draft Comprehensive Plan (2015)	Confederated Tribes of the Colville Reservation	The vision for the Tribal comprehensive plan is based on goals for land use, transportation, housing, economic development, parks and recreation, shoreline management, and cultural resources.
Integrated Resource Management Plan (2000-2014), in revision	Confederated Tribes of the Colville Reservation	The plan provides guidelines for the use and protection of all forest resources, and serves as a basis for decision-making.
Wetland Program Plan (2012)	Confederated Tribes of the Colville Reservation	The plan includes a special program of management to maintain wetland productivity and health, and to prevent loss of wetlands from the landscape.
Kalispel Natural Resource Department Fish and Wildlife Management Plan (2002)	Kalispel Tribe of Indians	The plan emphasizes managing sustainable native populations and habitats through watershed management principles.
Wetland Program Plan (2011-2017)	Kalispel Tribe of Indians	The wetland program goal is to protect, enhance, and/or restore wetland/riparian habitats throughout Kalispel ceded lands as opportunities and funding allows. The focus is on two main program core elements which are 1) wetland monitoring and assessment and 2) voluntary wetland restoration/protection.
Box Canyon Watershed Project (1997)	Kalispel Tribe of Indians	This project was initiated by the Kalispel Natural Resource Department as one of a number of measures designed to restore populations of native fish and meet the biological objectives of the Kalispel Resident Fish Project and to further goals outlined in the Kalispel Natural Resource Department Fish and Wildlife Management Plan.
Sustainable Community Master Plan (2014) and Integrated Resource Management Plan (IRMP)	Spokane Tribe of Indians	The Master Plan is the official policy document of the Tribe and is intended to be used as a decision-making tool. The IRMP is the overall reservation land use and natural resource planning document.
Federal		
Grizzly bear recovery plan (1993)	U.S. Fish and Wildlife Service	Provides general guidance for activities in the grizzly bear recovery area which helps to maintain consistency with other agency planning efforts.
Woodland caribou recovery plan (1994)	U.S. Fish and Wildlife Service	Provides general guidance for activities in the caribou recovery area which helps to maintain consistency with other agency planning efforts.
Bull trout recovery plan (2015)	U.S. Fish and Wildlife Service	Provides general guidance for activities in bull trout habitat which helps to maintain consistency with other agency planning efforts.

Planning Document	Agency	Description
Strategic Plan for responding to accelerating climate change (2010)	U.S. Fish and Wildlife Service	The strategic plan was developed to react to climate change. It establishes a basic framework within which the Service will work as part of the larger conservation community to help ensure the sustainability of fish, wildlife, plants, and habitats in the face of accelerating climate change.
Comprehensive Conservation Plan (2000)	U.S. Fish and Wildlife Service – Little Pend Oreille National Wildlife Refuge	The plan describes the goals, objectives, and strategies for improving Refuge conditions including the types of habitat provided, partnership opportunities, and management actions needed to achieve desired conditions for the next 15 years.
Interagency Consultation Agreement (2016)	USFWS, USFS, and USDC NOAA fisheries	The purpose of the Consultation Agreement is to establish a general framework for conducting efficient and effective ESA Section 7 consultation on the revision of the Colville, and Okanogan Wenatchee National Forest Land and Resource Management Plans.
Okanogan-Wenatchee National Forests land management plan (Okanogan plan 1989, Wenatchee plan 1990)	USDA Forest Service	Forest planning efforts based upon the same regional vegetative desired conditions, standards, and guidelines, and similar objectives for restoration as the Colville NF. The cumulative restoration activities from the action alternatives from this plan could have a landscape level effect on modifying stand structure to reduce the risk of stand-replacing fire in similar vegetation types, while promoting resiliency with regard to climate change.
Idaho Panhandle National Forests land management plan (2015)	USDA Forest Service	Forest planning efforts based upon the same regional vegetative desired conditions, standards, and guidelines, and similar objectives for restoration as the Colville NF. The cumulative restoration activities from the action alternatives from this plan could have a landscape level effect on modifying stand structure to reduce the risk of stand-replacing fire in similar vegetation types, while promoting resiliency with regard to climate change.
National Best Management Practices for Water Quality Management on National Forest System Lands (2012)	USDA Forest Service	The technical guide describes guidance for the Forest Service, U.S. Department of Agriculture, National Best Management Practices (BMP) Program. The National BMP Program was developed to improve agency performance and accountability in managing water quality consistent with the Federal Clean Water Act (CWA) and State water quality programs.
Resource Management Plan (in revision)	USDI Bureau of Land Management	The BLM in Washington is in the process of revising land management plans on their Spokane District. Resource Management Plans form the basis for every action and approved use on their public lands.
Memorandum of Understanding	Department of Homeland Security	A memorandum of understanding between the USDA Forest Service and the Department of Homeland Security Federal Emergency Agency (MOU 42 U.S.C. 5170a and 5170b) provides a general framework of cooperation in responding to, managing and coordinating, and financially accounting for major disasters and emergencies, and for resolving and differences or conflicts regarding this cooperation in an efficient and constructive manner.

Planning Document	Agency	Description
Federal Columbia River Power System (FCRPS) Biological Opinion (2010, Final Supplemental BO 2014)	Bureau of Reclamation	A comprehensive program to protect listed species of salmon and steelhead in the Columbia basin by adopting operations and configuration changes for the FCRPS dams that reduce adverse effects to the species migrating through the FCRPS while, at the same time, implementing habitat restoration actions in spawning and rearing habitat in upstream Columbia River tributaries and in migration and rearing habitat in the River's estuary downstream.

Counties

The Colville National Forest lies in three counties: Ferry, Pend Oreille, and Stevens Counties. Okanogan County borders the west side of the Colville National Forest.

County comprehensive plans can be used as a source of information on the history of land use within the region, the patterns of development, desired conditions, and current county land use policies. County governments hold no legal authority over independent jurisdictions such as Federal and State lands, incorporated cities and towns or American Indian Tribal reservations.

County land use within the planning area ranges from traditional uses such as farming and ranching in rural areas to denser concentrations of residential, industrial, and commercial uses in and around more urban areas (e.g., Colville, Kettle Falls, Chewelah, Republic, Metaline Falls, Newport). One of the common themes is how, and whether, private owners and public land managers can manage the competing priorities of resource conservation and economic development—in particular, how to cope with the growing demands for housing and recreation while ensuring preservation of a shrinking natural resource base that contributes to Washington's highly valued "rural character."

Each of the county plans has been adopted as authorized and required by the Washington State Growth Management Act. The Growth Management Act was enacted by the State Legislature in an effort to protect natural resource lands and environmentally sensitive areas from the adverse effects of suburban sprawl by directing new growth and development to urban areas where necessary public services exist or can reasonably be provided. Five of the fourteen goals in the Act tied to the national forest are:

1. Natural Resource Industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.
2. Open Space and Recreation. Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.
3. Environment. Protect the environment and enhance the states high quality of life, including air and water quality, and the availability of water.
4. Historic Preservation. Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance.
5. Shoreline Master Plans. The shorelines of the state are among the most valuable and fragile of its natural resources and that there is great concern throughout the state relating to their utilization, protection ,restoration and preservation. It is policy to provide for the management of the shorelines by planning for and fostering all reasonable and appropriate uses.

Each county plan was reviewed in its entirety. The following are excerpts from the four county plans Comprehensive Plan Elements that were relevant to the forest plan revision process. At the end of each County Plan review is a summary including (1) Assessment of interrelated impacts, (2) Determination of how to deal with impacts identified, and (3) Conflicts with Forest Service planning and consideration of alternatives.

Although review of the counties' land use plans does not reveal any direct conflicts with the revised forest plan, the Colville National Forest acknowledges county representatives perceive issues regarding economic effects related to expected timber outputs, motorized access, and recommended wilderness. There is disagreement as to whether the revised forest plan strikes the correct balance between ecological protection and local economic need.

Ferry County

The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county. The review is summarized below and describes how the revised plan contributes to the county plan goals and objectives.

The over-arching theme of the comprehensive county plan's (2013, updated 2016) vision statement is that "Ferry County would like to preserve its character and identity." Ferry County offers a rural character of natural beauty and abundance. This includes values such as independence, privacy, and personal freedom that attract many seeking both permanent residence and seasonal refuge. A public opinion survey done by the Ferry County Planning Department in 1993 revealed that most residents of the county would like to see a "focus on agriculture, forestry, and mining"; desire the county to "look the way it did 20 years ago"; and have chosen to live in or own property in the county "because it is beautiful and pristine."

Ferry County shares its northern border with Canada and its eastern boundary with the Columbia River. The southern half of the county falls within the boundaries of the Confederated Tribes of the Colville Reservation and the northern half is largely occupied by the Colville National Forest, leaving approximately 16 percent of land within the county's boundaries under private ownership. Approximately 43 percent is covered by the Confederated Tribes of the Colville Reservation, and approximately 38 percent is in public ownership. There are eight incorporated communities in the county with Republic being the largest city and county seat.

The county goals tied to the national forest include:

- 6.2.2 Land Use and Rural.
  - Goal L2 - Preserve agricultural lands of long term commercial significance.
  - Goal L3 - Preserve natural resources throughout the county and offer special protection to areas designated as critical areas, or environmentally sensitive areas.
- 6.2.3 Transportation
  - GOAL T1 - Provide safe and convenient utilization of motorized and non-motorized vehicles and equipment by the residents, industries, tourists, and recreationalists.
- 6.2.7 Heritage
  - Goal HE1 - Promote protection of the heritage, customs and cultures of the people of Ferry County.

- Goal HE2 - Support multiple use on public lands. Require federal and state agencies to abide by existing laws which instruct them to conduct joint planning with the county for proposals on federal and state lands within the county.
- Goal HE3 - To avoid the loss of archaeological and historic information.

- 6.2.8 Economic Development
  - Goal E1 - Increase job opportunities and broaden the economic base in Ferry County through encouragement of industry that is compatible with other land uses.
  - Goal E4 - Recreation and tourism are an integral part of the economy of Ferry County. The goal for recreational land is to encourage and accommodate as many diverse recreational activities and areas as possible that are compatible with other land uses.

The Ferry County Plan identifies the following considerations as part of the Land Use and Rural Element:

- **7.4 Critical Areas** - The State of Washington has defined "critical areas" to include the following areas and eco-systems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas. Include best available science in developing policies.
  - **7.4.3 Wetlands** - The County's goal is to protect wetlands with a no net loss of wetland area or function; to ensure continuation of their natural functions; to encourage conservation rather than replacement of wetlands in the best economic interest of landowners and residents.
    - **7.4.15 Fish and Wildlife habitat conservation areas** - Ferry County has a very high proportion of federal, state and other publicly and tribally owned land. These lands are generally managed for the conservation of fish and wildlife habitat. Consequently, one of Ferry County's approaches to protecting all fish and wildlife habitat types is to depend on the management of these lands by the responsible agency.
    - **7.4.29 Natural Resource goal** - Maintain and enhance natural resource-based industries in the county and provide for the stewardship and productive use of agricultural, forest, and mineral resource lands of long-term commercial significance.
    - **7.4.35 Forest and Soils** - Ferry County strives to preserve and protect forest lands from activities that would adversely affect the primary use of forest land for commercial forest management. Also, the County wants to minimize the loss of Forest Land acreage, functions, and values through a combination of land use and development regulation and non-regulatory means such as public education, technical assistance to land owners and tax incentives. The County will encourage and assist the restoration and enhancement of degraded forest lands.

Regarding Timber Land the plan states, "Because of the U.S. Forest Service reorganization, many timber sales have been held up or appealed by environmental groups. The result of this has either caused the price of lumber to increase, changed methods of forest practices, or caused operators to focus on logging private timber lands in order to maintain a stable economy. Logging has basically shifted from the 560,000 acres of public owned timber land to the remaining 140,000 acres of privately owned timber land. This increased activity will only last for a finite period. Either the logging operator will be forced to shut down, or the timber economy will have to change to meet the demands for lumber and new construction."

The Ferry County plan describes both the custom and culture of the county as being linked to traditional land use practices such as livestock grazing, timber harvesting, mining, and hunting. The county's

comprehensive plan (Proposed Plan in their Environmental Impact Statement) establishes policies to preserve natural resources throughout the county and advocates for providing forest-related jobs for the local economy.

Summary

Colville National Forest Assessment of Interrelated Impacts

Ferry County is one of three counties within the Colville National Forest. The inclusion of this county and its Comprehensive Plan was selected because Ferry County includes National Forest System land and has social and economic ties to the Forest.

Determination of How to Deal with Impacts as Identified

All elements of the above plan were considered while developing alternatives to the Colville NF Forest Plan Revision. The FEIS discloses the social and economic impacts to the county in the economic and social resources sections of chapter 3.

Conflicts with Forest Service Planning – Consideration of Alternatives

Our review of the Ferry County Comprehensive Plan did not identify any conflicts with the revised Colville NF Forest Plan. The revised forest plan aligns with many of the county's goals including support for preservation of natural resources; maintaining a mix of motorized and non-motorized recreation opportunities; support for maintaining the county's rural character, customs, and culture of the area; contributes to economic input to the county; and provides protections for wetlands, fish and wildlife habitat, vegetation and soils.

Pend Oreille County

The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county. The review is summarized below and describes how the revised plan contributes to the county plan goals and objectives.

The comprehensive county plan's (2013, updated 2015) vision for Pend Oreille County is based on a Statement of Values: Why We Live Here, where natural resources are conserved and land is used efficiently, ensuring that new development is compatible with the surrounding uses, sensitive to the surrounding natural areas, and retains the rural character of the community.

Forest Service land makes up approximately 58 percent of the county. Most of the land lies within the Colville National Forest, but a portion of the NFS land is administered by the Idaho Panhandle National Forests. Incorporated cities/towns include: Newport, Cusick, Metaline Falls, Metaline, and Ione.

The county goals tied to the national forest include:

- 2.3 Land Use Goals
    - Land Use Goal # 2: Maintain the rural character of Pend Oreille County, including: forest lands, agricultural lands, mining and natural resource based industries, home-based businesses, and recreational properties.
    - Land Use Goal # 3: Protect the traditional rural ways of making a living farming and ranching, timber harvesting, and mining-from conflict with rural residential development.
    - Land Use Goal #6: Support new development that is consistent with a realistic assessment of the availability of water and that does not adversely affect the rights of existing water users.

- ♦ Land Use Goal #8: Protect environmentally sensitive areas to reduce cumulative adverse environmental impacts to water availability, water quality, wetlands, aquatic and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas.
- ♦ Land Use Goal #9: Protect groundwater recharge areas and prevent the contamination of vulnerable groundwater resources to ensure water quality and quantity for public and private uses and critical area function.

- 3.3 Economic Development Goals
  - ♦ Economic Development Goal #3: Encourage employment opportunities, the retention and expansion of existing businesses, and new business development
- 4.3 Transportation Goals
  - ♦ Transportation Goal #1: Maintain an efficient, safe, and environmentally responsible road system that supports the Statement of Values and the Goals of the Comprehensive Plan.
  - ♦ Transportation Goal #3: Consider safety, cost effectiveness, and environmental impacts when planning to build new roads.
- 6.3 Parks and Recreation Goals
  - ♦ Parks and Recreation Goal #5: Support the designation of the North Pend Oreille Scenic Byway and the Selkirk Loop, and the development of the Sweet Creek Recreation Area.
- Parks and Recreation Policy #11: Pend Oreille County should coordinate and collaborate with the U.S. Forest Service and other public resource agencies and managers to inventory recreational opportunities and promote the shared use and full enjoyment of publicly owned land in the County.
- 8.3 Essential Public Facilities Goals
  - ♦ Essential Public Facility Goal #2: Provide necessary public facilities and services, in places and at levels proportionate to planned development intensity and environmental protection. (USFS Landing Strip (Sullivan Lake), Sullivan Lake Ranger Station and Newport Ranger Station have been designated by Pend Oreille County as Essential Public Facilities).

The Pend Oreille County Plan identifies the following as part of the Land Use Element:

- **2.7 Critical Areas** - critical areas in the County including wetlands, aquifer recharge areas, fish and wildlife habitat, conservation areas, frequently flooded areas, and geologically hazardous areas.

The Pend Oreille County plan describes both the custom and culture of the county as being linked to traditional land use practices such as timber harvesting, ranching, farming, and mining. Natural Resource products are a strong component of the economy, providing jobs, tax revenue, and valuable products and materials for local use and export. Farmlands and forests also provide aesthetic, recreational, and environmental benefits to the public while contributing to the diverse character of the County. Mining lands provide materials for development and construction purposes. The resource land designations are tailored to each of the resources and address the guidelines provided by State law.

Natural Resource Industries are a key component of economic development in the County. The county's comprehensive plan establishes policies to preserve natural resources throughout the county and advocates for providing forest-related jobs for the local economy.

Summary

Colville National Forest Assessment of Interrelated Impacts

Pend Oreille County is one of three counties within the Colville National Forest. The inclusion of this county and its Comprehensive Plan was selected because Pend Oreille County includes NFS land and has social and economic ties to the Forest.

Determination of How to Deal with Impacts as Identified

All elements of the above plan were considered while developing alternatives to the Colville NF Forest Plan Revision. The FEIS discloses the social and economic impacts to the county in the economic and social resources sections of chapter 3.

Conflicts with Forest Service Planning – Consideration of Alternatives

Our review of the Pend Oreille County Comprehensive Plan did not identify any conflicts with the revised Colville NF Forest Plan. The revised forest plan aligns with many of the county's goals including support for maintaining the county's rural character; contributes to economic input to the county; protection of sensitive aquatic and terrestrial habitats; considers safety, cost effectiveness, and environmental impacts of the transportation system; and addresses recreation opportunities.

Stevens County

The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county. The review is summarized below and describes how the revised plan contributes to the county plan goals and objectives.

The comprehensive county plan's (2008) vision for Stevens County emphasizes healthy landscapes where natural resources are conserved and land is used efficiently. Natural resources are well managed, healthy, productive and provide a steady, sustainable stream of products for economic viability, while maintaining and enhancing opportunities for recreation.

About 40 percent of the total land area is owned by the Federal Government, State governments, or the Spokane Tribe. Incorporated cities/towns include: Colville, Kettle Falls, Chewelah, Marcus, Northport, and Springdale.

The county goals tied to the national forest include:

- 2.1 Economic Development Goal
    - ED-7 Include economic development as one of the considerations in the process of land use planning, transportation planning, infrastructure planning, and the determination of urban growth areas.
- 3.1 Land Use Goals
    - Land Use Goal 1 - Urban and Rural Areas, and Resource Lands: Create distinct urban and rural areas, and areas characterized by resource uses within Stevens County. Increase the percentage of new growth that occurs at higher densities in designated urban areas, and reduce sprawl and maintain the character of rural areas. Establish logical boundaries for targeted infill.
    - Land Use Goal 3 - Customs & Culture: Encourage development of a statement of custom and culture so that Federal and State agencies will be able to ensure that community and economic stability are considered by those agencies when they develop and implement plans, policies or regulations affecting the use of State and Federal lands. Sustainable management decisions for

public lands shall consider the diversity of customary practices, traditions, culture and ways of life found throughout the County and, to the extent permitted by applicable law, complies with the Countys planning goals and policies and development regulations.

- ♦ Land Use Goal 5 - Master Planned Resorts: Allow development of master planned resorts, which meet the requirements of the Growth Management Act, to take advantage of Stevens Countys natural beauty and enhance the publics access to areas already characterized by some degree of recreational use.

- 4.1 Natural Resources Goal
  - ♦ Maintain and enhance natural resource-based industries in the county, protect critical areas including surface and groundwater resources, and provide for the stewardship and productive use of forest, mineral, and agricultural lands.
- 5.1 Rural Goal
  - ♦ Protect and enhance the character and quality of rural areas in ways that promote traditional rural lifestyles and industries, including timber, agriculture and mining, while also allowing for a diversity of uses, densities, and innovative development.
- 7.1 Parks and Recreation Goal
  - ♦ Support the retention, enhancement, and development of recreation areas and activities, and parks and open space within Stevens County.
- 8.1 Transportation Goal
  - ♦ Provide an efficient, functional, and environmentally responsible transportation network throughout Stevens County by utilizing and maintaining existing infrastructure, integrating transportation planning with other elements of the comprehensive plan, and coordinating with other Federal, State, Tribal and local agencies.

The Stevens County plan states “the focus of the Comprehensive Plan is driven in part by the fact that the state and federal government manage nearly 40 percent of the land mass of Stevens County. Federal and state management of these extensive enclaves intertwines with, and impacts, the abilities of private citizens in the county to pursue activities according to the traditional and historic customs and culture.” The plan states “federal and state management infuses a never-ending stream of regulations, government employees, and out-of-county opinion into the daily lives of Stevens County citizens.” This sentiment is found throughout the plan and emphasizes close coordination on the development of Federal and State land use policies that are responsive to the public interest.

The Stevens County plan states “it is the intent of this plan to be a mechanism whereby the general public and particularly federal and state managers can recognize, understand, and honor the customs, culture, economic viability, social structure and quality of life of the citizens of Stevens County. It is a goal of the planning process that federal and state management actions in Stevens County would be more cooperative and less confrontational than in the past.”

The plan advocates for resource-based industries and activities such as timber production, agriculture, and mining while providing forest-related jobs for the local economy.

Summary

Colville National Forest Assessment of Interrelated Impacts

Stevens County is one of three counties within the Colville National Forest. The inclusion of this county and its Comprehensive Plan was selected because Stevens County includes NFS land and has social and economic ties to the Forest.

Determination of How to Deal with Impacts as Identified

All elements of the above plan were considered while developing alternatives to the Colville NF Forest Plan Revision. The FEIS discloses the social and economic impacts to the county in the economic and social sections of chapter 3.

Conflicts with Forest Service Planning – Consideration of Alternatives

Our review of the Stevens County Comprehensive Plan did not identify any conflicts with the revised Colville NF Forest Plan. The revised forest plan aligns with many of the county's goals including providing economic input to the county; support for maintaining rural character, customs, and culture of the area; addresses recreation opportunities; considers safety, cost-effectiveness, and environmental impacts of the transportation system; and protection of aquatic and terrestrial resources.

Okanogan County

The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county. The review is summarized below and describes how the revised plan contributes to the county plan goals and objectives.

The west side of the Colville National Forest borders Okanogan County. The comprehensive county plan's (2014) vision for Okanogan County emphasizes independence, privacy, and personal freedom for its citizens, works to strengthen the local economy, while also putting forth efforts to maintain a clean and healthy environment. Okanogan County will provide for the health, safety, and welfare of its citizens by promoting intelligent use of all available resources. Okanogan County is the largest county in the state of Washington; however, only 10 percent of the county is privately owned. Approximately 20 percent is covered by the Confederated Tribes of the Colville Reservation and National Forest System land (Okanogan-Wenatchee National Forest) makes up nearly 58 percent of the county. The county has 13 incorporated towns with Okanogan being the second largest city and the county seat.

The county Comprehensive Plan is guided by a series of planning objectives. These objectives identify key planning principles and result from a program of actively involving local residents, business and property owners, the cities and towns, local service providers, and the Confederated Tribes of the Colville Reservation. Land use guides directly tied to the national forest include:

- Rural Resource/Low Density – within this designated area the following uses are priority uses in support of the Countys forestry economy:
- Harvest and processing of forest products.
- Equipment yards, repair and maintenance operations.
- Manufacturing that requires proximity to forest products.
- Home occupations and home-based industries.
- Residential uses including vacation rental, single family, extended family, and farm worker housing, with covenants to assure compatibility with resource activities.

The plan advocates for resource-based industries and activities such as agriculture, forestry, fishing, mining, and recreation while providing forest-related jobs for the local economy.

Summary

Colville National Forest Assessment of Interrelated Impacts

Okanogan County borders the Colville National Forest. The inclusion of this county and its Comprehensive Plan was selected because Okanogan County includes NFS land and has social and economic ties to the Forest.

Determination of How to Deal with Impacts as Identified

All elements of the above plan were considered while developing alternatives to the Colville NF Forest Plan Revision.

Conflicts with Forest Service Planning – Consideration of Alternatives

Our review of the Okanogan County Comprehensive Plan did not identify any conflicts with the revised Colville NF Forest Plan.

Community Wildfire Protection Plans

Four community wildfire protection plans (CWPP) outline goals for at-risk-communities within and around the Colville National Forest. These plans are:

- Ferry County Community Wildfire Protection Plan (Ferry County CWPP Core Team and Northwest Management, Inc., 2006, updated 2015)
- Pend Oreille County Community Wildfire Protection Plan (Pend Oreille County, South Pend Oreille Fire & Rescue, Pend Oreille County Fire Districts 2, 4, 5, 6, and 8, the town of Cusick, town of Ione, town of Metaline, town of Metaline Falls, the city of Newport, the Colville National Forest, and WA DNR, 2011)
- Stevens County Community Wildfire Protection Plan, Volume II (Stevens County CWPP Planning Committee and Northwest Management, Inc., 2007, updated 2015)
- Okanogan County Community Wildfire Protection Plan (Okanogan County CWPP Committee, Okanogan County Dept. of Emergency Management, WA DNR, and Northwest Management, Inc., 2013)

The primary goal of the plans is for Federal land to return to Condition Class I where wildfire can be incorporated into long-term management practices to sustain forest health. The plans also delineate the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels. The plans are used by Colville National Forest managers to help prioritize areas for fuel reduction treatments.

Communities, Towns, and Cities

There are several communities, towns, and cities within or adjacent to the Colville National Forest. These include Colville, Kettle Falls, Chewelah, Marcus, Northport, Springdale, Republic, Curlew, Metaline Falls, Metaline, Ione, Cusick, Usk, and Newport.

The communities surrounding the Colville National Forest have a history of involvement with and dependence upon the national forests and natural resource topics in general. Washington has long been dependent upon natural resources for commodity production, clean water, tourism, and aesthetic

enjoyment. As a result the public has frequently expressed interest in the use and management of these resources. Some examples are:

- Collaborative Forest Landscape Restoration Program – The purpose of the Collaborative Forest Landscape Restoration Program is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes. The plan calls for close coordination with other landowners to encourage collaborative solutions through landscape-scale operations.
- Development of The International Selkirk Scenic Loop – This designated All American Road is one of 31 in the nation. It winds through northeastern Washington, northern Idaho, and southeastern British Columbia. The Loop was formed in 1999 as a non-profit corporation designed to enhance the local economy through the promotion of tourism along its route in northern Idaho, northeastern Washington and the East and West Kootenay region of British Columbia. Since its inception, the Loop has drawn the attention of business owners that now make up its membership, as well as travel guides and various publications throughout the United States and Canada.

One of the most common concerns of these communities is the risk associated with uncharacteristic wildfire and hazardous fuel buildup. This issue has been articulated in the community wildfire protection plans (see previous section).

Tribes

Federally recognized American Indian Tribes occupy about 53.5 million acres (7 percent) of land in the western states. The Kalispel Indian Reservation and the Confederated Tribes of the Colville Reservation border the Colville National Forest. The Spokane Indian Reservation is south of the Colville National Forest, but does not share a direct border with the Forest. These Tribes are legally considered to be sovereign nations, meaning the Forest Service has a government-to-government relationship with the Tribes. Tribes that enter into contracts with the Federal government do so just as state governments or sovereign nations do.

In addition, the Federal Government also holds a special responsibility to consult with Tribes over management concerns that may affect them. This process is governed by a variety of Federal regulations and policies, including the Forest Service Handbook 1509.13, the National Environmental Policy Act, the National Indian Forest Resources Management Act, the Tribal Forest Protection Act, the Archeological Resources Protection Act, and several presidential executive orders.

Government-to-government consultation with the Colville, Kalispel, and Spokane Tribal nations and staff-to-staff consultation with their resource specialists began early in the forest plan revision process and continues.

Tribes' use of NFS land includes free, non-permitted activities such as gathering medicinal plants as well as the use of products such as sawtimber. In addition, the Colville National Forest includes traditional cultural places, the locations of which are known only to the Tribes.

Confederated Tribes of the Colville Reservation

The Colville Indian Reservation spans Okanogan and Ferry Counties with a checker board of ownership in fee and trust, and shares its northeast border with the Colville National Forest. The Colville Indian Reservation is a self-sufficient entity with their own business enterprises, Tribal education and health programs, and owns and operates three casinos.

The goals and policies contained within the Confederated Tribes of the Colville Reservation draft (2015) Comprehensive Plan are a combination of the goals and objectives taken from several documents that

include the land use and development plan, Community Economic Development Strategy, Shoreline Management Plan, draft Transportation Improvement Plan and Integrated Resource Management Plan. The vision for the Tribal comprehensive plan is based on goals for land use, transportation, housing, economic development, parks and recreation, shoreline management, and cultural resources.

Integrated Resource Management Plan

The Forest has coordinated with the Colville Confederated Tribes on the design and location of forest management projects adjacent to Tribal lands. The draft Integrated Resource Management Plan (2015) is currently available for public review and provides guidelines for the use and protection of all forest resources, and serves as a basis for decision-making. Guidelines include:

- Promote the long-term productivity and health of the total forest ecosystem.
- Provide for the maintenance and enhancement of species diversity and thereby promote long-term stability of the forest environment.
- Offer protections of resources such as timber, fish, forage, wildlife, water and culture sensitive areas while providing recreation and access to these areas.

Forestry

Approximately 48 percent of the Colville Indian Reservation is in the commercial forest land use category. Although current conditions are at a low point in the cyclical timber market, historically, timber harvesting has been a significant economic engine for the Tribe. Under most market conditions, the Tribe has about 14 logging contractors plus the Colville Tribal Logging that annually harvest approximately 78 million board feet. The contractors employed about 80 to 100 people and about 40 to 50 truckers transported the timber to the mills. With the closing of the mills, the annual harvest and number of jobs has dropped significantly; however, production is expected to return to historic levels once the market returns.

Recreation and Wildlife

The Tribes' Parks and Recreation Plan describes adequately planning for future recreational uses within the Colville Reservation that will not have negative impact on the natural environment. The Tribes are concerned with the protection of its portion of the 150-mile Lake Roosevelt shoreline, adjoining uplands, and wildlife habitat, which lie behind the Grand Coulee Dam. Increased tourism has created additional threats to tribal resources with wildfire danger being the primary threat. The Colville Tribal Parks and Recreation Program was able to coordinate efforts with the Colville National Forest and the Bureau of Indian Affairs in 1990 for the renovation of the 13-Mile Trailhead.

Shoreline Management Element

The Colville Tribes have a primary interest in the protection, control, conservation, and utilization of the shoreline resources of the Colville Indian Reservation. The Tribes have a strong shoreline management program and permit process in place to help regulate and control development in sensitive areas and protect resources such as archeological and cultural sites. The Tribes are concerned with preserving the more remote areas of the reservation to eliminate overdevelopment.

Transportation Element

The Colville Tribe's transportation department mission is "To provide safe, efficient, and reliable transportation and public road access to and within the Colville Indian Reservation and local communities

for Tribal members, visitors, recreationalists, resource users and others while contributing to community and economic development, self-determination, and Tribal member employment."

While there is a limited transit system on the Reservation, there is a need to expand these services to meet the current and future need. Many of the BIA system roads are critical for transportation of forest products. In a typical year, logging and forest management activities contribute approximately 17,600 loads to both forest and system roads. There are two scenic byways on the Colville Reservation: the Grand Coulee Corridor and the Okanogan Trails Scenic Byway.

Summary

Members of the planning interdisciplinary team consulted Tribal representatives during development of the revised forest plan. The forest supervisor met with the Confederated Tribes of the Colville Reservation, and as a result, specific Tribal comments were incorporated in this FEIS and revised forest plan.

Kalispel Tribe of Indians

The Kalispel Tribe is a self-sufficient entity with their own business enterprises, Tribal education and health programs, and strong alliances with those outside the Tribe. The original Reservation was approximately 7 square miles in size and located in Pend Oreille County on the east bank of the Pend Oreille River, close to the towns of Usk and Cusick, Washington. Since that time, almost 4 square miles of Tribal Trust land has been added to the Reservation, including one-half square mile in the City of Airway Heights. The Tribe holds 5.5 additional square miles of property throughout northeastern Washington and northern Idaho, almost entirely for the preservation of forests and other natural resources with a small amount held for limited economic development.

The Kalispel Natural Resources Department (KNRD) is responsible for managing the historic properties, fisheries, wildlife, water, and other natural resources of the Kalispel Tribe of Indians reservation in Usk, Washington, and other ceded lands in the lower Clark Fork/Pend Oreille.

The state of Washington recognizes KNRD as a co-manager for the Pend Oreille River watershed area. KNRD currently manages the only warm water hatchery in the region. KNRD has a vast range of responsibilities that are both regulatory and policy-making. The responsibilities of KNRDs two divisions (Fisheries and Water Resources and Wildlife and Terrestrial Resources) are interrelated, but each maintains its own unique focus.

The Kalispel Tribe does not have a land management plan. However, the Colville National Forest recognizes that the Kalispel Tribe has special interests and knowledge of traditional cultural uses, cultural resources, and properties within the Colville National Forest. It is the Forest's intent to continue working with the Tribe to address those interests. The Forest Service is required to manage the lands under their stewardship with full consideration of the Federal trust responsibility and Tribal rights and interests, particularly reserved rights where they exist. In meeting these responsibilities, the agency consults with the Tribe whenever proposed policies or management actions may affect their interests.

In 1997, the Kalispel Natural Resources Department adopted a Fish and Wildlife Management Plan. Following approval by the Kalispel Tribal Council, this document contains the guiding principles for the department. In 2005, the Kalispel Tribal Council approved an updated version of this plan. Some of the goals and objectives of the plan for fish, water quality, and wildlife include:

Fisheries

- Goal 1: Protect, enhance, and restore native fish populations to maintain stable, viable levels, to ensure long-term, self-sustaining persistence, and to provide ecological, cultural, subsistence, and sociological benefits.
    - ♦ Objective 1: Restore bull trout, westslope cutthroat, and mountain whitefish populations in Kalispel ceded lands to a level where adult escapement is well distributed and they support healthy spawning populations for cultural and subsistence purposes.
    - ♦ Objective 2: Reduce competition between brook trout and native fish (e.g., westslope cutthroat trout and bull trout).
    - ♦ Objective 3: Reduce competition between lake trout and bull trout.
    - ♦ Objective 4: Preserve and protect native non-game species above minimum viable population sizes that maintain adaptability and genetic diversity, while minimizing the probability of extinction.
- Goal 2: Where native habitats are not available, manage non-native fish species or non-native stocks to maximize available habitats to provide a subsistence and recreational sport fishing resource. Non-native species are to be managed in a way that maximizes available habitat conditions and minimizes negative impacts to native species.
    - ♦ Objective 1: Provide a sport and subsistence fishery for Tribal and non-Tribal members.
- Goal 3: Restore anadromous fish abundance and harvest to historical levels above Chief Joseph and Grand Coulee Dams.
    - ♦ Objective 1: Re-introduction of anadromous salmon and steelhead runs above Chief Joseph and Grand Coulee Dams to a level where adult escapement is well distributed and they support healthy spawning populations for cultural and subsistence purposes.
- Goal 4: Enforce all management plans throughout ceded lands
    - ♦ Objective 1: Ensure that fish resources are protected by strictly enforcing management regulations.

Water Quality

- Goal 1: Maintain or enhance water quality in rivers, streams, lakes and other waterbodies throughout ceded lands.
    - ♦ Objective 1: Determine water quality impacts from hydroelectric dams throughout ceded lands.
    - ♦ Objective 2: Use all available methods, including river, reservoir, watershed management, modification of hydroelectric operations, and other measures to offset hydroelectric impacts.
    - ♦ Objective 3: Adopt federally certified water quality standards for Reservation waters.
    - ♦ Objective 4: Coordinate with other agencies, landowners, and Tribes to implement watershed/water quality management within the Pend Oreille/Clark Fork drainage.
    - ♦ Objective 5: Establish water quality monitoring protocol, and information storage and exchange system for ceded lands.
    - ♦ Objective 6: Evaluate data for opportunities to implement water quality improvements.
    - ♦ Objective 7: Implement water quality improvement opportunities identified by monitoring, and opportunities identified by other means.

Wildlife, Wetland, Riparian, and Botanical

- Goal 1: Protect, restore, enhance, and sustain populations of wildlife for aesthetic, cultural, ecological, and recreational values.
  - Objective 1: Increase the Selkirk woodland caribou herd to 75 animals or more by 2010, with the intent to exceed ESA de-listing criteria by 2020.
  - Objective 2: Maintain bald eagle populations at or above present levels.
  - Objective 3: Restore a self-sustaining population of grizzly bears in the Selkirk Recovery Zone that exceeds the Grizzly Bear Recovery Plan goals.
  - Objective 4: Restore and maintain viable lynx populations in the subbasin.
  - Objective 5: Recover mule deer populations to at least 1980 levels in the Lower Pend Oreille and Priest River subbasins.
  - Objective 6: Maintain and expand great-blue heron population levels within the subbasin. Protect existing heronries and secure a minimum of two potential alternative nesting sites near high use feeding locations such as Calispell Lake and the Pend Oreille River by 2010.
  - Objective 7: Maintain osprey populations at or above present levels in the Lower Pend Oreille subbasin for the next 25 years. Maintain osprey nest sites on the Pend Oreille River and encourage increased suitable riparian habitat by 2025.
  - Objective 8: Restore and sustain State and Tribal species of special concern, Federal candidate species, BLM sensitive species, and USFS indicator and sensitive species, including the following: wolverine, fisher, otter, northern flying squirrel, northern bog lemming, pygmy shrew, Townsend's big-eared bat, common loon, pygmy nuthatch, goshawk, flammulated owl, boreal owl, black-backed owl, great gray owl, northern pygmy owl, three-toed woodpecker, upland sandpiper, northern alligator lizard, ring-necked snake, rough-skinned newt, wood frog, and Coeur d'Alene salamander.
  - Objective 9: Protect, restore, enhance, and sustain populations of big game species such as black bear, elk, mountain goat, moose, mountain lion, mule deer, and white-tailed deer.
  - Objective 10: Protect, restore, enhance, and sustain populations of waterfowl, upland birds, and furbearers under traditional levels of recreational and subsistence use.
  - Objective 11: Maintain or enhance neo-tropical migrant bird populations at or above current levels within present use areas and identify limiting factors for these populations within the subbasin.
  - Objective 12: Maintain or enhance amphibian and reptiles populations at or above current levels within present use areas and identify limiting factors within the subbasin.
  - Objective 13: Maintain or enhance invertebrate populations at current levels within present use areas and identify limiting factors for these populations within the subbasin.
- Goal 2: Protect, enhance, and restore native wildlife habitat function and performance to establish ecological security for native and important non-native wildlife populations.
  - Objective 1: Restore the diversity, block size, and spatial arrangement of habitat types needed to sustain wildlife populations at ecologically sound levels.
  - Objective 2: Restore the connectivity of habitat types needed to sustain wildlife populations at the landscape level.

- Objective 3: Protect, mitigate, and enhance wildlife habitat losses associated with the construction, inundation, and operation of hydropower and other dams within the Kalispel Ceded Lands.
- Objective 4: By 2050, fully mitigate wildlife habitat losses associated with the construction and inundation of Albeni Falls Dam.
- Objective 5: Protect and maintain lake and wetland habitats for wildlife at Calispell Lake/Marsh.
  - Sub-Objective 5.1: Purchase the lake and/or water management rights by 2010 (acquisition, easements, binding long term agreements).
- Objective 6: Protect, restore, and enhance natural functions, habitats, and species compositions to benefit the riparian and wetland habitats and associated wildlife for the Pend Oreille River floodplain and Cusick Valley (Calispell, Tacoma, and Trimble Drainages).
  - Sub-Objective 6.1: By 2005, acquire lands and/or management rights (Tribal, USFWS refuge, Washington DNR, NRCS Wetland Reserve Program easements) on 1,000 ha in order to add to current management blocks.
- Objective 7: Protect, restore, and enhance island habitats for wildlife at Everett Island.
  - Sub-Objective 7.1: By 2010, acquire management rights to the island through fee-title acquisition, conservation easements, and/or long- term agreements.
- Objective 8: Protect and maintain important habitats for wildlife on Federal, State, and private lands.
  - Sub-Objective 8.1: By 2010, ensure that all forest practices, including road building and maintenance are being implemented by the USFS as specified in the Colville National Forest Plan.
  - Sub-Objective 8.2: By 2010, ensure that all forest practices, including road building and maintenance are being implemented as specified in the Washington DNR Forest Practices Rule.
  - Sub-Objective 8.3: By 2010, identify and pursue priority habitat areas for acquisition.
- Objective 9: Protect and enhance native botanical resources in Kalispel ceded lands.
  - Sub-Objective 9.1: Identify, restore, and enhance native botanical resources deemed important to the Tribe.

Summary

Members of the planning interdisciplinary team consulted Tribal representatives during development of the revised forest plan. The forest supervisor met with the Kalispel Tribe of Indians and as a result, specific Tribal comments were incorporated in this FEIS and the revised forest plan.

Spokane Tribe of Indians

The Spokane Indian Reservation occupies the southern portion of Stevens County, but does not border the Colville National Forest. The Spokane Indian Reservation is a self-sufficient entity with their own business enterprises, Tribal education and health programs, and owns and operates one casino and resort. The Spokane Tribe's Sustainable Community Master Plan (2015) is the official policy document of the Tribe and is intended to be used as a decision-making tool.

Forest Management

The Tribal Department of Natural Resources is a division of the Spokane Tribal Government. Its programs include environmental protection, air quality, water and fish, fisheries, superfund, wildlife, hatcheries, lab, realty, preservation, fire management, forest development, fuels management, forestry administration, and timber sales. The Integrated Resource Management Plan is the overall reservation land use and natural resource planning document. Land Use goals include:

- LU Goal 1: Implement the Integrated Resource Management Plan and seek alignment with the Sustainable Community Master Plan land use goals.
- LU Goal 2: Redesign developed areas for sustainable development that insures access to one or a combination of the following: (1) Healthy Foods; (2) Recreation; (3) Housing, (4) Transportation; (5) Economic Development; (6) Cultural Uses, and (7) Utilities.
- LU Goal 3: Acquire suitable land for sustainable development that insure access to one or a combination of the following: (1) Healthy Foods; (2) Recreation; (3) Housing, (4) Transportation; (5) Economic Development; (6) Cultural Uses, and (7) Utilities.
- LU Goal 4: Clean up polluted lands and water.

Recreation and Wildlife

Recreation opportunities include camping and water recreation. Areas on the reservation have few youth activities that include playgrounds, basketball courts, and baseball fields. The reservation has 21 shoreline campgrounds. The master plan goal for the reservation is to create a parks and recreation department to provide more activities for all age groups. The Integrated Resource Management Plan specifies technical descriptions of permitted, conditional, and/or restricted uses within these designations to allow for the seasonal natural development of vegetation and wildlife habitat.

Transportation

There are approximately 417 miles of roadways on the Spokane Indian Reservation. There are also about 112 miles of State highways, including State Route 25 on the west side of the reservation. State Route 231 follows the eastern border of the reservation and passes through the community of Ford and on to Springdale. In 2010, the Spokane Tribe began operation of a public transit program known as the Moccasin Express. Roads that serve Tribal lands may be owned or managed by the Tribe, county, Bureau of Indian Affairs, or State. Funded by the BIA, the Reservation Transportation Plans are updated on a regular basis. There is a need to expand the current public transportation system to serve the reservation community and promote energy efficient and environmentally friendly transportation choices.

Summary

Members of the planning interdisciplinary team consulted Tribal representatives during development of the revised forest plan. The forest supervisor met with the Spokane Tribe of Indians, and as a result, specific Tribal comments were incorporated in this FEIS and the revised forest plan.

Federal

Other Federal agencies affect the management of the Colville National Forest, either because they have lands that adjoin the Forest (e.g., Bureau of Land Management, other national forests), they manage features that occur on the national forest (e.g., Federal Highway Administration), or they have oversight responsibilities (e.g., U.S. Fish and Wildlife Service).

Bonneville Power Administration

The Bonneville Power Administration (BPA) is a nonprofit federal marketing administration under the U.S. Department of Energy. BPA markets wholesale electrical power from 31 federal hydroelectric projects in the Northwest operated by the U.S. Army Corps of Engineers and the Bureau of Reclamation. BPA provides approximately 28 percent of the electric power in the Northwest, and operates and maintains about three-fourths of the high-voltage transmission in its service territory (Idaho, Oregon, Washington, Montana, California, Nevada, Utah, and Wyoming).

BPA owns, operates, and maintains approximately 85 miles of electric transmission lines and associated roads and access routes on the Colville National Forest under existing special use authorizations called Land Use Grant Instruments (LUGI).

In 2017, the BPA and Forest Service entered into a Memorandum of Understanding (MOU) regarding the authorization of Bonneville's transmission facilities and access to those facilities on lands managed by the Forest Service. The purpose of the MOU was to recognize that BPA's existing special use authorizations for transmission facilities and access roads on National Forest System lands in Regions 1, 4, 5 and 6, including pre-1960 permits, LUGI, and authorizations consisting of the 1960, 1966 or 1967 historical MOU and a supplement, continue to be valid until they are replaced with the Federal Land Policy and Management Act (FLPMA) permit. In addition, the MOU discussed how BPA's historical authorizations would be converted to the new FLPMA permit as well as how the FS and BPA will ensure effective planning, cooperation, and coordination for administering Bonneville's use and occupancy of its transmission facilities to operate and maintain a reliable electric system on NFS lands in Regions 1, 4, 5 and 6.

Bureau of Land Management

BLMs Resource Management Plans (RMPs) form the basis for every action and approved use on their public lands. The BLM prepares RMPs for areas of public lands, called planning areas, which tend to have similar resource characteristics. Planning emphasizes a collaborative environment in which local, State, and Tribal governments, the public, user groups, and industry work with the agency to identify appropriate multiple uses of the public lands. Plans are periodically revised as changing conditions and resource demands require.

The BLM in Washington is in the process of revising land management plans on their Spokane District. The agencies have exchanged information helpful to both efforts. Bureau of Land Management land occurs in scattered parcels across the Colville National Forest.

Bureau of Indian Affairs

Bureau of Indian Affairs is responsible for the administration and management of 55 million surface acres and 57 million acres of subsurface minerals estates held in trust by the United States for American Indian, Indian Tribes, and Alaska Natives. Three reservations are adjacent to the planning area: the Colville, Kalispel, and Spokane Reservations. (See section on Tribes for additional information.)

Bureau of Reclamation

The Federal Columbia River Power System (FCRPS) is comprised of a series of hydropower projects in the Columbia Basin located on the mainstem Columbia River and in several of its major tributaries that provide about one-third of the electricity used in the Pacific Northwest. Three "Action Agencies," the Bureau of Reclamation, U.S. Army Corps of Engineers, and Bonneville Power Administration, manage 14 facilities in the Columbia Basin.

These Action Agencies are currently operating under the 2008/2010 FCRPS Biological Opinion issued by NOAA Fisheries (NMFS 2008a) that recommended a "Reasonable and Prudent Alternative" (RPA) for the FCRPS, which was then adopted for implementation. The biological opinion includes hydrosystem, harvest, hatchery, predator control, tributary and estuary habitat, and research, monitoring, and evaluation actions to avoid jeopardy and destruction of critical habitat by improving salmon and steelhead survival (www.usbr.gov). In litigation challenging the 2008 Biological Opinion, *NWF v. NMFS*, the Court ordered NOAA Fisheries to issue a new or supplemental biological opinion for the FCRPS by 2014 (U.S. District Court 2011). ESA consultation was reinitiated to comply with the court-ordered remand to address concerns raised with the 2008 Opinion. In addition, since the 2008 Biological Opinion was issued, NOAA Fisheries has listed an additional species, resulting in the need to reinitiate consultation on the FCRPS RPA for the new listed species and designated critical habitats.

Department of Homeland Security

The mission of the Department of Homeland Security is to secure our country from terrorist threats and enhance security; secure our borders; enforce our Nations immigration laws; secure cyberspace; and build resilience to disasters (www.dhs.gov).

The Colville National Forest's northernmost boundaries are the international boundary with Canada. A 60-foot-wide reservation strip, the "Taft Reservation" of May 3, 1912, runs along the border. Activities by the Forest and other Federal agencies within the reservation strip are the subject of numerous agreements and understandings between Federal agencies as well as treaties between the United States and Canada. The Forest Service cooperates with the Department of Homeland Security in border protection with the objectives of preventing illegal entry and illegal export and exit.

A memorandum of understanding between the USDA Forest Service and the Department of Homeland Security Federal Emergency Agency (MOU 42 U.S.C. 5170a and 5170b) provides a general framework of cooperation in responding to, managing and coordinating, and financially accounting for major disasters and emergencies, and for resolving and differences or conflicts regarding this cooperation in an efficient and constructive manner.

Federal Highway Administration

The role of the Federal Highway Administration (FHWA) is to ensure that America's roads and highways are safe and technologically up-to-date. Although most highways are owned by State, local, and Tribal governments, FHWA provides financial and technical support (FHWA 2011). The Federal Lands Highways funding provides dollars for roads and highways within federally owned lands, such as national forests. Division offices work with the State Department of Transportation (see section on Washington State Department of Transportation).

U.S. Forest Service

The Colville National Forest is bordered by the Okanogan-Wenatchee and the Idaho Panhandle National Forests. Management of these forests is guided by a land and resource management plan (forest plan). As forest management changes are proposed, the forests coordinate and adjust their management strategies as appropriate.

Okanogan-Wenatchee National Forest

The Colville forest plan revision effort included review of the existing forest plans and information being developed toward completion of a revised forest plan.

Idaho Panhandle National Forests

The Idaho Panhandle National Forests (IPNF) are managed by their forest plan, which was finalized in 2015. The Colville National Forest coordinates with the IPNF in the management of one congressionally designated wilderness area – the Salmo-Priest Wilderness. The Salmo-Priest Wilderness totals 41,335 acres, of which approximately 72 percent is managed by the Colville National Forest and 9,900 acres are on the IPNF, in the state of Washington. The IPNF and Colville share a portion of the Selkirk grizzly bear recovery area and a portion of the Selkirk woodland caribou recovery area (for the caribou recovery area, the Colville manages 102,907 acres or 10 percent of the recovery area and the IPNF manages 252,785 acres or 27 percent of the recovery area. The remaining portion is in southern British Columbia, Idaho Department of Lands, and private lands).

The plan identifies several forestwide goals for topic areas including: vegetation, watershed, soils, riparian, aquatic habitat, aquatic species, wildlife, access and recreation, inventoried roadless areas, cultural resources, American Indian rights and interests, timber, and social and economic systems.

The management areas (MA) of the IPNF that border the eastern edge of the Colville National Forest are:

- Management Area 1a: Wilderness – management emphasis is on natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) being the primary forces affecting the composition, structure, and pattern of vegetation. Fire plays an increased role as a natural disturbance agent.
- Management Area 5: Backcountry – this MA is relatively large areas, generally without roads, and provides a variety of motorized and non-motorized recreation opportunities. Trails are the primary improvements constructed and maintained for recreation users. In some areas, lookouts, cabins, or other structures are present, as well as some evidence of management activities.
- Management Area 6: General Forest – this MA consists of relatively large areas with roads, trails, and structures, as well as signs of past and ongoing activities designed to actively manage the forest vegetation. This MA provides a wide variety of recreation opportunities, both motorized and non-motorized. Constructed improvements in this MA generally consist of campgrounds, picnic or day use areas, trails, lookouts, and cabins.

U.S. Fish and Wildlife Service

The main role of the U.S. Fish and Wildlife Service's (USFWS) is to administer the Endangered Species Act (ESA) (USFWS 2011). Section 7 (a)(1) of the ESA directs Federal agencies to aid in conservation of listed species and section 7 (a)(2) requires that agencies, through consultation with the USFWS, ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitat. As projects and activities are planned, forest managers consult with the USFWS.

The USFWS also issues national polices to promote the conservation and recovery of listed species, including species recovery plans. The USFWS developed a strategic plan to react to climate change (USFWS 2010), which establishes a basic framework within which the USFWS will work as part of the larger conservation community to help ensure the sustainability of fish, wildlife, plants, and habitats in the face of accelerating climate change.

The USFWS manages the National Wildlife Refuge System. One wildlife refuge borders the Colville – the Little Pend Oreille National Wildlife Refuge. The USFWS plans to manage the refuge through plan components that address restoration, riparian and stream protection and enhancement, protection of the primitive roadless character of the 5,520-acre roadless area in the southeastern corner of the refuge and

determine its suitability as a wilderness study area, development of an integrated weed management plan, minimizing new weed introduction and preventing their establishment and spread, and reducing road density.

State

Washington State Department of Ecology

Created in 1970 by the Washington State Legislature, the Department of Ecology (Ecology or DOE) is Washington's principal environmental management agency. The agency serves as the state's environmental regulatory agency in the areas of air quality, hazardous waste and toxics, water quality, and soil protection, providing enforcement of State and Federal environmental laws and shorelands and environmental assistance.

The mission of Ecology is to protect, preserve, and enhance Washington's environment, and promote the wise management of the state's air, land, and water for the benefit of current and future generations. Goals outlined in the Washington State Department of Ecology 2015-2017 Strategic Plan are to protect and restore land, air, and water, prevent pollution, and promote healthy communities and natural resources.

Ecology provides products and services that include environmental permitting, compliance assistance, inspections and enforcement, contracts, loans, and grants, environmental monitoring and analysis, policy, rule, and technical guidance, and education and outreach.

Priorities stated in the Strategic Plan include, among others, reducing and preparing for climate impacts, preventing and reducing toxic threats, and delivering integrated water solutions. To prevent and reduce toxic threats, goals include protecting the most vulnerable human, fish and wildlife populations. To sustain limited water sources and deliver integrated water solutions, goals include improving water quality and management of rural water supplies, and reducing polluted runoff from urban and working lands.

For climate change, Ecology strategies include support for both federal and state initiatives that are taking actions to further reduce greenhouse gas emissions and help achieve Washington's statutory greenhouse gas emissions reduction limits for 2020, 2035, and 2050, and ensuring citizens, businesses, local governments, and state agencies are aware of the impacts of a changing climate and are taking steps necessary to preserve and protect natural and human systems (DOE 2015).

Water Resource Inventory Areas (WRIA)

The Department of Ecology and other State natural resource agencies have divided the state into Water Resource Inventory Areas (WRIAs) to delineate the state's major watersheds. There are 6 WRIAs within the three counties of the Colville National Forest. Ecology began working with the Forest Service on a water quality improvement project (also called a total maximum daily load or TMDL) for the Colville National Forest in 2002. The TMDL is only for waters in the national forest—not private lands within the boundary. The EPA approved the Water Quality Improvement Report on August 5, 2005. Ecology and the Forest Service finalized the Water Quality Implementation Plan in October 2006, with an addendum in 2013, to address several sites that were found to consistently meet the States fecal coliform standard and no longer need to be monitored (DOE 2013a).

Washington Department of Fish and Wildlife (WDFW)

The WDFW's mission is to preserve, protect, and perpetuate fish, wildlife, and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities through the following goals:

- Goal 1: Conserve and protect native fish and wildlife.
- Goal 2: Provide sustainable fishing, hunting, and other wildlife-related recreational and commercial experiences.
- Goal 3: Promote a healthy economy, protect community character, maintain an overall high quality of life, and deliver high-quality customer service.
- Goal 4: Build an effective and efficient organization by supporting our workforce, improving business processes, and investing in technology (WDFW 2017).

The WDFW manages for fish and wildlife on NFS lands.

The Eastern Region (Region 1) of the WDFW contains wildlife units that lie adjacent to the planning area. The Eastern Region provides habitat for endangered caribou and grizzly bears, elk, and bighorn sheep. This is the only region in Washington with significant populations of whitetail deer and moose. This region includes two national wildlife refuges and portions of the Colville National Forest.

Within Region 1 are wildlife management areas. Each area is guided by a management plan that addresses the status of wildlife species and their habitat, habitat restoration, public recreation, weed management, and other activities to meet the WDFW's mission of preserving, protecting, and perpetuating fish, wildlife and ecosystems. Plans are revised periodically to reflect current conditions and the progress of past activities, and to identify new management priorities and actions (http://wdfw.wa.gov/lands/wildlife_areas/management_plans/). Wildlife management areas adjacent to the Colville National Forest include Le Clerc and Sherman Creek.

WDFW's 2011-2017 Strategic Plan includes initiatives that are based on supporting healthy ecosystems by using strategies that benefit whole ecosystems and critical habitats; maximizing the impact of limited resources by implementing projects that support healthy ecosystems and improve poor habitat conditions with the intent to "keep common species common"; considering public values through increasing public involvement in decisions affecting the management and stewardship of the state's fish and wildlife resources; and anticipating uncertainty and responding to climate change by using adaptive management and making changes to its process for correcting salmon-blocking culverts.

Washington State Department of Natural Resources (DNR)

The DNR manages forest, range, agricultural, aquatic, and commercial lands to provide fish and wildlife habitat, water, and public access. It also manages natural area preserves, natural resource conservation areas, and State lands, many of which lie adjacent to the planning area. The DNR works with the National Weather Service to provide fire weather forecasts and fire precaution levels for the Forest Service and other agencies. The DNR regulates outdoor burning and provides wildfire protection.

The strategic plan (DNR 2010, updated for 2014-2017) is organized around seven major goals that encompass the DNRs diverse responsibilities. Of the seven goals, the following align most closely with those of the planning area.

- Goal 1. Managing state-owned lands for economic and ecological sustainability.
- Goal 2. Protecting and maintaining working forestlands, habitats, and other natural resources.

- Goal 3. Delivering exemplary public resource protection through the forest practices program.
- Goal 5. Mitigating and adapting to a changing environment and climate.

The DNR implements an active forest health program to respond to forest health crises in eastern Washington, with information, education, and assistance, and by forest health treatments on State-owned forest lands.

Natural Areas - The DNR manages Natural Area Preserves and Natural Resource Conservation Areas. These natural areas protect outstanding examples of natural, undisturbed ecosystems, often protecting one-of-a-kind features that are unique to the region. They protect unique and threatened native ecosystems, and offer educational and research opportunities. Natural areas program priorities are healthy ecosystems, biodiversity, valuing nature, and fostering partnerships. Also within DNR is the Washington Natural Heritage Program, which documents native ecosystems and species and provides this information to landowners, public agencies, and conservation organizations.

Washington State DNR 2010 Statewide Assessment and Strategy - The DNR and other state forestry agencies across the Nation administer an array of Federal programs for landowner assistance, forest conservation and management, and fire prevention and suppression. Collectively, many of these fall under the Federal Cooperative Forestry Assistance Act (Title 16 U.S.C., Chapter 41), and are sometimes called U.S. Forest Service "State & Private Forestry" programs. Specifically, these include:

- Private Land Fuels Management and Community Protection (multiple programs)
    - Cooperative Forest Health Program
    - Forest Stewardship Program
    - Urban and Community Forestry Program
    - Forest Legacy Program
    - State Fire Assistance Program
    - Volunteer Fire Assistance Program

The 2014 Farm Bill allowed the governor of each state to request one or more landscape-scale areas, such as subwatersheds, in at least one national forest in each state that is experiencing an insect and disease epidemic, to be designated as an insect and disease treatment area. With input from individual national forests in Washington, Governor Inslee requested several treatment areas throughout Washington state, and on March 6, 2015, Forest Service Chief Thomas Tidwell approved over 700,000 acres to be designated as insect and disease treatment areas under Section 602 of the Farm Bill. This designation included 426,513 acres on the Colville National Forest (roughly 40 percent of the Forest). This designation allows the use of a categorical exclusion to expedite analysis and reduce the insect and disease threat within these insect and disease treatment areas.

Washington State Department of Transportation (WSDOT)

The WSDOT is responsible for planning, building, and operating a state highway system and maintaining bridges with the goal of preserving environmental quality by providing stormwater treatment, construction site erosion control, fish passage barrier removal, wetland replacement, air pollution control, and adaptation to climate change.

A memorandum of understanding (USDA Forest Service 2013) between the USDA Forest Service, Pacific Northwest Region, and the WSDOT documents the steps necessary to coordinate transportation activities involving highways on NFS land to ensure the public's safe access over these highways.

Scenic Byways

The Forest Service has been an active and ongoing partner at the national, state and community levels, as well as through the management of its own National Forest Scenic Byway program. In Washington, individual national forests connect with close to one-third of the designated Scenic and Recreation Highways. Through the FHWA-funded Forest Highway Program, the Forest Service has contributed about $1 million per year over the last decade to highway enhancement projects in Washington, most connected with the scenic and recreation highways (Washington State Scenic and Recreational Highways Strategic Plan 2010-2030).

The following are National Forest Scenic Byways: North Pend Oreille Scenic Byway, and Sherman Pass Scenic Byway. Each of these is managed through their individual corridor management plan (Washington State Department of Transportation) and through the Forest's forest plan.

Washington State Parks and Recreation Commission

"The Washington State Parks and Recreation Commission acquires, operates, enhances and protects a diverse system of recreational, cultural, historical and natural sites. The Commission fosters outdoor recreation and education statewide to provide enjoyment and enrichment for all, and a valued legacy to future generations" (Washington State Parks and Recreation Commission 2009).

The strategic plan states that the Commission has the broad responsibility to manage developed parks and recreation areas along with trails, ocean beach, marine parks, watercraft launches, and historic buildings and areas. The State Parks has worked with the Forest Service to complete trail linkages and design and construct signs and kiosks for information and interpretation.

Other Landowners

The Colville National Forest borders and surrounds lands of other ownership in addition to those listed above. There is no known inventory of these landowner activities and potential impacts to the Forest.

Conclusion

As identified above, other landowners and land policies have the potential to impact the Colville National Forest and vice versa. In the development of the revised forest plan, the goals and policies of those other plans have been taken into account. The interdisciplinary team found the revised forest plan and the management plans and policy goals of other Federal agencies, State and local governments, and American Indian Tribes to be in alignment in several areas. The common objectives included: encourage conservation of forest lands, protect natural resources, and offer special protection to areas designated as critical or environmentally sensitive. Other plan goals well-aligned with the revised forest plan include the intergovernmental coordination goals:

- Maintain the rural character of the area including forest and agricultural lands;
- Protect fish and wildlife resources;
- Manage, protect, enhance, and conserve water resources;
- Protect and enhance the quality and quantity of surface and ground water resources;
- Protect and enhance wetlands and shorelines;
- Provide a safe, efficient, functional, and environmentally responsible transportation network, including motorized and non-motorized vehicles;
- Promote protection of the heritage, customs, and cultures of the local area;

- Support multiple uses on public lands;
- Encourage natural resource based industries that are compatible with other land uses, and promote forest-related jobs for the local economy;
- Encourage and accommodate as many diverse recreational activities and areas as possible that are compatible with other land uses; and
- Continued coordination with other Federal, State, Tribal, and local agencies for conducting joint planning efforts for proposals on Federal and State lands.

Table B-2 identifies some of the land use goals from other plans and how they align with the Colville National Forest revised forest plan. Also identified are some potential impacts and how the revised forest plan deals with those impacts.

Table B-2. Land use goals and potential impacts to forest management, and their relationship to the revised forest plan

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
The land allocations (especially recommended wilderness) have the potential to impact economic opportunities within the three adjacent counties	The revised forest plan maintains opportunities for resource management (e.g., timber, grazing) and recreational use (mechanized and non-mechanized) which would continue economic input to local communities.
Retention of areas as Backcountry to allow mechanical use to continue	The revised forest plan includes proposals for both motorized and non-motorized backcountry areas to accommodate a variety of recreational uses.
Preserve agricultural lands of long-term commercial significance	The revised forest plan would not alter any uses on non-National Forest system lands.
Preserve natural resources and offer special protection to areas designated as critical areas, or environmentally sensitive areas	The Forest contains recovery area and designated critical habitat for the last remaining herd of woodland caribou in the continental U.S. The Forest does not contain designated critical habitat for Canada lynx but follows current science direction for managing Canada lynx habitat. Portions of streams on the Forest have been designated as critical habitat for the recovery of bull trout. The Washington portion of the Selkirk Grizzly Bear Recovery Area is included within the northeastern part of the Colville National Forest. The Forest provides habitat for five fish species, 41 plant species, and 27 wildlife species considered sensitive by the U.S. Forest Service. See appendix C of the revised forest plan. Management for adequate browse and forage for deer and elk summer and winter ranges is incorporated as part of the analysis. Special and unique habitats will be managed to support threatened, endangered, and sensitive plant species populations and contribute to high quality suitable habitat for these species. Degraded or diminished special and unique habitats would be restored within their natural range of variation. The revised forest plan provides objectives, standards, and guidelines to protect habitat for federally listed species and species of management interest to the public (such as big game).
Protect environmentally sensitive areas to reduce cumulative adverse environmental impacts to water availability, water quality, wetlands, aquatic and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas	Forest plan objectives, standards and guidelines are designed so National Forest System lands contribute to uninterrupted physical and biological processes within and between watersheds. Floodplains, groundwater-dependent systems, upslope areas, headwater tributaries, and intact habitat refugia provide vertical, horizontal, and drainage network connections. These network connections provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic, riparian-dependent, and many terrestrial species of plants and animals.

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
Offer protections of resources such as timber, fish, forage, wildlife, water and culture sensitive areas while providing recreation and access to these areas	The revised forest plan provides a spectrum of high quality, nature-based outdoor recreational settings and opportunities varying from primitive to developed where visitors can experience the biological, geological, scenic, and cultural resources of the Forest, with an emphasis on the natural appearing character of the forest. Management restrictions on recreational development occur for the purpose of resource protection and recreation management.
Call for multiple-use of the forest	The overall goal of managing National Forest System lands is to sustain the multiple uses of its resources in perpetuity while maintaining the long-term productivity of the land. The revised forest plan carries out that goal.
Improve forest health and promote long-term productivity and restoration of ecosystems	The desired conditions describe a healthy, sustainable forest and the objectives identify actions that would help restore ecosystems.
Maintain a healthy, sustainable forest that provides raw materials	Desired conditions describe a variety of renewable forest products of social, spiritual, and economic value are reasonably available to the public. Special forest products and merchantable timber products are ecosystem services that contribute to economic sustainability, social desires, or cultural needs.
Provide an efficient, functional, and environmentally responsible transportation network by utilizing and maintaining existing infrastructure, integrating transportation planning with other elements of local plans, and coordinating with other Federal, State, Tribal and local agencies.	The revised forest plan provides for an access system of authorized roads, bridges, trails, and docks that are safe, affordable, and environmentally sound, responds to administrative and public needs to the extent practicable, meets obligations to public and private cooperators, and is efficient to manage. Management restrictions on transportation system development occur for the purpose of resource protection. Throughout the revised forest plan, there is a management emphasis on collaboration and cooperation with Tribes, State, Federal, and local governments, other agencies, and stakeholders.
Provide safe and convenient utilization of motorized and non-motorized vehicles and equipment by residents, industries, tourists, and recreationalists.	The revised forest plan continues to provide both motorized and non-motorized areas to accommodate a variety of forest uses.
Consider local concerns; collaborate and conduct joint planning for proposals on Federal and State lands	Throughout the revised forest plan, there is a management emphasis on collaboration and cooperation with local governments and stakeholders.
Coordinate and collaborate with the U.S. Forest Service and other public resource agencies and managers to inventory recreational opportunities and promote the shared use and full enjoyment of publicly owned land	Throughout the revised forest plan, there is a management emphasis on collaboration and cooperation with State and Federal governments and other agencies. The revised forest plan provides a spectrum of high quality, nature-based outdoor recreational settings and opportunities varying from primitive to developed where visitors can experience the biological, geological, scenic, and cultural resources of the Forest, with an emphasis on the natural appearing character of the forest.

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
Support and protection for heritage, local traditional customs and culture	The uses of livestock grazing, timber harvesting, mining, and hunting continue to be allowed in the revised forest plan. The revised forest plan recognizes that many local residents have traditional ties, such as forest product collection, hunting, holiday celebrations, and annual picnics. Loggers and ranchers continue to be an important part of the forests' history and their traditional uses remain an important part of the cultural landscape. Rangelands and forestlands provide forage for use by both livestock and wildlife. Grazing continues to be a viable use of vegetation on the Forest. Availability of lands identified as suited for this use contributes to providing animal products, economic diversity, and open space, and promotes cultural values, and a traditional life style.
Avoid the loss of archaeological and historic information	Desired conditions describe protection of heritage resources on the national forest, including known Native American sacred sites and traditional cultural properties. Sites are preserved, protected, and/or restored per applicable law, regulation, executive order, and directives. As appropriate, eligible and historically significant heritage properties are listed on the National Register of Historic Places. The Forest's priority heritage assets are protected and preserved per applicable law, regulation, executive order, and directives. Opportunities to connect people with the heritage of the land are provided.
Community growth demand	The revised forest plan identifies a management emphasis to work with local communities to understand their community expansion needs and retain access to NFS lands.
Increase job opportunities through encouragement of industry that is compatible with other land uses	The revised forest plan provides a sustainable level of timber products for current and future generations. Production of timber from National Forest System lands contributes to an economically viable forest products industry.
Continued support for timber industry and forest-related jobs for the local economy	Desired conditions describe a variety of renewable forest products of social, spiritual and economic value that are reasonably available to the public. Special forest products and merchantable timber products are ecosystem services that contribute to economic sustainability, social desires, or cultural needs. The revised forest plan provides a sustainable level of timber products for current and future generations. Production of timber from National Forest System lands contributes to an economically viable forest products industry. Timber production and tree cutting continue and contribute to the local and regional economy. See the "Economic Conditions" section of the FEIS.
Maintain and enhance natural resource-based industries, and provide for the stewardship and productive use of forest, mineral, and agricultural lands	The revised forest plan provides a sustainable level of timber products for current and future generations. Production of timber from National Forest System lands contributes to an economically viable forest products industry. The desired conditions describe a healthy, sustainable forest and the objectives identify actions that would help restore ecosystems.
Encourage development of a statement of custom and culture so that Federal and State agencies will be able to ensure that community and economic stability are considered by those agencies when they develop and implement plans, policies or regulations affecting the use of State and Federal lands	Desired conditions describe a variety of renewable forest products of social, spiritual and economic value that are reasonably available to the public. Special forest products and merchantable timber products are ecosystem services that contribute to economic sustainability, social desires, or cultural needs.

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
Minimize the loss of forest land acreage, functions, and values through a combination of land use and development regulation and non-regulatory means such as public education, technical assistance to land owners	The desired condition in the revised forest plan describes a broad range of people in rural, urban, and underserved populations, understanding the complexities of managing natural resources for the full range of benefits associated with the multiple use mission of the Forest Service. A multi-faceted outreach strategy aims to help the public understand: the natural and cultural history of the national forest; important themes of ecological processes, including fish, plant, and wildlife species habitat needs and the importance of disturbance processes; the human benefits of the National Forest System, including recreational and commodity values; forest regulations and resource protection practices; safety practices; potential impacts of human activity on resources, and how to participate effectively in national forest decision-making activities. Youth are introduced to the natural world and resource management careers. Outstanding features of the Forest, such as recreation areas, national trails, and scenic byways are interpreted for the public where appropriate. Opportunities for viewing wildlife and plants are present and the public is aware of the opportunities.
Encourage and accommodate as many diverse recreational activities and areas as possible that are compatible with other land uses	The revised forest plan provides a spectrum of high quality, nature-based outdoor recreational settings and opportunities varying from primitive to developed where visitors can experience the biological, geological, scenic, and cultural resources of the Forest, with an emphasis on the natural appearing character of the forest.
Allow development of master planned resorts which meet the requirements of the Growth Management Act to take advantage of natural beauty and enhance the public's access to areas already characterized by some degree of recreational use.	Forest plan objectives, standards and guidelines are designed so special use authorizations allow the private sector to develop, maintain, and operate highly developed winter recreation facilities where appropriate. Ski areas are able to provide parking, adequate room for skiers on the slopes, and facilities offering restrooms, warmth, and food. Ski areas generally have a mix of native vegetation and man-made grassy openings intermixed with forested or partially forested areas and rocky outcroppings. Forested areas may act as cover for wildlife species, or habitat for plant species, contributing to the composition, structure, and pattern typical of the vegetative systems, but are not required to be within their natural range of variability or to meet forest-wide habitat requirements. Other outdoor recreation activities permitted by law and compatible in this national forest setting may be authorized to increase the recreational opportunities provided on the forest and contribute monetarily to local economies.
Continued support for recreation industry and opportunities for off-highway vehicles	The revised forest plan continues to allow these activities. Motorized mixed-use road designations are reviewed annually and an average of one new off-highway vehicle route is designated to achieve one or more of the following objectives: create loop-riding opportunities, connect camping areas, access destination overlooks, move routes away from ecologically or culturally sensitive areas, and connect communities through and to the forest.

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
Growing demand for recreation (e.g., hiking trails, designated OHV routes)	The revised forest plan offers a spectrum of recreation settings and opportunities varying from primitive to developed, with an emphasis on the natural-appearing character of the forest. A range of dispersed recreation activities such as camping, backcountry skiing, boating, mushroom and berry picking, hunting, and fishing are available. These opportunities are managed to minimize impacts to resources, are within budget limitations, and may provide economic benefits to nearby communities. The access system of authorized roads, bridges, trails, and docks is safe, affordable, and environmentally sound, responds to administrative and public needs to the extent practicable, meets obligations to public and private cooperators, and is efficient to manage. The system provides public and administrative access where suitable and supports Forest management objectives. Road and trail rights-of-way to access National Forest System lands address public needs and facilitate planned resource activities. All Forest system roads and trails have legal access for crossing non-National Forest System lands. A variety of maintained system trails compliments local community trail systems while minimizing user conflicts. Trails provide a range of difficulty levels for the various user types, and are located in diverse ecological, geological, and scenic settings. Although the revised forest plan does not identify specific new developments, it does allow for it, if needed. The revised forest plan focuses on maintaining existing recreation opportunities and improving their quality.
Protect groundwater recharge areas and prevent the contamination of vulnerable groundwater resources to ensure water quality and quantity for public and private uses and critical area function	Forest plan objectives, standards & guidelines are designed so National Forest System lands contribute to the timing, variability, and water table elevation in wetlands, seeps, springs, and other groundwater-dependent systems. These features are within or moving toward proper functioning condition. National Forest system lands in ground and surface source water protection areas provide water that meets or exceeds State water quality standards for drinking water with appropriate treatment
Clean up polluted lands and water	Forest plan objectives, standards and guidelines are designed so National Forest System lands contribute to the physical integrity of the aquatic system and riparian habitat, including banks and floodplains.
Provide necessary public facilities and services, in places and at levels proportionate to planned development intensity and environmental protection	Forest plan standards and guidelines are designed so all occupancy and use of National Forest System lands is properly authorized. Facilities and improvements that are not owned, managed or maintained by the Forest Service are either removed or authorized through the appropriate special use authorization when they meet forest plan direction and are feasible within resource constraints (examples include roads, utility lines, or communication sites). Utility corridors and communication sites provide for the movement and distribution of electricity, petroleum products, water, other lineal special uses, and communication signals across National Forest System lands.
Provide for the maintenance and enhancement of species diversity and thereby promote long-term stability of the forest environment	The revised forest plan objectives, standards & guidelines are designed so species diversity is enhanced by providing favorable habitat conditions (appropriate mix of cover types and structure stages) and reducing risk factors (primarily managing human activities). Habitat conditions (amount, distribution, and connectivity of habitat) contribute to the recovery of federally listed threatened and endangered species.

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
Conserve, preserve, enhance, and restore wildlife, fish, plants, and their habitats	The Forest contains recovery area and designated critical habitat for the last remaining herd of woodland caribou in the continental U.S. The Forest does not contain designated critical habitat for Canada lynx but follows current science direction for managing Canada lynx habitat. Portions of streams on the Forest have been designated as critical habitat for the recovery of bull trout. The Washington portion of the Selkirk Grizzly Bear Recovery Area is included within the northeastern part of the Colville National Forest. The Forest provides habitat for five fish species, 41 plant species, and 27 wildlife species considered sensitive by the U.S. Forest Service. See appendix C of the revised forest plan. Management for adequate browse and forage occurs for deer and elk summer and winter ranges is incorporated as part of the analysis. Special and unique habitats will be managed to support threatened, endangered, and sensitive plant species populations and contribute to high quality suitable habitat for these species. Degraded or diminished special and unique habitats would be restored within their natural range of variation. The revised forest plan provides objectives, standards and guidelines to protect habitat for federally listed species and species of management interest to the public (such as big game). National Forest System lands contribute to the recovery of federally threatened and endangered aquatic species and conservation of Regional Forester's sensitive aquatic species. Aquatic habitat supports spawning, rearing, and other key life history requirements
Danger from fire for residents living in a wildland-urban interface	The revised forest plan objectives, standards and guidelines are designed so fuel treatments continue to reduce surface, ladder, and crown fuels that lower the potential for high-severity wildfires while providing for diversity within the stands. Vegetation has been modified (interrupted) to improve community protection and enhance public and firefighter safety. Fuel treatments are emphasized in wildland urban interface and areas that exhibit the potential for high severity fire behavior that could impact private or other agency lands. A pattern of treatments are established and maintained that are effective in modifying fire behavior as identified in individual community wildfire protection plans. A multi-faceted outreach strategy aims to help the public understand: the natural and cultural history of the national forest; important themes of ecological processes, including fish, plant, and wildlife species habitat needs and the importance of disturbance processes; the human benefits of the national forest system, including recreational and commodity values; forest regulations and resource protection practices; safety practices; potential impacts of human activity on resources, and how to participate effectively in national forest decision-making activities.
Protect private property rights	The revised forest plan honors the continuing validity of private, statutory, or pre-existing rights.
Tribal use and traditional cultural properties	The revised forest plan recognizes that traditional and cultural use information, as provided by federally recognized Tribes, is treated with respect and integrated into natural resource management planning efforts with appropriate sensitivity to the tribe's views regarding information sharing. American Indian values are fully considered in planning proposed actions on the Forest. The Forest maintains sustainable products, uses, values, and services that contribute to the American Indians' way of life and cultural integrity. Access to traditional resources and sacred places is considered in all planning efforts. Tribes are consulted when management activities may impact treaty rights and/or cultural sites and cultural use, according to individual Tribal communication plans, Consultation Protocols, or policies.

Land Use Goals/Potential Impacts/Issues	How the Revised Forest Plan Addresses
Minimize impacts from invasive species	Native species and native plant communities are the desired dominant vegetation. Forest plan objectives, standards & guidelines are designed so forest terrestrial and aquatic ecosystems are in an ecological condition that resists introduction, establishment, and spread of invasive plant species. Established invasive plant infestations are not increasing in number or size, occur at low densities, and are reduced or removed. Risk of invasive plant infestations is maintained at a low level due to the effectiveness of prevention actions and the success of restoration efforts.
Threats related to changes in climate	The revised forest plan provides information and discussion about climate change and considerations for land management planning

Potential activities on adjacent lands that may impact forest management include:

- Land exchanges (changes in ownership)
- Highway improvements
- Fire suppression
- Permitted recreation use (restrictions on types of uses)
- Removal of nonnative fish species and restoration of native aquatic species
- Noxious and invasive weed treatments
- Commercial harvesting and thinning; forest restoration and thinning; removal of overstory trees
- Prescribed fires
- Recreation improvements and new construction
- Renewable energy development (e.g., wind farms, energy corridors)
- Continued livestock grazing

Impacts of actions on adjacent lands are analyzed in the cumulative environmental consequences section of chapter 3 in the FEIS. No major conflicts with Forest Service planning have been identified at this time.

Appendix C. Cumulative Effects

Cumulative effects are those impacts on the environment that result from the incremental effects of an action when it is added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes them (see 40 CFR 1508.7).

Analysis and disclosure of cumulative effects alerts decision-makers and the public to possible environmental implications of interactions among known and likely management programs and activities. A programmatic FEIS, such as this one, considers large areas that encompass a wide array of environmental interactions, not all of which occur on the national forests. Many of these environmental interactions will be most accurately disclosed as cumulative effects in site-specific environmental analyses; they can neither be confidently predicted nor credibly estimated for inclusion in this document. In such cases, these cumulative impacts are discussed to the extent data and information allow. Wherever possible, cumulative impacts of the alternatives have been identified and estimated, even when the impacts are estimated with limited degrees of certainty.

A programmatic document, such as this one, needs to consider compatibility and conflicts with programs plans and institutional arrangements at national, regional, and state levels that have implications to environmental consequences and influence of successful implementation. The following past, present, and reasonably foreseeable programmatic actions have affected or could affect the various resources in the Colville National Forest. There is additional discussion of cumulative effects within the various resource area sections of chapter 3 of the FEIS.

Existing Forest Plan, as Amended

The baseline of effects is from the 1988 Land and Resource Management Plan (1988 forest plan). The effects of the 1988 forest plan have previously been determined and disclosed in appropriate National Environmental Policy Act (NEPA) documents.

Past Policy Decisions

Forest Service NEPA Procedures

On July 24, 2008, the Forest Service issued a procedural rule to guide its implementation of the NEPA (36 CFR 220). While the new rule includes some changes, most of the Forest Service's NEPA procedures were moved to regulation unchanged. No cumulative effects are expected from these actions, because these are intended to be procedural requirements that do not cause effects on the human environment.

2001 Roadless Area Conservation Rule (36 CFR Part 294)

The revised forest plan includes management direction for inventoried roadless areas identified in the 2001 Roadless Area Conservation Rule (2001 RACR). On October 21, 2011, the 10th Circuit Court of Appeals reversed the Wyoming District Court and upheld the USDAs 2001 RACR in *Wyoming* v. *United States Department of Agriculture*. The decision by the 10th Circuit resolves 10 years of litigation. The ruling confirms that the Forest Service has the authority to manage and protect roadless lands within the National Forest System and that the department complied with all applicable laws in adopting the 2001 RACR. Under the 2001 RACR, new road construction and reconstruction are generally prohibited in inventoried roadless areas, and timber harvest is only permitted under a few limited exceptions. It is outside the authority of the revised forest plan to make any changes to boundaries of inventoried roadless areas.

Travel Management Rule

In November 2005, the Forest Service published a new travel management rule governing motor vehicle use on national forests and grasslands (36 CFR parts 212, 251, 261, and 295 (travel management)). Under the rule, each national forest or ranger district designated those roads, trails, and areas open to motor vehicle use by class of vehicle and, if appropriate, by time of year. Motor vehicle use off the designated system is prohibited. Designated routes and areas have been identified on a motor vehicle use map. Motor vehicle use outside of designated routes and areas is provided for fire, military, emergency, and law enforcement purposes, and for use under Forest Service permit. Valid existing rights are honored. The rule also maintains the status quo for snowmobile use.

The travel management rule has no effect on fire management, forest management, grazing, transportation systems, mineral and energy development, winter recreation, or land acquisition, because it does not affect permits or valid existing rights.

As shown in chapters 2 and 3 of the FEIS, alternative B would have the greatest impact on access to NFS lands because of the amount of recommended wilderness proposed.

Roads Policy

In January 2009, new directives (Forest Service Manual (FSM) 7700 and Forest Service Handbook (FSH) 7709) regarding travel management were put into effect to make them consistent with and to facilitate implementation of the agency's travel management rule. This direction gives managers a scientific analysis process to inform their decision-making. It directs the agency to maintain a safe, environmentally sound road network that is responsive to public needs and affordable to manage, but that calls for unneeded roads to be considered for decommissioning or conversion to other uses, such as trails.

These final directives consolidate direction for travel planning for both NFS roads and NFS trails in FSM 7710 and FSH 7709.55. The final directives rename roads analysis "travel analysis" and streamline some of its procedural requirements. In addition, for purposes of designating roads, trails, and areas for motor vehicle use, the final directives expand the scope of travel analysis to encompass trails and areas being considered for designation.

National Fire Plan

The National Fire Plan was developed in August 2000, following a landmark wildland fire season, with the intent of actively responding to severe wildland fires and their impacts on communities, while ensuring sufficient firefighting capacity and safety for the future. The National Fire Plan addresses five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability (USDA Forest Service and USDI 2000).

The National Fire Plan established an intensive, long-term hazardous fuels reduction program in response to the risks posed by heavy fuel loads; the result of decades of fire suppression activities; sustained drought; and increasing insect, disease, and invasive plant infestations. Hazardous fuels treatments are accomplished using a variety of tools, including prescribed fire, wildland fire use, mechanical thinning, timber harvest, herbicides, grazing, or combinations of these and other methods. Treatments are being increasingly focused in the expanding wildland-urban interface (WUI) areas.

A discussion of cumulative effects can be found in the FEIS chapter 3.

Healthy Forests Initiative

In August 2002, President George W. Bush issued Healthy Forests: An Initiative for Wildfire Prevention and Stronger Communities. The intent of the initiative is to better protect people and natural resources by lowering the procedural and process hurdles that impede the reduction of hazardous fuels on public land. The initiative includes:

- Improving procedures for developing and implementing fuels treatment and forest restoration projects in priority forests and rangelands;
- Reducing the number of overlapping environmental reviews by combining project analyses and establishing a process for concurrent project clearance by Federal agencies;
- Developing guidance for weighing the short-term risk against the long-term benefits of fuel treatment and restoration projects; and
- Developing guidance to ensure consistent NEPA procedures for fuel treatment activities and restoration activities.

One outcome of the Healthy Forests Initiative was the Healthy Forests Restoration Act of 2003 (HFRA).

A discussion of cumulative effects can be found in the FEIS chapter 3.

Healthy Forests Restoration Act of 2003 (P.L. 108-148, HFRA)

The Healthy Forests Restoration Act, approved by Congress in December 2003, applies to the Forest Service and Bureau of Land Management (BLM). The act contains a variety of provisions to expedite hazardous-fuel reduction and forest-restoration projects on specific types of Federal land that are at risk of a wildland fire or insect and disease epidemics. The act helps rural communities, states, Tribes, and landowners restore healthy forest and rangeland conditions, on State, Tribal, and private lands.

Even though they do not specify outcomes, the direction set forth in these documents (the National Fire Plan and HFRA) was considered in the effects analysis. The analysis evaluates the relative ability to treat hazardous fuels primarily within the WUI and municipal watersheds. The prohibitions and permissions for road construction/reconstruction and timber cutting, sale, or removal influence the ability to treat hazardous fuels.

Timber cutting and associated road-building projections portrayed in the FEIS reflect activities anticipated to be implemented within each of the alternatives, in response to the National Fire Plan, Healthy Forests Initiative, and HFRA. A discussion of cumulative effects can be found in the FEIS chapter 3.

Woody Biomass Utilization Strategy

This 2008 strategy describes how Forest Service programs can better coordinate to improve the use of woody biomass in tandem with forest management activities on both Federal and private lands. Although the focus is on the use of woody biomass, the primary broader objective is sustaining healthy and resilient forests that will survive an environment of natural disturbances and threats, including climate change. One of four goals of the strategy is facilitating a reliable and predictable supply of biomass. The strategy does not prescribe any specific outcomes.

Each of the alternatives would result in a different level of biomass being available for use, commensurate with the levels of tree harvest predicted in chapter 3 of the FEIS (see Forest Vegetation section of the FEIS).

Energy Implementation Plan

The 2001 Forest Service Energy Implementation Plan was written to implement elements of Executive Order 13212, Actions to Expedite Energy Related Projects, also called the National Energy Plan (USDA Forest Service 2001). The National Energy Plan encourages agencies to "…expedite their review of permits and/or take other actions necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections…"

No priority areas were identified in Washington. The Energy Implementation Plan does not prescribe any specific outcome and is not a programmatic decision. It merely identifies actions that should be taken to respond to the National Energy Plan.

Energy Policy Act of 2005

Recognizing the fundamental importance of the delivery of energy supplies to the Nation's economic well-being, Congress passed section 368 of the Energy Policy Act of 2005 to require certain Federal agencies to designate energy corridors on Federal lands in 11 western states, including Washington, and to coordinate with each other to create a cooperative, efficient process for applicants to apply for rights-of-way in such corridors. Congress stated in section 368 that the agencies should incorporate the designated corridors into their respective land use or resource management plans. Congress also directed the agencies to conduct environmental reviews that are required to designate corridors and add the designated corridors to the plans.

As directed by Congress in section 368 of the Energy Policy Act of 2005, the Forest Service participated in preparing a programmatic EIS and issued a record of decision (USDA Forest Service 2009) designating energy corridors on land it administers for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities in 10 contiguous western states and incorporated these designations into affected agency land use plans. Energy corridors not addressed in the programmatic analysis would be subject to a separate environmental analysis.

Forest Service Open Space Conservation Strategy

The Forest Service announced its Open Space Conservation Strategy on December 6, 2007. This strategy establishes goals and priority actions to conserve open space across private and public land and underscores the importance of the conservation of open space to the mission of the Forest Service (USDA Forest Service 2007a).

Each day, 6,000 acres of open space are lost in the United States as more people choose to live at the urban fringe and in scenic, rural areas. Between 1982 and 2001, approximately 34 million acres of open space (an area the size of Illinois) were developed. Considering forest lands specifically, more than 10 million acres were converted to houses, buildings, lawns, and pavement between 1982 and 1997, and another 26 million acres of forests are projected to be developed by 2030 (USDA Forest Service 2007a).

Development of open space affects the Forest Service's ability to manage national forests and grasslands, as well as the ability to help private landowners and communities manage their land to maintain private and public benefits and ecosystem services. At stake is the ability of private and public forests and rangelands to provide clean water, scenic beauty, biodiversity, outdoor recreation, and natural resource-based jobs, forest products, and carbon sequestration.

The Open Space Conservation Strategy establishes four priority actions for the Forest Service, which can be broken down into 13 supporting actions:

A. Convene partners to identify and protect priority open space.
   - Conduct a rapid science-based assessment of open space change to inform priorities;
   - Convene partners and stakeholders to identify regional priority lands; and
   - Protect regional priority lands through partnerships and mechanisms such as land acquisition and conservation easements.

B. Promote national policies and markets to help private landowners conserve open space.
   - Identify where changes in tax and other Federal policies could provide economic incentives and remove barriers for open space conservation;
   - Support the development of emerging ecosystem service markets to encourage private investments in open space conservation;
   - Encourage natural-resource-based industries to provide economic incentives for landowners to retain working lands;
   - Support recreation and tourism uses to generate revenue for landowners and communities from open space lands; and
   - Provide and encourage landowner assistance and incentives to help keep working lands working.

C. Provide resources and tools to help communities expand and connect open space.
   - Provide urban forestry assistance to communities to enhance and restore open space within cities, suburbs, and towns; and
   - Develop tools to help communities strategically connect open spaces to build a functioning green infrastructure.

D. Participate in community growth planning to reduce ecological impacts and wildfire risks.
   - Support and participate in local, regional, and transportation planning to conserve open space and retain ecosystem benefits;
   - Work with communities to plan for and reduce wildfire risks.
   - Research and share techniques to reduce the impacts of new developments on ecosystem functions, scenic values, public access, and forest-based economies.

All six of the alternatives considered for the revised forest plan are consistent with the actions identified in the Open Space Conservation Strategy. The management approaches of the alternatives include different combinations of active and passive land management.

Recreation Facility Analysis

National forests use the Recreation Facility Analysis to provide the best recreation opportunities in the right places. It is an analysis process (USDA Forest Service 2007b); used nationally, to assist forests in creating a sustainable program that aligns their recreation sites with visitors desires and use. FSM ID 2310-2003-1 requires facility master plans be developed for all facilities.

Recreation Facility Analysis identifies actions proposed for the short term and sets the stage for long-term recreation sites planning. The Recreation Facility Analysis goals are to:

- Improve customer satisfaction;
- Provide recreation opportunities consistent with the Forest recreation "niche;"
- Operate and maintain a financially sustainable recreation sites program to accepted quality standards; and
- Eliminate deferred maintenance at recreation sites.

Under each of the six alternatives, decisions on the use of recreation sites and resources would still be made through other forest-level decision-making processes. Since the revised forest plan will have no effect on the Recreation Facility Analysis, there is no interaction between the two sets of regulations, and no cumulative effects to consider.

Executive Order 13112 – Invasive Species, 1999

Executive Order 13112 ensures that Federal programs and activities to control and prevent invasive species are coordinated, effective, and efficient. It defines invasive species as "…an alien (or nonnative) whose introduction does or is likely to cause economic or environmental harm or harm to human health."

Pacific Northwest Region Invasive Plant Program Record of Decision.

In October 2005, the regional forester amended forest plans with the record of decision for the Preventing and Managing Invasive Plants Final Environmental Impact Statement. This amendment added invasive plant management direction to all forest plans in Region 6, including goals, objectives, standards, and a monitoring framework, which guide the Forests in responding to invasive plant management challenges.

Executive Order 13514 – Federal Leadership in Environmental, Energy, and Economic Performance

Executive Order 13514 directs each agency to not only develop a sustainability strategy and reduce greenhouse gas emissions, but to develop policies and practices to support the Federal Adaptation Strategy. Executive Order 13514 challenges the Federal Government to set sustainability goals for Federal agencies. These goals include the ability to increase energy efficiency; measure, report, and reduce their greenhouse gas emissions from direct and indirect activities; conserve and protect water resources through efficiency, reuse, and stormwater management; eliminate waste, recycle, and prevent pollution; leverage agency acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services; design, construct, maintain, and operate high-performance sustainable buildings in sustainable locations; strengthen the vitality and livability of the communities in which Federal facilities are located; and inform Federal employees about and involve them in the achievement of these goals. In July 2010, the Chief of the Forest Service announced the National Roadmap for responding to climate change and the performance scorecard.

Executive Order 13443 – Facilitation of Hunting Heritage and Wildlife Conservation

In part, Executive Order 13443 directs the Secretaries of Agriculture and the Interior to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitats by evaluating the effect of agency actions on trends in hunting participation and, where appropriate, to address declining trends and implement actions that expand and enhance hunting opportunities for the public. The analysis evaluates the potential effect on wildlife and hunting and shows that the alternatives would not affect the ability to expand or enhance hunting opportunities on National Forest System lands in Washington.

USDA Forest Service Strategic Plan 2015-2020

This Plan provides the strategic direction that guides the Forest Service in delivering its mission. This Plan addresses the core principles by which the Forest Service works; major issues currently important to natural resources management and to the strategic goals upon which the agency will focus for fiscal years (FY) 2015 through 2020. Forest Service programs and budget are aligned with the goals and objectives in this strategic plan and as well as with the focus areas of the agency. The Strategic Plan contains four outcome-based goals for the Forest Service:

1. Sustain our Nation's forests and grasslands,
2. Deliver benefits to the public,
3. Apply knowledge globally, and
4. Excel as a high-performing agency.

The Strategic Plan is a framework strategy under which the revised forest plan fits. There are no direct cumulative effects in connection with the Strategic Plan and this FEIS because the Strategic Plan does not lead to any direct action on the ground or compel any policy development or implementation. The revised forest plan, with its emphasis on old forest management and timber production, motorized recreation trails, access, recommended wilderness, wildlife, and riparian and aquatic resource management, will complement the Strategic Plan.

Reasonably Foreseeable Policy or Programmatic Decisions

2012 Planning Rule

In June 2011, the scoping of the proposed action was initiated with the Federal Register Notice of Intent to Prepare an EIS and Revised Forest Plan. That scoping notice indicated the Colville National Forest would be revising its forest plan under the provisions of the national forest planning regulations in effect prior to November 9, 2000, referred to as the 1982 planning rule.

On May 9, 2012, the agency established a new planning rule (the 2012 planning rule). The 2012 planning rule also provides transition language at 36 CFR 219.17(b)(3), allowing the responsible official to elect to use the provisions of the prior planning regulations to prepare plan amendments and revisions. The responsible official has elected to continue to follow the provisions of the planning regulations in effect prior to May 9, 2012, as indicated in the 2011 Notice of Intent. However, in consideration of transition time requirements, the Forest will develop the monitoring plan per 36 CFR 219.12 of the 2012 Rule.

There are no direct cumulative effects in connection with the 1982 or 2012 planning rules and this FEIS because the planning rules would not lead to any direct action on the ground.

Federal Land Assistance, Management, and Enhancement Act of 2009

The Federal Land Assistance, Management, and Enhancement Act of 2009 requires the Secretary of Agriculture and the Secretary of Interior to submit to Congress a report that contains a "cohesive wildfire management strategy." The Wildland Fire Leadership Council, therefore, directed the development of the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy). The Cohesive Strategy utilizes a collaborative, "from-the-ground-up" approach built through active involvement of all levels of government and non-governmental organizations, as well as the public, to seek national, all-lands solutions to wildland fire management issues.

The Cohesive Strategy will address the nation's wildfire problems by focusing on three key areas:

1. **Restore and Maintain Landscapes** — Landscapes across all jurisdictions are resilient to disturbances in accordance with management objectives.
2. **Fire Adapted Communities** — Human populations and infrastructure can survive a wildland fire. Communities can assess the level of wildfire risk to their communities and share responsibility for mitigating both the threat and the consequences.
3. **Response to Fire** — All jurisdictions participate in making and implementing response decisions.

The National Cohesive Wildland Fire Management Strategy is an ongoing project that is being planned in three phases. The planning was completed in April of 2014, and resulted in The National Strategy and National Action Plan. Many of the elements that emphasize items in the Federal Land Assistance, Management, and Enhancement Act as well as the National Strategy and National Action Plan have already been considered and incorporated into the revised forest plan components and are discussed in the action alternatives and/or the effects analysis. For example, the three key wildfire problem areas that were noted in the strategy report (i.e., restore and maintain landscapes, fire-adapted communities, and wildfire response), are very similar to a number of the forest plan revision topics that were identified and used to revise forest plan direction. In addition, a number of other elements in the Federal Land Assistance, Management, and Enhancement Act (i.e., using a full range of management responses to wildfires, allocating hazardous fuel reduction funds based on priorities, and assessing impacts of climate change on wildfires) were considered in the forest plan revision process. Thus, when the national strategy is complete, it is likely that revised forest plan direction (which is contained in all the action alternatives) will be consistent with the national strategy. No cumulative effects are anticipated as a result of this national strategy.

Other Reasonably Foreseeable Actions

Cumulative Effects and Consideration on Other Lands

Other lands (lands outside the National Forest System) include lands owned or managed by: (1) Federal agencies other than the Forest Service; (2) State, county, and other agencies; (3) individuals and corporations; and (4) American Indian Tribes. The Forest Service does not have authority to regulate any activity or its timing on other lands. However, when an action takes place in national forests, it may cause direct, indirect, or cumulative effects on other lands. Conversely, the actions of others can influence both conditions on the national forests and the course of action taken by the Forest Service in managing the national forests.

The Colville National Forest contains portions of three counties in Washington state. All of the Colville National Forest is located in Ferry, Pend Oreille, and Stevens Counties in Washington. Pend Oreille County contains the highest acreage of NFS land, with 62 percent of the county administered by the Colville National Forest.

Within the analysis area, Ferry and Pend Oreille Counties have the largest percentage of land under Federal ownership at 35 and 62 percent, respectively. Stevens County is approximately 17 percent federally owned. For all counties, most of the Federal ownership is NFS lands. Ferry County has the largest percentage under Tribal ownership, at about 43 percent.

Appendix D. Relevant Laws, Regulations, Policies, and Agreements

Direction for managing National Forest System land comes from a variety of levels. National and regional direction includes laws, executive orders, regulations, and Forest Service policy. The figure below illustrates this hierarchy of management direction beginning with national and regional direction at the highest level and ending with site-specific, project-level direction when the land management plan (forest plan) is implemented.

Hierarchy of Management Direction for National Forests

Management direction includes applicable laws, regulations, and policies, although they generally are not restated in the revised forest plan. During plan implementation, a project must be consistent with the direction found in the forest plan, applicable laws, regulations, and Forest Service Manuals; applicable Forest Service Handbooks provide guidance only and do not provide required direction.

This appendix contains a listing of relevant statutes, regulations, policies, and agreements applicable to the Forest Service.

Federal Statutes

The following is a partial listing of relevant laws that have been enacted by Congress. A Federal statute, or law, is an act or bill, which has become part of the legal code through passage by Congress and approved by the President (or via congressional override).

American Indian Religious Freedom Act as amended (42 U.S.C. 1996)

Protects and preserves for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians including, but not limited to, access to sites, use, and possession of sacred objects and the freedom to worship through ceremonial and traditional rites.

Anderson-Mansfield Reforestation and Revegetation Act of October 11, 1949

Provides for the reforestation and revegetation of National Forest System lands and other lands under the administration or control of the Forest Service.

Antiquities Act of 1906 (16 U.S.C. 431-433)

Prevents the appropriation, excavation, injury, or destruction of any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the United States without permission. Provides for permits, for misdemeanor-level penalties for unauthorized use, and authorizes the President to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic and scientific interest that are situated upon lands owned or controlled by the United States to be national monuments, and to reserve, as a part thereof, parcels of land needed for the proper care and management of the objects to be protected. The Archaeological Resources Protection Act has replaced the Antiquities Act as the authority for special use permits if the resource involved is 100 years old or greater.

Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469)

It is also known as the Archaeological Recovery Act. The Archaeological and Historic Preservation Act amended and expanded the Reservoir Salvage Act of 1960, and was enacted to complement the Historic Site Act of 1935, by providing for the preservation of significant scientific, historical, and archaeological data, which might be lost or destroyed as the result of construction of a federally authorized dam or other construction activity. the Archaeological and Historic Preservation Act also allows for any Federal agency responsible for a construction project to appropriate a portion of project funds for archaeological survey, recovery, analysis, and publication of results.

Archaeological Resources Protection Act of 1979 as amended (ARPA) (16 U.S.C. 470 aa et seq.)

The act establishes permit requirements for removal or excavation of archaeological resources from Federal and Indian lands. Provides criminal and civil penalties for the unauthorized excavation, removal, damage, alteration, defacement, or the attempted unauthorized removal, damage, alteration, or defacement of any archaeological resource, more than 100 years of age, found on Federal or Indian lands. Prohibits the sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource obtained from public or Indian lands. The act further directs Federal land managers to survey land under their control for archaeological resources and create public awareness programs concerning archaeological resources.

Architectural Barriers Act of 1968

Ensures that standards for the design, construction, and alteration of buildings owned, leased, or funded by the United States are prescribed to insure, wherever possible, that physically handicapped people have ready access to and use of such buildings.

Bankhead-Jones Farm Tenant Act of July 22, 1937

Directed the Secretary of Agriculture to develop a program of land conservation and utilization to correct maladjustments in land use and, thus, assist in such things as control of soil erosion, reforestation, preservation of natural resources, and protection of fish and wildlife.

Civil Rights Act of 1964

Provides for nondiscrimination in voting, public accommodations, public facilities, public education, federally assisted programs, and equal employment opportunity. Title VI of the Act, Nondiscrimination in Federally Assisted Programs, as amended (42 U.S.C. 2000d through 2000d-6) prohibits discrimination based on race, color, sex, or national origin.

Clean Air Act of August 7, 1977, as amended (1977 and 1990)

Enacted to protect and enhance the quality of the Nation's air resources; to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and to encourage and assist the development and operation of regional air pollution prevention and control programs.

Clean Water Act (see Federal Water and Pollution Control Act)

Cooperative Forestry Assistance Act of July 1, 1978

Authorizes the Secretary of Agriculture to assist in the establishment of a coordinated and cooperative Federal, State, and local forest stewardship program for the management of non-Federal forest lands and forest lands in foreign countries.

Emergency Flood Prevention Act (Agricultural Credit Act) of August 4, 1978

Authorizes the Secretary of Agriculture to undertake emergency measures for runoff retardation and soil erosion prevention, in cooperation with landowners and users, as the Secretary deems necessary to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood, or other natural occurrence is causing or has caused a sudden impairment of that watershed.

Endangered Species Act of 1973, as amended

Authorizes the determination and listing of species as endangered and threatened; prohibits unauthorized taking, possession, sale, and transport of endangered species; authorizes the assessment of civil and criminal penalties for violating the act or regulations; and, authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violations of the act or any regulation issued thereunder. Section 7 of the act requires Federal agencies to use their authorities to carry out programs for the conservation of endangered and threatened species and to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

Energy Policy Act of 2005

Requires the Secretary of Agriculture to ensure timely action on oil and gas permits, improve collection and retrieval of oil and gas information, and improve inspection and enforcement of permit terms (Section 362).

Federal Cave Resources Protection Act of November 18, 1988

Established requirements for the management and protection of caves and their resources on Federal lands, including allowing land managing agencies to withhold the location of caves from the public, requiring permits for removal or collecting activities in caves on Federal lands.

Federal Insecticide, Fungicide, and Rodenticide Act of October 21, 1972

Requires the administrator of the Environmental Protection Agency to prescribe standards for the certification of individuals authorized to use or supervise the use of any pesticide that is classified for restricted use; regulates the sale of restricted use pesticides; and provides penalties for the unauthorized use or sale of restricted use pesticides.

Federal Land Policy and Management Act of October 21, 1976

Requires that public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide for outdoor recreation and human occupancy and use. The act also states that the United States shall receive fair market value of the use of public lands and their resources unless otherwise provided for by law.

Federal Noxious Weed Act, 1974, as amended

Authorizes the Secretary of Agriculture to designate plants as noxious weeds by regulation; to prohibit the movement of all such weeds in interstate or foreign commerce except under permit; to inspect, seize and destroy products, and quarantine areas, if necessary, to prevent the spread of such weeds; and to cooperate with other Federal, State, and local agencies, farmers associations, and private individuals in measures to control, eradicate, prevent, or retard the spread of such weeds.

Federal State Cooperation for Soil Conservation Act of December 22, 1944

Authorized the adoption of 11 watershed improvement programs in various states for the improvement of water runoff, waterflow retardation, and soil erosion prevention.

Federal Water Pollution Control Act and Amendments of 1972 (Clean Water Act)

Enacted to restore and maintain the chemical, physical, and ecological integrity of the Nation's waters. Provides for measures to prevent, reduce, and eliminate water pollution; recognizes, preserves, and protects the responsibilities and rights of states to prevent, reduce, and eliminate pollution, and to plan the development and use (including restoration, preservation, and enhancement) of land and water resources; and provides for Federal support and aid of research relating to the prevention, reduction, and elimination of pollution, and Federal technical services and financial aid to state and interstate agencies and municipalities for the prevention, reduction, and elimination of pollution.

Established goals for the elimination of water pollution; required all municipal and industrial wastewater to be treated before being discharged into waterways; increased Federal assistance for municipal treatment plant construction; strengthened and streamlined enforcement policies; and expanded the Federal role while retaining the responsibility of states for day-to-day implementation of the law.

Federal Water Project Recreation Act of July 9, 1965

Requires that recreation, fish, and wildlife enhancement opportunities be considered in the planning and development of Federal water development.

Forest and Rangeland Renewable Resources Planning Act of August 17, 1974

Directs the Secretary of Agriculture to prepare a renewable resource assessment every 10 years; to transmit a recommended renewable resources program to the President every 5 years; to develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System; and to ensure that the development and administration of the resources of the National Forest System are in full accord with the concepts of multiple use and sustained yield.

Granger-Thye Act of April 24, 1950

Authorizes the Forest Service to spread appropriated funds on buildings, lookout towers, and other structures on lands owned by states, counties, municipalities, or other political subdivisions, corporations, or individuals; to procure and operate aerial facilities and services for the protection of national forests; to

cooperate with and assist public and private agencies, organizations, institutions, and individuals in performing work on non-forest land for the administration, protection, improvement, reforestation, and other kinds of work as the Forest Service is authorized to do on National Forest System land; to deposit sums from timber purchases to cover the costs of disposing of brush and debris; to permit the use of structures under its control; to sell nursery stock; and other purposes.

Healthy Forests Restoration Act of 2003 (H.R. 1904)

Purposes are to reduce wildfire risk to communities and municipal water supplies through collaborative hazardous fuels reduction projects; to assess and reduce the risk of catastrophic fire or insect or disease infestation; to enhance efforts to protect watersheds and address threats to forest and rangeland health (including wildfire) across the landscape; to protect, restore, and enhance ecosystem components such as biological diversity, threatened/endangered species habitat, and forest productivity.

Historic Sites Act of 1935 (16 U.S.C. 461)

Establishes a policy to preserve for public use historic sites, buildings, and objects of national significance for the benefit of the people. Authorizes the National Park Service's National Historic Landmarks Program.

Joint Surveys of Watershed Areas Act of September 5, 1962

Authorizes and directs the Secretaries of the Army and Agriculture to make joint investigations and surveys of watershed areas in the United States, Puerto Rico, and Virgin Islands, and to prepare joint reports setting forth their recommendations for improvements needed for flood prevention, for the conservation, development, utilization, and disposal of water, and for flood control.

Knutson-Vandenberg Act of June 9, 1930

Authorizes the Secretary of Agriculture to establish forest tree nurseries; to deposit monies from timber sale purchasers to cover the costs of planting young trees, sowing seed, removing undesirable trees or other growth, and protecting and improving the future productivity of the land; and to furnish seedlings and/or young trees for the replanting of burned-over areas in any national park.

Land and Water Conservation Fund Act of September 3, 1964

Authorizes the appropriation of funds for Federal assistance to states in planning, acquisition, and development of needed land and water areas and facilities and for the Federal acquisition and development of certain lands and other areas for the purposes of preserving, developing, and assuring accessibility to outdoor recreation resources.

Migratory Bird Treaty Act of 1918

Addresses concerns for migratory birds. In a subsequent MOU (2001) with the USFWS, the Forest Service agreed to: (a) incorporate migratory bird habitat and population objectives and recommendations into the agency planning process in cooperation with other governments, State, Federal agencies, and non-Federal partners; (b) strive to protect, restore, enhance, and manage habitat of migratory birds, and prevent the further loss or degradation of remaining habitats on NFS lands.

Mineral Leasing Act of February 25, 1920

Provides that the deposits of certain minerals on land owned by the United States shall be subject to lease to citizens of the United States, provided royalties on such deposits are paid to the United States.

Mineral Leasing Act for Acquired Lands Act of August 7, 1947

Extended the provisions of the "mineral leasing laws" to those lands previously acquired by the United States for which they had not been extended, and lands thereafter acquired by the United States.

Mining and Minerals Policy Act of December 31, 1970

States that it is the policy of the Federal Government to foster and encourage the development of economically sound and stable domestic mining, minerals, metal, and mineral reclamation industries; the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security, and environmental needs; mining, mineral, and metallurgical research to promote the wise and efficient use of our natural and reclaimable mineral resources; and the study and development of methods for the disposal, control, and reclamation of mineral waste products and the reclamation of mined land.

Multiple-Use Sustained Yield Act of June 12, 1960

States that it is the policy of Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes, and authorizes and directs the Secretary of Agriculture to develop and administer the renewable surface resources of the national forest for multiple use and sustained yield of products and services.

National Environmental Policy Act of January 1, 1971

Directs all Federal agencies to consider and report the potential environmental impacts of proposed Federal actions, and established the Council on Environmental Quality.

National Forest Management Act of October 22, 1976

The National Forest Management Act reorganized, expanded, and otherwise amended the Forest and Rangeland Renewable Resources Planning Act of 1974, which called for the management of renewable resources on National Forest System lands. The National Forest Management Act requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple-use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System. It is the primary statute governing the administration of national forests.

National Forest Roads and Trails Act of October 13, 1964

Authorizes the Secretary of Agriculture to provide for the acquisition, construction, and maintenance of forest development roads within and near the national forests through the use of appropriated funds, deposits from timber sale purchasers, cooperative financing with other public agencies, or a combination of these methods. The act also authorizes the Secretary to grant rights-of-way and easement over National Forest System lands.

National Historic Preservation Act of 1966 as amended (NHPA) (16 U.S.C. 470)

Sets forth the Federal Government's policy to preserve and protect historical and cultural resources. This act states that the historical and cultural foundations of the Nation should be preserved as a living part of the Nation's community life and development in order to give a sense of orientation to the American people. Directs all Federal agencies to take into account the effects of their undertakings (actions, financial support, and authorizations) on properties included in or eligible for the National Register. Establishes inventory, nomination, protection, and preservation responsibilities for federally owned historic properties. As amended, extends the policy in the Historic Sites Act to state and local historical sites as well as those of national significance, expands the National Register of Historic Places, establishes the Advisory Council on Historic Preservation and the State Historic Preservation Officers,

and requires agencies to designate Federal preservation officers. Establishes criteria for designating Tribal historic preservation officers to assume the functions of a state historic preservation officer on Tribal lands.

National Trails System Act of October 2, 1968

Established a national system of recreation, scenic, and historic trails by designating the initial components of the system and prescribing the methods and standards through which additional components may be added.

Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001)

Provides a process for Federal agencies to return Native American human remains, funerary objects, and sacred objects to the ancestors and appropriate Native American Tribe. Includes provisions for the intentional excavation and unanticipated discovery of Native American cultural items on Federal and Tribal lands, and penalties for noncompliance and illegal trafficking. The act requires agencies to identify holdings of such remains and objects, and to work with appropriate Native American groups toward their repatriation.

North American Wetland Conservation Act of 1989

Directs Federal agencies to cooperate with the Director of the U.S. Fish and Wildlife Service to restore, protect, and enhance the wetland ecosystems and other habitats for migratory birds, fish, and wildlife within the lands and waters of each agency to the extent consistent with the mission of such agency and existing statutory authorities.

Occupancy Permits Act of March 4, 1915

Authorizes the Secretary of Agriculture to permit, under such regulations as he may prescribe, the use and occupancy of suitable areas of land within the national forests for the purpose of constructing or maintaining hotels, resorts, or other structures necessary or desirable for recreation, public convenience, or safety; to permit the use and occupancy of suitable land for the purpose of constructing or maintaining summer homes; to permit the use and occupancy of suitable land for the purpose of constructing or maintaining buildings, structures, and facilities for industrial or commercial purposes when such use is consistent with other uses of the national forest; and to permit any state or political subdivision thereof to use or occupy suitable land for the purpose of constructing or maintaining buildings, structures, or facilities necessary or desirable for education or for any other public use or in connection with any other public activity.

Organic Administration Act of June 4, 1897

Authorizes the President to modify or revoke any instrument creating a national forest; states that no national forest may be established except to improve and protect the forest within its boundaries, for the purpose of securing favorable conditions of waterflows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States. Authorizes the Secretary of Agriculture to promulgate rules and regulations to regulate the use and occupancy of national forests.

Plant Protection Act of 2000 as amended by the Noxious Weed Control and Eradication Act of 2004

Authorizes the Secretary of Agriculture to prohibit or restrict the importation, entry, exportation, or movement in interstate commerce of any plant, plant product, biological control organism, noxious weed, article, or means of conveyance, if the Secretary determines that the prohibition or restriction is necessary

to prevent the introduction into the United States or the dissemination of a plant pest or noxious weed within the United States. This act defines the term "noxious weed."

Public Rangelands Improvement Act of October 25, 1978

Establishes and reaffirms the national policy and commitment to inventory and identify current public rangeland conditions and trends; manage, maintain and improve the condition of public rangelands so that they become as productive as feasible for all rangeland values in accordance with management objectives and the land use planning process; and charge a fee for public grazing use that is equitable.

Regulatory Flexibility Act of 1980 as amended

The purpose of the Regulatory Flexibility Act, as amended by the Small Business Regulatory Enforcement Fairness Act, is to fit regulatory requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to the regulation. The Regulatory Flexibility Act requires that agencies determine, to the extent feasible, the rules economic impact on small entities, explore regulatory options for reducing any significant economic impact on a substantial number of such entities, and explain their ultimate choice of regulatory approach.

Rehabilitation Act of 1973, as amended

States that it is national policy that the Federal Government plays a leadership role in promoting the employment of individuals with disabilities, and in assisting states and providers of services in fulfilling the aspirations of such individuals with disabilities for meaningful and gainful employment and independent living.

Religious Freedom Restoration Act (42 U.S.C. § 2000bb)

Government shall not substantially burden a person's exercise of religion even if the burden results from a rule of general applicability, except when the government demonstrates that application of the burden to the person is in a furtherance of a compelling governmental interest; and is the least restrictive means of furthering that compelling governmental interest.

Safe Drinking Water Amendments of November 18, 1977

Amended the Safe Drinking Water Act to authorize appropriations for research conducted by the Environmental Protection Agency relating to safe drinking water; Federal grants to states for public water system supervision programs and underground water source protection programs; and grants to assist special studies relating to the provision of a safe supply of drinking water.

Sikes Act of 1960, as amended October 18, 1974

This act authorizes the Forest Service to cooperate with state wildlife agencies in conservation and rehabilitation programs for fish, wildlife, and plants considered threatened or endangered.

Small Business Regulatory Enforcement Fairness Act

In 1996, Congress passed the Small Business Regulatory Enforcement Fairness Act, or SBREFA, in response to concerns expressed by the small business community that Federal regulations were too numerous, too complex and too expensive to implement. SBREFA was designed to give small businesses assistance in understanding and complying with regulations and more of a voice in the development of new regulations.

Small Tracts Act of January 22, 1983

Authorizes the Secretary of Agriculture to sell, exchange, or interchange by quitclaim deed all right, title and interest, including the mineral estate, of the United States in and to certain lands within the national forest when he determines it to be in the public interest.

Soil and Water Resources Conservation Act of November 18, 1977

Provides for a continuing appraisal of the United States' soil, water, and related resources, including fish and wildlife habitats, and a soil and water conservation program to assist landowners and land users in furthering soil and water conservation.

Surface Mining Control and Reclamation Act of August 3, 1977

Authorizes the Secretary of Agriculture to enter into agreements with landowners, providing for land stabilization, erosion, and sediment control, and reclamation through conservation treatment, including measures for the conservation and development of soil, water, woodland, wildlife, and recreation resources, and agricultural productivity of such lands.

Tribal Forest Protection Act, July 22, 2004

Authorizes the Secretaries of the Interior and Agriculture to enter into an agreement or contract with Indian Tribes meeting certain criteria to carry out projects to protect Indian forest land.

U.S. Mining Laws (Public Domain Lands) Act of May 10, 1872

Provides that all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are free and open to exploration and purchase, and the lands in which they are found to occupation and purchase by citizens of the United States and those who have declared their intention to become such, under regulations prescribed by law, and according to the local customs or rules of miners, so far as the same are applicable and not inconsistent with the laws of the United States. There are a number of acts that modify the mining laws as applied to local areas by prohibiting entry altogether or by limiting or restricting the use that may be made of the surface and the right, title, or interest which pass through patent.

Water Quality Improvement Act of April 3, 1970

Amends the prohibitions of oil discharges, authorizes the President to determine quantities of oil which would be harmful to the public health or welfare of the United States, to publish a national contingency plan to provide for coordinated action to minimize damage from oil discharges. Requires performance standards for marine sanitation device and authorizes demonstration projects to control acid or other mine pollution, and to control water pollution within the watersheds of the Great Lakes. Requires that applicants for Federal permits for activities involving discharges into navigable waters provide state certification that they will not violate applicable water quality standards.

Water Resources Planning Act of July 22, 1965

Encourages the conservation, development, and utilization of water and related land resources of the United States on a comprehensive and coordinated basis by the Federal Government, states, localities, and private enterprises.

Watershed Protection and Flood Prevention Act of August 4, 1954

Establishes policy that the Federal Government should cooperate with states and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies for the purposes of preventing erosion, floodwater, and sediment damages in the

watersheds of the rivers and streams of the United States; furthering the conservation, development, utilization, and disposal of water, and the conservation and utilization of land; and thereby preserving, protecting, and improving the Nation's land and water resources and the quality of the environment.

Wild and Scenic Rivers Act of October 2, 1968

Instituted a National Wild and Scenic Rivers System by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

Wilderness Act of September 3, 1964

Established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas" and administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness. Provides for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. The act states that no Federal lands shall be designated as "wilderness areas" except as provided for in the act or by a subsequent act.

Forest Service Directives

http://www.fs.fed.us/im/directives/

The following is a partial listing of national and regional Forest Service policies relevant to the revised forest plan. A complete listing can be found in Forest Service Manuals and Forest Service Handbooks. Together, these are known as the Forest Service Directives System.

The directives system is the primary basis for the management and control of all internal programs and serves as the primary source of administrative direction for Forest Service employees. The system sets forth legal authorities, management objectives, policies, responsibilities, delegations, standards, procedures, and other instructions.

The Forest Service Manual (FSM) contains legal authorities, goals, objectives, policies, responsibilities, instruction, and the necessary guidance to plan and execute assigned programs and activities.

Forest Service Handbooks (FSH) are directives that provide instructions and guidance on how to proceed with a specialized phase of a program or activity. Handbooks either are based on a part of the FSM or they incorporate external directives.

- **FSM 1000** Organization and Management
  - **FSM 1010** Laws, Regulations, and Orders
  - **FSM 1020** Forest Service Mission
- **FSM 1400** Controls
  - **FSM 1410** Management Reviews
- **FSM 1500** External Relations
- **FSM 1560** State, Tribal, County, and Local Agencies, Public and Private Organizations
  - Chapter 1563 American Indian and Alaska Native Relations
- **FSM 1600** Information Resources

- **FSM 1900** Planning
  - **FSM 1920** Land and Resource Management Planning
  - **FSM 1923** Wilderness Evaluation
  - **FSM 1950** Environmental Policy and Procedures
- **FSM 2000** National Forest Resource Management
  - **FSM 2060** Ecosystem Classification, Interpretation, and Application
  - **FSM 2070** Vegetation Ecology
- **FSM 2080** Noxious Weed Management
- **FSM 2200** Range Management
- **FSM 2300** Recreation, Wilderness, and Related Resources Management
  - **FSH 2309.18** Trails Management Handbook
  - **FSM 2320** Wilderness Management
  - **FSM 2330** Publicly Managed Recreation Opportunities
    - **FSM 2332.11** Hazard Trees
  - **FSM 2350** Trail, River, and Similar Recreation Opportunities
  - **FSM 2360** Heritage Program Management
- **FSM 2400** Timber Management
  - **FSM 2430** Commercial Timber Sales, Pacific Northwest Region, and Colville NF's supplements, Small Sales and Commercial/Personal Use Permits of Timber, Firewood, and other forest products
  - **FSM 2470** Silvicultural Practices
- **FSM 2500** Watershed and Air Management
- **FSM 2600** Wildlife, Fish, and Sensitive Plant Habitat Management
  - **FSM 2670** Threatened, Endangered and Sensitive Plants and Animals
- **FSM 2700** Special Uses Management
  - **FSH 2709.11** Special Uses Handbook
- **FSM 2800** Minerals and Geology
- **FSM 2900** Invasive Species Management
- **FSM 3100** Cooperative Fire Protection
- **FSM 3400** Forest Pest Management
- **FSM 4000** Research
  - **FSM 4063** RNA Management Standards and Resource Protection Guidelines
- **FSM 5100** Fire Management
  - **FSH 5109.17** Fire and Aviation
  - **FSM 5140** Hazardous Fuels Management and Prescribed Fire

- **FSM 7300** Buildings and Other Structures
  - **FSH 7309.11** Buildings and Related Facilities Handbook
  - **FSM 7310** Buildings and Related Facilities
- **FSM 7400** Public Health and Pollution Control Facilities
- **FSM 7700** Transportation System

Regulations

Below is a partial listing of relevant regulations. Federal executive departments and administrative agencies write regulations to implement laws. Regulations are secondary to law. However, both laws and regulations are enforceable.

33 CFR 323 Permits for Discharges of Dredged or Fill material into Waters of the United States

This regulation prescribes those special policies, practices, and procedures to be followed by the U.S. Army Corps of Engineers in connection with the review of applications for permits to authorize the discharge of dredged or fill material into waters of the United States.

36 CFR 60 National Register of Historic Places

Sets forth the procedural requirements for listing properties on the National Register.

36 CFR 61 Procedures for Approved State and Local Government Historic Preservation Programs

Established a requirement for each State preservation program (state historic preservation office) to develop a mechanism for the certification of local governments in the state. The programs purpose is to expand the existing Federal-State preservation partnership to include local governments and citizens.

36 CFR 63 Determinations of Eligibility for Inclusion in the National Register of Historic Places

Developed to assist agencies in identifying and evaluating the eligibility of properties for inclusion in the National Register, and to explain how to request determinations of eligibility.

36 CFR 65 National Historic Landmarks Program

Sets forth criteria for establishing national significance and the procedures used by the Department of the Interior for conducting the National Historic Landmarks Program.

36 CFR 68 The Secretary of the Interior's Standards for Historic Properties

Sets forth standards for the treatment of historic properties containing standards for preservation, rehabilitation, restoration, and reconstruction. These standards apply to all proposed grant-in-aid development projects assisted through the National Historic Preservation Fund.

36 CFR 79 Curation of Federally Owned and Administered Archaeological Collections

Sets forth responsibility for Federal archaeological collections and procedures and guidelines to manage and preserve collections.

36 CFR 212 Forest Development Transportation System

Sets forth the requirements for the development and administration of the forest transportation system.

36 CFR 219 Planning

Sets forth a process for developing, adopting, and revising land and resource management plans.

1982 Planning Rule

National Forest System Land and Resource Management Planning
Authority. Secs. 6 and 15, 90 Stat. 2949, 2952, 2958 (16 U.S.C. 1604, 1613); and 5 U.S.C. 301.
Source: 47 FR 43037, Sept. 30, 1982, unless otherwise noted.

Sec. 219.1 Purpose and principles.

a) The regulations in this subpart set forth a process for developing, adopting, and revising land and resource management plans for the National Forest System as required by the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (hereafter, RPA). These regulations prescribe how land and resource management planning is to be conducted on National Forest System lands. The resulting plans shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long-term net public benefits in an environmentally sound manner.

b) Plans guide all natural resource management activities and establish management standards and guidelines for the National Forest System. They determine resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management. Regional and forest planning will be based on the following principles:

    1) Establishment of goals and objectives for multiple-use and sustained-yield management of renewable resources without impairment of the productivity of the land;

    2) Consideration of the relative values of all renewable resources, including the relationship of nonrenewable resources, such as minerals, to renewable resources;

    3) Recognition that the National Forests are ecosystems and their management for goods and services requires an awareness and consideration of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems;

    4) Protection and, where appropriate, improvement of the quality of renewable resources;

    5) Preservation of important historic, cultural, and natural aspects of our national heritage;

    6) Protection and preservation of the inherent right of freedom of American Indians to believe, express, and exercise their traditional religions;

    7) Provision for the safe use and enjoyment of the forest resources by the public;

    8) Protection, through ecologically compatible means, of all forest and rangeland resources from depredations by forest and rangeland pests;

    9) Coordination with the land and resource planning efforts of other Federal agencies, State and local governments, and Indian Tribes;

10) Use of a systematic, interdisciplinary approach to ensure coordination and integration of planning activities for multiple-use management;

11) Early and frequent public participation;

12) Establishment of quantitative and qualitative standards and guidelines for land and resource planning and management;

13) Management of National Forest System lands in a manner that is sensitive to economic efficiency; and

14) Responsiveness to changing conditions of land and other resources and to changing social and economic demands of the American people.

Sec. 219.2 Scope and applicability.

The regulations in this subpart apply to the National Forest System, which includes special areas, such as wilderness, wild and scenic rivers, national recreation areas, and national trails.

Whenever the special area authorities require additional planning, the planning process under this subpart shall be subject to those authorities.

a) Unless inconsistent with special area authorities, requirements for additional planning for special areas shall be met through plans required under this subpart.

b) If, in a particular case, special area authorities require the preparation of a separate special area plan, the direction in any such plan may be incorporated without modification in plans prepared under this subpart.

Sec. 219.3 Definitions and terminology.

For purposes of this subpart the following terms, respectively, shall mean:

Allowable sale quantity: The quantity of timber that may be sold from the area of suitable land covered by the forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity. "

Base sale schedule: A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity.

Biological growth potential: The average net growth attainable in a fully stocked natural forest stand.

Capability: The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease.

Corridor: A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries.

Cost efficiency: The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specified levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates-of-return may be appropriate.

Diversity: The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.

Even-aged management: The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes) throughout the forest area. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation age.

Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.

Forest land: Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest use. Lands developed for non-forest use include areas for crops, improved pasture, residential, or administrative areas, improved roads of any width, and adjoining road clearing and powerline clearing of any width.

Goal: A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed.

Goods and services: The various outputs, including on-site uses, produced from forest and rangeland resources.

Integrated pest management: A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resources values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable.

Long-term sustained-yield timber capacity: The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives.

Management concern: An issue, problem, or a condition which constrains the range of management practices identified by the Forest Service in the planning process.

Management direction: A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

Management intensity: A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.

Management practice: A specific activity, measure, course of action, or treatment.

Management prescription: Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

Multiple use: The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

Net public benefits: An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield.

Objective: A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

Planning area: The area of the National Forest System covered by a regional guide or forest plan.

Planning period: One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits.

Planning horizon: The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decisions.

Present net value: The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area.

Public issue: A subject or question of widespread public interest relating to management of the National Forest System.

Real dollar value: A monetary value which compensates for the effects of inflation.

Receipt shares: The portion of receipts derived from Forest Service resource management that is distributed to State and county governments, such as the Forest Service 25 percent fund payments.

Responsible line officer: The Forest Service employee who has the authority to select and/or carry out a specific planning action.

Sale schedule: The quantity of timber planned for sale by time period from an area of suitable land covered by a forest plan. The first period, usually a decade, of the selected sale schedule provides the

allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained.

Silvicultural system: A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest thereby produced.

Suitability: The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

Sustained-yield of products and services: The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest System without impairment of the productivity of the land.

Timber production: The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For purposes of this subpart, the term timber production does not include production of fuelwood.

Uneven-aged management: The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection.

Sec. 219.4 Planning levels.

a) General guideline. Planning requires a continuous flow of information and management direction among the three Forest Service administrative levels: national, regional, and forest. Management direction shall:

    1) Include requirements for analysis to determine programs that maximize net public benefits, consistent with locally derived information about production capabilities;

    2) Reflect production capabilities, conditions and circumstances observed at all levels; and

    3) Become increasingly specific as planning progresses from the national to the forest level. In this structure, regional planning is a principal process for conveying management direction from the national level to the forest level and for conveying information from forest level to the national level. The planning process is essentially iterative in that the information from the forest level flows up to the national level where in turn information in the RPA Program flows back to the forest level.

b) Planning levels and relationships--(1) National. The Chief of the Forest Service shall develop the Renewable Resources Assessment and Program (hereafter, “RPA Assessment and RPA Program”) according to sections 3 and 4 of the RPA.

    i. RPA Assessment. The RPA Assessment shall include analysis of present and anticipated uses, demand for, and supply of the renewable resources of forest, range, and other associated lands with consideration of, and an emphasis on, pertinent supply, demand, and price relationship

trends; an inventory of present and potential renewable resources and an evaluation of opportunities for improving their yield of tangible and intangible goods and services, together with estimates of investment costs and direct and indirect returns to the Federal Government; a description of Forest Service programs and responsibilities in research, cooperative programs, and management of the National Forest System; and analysis of important policy issues and consideration of laws, regulations, and other factors expected to influence and affect significantly the use, ownership, and management of forest, range, and other associated lands. The RPA Assessment shall be based on the future capabilities of forest and rangelands and shall include information generated during the regional, forest, and other planning processes.

ii. RPA Program. The RPA Program shall consider the costs of supply and the relative values of both market and nonmarket outputs. The alternatives considered shall include national renewable resource goals and quantified objectives for resource outputs and other benefits and shall be designed to represent a range of expenditure levels sufficient to demonstrate full opportunities for management. A portion of each national objective developed in the RPA Program shall be distributed to each region and be incorporated into each regional guide. Resource objectives shall be tentatively selected for each forest planning area. In formulating the objectives for each region and forest planning area, local supply capabilities and market conditions will be considered.

2) Regional. Each Regional Forester shall develop a regional guide. Regional guides shall establish regional standards and guidelines as required by Sec. 219.9(a). Consistent with resource capabilities, regional guides shall reflect goals and objectives of the RPA Program. For planning purposes, the regional guides shall display tentative resource objectives for each Forest from the RPA Program. Regional guides shall also provide for general coordination of National Forest System, State and Private Forestry (S&PF), and Research programs. The Chief shall approve the regional guide. The Regional Forester may request adjustment of assigned regional objectives. Any adjustment shall require the approval of the Chief, Forest Service.

3) Forest. Each Forest Supervisor shall develop a forest plan for administrative units of the National Forest System. One forest plan may be prepared for all lands for which a Forest Supervisor has responsibility; or separate forest plans may be prepared for each National Forest, or combination of National Forests, within the jurisdiction of a single Forest Supervisor. A single forest plan may be prepared for the entire Tongass National Forest. These forest plans shall constitute the land and resource management plans as required under sections 6 and 13 of the RPA. A range of resource objectives shall be formulated as alternatives and evaluated, including at least one alternative which responds to and incorporates the tentative RPA Program resource objectives displayed in the regional guide. Based on this evaluation, the Forest Supervisor shall recommend objectives for incorporation into the forest plan to the Regional Forester. The Regional Forester shall approve the forest plan. This approval may incorporate adjustment of the tentative RPA Program resource objectives displayed in the regional guide.

Sec. 219.5 Interdisciplinary approach.

a) A team representing several disciplines shall be used for regional and forest planning to insure coordinated planning of the various resources. Through interactions among its members, the team shall integrate knowledge of the physical, biological, economic and social sciences, and the environmental design arts in the planning process. The team shall consider problems collectively, rather than separating them along disciplinary lines. Team functions include, but are not limited to--

1) Assessing the problems and resource use and development opportunities associated with providing goods and services;

2) Obtaining the publics views about possible decisions;

3) Implementing the planning coordination activities within the Forest Service and with local, State and other Federal agencies;

4) Developing a broad range of alternatives which identify the benefits and costs of land and resource management according to the planning process described in this subpart.

5) Developing the land and resource management plan and associated environmental impact statement required pursuant to the planning process;

6) Presenting to the responsible line officer an integrated perspective on land and resource management planning; and

7) Establishing the standards and requirements by which planning and management activities will be monitored and evaluated.

b) In appointing team members, the responsible line officer shall determine and consider the qualifications of each team member on the basis of the complexity of the issues and concerns to be addressed through the plan. The team shall collectively represent diverse specialized areas of professional and technical knowledge applicable to the planning area, and the team members shall have recognized relevant expertise and experience in professional, investigative, scientific, or other responsible work in specialty areas which they collectively represent. The team may consist of whatever combination of Forest Service staff and other Federal Government personnel is necessary to achieve an interdisciplinary approach. The team is encouraged to consult other persons when required specialized knowledge does not exist within the team itself. In addition to technical knowledge in one or more resource specialties, members should possess other attributes which enhance the interdisciplinary process. As a minimum, these attributes should include--

1) An ability to solve complex problems;

2) Skills in communication and group interaction;

3) Basic understanding of land and natural resource planning concepts, processes, and analysis techniques; and

4) The ability to conceptualize planning problems and feasible solutions.

Sec. 219.6 Public participation.

a) Because the land and resource management planning process determines how the lands of the National Forest System are to be managed, the public is encouraged to participate throughout the planning process. The intent of public participation is to--

1) Broaden the information base upon which land and resource management planning decisions are made;

2) Ensure that the Forest Service understands the needs, concerns, and values of the public;

3) Inform the public of Forest Service land and resource planning activities; and

4) Provide the public with an understanding of Forest Service programs and proposed actions.

b) Public participation in the preparation of environmental impact statements for planning begins with the publication of a notice of intent in the Federal Register. Public involvement in the preparation of draft and final environmental impact statements shall conform to the requirements of the National Environmental Policy Act and associated implementing regulations and Forest Service Manual and Handbook guidance (hereafter, "NEPA procedures"). Public comments shall be analyzed according to NEPA procedures.

c) Public participation activities, as deemed appropriate by the responsible line officer, shall be used early and often throughout the development of plans. Formal public participation activities will begin with a notice to the news media and other sources which includes, as appropriate, the following information:

   1) A description of the proposed planning action;

   2) A description and map of the geographic area affected;

   3) The issues expected to be discussed;

   4) The kind, extent, and method(s) of public participation to be used;

   5) The times, dates, and locations scheduled or anticipated, for public meetings;

   6) The name, title, address, and telephone number of the Forest Service official who may be contacted for further information; and

   7) The location and availability of documents relevant to planning process.

d) Public participation activities should be appropriate to the area and people involved. Means of notification should be appropriate to the level of planning. Public participation activities may include, but are not limited to, requests for written comments, meetings, conferences, seminars, workshops, tours, and similar events designed to foster public review and comment. The Forest Service shall state the objectives of each participation activity to assure that the public understands what type of information is needed and how this information relates to the planning process.

e) Public comments shall be considered individually and by type of group and organization to determine common areas of concern and geographic distribution. The result of this analysis should be evaluated to determine the variety and intensity of viewpoints about ongoing and proposed planning and management standards and guidelines.

f) All scheduled public participation activities shall be documented by a summary of the principal issues discussed, comments made, and a register of participants.

g) At least 30 days public notice shall be given for public participation activities associated with the development of regional guides and forest plans. Any notice requesting written comments on regional planning shall allow at least 60 calendar days for response. A similar request on forest planning shall allow at least 30 calendar days for response. Draft regional guides and forest plans and environmental impact statements shall be available for public comment for a least 3 months. See also Secs. 219.8(c) and 219.10(b).

h) The responsible line officer shall attend, or provide for adequate representation at, public participation activities.

i) Copies of approved guides and plans shall be available for public review as follows:

1) The RPA Assessment and the RPA Program shall be available at national headquarters, the Northeastern Area State and Private Forestry Office, and all Regional Offices, Research Stations, Forest Supervisors offices, and District Ra ngers offices;

2) The regional guides shall be available at national headquarters, the issuing regional office and regional offices of contiguous regions, each Forest Supervisors office of forests within and contiguous to the issuing region, and each District Rangers office in the region;

3) The forest plan shall be available at the regional office for the forest, the Forest Supervisors office, Forest Supervisors offices contiguous to the forest, District Rangers offices within the forest, and at least one additional location, to be determined by the Forest Supervisor, which shall offer convenient access to the public.

These documents may be made available at other locations convenient to the public.

j) Documents considered in the development of plans shall be available at the office where the plans were developed.

k) Forest planning activities should be coordinated to the extent practicable with owners of lands that are intermingled with, or dependent for access upon, National Forest System lands. The results of this coordination shall be included in the environmental impact statement for the plan as part of the review required in Sec. 219.7(c). The responsible line officer may individually notify these owners of forest planning activities where it is determined that notice provided for the general public is not likely to reach the affected landowners. (l) Fees for reproducing requested documents shall be charged according to the Secretary of Agricultures Fee Schedule (7 CFR part 1, subpart A, appendix A).

Sec. 219.7 Coordination with other public planning efforts.

a) The responsible line officer shall coordinate regional and forest planning with the equivalent and related planning efforts of other Federal agencies, State and local governments, and Indian Tribes.

b) The responsible line officer shall give notice of the preparation of a land and resource management plan, along with a general schedule of anticipated planning actions, to the official or agency so designated by the affected State (including the Commonwealth of Puerto Rico). The same notice shall be mailed to all Tribal or Alaska Native leaders whose Tribal lands or treaty rights are expected to be impacted and to the heads of units of government for the counties involved. These notices shall be issued simultaneously with the publication of the notice of intent to prepare an environmental impact statement required by NEPA procedures (40 CFR 1501.7).

c) The responsible line officer shall review the planning and land use policies of other Federal agencies, State and local governments, and Indian Tribes. The results of this review shall be displayed in the environmental impact statement for the plan (40 CFR 1502.16(c), 1506.2). The review shall include--

1) Consideration of the objectives of other Federal, State and local governments, and Indian Tribes, as expressed in their plans and policies;

2) An assessment of the interrelated impacts of these plans and policies;

3) A determination of how each Forest Service plan should deal with the impacts identified; and,

4) Where conflicts with Forest Service planning are identified, consideration of alternatives for their resolution.

d) In developing land and resource management plans, the responsible line officer shall meet with the designated State official (or designee) and representatives of other Federal agencies, local governments, and Indian Tribal governments at the beginning of the planning process to develop procedures for coordination. As a minimum, such conferences shall also be held after public issues and management concerns have been identified and prior to recommending the preferred alternative. Such conferences may be held in conjunction with other public participation activities, if the opportunity for government officials to participate in the planning process is not thereby reduced.

e) In developing the forest plan, the responsible line officer shall seek input from other Federal, State and local governments, and universities to help resolve management concerns in the planning process and to identify areas where additional research is needed. This input should be included in the discussion of the research needs of the designated forest planning area.

f) A program of monitoring and evaluation shall be conducted that includes consideration of the effects of National Forest management on land, resources, and communities adjacent to or near the National Forest being planned and the effects upon National Forest management of activities on nearby lands managed by other Federal or other government agencies or under the jurisdiction of local governments.

[47 FR 43037, Sept. 30, 1982, as amended at 48 FR 29122, June 24, 1983]

Sec. 219.8 Regional planning procedure.

a) Regional guide. A regional guide shall be developed for each administratively designated Forest Service region. Regional guides shall reflect general coordination of National Forest System, State and Private Forestry, and Research programs. Regional guides shall provide standards and guidelines for addressing major issues and management concerns which need to be considered at the regional level to facilitate forest planning. Public participation and coordination, the current RPA Program and Assessment, and the existing forest and resource plans shall be used as sources of information in meeting this requirement. Data and information requirements established nationally will be followed in structuring and maintaining required data.

b) Responsibilities--(1) Chief, Forest Service. The Chief shall establish agency-wide policy for regional planning and approve all regional guides.

2) Regional Forester. The Regional Forester has overall responsibility for preparing and implementing the regional guide and for preparing the environmental impact statement for proposed standards and guidelines in the regional guide. The Regional Forester appoints and supervises the interdisciplinary team.

3) Interdisciplinary team. The team, under the direction of the Regional Forester, implements the public participation and coordination activities required by Sec. 219.6 and Sec. 219.7. The team shall continue to function even though membership may change and shall monitor and evaluate planning results and recommend amendments. The team shall develop a regional guide in compliance with NEPA procedures.

c) Public review. A draft and final environmental impact statement shall be prepared for the proposed standards and guidelines in the regional guide according to NEPA procedures. To the extent feasible, a single process shall be used to meet planning and NEPA requirements. The draft statement shall identify a preferred alternative. Beginning on the date of publication of the notice of availability of the draft environmental impact statement in the Federal Register, the statement and the proposed guide shall be available for public comment for at least 3 months at convenient locations in the

vicinity of the lands covered by the guide. During this period, and in accordance with the provisions in Sec. 219.6, the Regional Forester or his designee shall publicize and hold public participation activities as deemed necessary for adequate public input.

d) Guide approval. The Chief shall review the proposed guide and the final environmental impact statement and either approve or disapprove the guide.

   1) Approval. The Chief shall prepare a concise public record of decision which documents approval and accompanies the regional guide and the final environmental impact statement. The record or decision shall be prepared according to NEPA procedures (40 CFR 1505.2). The approved regional guide shall not become effective until at least 30 days after publication of the notice of availability of the final environmental impact statement in the Federal Register.

   2) Disapproval. The Chief shall return the regional guide and final environmental impact statement to the Regional Forester with a written statement of the reasons for disapproval. The Chief may also specify a course of action to be undertaken by the Regional Forester in order to remedy deficiencies, errors, or omissions in the regional guide or environmental impact statement.

e) Public appeal of approval decisions. The provisions of 36 CFR part 211, subpart B apply to any administrative appeal of the Chiefs decision to approve a regional guide. Decisions to disapprove a guide and other decisions made during the regional planning process prior to issuance of a record of decision approving the guide are not subject to administrative appeal.

f) Amendment. The Regional Forester may amend the regional guide. The Regional Forester shall determine whether the proposed amendment would result in a significant change in the guide. If the change resulting from the proposed amendment is determined to be significant, the Regional Forester shall follow the same procedure for amendment as that required for development and approval of a regional guide. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Regional Forester may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

g) Planning records. The Regional Forester shall develop and maintain planning records that document decisions and activities that result from the process of developing a regional guide and the accomplishment of legal and administrative planning requirements. These records include at least the draft environmental impact statement, final environmental impact statement, regional guide, record of decision, a work plan to guide and manage planning, the procedures used in completing each action, and the results of these actions.

Sec. 219.9 Regional guide content.

a) The regional guide shall contain--

   1) A summary of the analysis of the regional management situation, including a brief description of the existing management situation and the major issues and management concerns which need to be addressed at the regional level to facilitate forest planning;

   2) A description of management direction including programs, goals, and objectives;

   3) A display of tentative resource objectives for each forest planning area from the current RPA Program;

   4) New or significantly changed regional management standards and guidelines necessary to address major regional issues and management concerns identified in paragraph (a)(1) of this section;

5) Specific standards and guidelines for the following--

   i. Prescribing appropriate harvest cutting methods to be used within the region according to geographic areas, forest types, or other suitable classifications;

   ii. Establishing the maximum size, dispersal, and size variation of tree openings created by even-aged management, and the state of vegetation that will be reached before a cut-over area is no longer considered an opening, using factors enumerated in Sec. 219.27(d);

   iii. Defining the management intensities and utilization standards to be used in determining harvest levels for the region;

   iv. Designating transportation corridors and associated direction for forest planning, such as management requirements for corridors, transmission lines, pipelines, and water canals. (The designation of corridors is not to preclude the granting of separate rights-of-way over, upon, under, or through the Federal lands where the authorized line officer determines that confinement to a corridor is not appropriate.) (43 U.S.C. 1763, 36 CFR 251.56); and

   v. Identifying in forest plans significant current and potential air pollution emissions from management activities and from other sources in and around the forest planning area and identifying measures needed to coordinate air quality control with appropriate air quality regulation agencies.

6) A description of the monitoring and evaluation necessary to determine and report achievements and effects of the guide.

7) A description of measures to achieve coordination of National Forest System, State and Private Forestry, and Research programs.

b) Existing regional standards and guidelines that are part of the Forest Service directives system, and that are not altered or superseded in the course of complying with Sec. 219.9(a)(4), shall remain in effect.

Sec. 219.10 Forest planning--general procedure.

a) Responsibilities--

1) Regional Forester. The Regional Forester shall establish regional policy for forest planning and approve all forest plans in the region.

2) Forest Supervisor. The Forest Supervisor has overall responsibility for the preparation and implementation of the forest plan and preparation of the environmental impact statement for the forest plan. The Forest Supervisor appoints and supervises the interdisciplinary team.

3) Interdisciplinary team. The team, under the direction of the Forest Supervisor, implements the public participation and coordination activities required by Sec. 219.6 and Sec. 219.7. The team shall continue to function even though membership may change and shall monitor and evaluate planning results and recommend revisions and amendments. The interdisciplinary team shall develop a forest plan and environmental impact statement using the process established in Sec. 219.12 and paragraph (b) below.

b) Public review of plan and environmental impact statement. A draft and final environmental impact statement shall be prepared for the proposed plan according to NEPA procedures. The draft

environmental impact statement shall identify a preferred alternative. To comply with 16 U.S.C. 1604(d), the draft environmental impact statement and proposed plan shall be available for public comment for at least 3 months, at convenient locations in the vicinity of the lands covered by the plan, beginning on the date of the publication of the notice of availability in the Federal Register. During this period, and in accordance with the provisions in Sec. 219.6, the Forest Supervisor shall publicize and hold public participation activities as deemed necessary to obtain adequate public input.

c) Plan approval. The Regional Forester shall review the proposed plan and the final environmental impact statement and either approve or disapprove the plan.

   1) Approval. The Regional Forester shall prepare a concise public record of decision which documents approval and accompanies the plan and final environmental impact statement. The record of decision shall be prepared according to NEPA procedures (40 CFR 1505.2). The approved plan shall not become effective until at least 30 days after publication of the notice of availability of the final environmental impact statement in the Federal Register, to comply with 16 U.S.C. 1604(d) and 1604(j).

   2) Disapproval. The Regional Forester shall return the plan and final environmental impact statement to the Forest Supervisor with a written statement of the reasons for disapproval. The Regional Forester may also specify a course of action to be undertaken by the Forest Supervisor in order to remedy deficiencies, errors, or omissions in the plan or environmental impact statement.

d) Public appeal of approval decision. The provisions of 36 CFR part 211, subpart B apply to any administrative appeal of the Regional Foresters decision to approve a forest plan. Decisions to disapprove a plan and other decisions made during the forest planning process prior to the issuance of a record of decision approving the plan are not subject to administrative appeal.

e) Plan implementation. As soon as practicable after approval of the plan, the Forest Supervisor shall ensure that, subject to valid existing rights, all outstanding and future permits, contracts, cooperative agreements, and other instruments for occupancy and use of affected lands are consistent with the plan. Subsequent administrative activities affecting such lands, including budget proposals, shall be based on the plan. The Forest Supervisor may change proposed implementation schedules to reflect differences between proposed annual budgets and appropriated funds. Such scheduled changes shall be considered an amendment to the forest plan, but shall not be considered a significant amendment, or require the preparation of an environmental impact statement, unless the changes significantly alter the long-term relationship between levels of multiple-use goods and services projected under planned budget proposals as compared to those projected under actual appropriations.

f) Amendment. The Forest Supervisor may amend the forest plan. Based on an analysis of the objectives, guidelines, and other contents of the forest plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a forest plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

g) Revision. A forest plan shall ordinarily be revised on a 10-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the plan have changed significantly or when changes in RPA policies, goals, or objectives

would have a significant effect on forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the forest plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of a forest plan. The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have change significantly.

h) Planning records. The Forest Supervisor and interdisciplinary team shall develop and maintain planning records that document the decisions and activities that result from the process of developing a forest plan. Records that support analytical conclusions made and alternatives considered by the team and approved by the Forest Supervisor throughout the planning process shall be maintained. Such supporting records provide the basis for the development of the forest plan and associated documents required by NEPA procedures.

Sec. 219.11 Forest plan content.

The forest plan shall contain the following:

a) A brief summary of the analysis of the management situation, including demand and supply conditions for resource commodities and services, production potentials, and use and development opportunities;

b) Forest multiple-use goals and objectives that include a description of the desired future condition of the forest or grassland and an identification of the quantities of goods and services that are expected to be produced or provided during the RPA planning periods;

c) Multiple-use prescriptions and associated standards and guidelines for each management area including proposed and probable management practices such as the planned timber sale program; and

d) Monitoring and evaluation requirements that will provide a basis for a periodic determination and evaluation of the effects of management practices.

Sec. 219.12 Forest planning--process.

a) General requirements. The preparation, revision, or significant amendment of a forest plan shall comply with the requirements established in this section. The planning process includes at least those actions set forth in paragraphs (b) through (k) of the section. Some actions may occur simultaneously, and it may be necessary to repeat an action as additional information becomes available. The environmental impact statement for each forest plan shall be prepared according to NEPA procedures. To the extent feasible, a single process shall be used to meet planning and NEPA requirements.

b) Identification of purpose and need. The interdisciplinary team shall identify and evaluate public issues, management concerns, and resource use and development opportunities, including those identified throughout the planning process during public participation activities and coordination with other Federal agencies, State and local governments, and Indian Tribes. The Forest Supervisor shall determine the major public issues, management concerns, and resource use and development opportunities to be addressed in the planning process.

c) Planning criteria. Criteria shall be prepared to guide the planning process. Criteria apply to collection and use of inventory data and information, analysis of the management situation, and the design, formulation, and evaluation of alternatives. Criteria designed to achieve the objective of maximizing net public benefits shall be included. Specific criteria may be derived from--

1) Laws, Executive Orders, regulations, and agency policy as set forth in the Forest Service Manual;

2) Goals and objectives in the RPA Program and regional guides;

3) Recommendations and assumptions developed from public issues, management concerns, and resource use and development opportunities;

4) The plans and programs of other Federal agencies, State and local governments, and Indian Tribes;

5) Ecological, technical, and economic factors; and

6) The resource integration and management requirements in Secs. 219.13 through 219.27.

d) Inventory data and information collection. Each Forest Supervisor shall obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative jurisdiction. The Supervisor will assure that the interdisciplinary team has access to the best available data. This may require that special inventories or studies be prepared. The interdisciplinary team shall collect, assemble, and use data, maps, graphic material, and explanatory aids, of a kind, character, and quality, and to the detail appropriate for the management decisions to be made. Data and information needs may vary as planning problems develop from identification of public issues, management concerns, and resource use and development opportunities. Data shall be stored for ready retrieval and comparison and periodically shall be evaluated for accuracy and effectiveness. The interdisciplinary team will use common data definitions and standards established by the Chief of the Forest Service to assure uniformity of information between all planning levels. As information is recorded, it shall be applied in any subsequent planning process. Information developed according to common data definitions and standards shall be used in the preparation of the 1990, and subsequent RPA Assessments and RPA Programs.

e) Analysis of the management situation. The analysis of the management situation is a determination of the ability of the planning area covered by the forest plan to supply goods and services in response to societys demands. The primary purpose of this analysis is to provide a basis for form ulating a broad range of reasonable alternatives. The analysis may examine the capability of the unit to supply outputs both with and without legal and other requirements. As a minimum, the analysis of the management situation shall include the following:

1) Benchmark analyses to define the range within which alternatives can be constructed. Budgets shall not be a constraint. The following benchmark analyses shall be consistent with the minimum applicable management requirements of Sec. 219.27 and shall define at least--

i. The minimum level of management which would be needed to maintain and protect the unit as part of the National Forest System together with associated costs and benefits;

ii. The maximum physical and biological production potentials of significant individual goods and services together with associated costs and benefits;

iii. Monetary benchmarks which estimate the maximum present net value of those resources having an established market value or an assigned value;

A. For forest planning areas with major resource outputs that have an established market price, monetary benchmarks shall include an estimate of the mix of resource uses,

combined with a schedule of outputs and costs, which will maximize the present net value of those major outputs that have an established market price;

B. For all forest planning areas, monetary benchmarks shall include an estimate of the mix of resource uses, combined with a schedule of outputs and costs, which will maximize the present net value of those major outputs that have an established market price or are assigned a monetary value;

C. For forest planning areas with a significant timber resource, estimates for paragraphs (e)(1)(iii) (A) and (B) of this section shall be developed both with and without meeting the requirements for compliance with a base sale schedule of timber harvest, as described in Sec. 219.16(a)(1), and with and without scheduling the harvest of even-aged stands generally at or beyond culmination of mean annual increment of growth, as described in Sec. 219.16(a)(2)(iii).

D. Estimates for paragraphs (e)(1)(iii) (A) and (B) of this section shall be developed both with and without other constraints when needed to address major public issues, management concerns, or resource opportunities identified during the planning process.

2) The current level of goods and services provided by the unit and the most likely amount of goods and services expected to be provided in the future if current management direction continues; this will be the same analysis as that required by Sec. 219.12(f)(5).

3) Projections of demand using best available techniques, with both price and nonprice information. To the extent practical, demand will be assessed as price-quantity relationships.

4) A determination of the potential to resolve public issues and management concerns.

5) Based on consideration of data and findings developed in paragraphs (e)(1)-(4), a determination of the need to establish or change management direction.

f) Formulation of alternatives. The interdisciplinary team shall formulate a broad range of reasonable alternatives according to NEPA procedures. The primary goal in formulating alternatives, besides complying with NEPA procedures, is to provide an adequate basis for identifying the alternative that comes nearest to maximizing net public benefits, consistent with the resource integration and management requirements of Secs. 219.13 through 219.27.

1) Alternatives shall be distributed between the minimum resource potential and the maximum resource potential to reflect to the extent practicable the full range of major commodity and environmental resource uses and values that could be produced from the forest. Alternatives shall reflect a range of resource outputs and expenditure levels.

2) Alternatives shall be formulated to facilitate analysis of opportunity costs and of resource use and environmental trade-offs among alternatives and between benchmarks and alternatives.

3) Alternatives shall be formulated to facilitate evaluation of the effects on present net value, benefits, and costs of achieving various outputs and values that are not assigned monetary values, but that are provided at specified levels.

4) Alternatives shall provide different ways to address and respond to the major public issues, management concerns, and resource opportunities identified during the planning process.

5) Reasonable alternatives which may require a change in existing law or policy to implement shall be formulated if necessary to address a major public issue, management concern, or resource opportunity identified during the planning process (40 CFR 1501.7, 1502.14(c)).

6) At least one alternative shall be developed which responds to and incorporates the RPA Program tentative resource objectives for each forest displayed in the regional guide.

7) At least one alternative shall reflect the current level of goods and services provided by the unit and the most likely amount of goods and services expected to be provided in the future if current management direction continues. Pursuant to NEPA procedures, this alternative shall be deemed the ``no action alternative.

8) Each alternative shall represent to the extent practicable the most cost efficient combination of management prescriptions examined that can meet the objectives established in the alternative.

9) Each alternative shall state at least--

   i. The condition and uses that will result from long-term application of the alternative;

   ii. The goods and services to be produced, the timing and flow of these resource outputs together with associated costs and benefits;

   iii. Resource management standards and guidelines; and

   iv. The purposes of the management direction proposed.

g) Estimated effects of alternatives. The physical, biological, economic, and social effects of implementing each alternative considered in detail shall be estimated and compared according to NEPA procedures. These effects include those described in NEPA procedures (40 CFR 1502.14 and 1502.16) and at least the following:

1) The expected outputs for the planning periods, including appropriate marketable goods and services, as well as nonmarket items, such as recreation and wilderness use, wildlife and fish, protection and enhancement of soil, water, and air, and preservation of aesthetic and cultural resource values;

2) The relationship of expected outputs to the RPA Program tentative resource objectives for the forest displayed in the current regional guide;

3) Direct and indirect benefits and costs, analyzed in sufficient detail to estimate--

   i. the expected real-dollar costs (discounted when appropriate), including investment, administrative, and operating costs of the agency and all other public and private costs required to manage the forest up to the point where the outputs are valued and the environmental consequences are realized;

   ii. the expected real-dollar value (discounted when appropriate) of all outputs attributable to each alternative to the extent that monetary values can be assigned to nonmarket goods and services, using quantitative and qualitative criteria when monetary values may not reasonably be assigned;

   iii. the economic effects of alternatives, including impacts on present net value, total receipts to the Federal Government, direct benefits to users that are not measured in receipts to the

Federal Government, receipt shares to State and local governments, income, and employment in affected areas; and

iv. the monetary opportunity costs (changes in present net value) associated with those management standards and resource outputs in each alternative that were not assigned monetary values but were provided at specified levels, compared with the maximum present net value benchmarks developed in Sec. 219.12(e)(1)(iii).

4) The significant resource tradeoffs and opportunity costs associated with achieving alternative resource objectives.

h) Evaluation of alternatives: Using planning criteria, the interdisciplinary team shall evaluate the significant physical, biological, economic, and social effects of each management alternative that is considered in detail. The evaluation shall include a comparative analysis of the aggregate effects of the management alternatives and shall compare present net value, social and economic impacts, outputs of goods and services, and overall protection and enhancement of environmental resources.

i) Preferred alternative recommendation. The Forest Supervisor shall review the interdisciplinary teams evaluation and shall recommend to the Regional Forester a preferred alternative to be identified in the draft environmental impact statement and displayed as the proposed plan.

j) Plan approval. The Regional Forester shall review the proposed plan and final environmental impact statement and either approve or disapprove the plan in accordance with Sec. 219.10(c). The record of decision for approval of a plan shall include, in addition to the requirements of NEPA procedures (40 CFR 1505.2), a summarized comparison of the selected alternative with:

1) Any other alternative considered which is environmentally preferable to the selected alternative; and

2) Any other alternative considered which comes nearer to maximizing present net value.

k) Monitoring and evaluation. At intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied. Based upon this evaluation, the interdisciplinary team shall recommend to the Forest Supervisor such changes in management direction, revisions, or amendments to the forest plan as are deemed necessary. Monitoring requirements identified in the forest plan shall provide for--

1) A quantitative estimate of performance comparing outputs and services with those projected by the forest plan;

2) Documentation of the measured prescriptions and effects, including significant changes in productivity of the land; and

3) Documentation of costs associated with carrying out the planned management prescriptions as compared with costs estimated in the forest plan.

4) A description of the following monitoring activities:

i. The actions, effects, or resources to be measured, and the frequency of measurements;

ii. Expected precision and reliability of the monitoring process; and

iii. The time when evaluation will be reported.

5) A determination of compliance with the following standards:

i. Lands are adequately restocked as specified in the forest plan;

ii. Lands identified as not suited for timber production are examined at least every 10 years to determine if they have become suited; and that, if determined suited, such lands are returned to timber production;

iii. Maximum size limits for harvest areas are evaluated to determine whether such size limits should be continued; and

iv. Destructive insects and disease organisms do not increase to potentially damaging levels following management activities.

Sec. 219.13 Forest planning--resource integration requirements.

The minimum requirements for integrating individual forest resource planning into the forest plan are established in Secs. 219.14 through 219.26 of this subpart. For the purposes of meeting the requirements of Sec. 219.12(c), additional planning criteria may be found in the guidelines for managing specific resources set forth in the Forest Service Manual and Handbooks.

Sec. 219.14 Timber resource land suitability.

During the forest planning process, lands which are not suited for timber production shall be identified in accordance with the criteria in paragraphs (a) through (d) of this section.

a) During the analysis of the management situation, data on all National Forest System lands within the planning area shall be reviewed, and those lands within any one of the categories described in paragraphs (a) (1) through (4) of this section shall be identified as not suited for timber production--

1) The land is not forest land as defined in Sec. 219.3.

2) Technology is not available to ensure timber production from the land without irreversible resource damage to soils productivity, or watershed conditions.

3) There is not reasonable assurance that such lands can be adequately restocked as provided in Sec. 219.27(c)(3).

4) The land has been withdrawn from timber production by an Act of Congress, the Secretary of Agriculture or the Chief of the Forest Service.

b) Forest lands other than those that have been identified as not suited for timber production in paragraph (a) of this section shall be further reviewed and assessed prior to formulation of alternatives to determine the costs and benefits for a range of management intensities for timber production. For the purpose of analysis, the planning area shall be stratified into categories of land with similar management costs and returns. The stratification should consider appropriate factors that influence the costs and returns such as physical and biological conditions of the site and transportation requirements. This analysis shall identify the management intensity for timber production for each category of land which results in the largest excess of discounted benefits less discounted costs and shall compare the direct costs of growing and harvesting trees, including capital expenditures required for timber production, to the anticipated receipts to the government, in accordance with Sec. 219.12 and paragraphs (b)(1) through (b)(3) of this section.

1) Direct benefits are expressed as expected gross receipts to the government. Such receipts shall be based upon expected stumpage prices and payments-in-kind from timber harvest considering future supply and demand situation for timber and upon timber production goals of the regional guide.

2) Direct costs include the anticipated investments, maintenance, operating, management, and planning costs attributable to timber production activities, including mitigation measures necessitated by the impacts of timber production.

3) In addition to long-term yield, the financial analysis must consider costs and returns of managing the existing timber inventory.

c) During formulation and evaluation of each alternative as required in Sec. 219.12 (f) and (g), combinations of resource management prescriptions shall be defined to meet management objectives for the various multiple uses including outdoor recreation, timber, watershed, range, wildlife and fish, and wilderness. The formulation and evaluation of each alternative shall consider the costs and benefits of alternative management intensities for timber production as identified pursuant to paragraph (b) of this section in accordance with Sec. 219.12(f). Lands shall be tentatively identified as not appropriate for timber production to meet objectives of the alternative being considered if--

1) Based upon a consideration of multiple-use objectives for the alternative, the land is proposed for resource uses that preclude timber production, such as wilderness;

2) Other management objectives for the alternative limit timber production activities to the point where management requirements set forth in Sec. 219.27 cannot be met; or

3) The lands are not cost-efficient, over the planning horizon, in meeting forest objectives, which include timber production.

d) Lands identified as not suited for timber production in paragraph (a) of this section and lands tentatively identified as not appropriate for timber production in paragraph (c) of this section shall be designated as not suited for timber production in the preferred alternative. Designation in the plan of lands not suited for timber production shall be reviewed at least every 10 years. Such lands may be reviewed and redesignated as suited for timber production due to changed conditions at any time, according to the criteria in paragraphs (a) and (c) of this section, and according to the procedures for amendment or revision of the forest plan in Sec. 219.10 (f) and (g).

Sec. 219.15 Vegetation management practices.

When vegetation is altered by management, the methods, timing, and intensity of the practices determine the level of benefits that can be obtained from the affected resources. The vegetation management practices chosen for each vegetation type and circumstance shall be defined in the forest plan with applicable standards and guidelines and the reasons for the choices. Where more than one vegetation management practice will be used in a vegetation type, the conditions under which each will be used shall be based upon thorough reviews of technical and scientific literature and practical experience, with appropriate evaluation of this knowledge for relevance to the specific vegetation and site conditions. On National Forest System land, the vegetation management practice chosen shall comply with the management requirements in Sec. 219.27(b).

Sec. 219.16 Timber resource sale schedule.

In a forest plan, the selected forest management alternative includes a sale schedule which provides the allowable sale quantity. The sale schedule of each alternative, including those which depart from base sale

schedules, shall be formulated in compliance with Sec. 219.12(f) and paragraphs (a) and (b) of this section.

a) Alternatives shall be formulated that include determinations of the quantity of the timber that may be sold during each decade. These quantity determinations shall be based on the principle of sustained yield and shall meet the management requirements in Sec. 219.27. For each alternative, the determination shall include a calculation of the long-term sustained-yield capacity and the base sale schedule and, when appropriate, a calculation of timber sale alternatives that may depart from the base sale schedule as provided in paragraphs (a)(1) through (a)(3) of this section.

    1) For the base sale schedules, the planned sale for any future decade shall be equal to, or greater than, the planned sale for the preceding decade, provided that the planned sale is not greater than the long-term sustained-yield capacity consistent with the management objectives of the alternative.

    2) The determinations of the appropriate long-term sustained-yield capacities, base sale schedules, and departure alternatives to the base sale schedules shall be made on the basis of the guidelines which follow:

        i. For the long-term sustained-yield capacities and the base sale schedules, assume intensities of management and degree of timber utilization consistent with the goals, assumptions, and requirements contained in, or used in, the preparation of the current RPA Program and regional guide. For the base sale schedule, the management and utilization assumptions shall reflect the projected changes in practices for the four decades contained in, or used in, the preparation of the current RPA Program and regional guide. Beyond the fourth decade, the assumptions shall reflect those projected for the fourth decade of the current RPA Program, unless there is a basis for a different assumption;

        ii. For alternatives with sale schedules which depart from the corresponding base sale schedule, assume an appropriate management intensity;

        iii. In accordance with the established standards, assure that all even-aged stands scheduled to be harvested during the planning period will generally have reached the culmination of mean annual increment of growth. Mean annual increment shall be based on expected growth, according to management intensities and utilization standards assumed in paragraphs (a)(2) (i) and (ii) of this section and on forest type and site quality. Mean annual increment shall be expressed in cubic measure. Alternatives which incorporate exceptions to these standards shall be evaluated if it is reasonable to expect that overall multiple use objectives would be better attained. Alternatives which incorporate exceptions to these standards are permitted for the use of sound silvicultural practices, such as thinning or other stand improvement measures; for salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow, or other catastrophe, or which are in imminent danger from insect or disease attack; for cutting for experimental and research purposes; or for removing particular species of trees, after consideration has been given to the multiple uses of the area being planned and after completion of the public participation process applicable to the preparation of a forest plan; and

        iv. Each sale schedule shall provide for a forest structure that will enable perpetual timber harvest which meets the principle of sustained-yield and multiple-use objectives of the alternative.

3) Alternatives with sale schedules which depart from the principles of paragraph (a)(1) of this section and which will lead to better attaining the overall objectives of multiple-use management shall be evaluated when any of the following conditions are indicated:

   i. None of the other alternatives considered provides a sale schedule that achieves the assigned goals of the RPA Program as provided in Sec. 219.4(b);

   ii. High mortality losses from any cause can be significantly reduced or prevented or forest age- class distribution can be improved, thereby facilitating future sustained-yield management; or

   iii. Implementation of the corresponding base sale schedule would cause a substantial adverse impact upon a community in the economic area in which the forest is located.

   iv. It is reasonable to expect that overall multiple-use objectives would otherwise be better attained.

b) The sale schedule of the management alternative selected in accordance with Sec. 219.12 provides the allowable sale quantity for the first plan period.

Sec. 219.17 Evaluation of roadless areas.

a) Unless otherwise provided by law, roadless areas within the National Forest System shall be evaluated and considered for recommendation as potential wilderness areas during the forest planning process, as provided in paragraphs (a) (1) and (2) of this section.

1) During analysis of the management situation, the following areas shall be subject to evaluation:

   i. Roadless areas including those previously inventoried in the second roadless area review and evaluation (RARE II), in a unit plan, or in a forest plan, which remain essentially roadless and undeveloped, and which have not yet been designated as wilderness or for nonwilderness uses by law. In addition, other essentially roadless areas may be subject to evaluation at the discretion of the Forest Supervisor.

   ii. Areas contiguous to existing wilderness, primitive areas, or administratively proposed wildernesses, regardless of which agency has jurisdiction for the wilderness or proposed wilderness;

   iii. Areas that are contiguous to roadless and undeveloped areas in other Federal ownership that have identified wilderness potential; and

   iv. Areas designated by Congress for wilderness study, administrative proposals pending before Congress, and other legislative proposals pending which have been endorsed by the President.

2) For each area subject to evaluation under paragraph (a)(1) of this section, the determination of the significant resource issues, which in turn affect the detail and scope of evaluation required by the Forest Service, shall be developed with public participation. As a minimum, the evaluation shall include consideration of:

   i. The values of the area as wilderness;

ii. The values foregone and effects on management of adjacent lands as a consequence of wilderness designation;

iii. Feasibility of management as wilderness, in respect to size, nonconforming use, land ownership patterns, and existing contractual agreements or statutory rights;

iv. Proximity to other designated wilderness and relative contribution to the National Wilderness Preservation System; and

v. The anticipated long-term changes in plant and animal species diversity, including the diversity of natural plant and animal communities of the forest planning area and the effects of such changes on the values for which wilderness areas were created.

[47 FR 43037, Sept. 30, 1982, as amended at 48 FR 40383, Sept. 7, 1983]

Sec. 219.18 Wilderness management.

Forest planning shall provide direction for the management of designated wilderness and primitive areas in accordance with the provisions of 36 CFR part 293. In particular, plans shall--

a) Provide for limiting and distributing visitor use of specific areas in accord with periodic estimates of the maximum levels of use that allow natural processes to operate freely and that do not impair the values for which wilderness areas were created; and

b) Evaluate the extent to which wildfire, insect, and disease control measures may be desirable for protection of either the wilderness or adjacent areas and provide for such measures when appropriate.

Sec. 219.19 Fish and wildlife resource.

Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.

a) Each alternative shall establish objectives for the maintenance and improvement of habitat for management indicator species selected under paragraph (g)(1) of this section, to the degree consistent with overall multiple use objectives of the alternative. To meet this goal, management planning for the fish and wildlife resource shall meet the requirements set forth in paragraphs (a)(1) through (a)(7) of this section.

1) In order to estimate the effects of each alternative on fish and wildlife populations, certain vertebrate and/or invertebrate species present in the area shall be identified and selected as management indicator species and the reasons for their selection will be stated. These species shall be selected because their population changes are believed to indicate the effects of management activities. In the selection of management indicator species, the following categories shall be represented where appropriate: Endangered and threatened plant and animal species identified on State and Federal lists for the planning area; species with special habitat needs that may be influenced significantly by planned management programs; species commonly hunted, fished, or trapped; non-game species of special interest; and additional plant or animal species selected because their population changes are believed to indicate the effects of management

activities on other species of selected major biological communities or on water quality. On the basis of available scientific information, the interdisciplinary team shall estimate the effects of changes in vegetation type, timber age classes, community composition, rotation age, and year-long suitability of habitat related to mobility of management indicator species. Where appropriate, measures to mitigate adverse effects shall be prescribed.

2) Planning alternatives shall be stated and evaluated in terms of both amount and quality of habitat and of animal population trends of the management indicator species.

3) Biologists from State fish and wildlife agencies and other Federal agencies shall be consulted in order to coordinate planning for fish and wildlife, including opportunities for the reintroduction of extirpated species.

4) Access and dispersal problems of hunting, fishing, and other visitor uses shall be considered.

5) The effects of pest and fire management on fish and wildlife populations shall be considered.

6) Population trends of the management indicator species will be monitored and relationships to habitat changes determined. This monitoring will be done in cooperation with State fish and wildlife agencies, to the extent practicable.

7) Habitat determined to be critical for threatened and endangered species shall be identified, and measures shall be prescribed to prevent the destruction or adverse modification of such habitat. Objectives shall be determined for threatened and endangered species that shall provide for, where possible, their removal from listing as threatened and endangered species through appropriate conservation measures, including the designation of special areas to meet the protection and management needs of such species.

Sec. 219.20 Grazing resource.

In forest planning, the suitability and potential capability of National Forest System lands for producing forage for grazing animals and for providing habitat for management indicator species shall be determined as provided in paragraphs (a) and (b) of this section. Lands so identified shall be managed in accordance with direction established in forest plans.

a) Lands suitable for grazing and browsing shall be identified and their condition and trend shall be determined. The present and potential supply of forage for livestock, wild and free-roaming horses and burros, and the capability of these lands to produce suitable food and cover for selected wildlife species shall be estimated. The use of forage by grazing and browsing animals will be estimated. Lands in less than satisfactory condition shall be identified and appropriate action planned for their restoration.

b) Alternative range management prescriptions shall consider grazing systems and the facilities necessary to implement them; land treatment and vegetation manipulation practices; and evaluation of pest problems; possible conflict or beneficial interactions among livestock, wild free-roaming horses and burros and wild animal populations, and methods of regulating these; direction for rehabilitation of ranges in unsatisfactory condition; and comparative cost efficiency of the prescriptions.

Sec. 219.21 Recreation resource.

To the degree consistent with needs and demands for all major resources, a broad spectrum of forest and rangeland related outdoor recreation opportunities shall be provided for in each alternative. Planning

activities to achieve this shall be in accordance with national and regional direction and procedural requirements of paragraphs (a) through (g) of this section.

a) Forest planning shall identify--

   1) The physical and biological characteristics that make land suitable for recreation opportunities;

   2) The recreational preferences of user groups and the settings needed to provide quality recreation opportunities; and

   3) Recreation opportunities on the National Forest System lands.

b) The supply of developed recreational facilities in the area of National Forest influence shall be appraised for adequacy to meet present and future demands.

c) Planning alternatives shall include consideration of establishment of physical facilities, regulation of use, and recreation opportunities responsive to current and anticipated user demands.

d) In formulation and analysis of alternatives as specified in Sec. 219.12 (f) and (g), interactions among recreation opportunities and other multiple uses shall be examined. This examination shall consider the impacts of the proposed recreation activities on other uses and values and the impacts of other uses and activities associated with them on recreation opportunities, activities, and quality of experience.

e) Formulation and evaluation of alternatives under paragraphs (c) and (d) of this section shall be coordinated to the extent feasible with present and proposed recreation activities of local and State land use or outdoor recreation plans, particularly the State Comprehensive Outdoor Recreation Plan, and recreation opportunities already present and available on other public and private lands, with the aim of reducing duplication in meeting recreation demands.

f) The visual resource shall be inventoried and evaluated as an integrated part of evaluating alternatives in the forest planning process, addressing both the landscapes visual attractiveness and the publi cs visual expectation. Management prescriptions for definitive land areas of the forest shall include visual quality objectives.

g) Off-road vehicle use shall be planned and implemented to protect land and other resources, promote public safety, and minimize conflicts with other uses of the National Forest System lands. Forest planning shall evaluate the potential effects of vehicle use off roads and, on the basis of the requirements of 36 CFR part 295 of this chapter, classify areas and trails of National Forest System lands as to whether or not off-road vehicle use may be permitted.

Sec. 219.22 Mineral resource.

Mineral exploration and development in the planning area shall be considered in the management of renewable resources. The following shall be recognized to the extent practicable in forest planning:

a) Active mines within the area of land covered by the forest plan;

b) Outstanding or reserved mineral rights;

c) The probable occurrence of various minerals, including locatable, leasable, and common variety;

d) The potential for future mineral development and potential need for withdrawal of areas from development;

e) Access requirements for mineral exploration and development; and

f) The probable effect of renewable resource prescriptions and management direction on mineral resources and activities, including exploration and development.

Sec. 219.23 Water and soil resource.

Forest planning shall provide for--

a) General estimates of current water uses, both consumptive and non-consumptive, including instream flow requirements within the area of land covered by the forest plan;

b) Identification of significant existing impoundments, transmission facilities, wells, and other man-made developments on the area of land covered by the forest plan;

c) Estimation of the probable occurrence of various levels of water volumes, including extreme events which would have a major impact on the planning area;

d) Compliance with requirements of the Clean Water Act, the Safe Drinking Water Act, and all substantive and procedural requirements of Federal, State, and local governmental bodies with respect to the provision of public water systems and the disposal of waste water;

e) Evaluation of existing or potential watershed conditions that will influence soil productivity, water yield, water pollution, or hazardous events; and

f) Adoption of measures, as directed in applicable Executive orders, to minimize risk of flood loss, to restore and preserve floodplain values, and to protect wetlands.

Sec. 219.24 Cultural and historic resources.

Forest planning shall provide for the identification, protection, interpretation, and management of significant cultural resources on National Forest System lands. Planning of the resource shall be governed by the requirements of Federal laws pertaining to historic preservation, and guided by paragraphs (a)(1) through (a)(3) of this section.

a) Forest planning shall--

    1) Provide an overview of known data relevant to history, ethnography, and prehistory of the area under consideration, including known cultural resource sites;

    2) Identify areas requiring more intensive inventory;

    3) Provide for evaluation and identification of appropriate sites for the National Register of Historic Places;

    4) Provide for establishing measures for the protection of significant cultural resources from vandalism and other human depredation, and natural destruction;

    5) Identify the need for maintenance of historic sites on, or eligible for inclusion in, the National Register of Historic Places; and

6) Identify opportunities for interpretation of cultural resources for the education and enjoyment of the American public.

b) In the formulation and analysis of alternatives, interactions among cultural resources and other multiple uses shall be examined. This examination shall consider impacts of the management of cultural resources on other uses and activities and impacts of other uses and activities on cultural resource management.

c) Formulation and evaluation of alternatives shall be coordinated to the extent feasible with the State cultural resource plan and planning activities of the State Historic Preservation Office and State Archaeologist and with other State and Federal agencies.

Sec. 219.25 Research natural areas.

Forest planning shall provide for the establishment of Research Natural Areas (RNAs). Planning shall make provision for the identification of examples of important forest, shrubland, grassland, alpine, aquatic, and geologic types that have special or unique characteristics of scientific interest and importance and that are needed to complete the national network of RNAs. Biotic, aquatic, and geologic types needed for the network shall be identified using a list provided by the Chief of the Forest Service. Authority to establish RNAs is delegated to the Chief at 7 CFR 2.60(a) and 36 CFR 251.23. Recommendations for establishment of areas shall be made to the Chief through the planning process.

Sec. 219.26 Diversity.

Forest planning shall provide for diversity of plant and animal communities and tree species consistent with the overall multiple-use objectives of the planning area. Such diversity shall be considered throughout the planning process. Inventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition. For each planning alternative, the interdisciplinary team shall consider how diversity will be affected by various mixes of resource outputs and uses, including proposed management practices. (Refer to Sec.219.27(g).)

Sec. 219.27 Management requirements.

The minimum specific management requirements to be met in accomplishing goals and objectives for the National Forest System are set forth in this section. These requirements guide the development, analysis, approval, implementation, monitoring and evaluation of forest plans.

a) Resource protection. All management prescriptions shall--

1) Conserve soil and water resources and not allow significant or permanent impairment of the productivity of the land;

2) Consistent with the relative resource values involved, minimize serious or long-lasting hazards from flood, wind, wildfire, erosion, or other natural physical forces unless these are specifically excepted, as in wilderness;

3) Consistent with the relative resource values involved, prevent or reduce serious, long lasting hazards and damage from pest organisms, utilizing principles of integrated pest management. Under this approach all aspects of a pest-host system should be weighed to determine situation-specific prescriptions which may utilize a combination of techniques including, as appropriate, natural controls, harvesting, use of resistant species, maintenance of diversity, removal of damaged trees, and judicious use of pesticides. The basic principle in the choice of strategy is

that, in the long term, it be ecologically acceptable and compatible with the forest ecosystem and the multiple use objectives of the plan;

4) Protect streams, streambanks, shorelines, lakes, wetlands, and other bodies of water as provided under paragraphs (d) and (e) of this section;

5) Provide for and maintain diversity of plant and animal communities to meet overall multiple- use objectives, as provided in paragraph (g) of this section;

6) Provide for adequate fish and wildlife habitat to maintain viable populations of existing native vertebrate species and provide that habitat for species chosen under Sec. 219.19 is maintained and improved to the degree consistent with multiple-use objectives established in the plan;

7) Be assessed prior to project implementation for potential physical, biological, aesthetic, cultural, engineering, and economic impacts and for consistency with multiple uses planned for the general area;

8) Include measures for preventing the destruction or adverse modification of critical habitat for threatened and endangered species;

9) Provide that existing significant transportation and utility corridors and other significant right-of-ways that are capable and likely to be needed to accommodate the facility or use from an additional compatible right-of-way be designated as a right-of-way corridor. Subsequent right- of-way grants will, to the extent practicable, and as determined by the responsible line officer, use designated corridors;

10) Ensure that any roads constructed through contracts, permits, or leases are designed according to standards appropriate to the planned uses, considering safety, cost of transportation, and effects upon lands and resources;

11) Provide that all roads are planned and designed to re-establish vegetative cover on the disturbed area within a reasonable period of time, not to exceed 10 years after the termination of a contract, lease or permit, unless the road is determined necessary as a permanent addition to the National Forest Transportation System; and

12) Be consistent with maintaining air quality at a level that is adequate for the protection and use of National Forest System resources and that meets or exceeds applicable Federal, State and/or local standards or regulations.

b) Vegetative manipulation. Management prescriptions that involve vegetative manipulation of tree cover for any purpose shall--

1) Be best suited to the multiple-use goals established for the area with potential environmental, biological, cultural resource, aesthetic, engineering, and economic impacts, as stated in the regional guides and forest plans, being considered in this determination;

2) Assure that lands can be adequately restocked as provided in paragraph (c)(3) of this section, except where permanent openings are created for wildlife habitat improvement, vistas, recreation uses and similar practices;

3) Not be chosen primarily because they will give the greatest dollar return or the greatest output of timber, although these factors shall be considered;

4) Be chosen after considering potential effects on residual trees and adjacent stands;

5) Avoid permanent impairment of site productivity and ensure conservation of soil and water resources;

6) Provide the desired effects on water quantity and quality, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields; and

7) Be practical in terms of transportation and harvesting requirements, and total costs of preparation, logging, and administration.

c) Silvicultural practices. The following management requirements apply to timber harvest and cultural treatments:

1) No timber harvesting shall occur on lands classified as not suited for timber production pursuant to Sec. 219.14 except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives on such lands if the forest plan establishes that such actions are appropriate. These lands shall continue to be treated for reforestation purposes if necessary to achieve the multiple-use objectives of the plan.

2) The selected sale schedule provides the allowable sale quantity for the first planning period. Within the planning period, the volume of timber to be sold in any one year may exceed the average annual allowable sale quantity so long as the total amount sold for the planning period does not exceed the allowable sale quantity. Nothing in this paragraph prohibits salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow, or other catastrophe, or which are in imminent danger of insect or disease attack and where such harvests are consistent with silvicultural and environmental standards. Such timber may either substitute for timber that would otherwise be sold under the plan or, if not feasible, be sold over and above the planned volume.

3) When trees are cut to achieve timber production objectives, the cuttings shall be made in such a way as to assure that the technology and knowledge exists to adequately restock the lands within 5 years after final harvest. Research and experience shall be the basis for determining whether the harvest and regeneration practices planned can be expected to result in adequate restocking. Adequate restocking means that the cut area will contain the minimum number, size, distribution, and species composition of regeneration as specified in regional silvicultural guides for each forest type. Five years after final harvest means 5 years after clearcutting, 5 years after final overstory removal in shelterwood cutting, 5 years after the seed tree removal cut in seed tree cutting, or 5 years after selection cutting.

4) Cultural treatments such as thinning, weeding, and other partial cutting may be included in the forest plan where they are intended to increase the rate of growth of remaining trees, favor commercially valuable tree species, favor species or age classes which are most valuable for wildlife, or achieve other multiple-use objectives.

5) Harvest levels based on intensified management practices shall be decreased no later than the end of each planning period if such practices cannot be completed substantially as planned.

6) Timber harvest cuts designed to regenerate an even-aged stand of timber shall be carried out in a manner consistent with the protection of soil, watershed, fish and wildlife, recreation, and aesthetic resources, and the regeneration of the timber resource.

7) Timber harvest and other silvicultural treatments shall be used to prevent potentially damaging population increases of forest pest organisms. Silvicultural treatments shall not be applied where such treatments would make stands susceptible to pest-caused damage levels inconsistent with management objectives.

d) Even-aged management. When openings are created in the forest by the application of even- aged silviculture, the following management requirements apply:

1) Openings shall be located to achieve the desired combination of multiple-use objectives. The blocks or strips cut shall be shaped and blended with the natural terrain, to the extent practicable, to achieve aesthetic, wildlife habitat, or other objectives established in the plan. Regional guides shall provide guidance on dispersion of openings in relation to topography, climate, geography, local land use patterns, forest types or other factors. As a minimum, openings in forest stands are no longer considered openings once a new forest is established. Forest plans may set forth variations to this minimum based on site- specific requirements for achieving multiple-use objectives. Regional guides shall provide guidance for determining variations to this minimum in the forest plan, based on requirements for watershed, wildlife habitat, scenery or other resource protection needs, or other factors.

2) Individual cut blocks, patches, or strips shall conform to the maximum size limits for areas to be cut in one harvest operation established by the regional guide according to geographic areas and forest types. This limit may be less than, but will not exceed, 60 acres for the Douglas-fir forest type of California, Oregon, and Washington; 80 acres for the southern yellow pine types of Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, North Carolina, South Carolina, Oklahoma, and Texas; 100 acres for the hemlock-sitka spruce forest type of coastal Alaska; and 40 acres for all other forest types except as provided in paragraphs (d)(2)(i) through (iii) of this section:

i. Cut openings larger than those specified may be permitted where larger units will produce a more desirable combination of net public benefits. Such exceptions shall be provided for in regional guides. The following factors shall be considered in evaluating harvest cuts of various sizes and shapes to determine size limits by geographic areas and forest types: Topography; relationship of units to other natural or artificial openings and proximity of units; coordination and consistency with adjacent forests and regions; effect on water quality and quantity; visual absorption capability; effect on wildlife and fish habitat; regeneration requirements for desirable tree species based upon the latest research findings; transportation and harvesting system requirements; environmental and forest pest hazards to regeneration, residual trees, and surrounding stands; and the relative total costs of preparation and administration, transportation requirements, harvesting, site preparation, planting, stocking control, and future stand tending of harvest cuts of various sizes and shapes. Specification for exceptions shall include the particular conditions under which the larger size is permitted and shall set a new maximum size permitted under those conditions.

ii. Size limits exceeding those established in paragraphs (d)(2) and (d)(2)(i) of this section are permitted on an individual timber sale basis after 60 days public notice and review by the Regional Forester.

iii. The established limit shall not apply to the size of areas harvested as a result of natural catastrophic condition such as fire, insect and disease attack, or windstorm.

e) Riparian areas. Special attention shall be given to land and vegetation for approximately 100 feet from the edges of all perennial streams, lakes, and other bodies of water. This area shall correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment shall be permitted within these areas which seriously and adversely affect water conditions or fish habitat. Topography, vegetation type, soil, climatic conditions, management objectives, and other factors shall be considered in determining what management practices may be performed within these areas or the constraints to be placed upon their performance.

f) Soil and water. Conservation of soil and water resources involves the analysis, protection, enhancement, treatment, and evaluation of soil and water resources and their responses under management and shall be guided by instructions in official technical handbooks. These handbooks must show specific ways to avoid or mitigate damage, and maintain or enhance productivity on specific sites. These handbooks may be regional in scope or, where feasible, specific to physiographic or climatic provinces.

g) Diversity. Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest and the diversity of tree species similar to that existing in the planning area. Reductions in diversity of plant and animal communities and tree species from that which would be expected in a natural forest, or from that similar to the existing diversity in the planning area, may be prescribed only where needed to meet overall multiple-use objectives. Planned type conversion shall be justified by an analysis showing biological, economic, social, and environmental design consequences, and the relation of such conversions to the process of natural change.

Sec. 219.28 Research.

a) Research needs for management of the National Forest System shall be identified during planning and periodically reviewed during evaluation of implemented plans. Particular attention should be given to research needs identified during the monitoring and evaluation described in Sec. 219.12(k). These identified needs shall be included in formulating overall research programs and plans which involve private as well as public forest and rangelands.

b) Research needed to support or improve management of the National Forest System shall be established and budgeted at the research station and national levels. Priorities for this portion of the Forest Service Research Program shall be based upon the information gathered at all planning levels of the National Forest System.

c) An annual report shall be prepared at the national level with assistance from Regions and Stations which shall include, but not be limited to, a description of the status of major research programs which address National Forest System needs for Research, significant findings, and how this information is to be or has recently been applied.

Sec. 219.29 Transition period.

a) Until a forest planning area of the National Forest System is managed under a forest plan developed pursuant to this subpart and approved by the Regional Forester, the land may continue to be managed under existing land use and resource plans. As soon as practicable, existing plans shall be amended or revised to incorporate standards and guidelines in this subpart. Pending approval of a forest plan, existing plans may be amended or revised to include management requirements not inconsistent with the provisions of the RPA and these regulations.

b) Requirements of amendments to this subpart shall be incorporated in forest plans and regional guides through the ongoing planning process. Planning process steps already completed need not be repeated.

   1) If, prior to the effective date of an amendment to this subpart, a forest plan either has been approved in final form or released in draft form for public review, the plan need not be modified to incorporate requirements of such amendment, until the next scheduled revision of the forest plan;

   2) If, prior to the effective date of an amendment to this subpart, a regional guide either has been approved in final form or released in draft form for public review, the guide need not be modified to incorporate the requirements of such amendment, until a significant amendment to the guide is made for reasons other than incorporating requirements of amendments to this subpart.

c) A forest plan may become effective prior to the development and approval of its related regional guide, provided that the forest plan is reviewed upon regional guide approval, and if necessary, amended to comply with regional management direction. If such an amendment is significant, it shall be accomplished pursuant to the requirements for the development of a forest plan as set forth in this subpart.

d) As a result of the eruption of Mount St. Helens, a land management plan for the Mount St. Helens area shall be prepared substantially in accordance with the following procedures:

   1) Notwithstanding any other provisions in this subpart, the area included in the Mount St. Helens land management plan will not be subject to planning activities for the first generation Gifford Pinchot National Forest Plan unless the Regional Forester for the Pacific Northwest Region determines that additional planning activities are desirable.

   2) Lands which were inventoried as roadless and designated for nonwilderness uses in the Roadless Area Review and Evaluation (RARE II) shall be managed for uses other than wilderness. Except for a small part of the Mount Margaret roadless area (B 6071), the Mount St. Helens land management plan shall not consider wilderness designation for these lands.

   3) Lands which were inventoried as roadless and designated as further planning in the Roadless Area Review and Evaluation (RARE II) shall be evaluated in the Mount St. Helens land management plan and shall be managed in accordance with that plan.

36 CFR 228 Minerals

Sets forth the rules and procedures through which use of the surface of National Forest System lands, in connection with mining and mineral operations, shall be conducted so as to minimize adverse environmental impacts on National Forest System surface resources.

36 CFR 241 Fish and Wildlife

Sets forth the rules and procedures relating to management, conservation, and protection of fish and wildlife resources on National Forest System lands.

36 CFR 251 Land Uses

Sets forth the rules and procedures relating to the use and occupancy of National Forest System lands.

36 CFR 254 Landownership Adjustments

Sets forth the rules and procedures relating to exchange and conveyance of National Forest System lands.

36 CFR 261 Prohibitions

Sets forth the general prohibitions relating to the use and occupancy of national Forest System lands.

36 CFR 291 Occupancy and Use of Developed Sites and Areas of Concentrated Public Use

Provides for fees charged for the occupancy and use of developed sites and areas of concentrated public use.

36 CFR 293 Wilderness-Primitive Areas

Sets forth requirements for the administration of wilderness and primitive areas.

36 CFR 294 Special Areas

Sets forth the requirements for designation of special recreation areas.

36 CFR 296 Protection of Archaeological Resources

Implements the provisions of the Archaeological Resources Protection Act.

36 CFR 297 Wild and Scenic Rivers

Sets forth the rules and procedures relating to Federal assistance in the construction of water resources projects affecting wild and scenic rivers or study rivers on lands administered by the Secretary of Agriculture.

36 CFR 800 Protection of Historic Properties

Sets forth the provisions for the administration of the National Historic Preservation Act.

40 CFR 121-135 Water Programs

Sets forth the provisions for the administration of water programs including: state certification of activities requiring a Federal license or permit; EPA administered permit programs; state program requirements; procedures for decision-making; criteria and standards for the National Pollutant Discharge Elimination System; toxic pollutant effluent standards; water quality planning and management; water quality standards; water quality guidance for the Great Lakes System; secondary treatment regulation; and, prior notice of citizen suits. See Title 40 (Protection of Environment), Chapter 1 (Environmental Protection Agency), subchapter D (Water Programs).

40 CFR 1500 Council on Environmental Quality

Council on Environmental Quality regulations implementing the National Environmental Policy Act.

43 CFR 10 Native American Graves Protection and Repatriation Act Regulation

Implements the provisions of the Native American Graves and Repatriation Act of 1990.

Executive Memorandum (April 29, 1994) Government-to-Government Relations with Native American Tribal Governments (59 Federal Regulation 22951)

Directs executive departments and agencies that undertake activities affecting Native American Tribal rights or trust resources, such activities should be implemented in a knowledgeable, sensitive manner respectful of Tribal sovereignty.

Executive Orders

Below is a partial listing of relevant executive orders. Executive orders are official documents by which the President provides instructions to executive departments and agencies. It may adopt guidelines, rules of conduct, or rules of procedure for government employees or units of government. It can also establish an advisory body or task force.

E.O. 11593 Protection and Enhancement of the Cultural Environment

States that the Federal Government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation, and that Federal agencies shall administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations; initiate measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people; and, in consultation with the Advisory Council on Historic Preservation, institute procedures to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance.

E.O. 11644 (amended by E.O. 11989) Use of Off-Road Vehicles, 1972, 1977

Establishes policies and provides for procedures that ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.

E.O. 11988 Floodplain Management, 1977

Requires each Federal agency to provide leadership and to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for acquiring, managing, and disposing of Federal lands and facilities; providing federally undertaken, financed, or assisted construction and improvements; and conducting Federal activities and programs affecting land use including, but not limited to, water and related land resources planning, regulating, and licensing activities.

E.O. 11990 Protection of Wetlands, 1977

Requires each Federal agency to provide leadership and to take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for acquiring, managing, and disposing of Federal lands and facilities; providing federally undertaken, financed, or assisted construction and improvements; and conducting Federal activities and programs affecting land use including, but not limited to, water and related land resources planning, regulating, and licensing activities.

E.O. 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994

Addresses environmental justice in minority and low-income populations and is designed to focus Federal attention on the environmental and human health conditions in minority communities and low-income communities with the goal of achieving environmental justice. The order is also intended to promote nondiscrimination in Federal programs substantially affecting human health and the environment, and to provide minority communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment.

E.O. 13007 Indian Sacred Sites, 1996

Requires each executive branch agency with statutory or administrative responsibility for the management of Federal lands, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such scared sites. Where appropriate, agencies shall maintain the confidentiality of scared sites.

E.O. 13112 Invasive Species, 1999

Ensures that Federal programs and activities to control and prevent invasive species are coordinated, effective, and efficient. It defines invasive species as "…an alien (or nonnative) whose introduction does or is likely to cause economic or environmental harm or harm to human health."

E.O. 13175 Consultation and Coordination with Indian Tribal Governments, 2000

Promotes regular and meaningful consultation and collaboration with Tribal officials in the development of Federal policies that have Tribal implications, strengthens the United States government-to-government relationships with Indian Tribes, and reduces the imposition of unfunded mandates upon Indian Tribes.

E.O. 13186 Responsibility of Federal Agencies to Protect Migratory Birds, 2001

Directs Federal agencies, as practicable, to support the conservation of migratory birds, restore, and enhance the habitat of migratory birds, prevent or abate pollution or detrimental alteration of the environment for the benefit of migratory birds, ensure agency plans and actions promote programs and recommendations of comprehensive migratory bird planning efforts such as Partners-in-Flight, ensure that environmental analyses of Federal actions required by NEPA evaluate effect on migratory birds, and promote research, education, and training related to conservation of migratory birds.

E.O. 13287 Preserve America, 2003

Advances the protection, enhancement, and contemporary use of the historic properties owned by the Federal Government, and promotes intergovernmental cooperation and partnerships for the preservation of historic properties. Directs Federal agencies to increase their knowledge of historic resources in their care and to enhance the management of these assets. Encourages agencies to seek partnerships with State, Tribal, and local governments and the private sector to make more efficient and informed use of their resources for economic development and other recognized public benefits. Better combines historic preservation and nature tourism by directing agencies to assist in the development of local and regional nature tourism programs using the historic resources that area a significant feature of many state and local economies.

E.O. 13327 Federal Real Property Asset Management, 2004

Establishes the Federal Real Property Council to develop guidance for, and facilitate the success of, each agency's asset management plan. The Council is to be composed exclusively of all agency Senior Real Property Officers, the Controller of the Office of Management and Budget, the Administrator of General Services, and any other full-time or permanent part-time Federal officials or employees as deemed necessary by the Chairman of the Council. The Senior Real Property Officer is required to develop and implement an agency asset management planning process that meets the form, content, and other requirements established by the Federal Real Property Council. In relation to cultural resources, the Senior Property Officer shall incorporate planning and management requirements for historic property under Executive Order 13287 (2003).

E.O. 13443 Facilitation of Hunting Heritage and Wildlife Conservation, 2007

Directs Federal agencies with programs and activities that have a measurable effect on public management, outdoor recreation, and wildlife management, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

E.O. of 1872 Confederated Tribes of the Colville Reservation; North-Half Agreement of 1891 (27 Stat. 62)

At its inception by an executive order issued by President Grant on April 9, 1872, the Colville Indian Reservation was in a different location from today's reservation. A subsequent executive order was issued on July 2, 1872, by President Grant, which moved the Colville Indian Reservation to its present location. On April 19, 1879, and March 6, 1880, two tracts of land called the Moses Columbia Reservation were designated where the present day city of Wenatchee lies. Twenty years after the Colville Indian Reservation was moved to its present location, the north half of the reservation was ceded to the United States by an act of Congress (27 Stat. 62).

E.O. 1904 Kalispel Tribe (1914)

On March 23, 1914, President Wilson, by executive order, formally set aside and reserved the territory described for the use and occupancy of the Kalispel Indians.

E.O. of 1881 Spokane Tribe of Indians

On January 18, 1881, President Hayes, by executive order, formally set aside and reserved the territory described in the agreement of August 1877, for the use and occupancy of the Spokane Indians.

U.S. Department of Agriculture Policy

For wildlife, fish, and plant habitat management on National Forest System lands is presented in Departmental Regulation 9500-4. This policy states that by means of the planning process, habitat goals will be established for plants and animals, including wildlife and fish species in demand for hunting, fishing, and trapping and those with special habitat needs. This regulation also directs the Forest Service to: (a) manage habitats for all existing native and desired nonnative plants, fish, and wildlife species in order to maintain viable populations of such species; (b) conduct activities and programs to assist in the identification and recovery of threatened and endangered plant and animal species; and (c) avoid actions that may cause a species to become threatened or endangered

State Regulations

Washington Clean Air Act (RCW 70.94)

The Washington state legislature adopted Washingtons Clean Air Act (70.94 RCW) in 1967. This Act is the basis for state and local air pollution rules in Washington. Regulations at the state level must be as protective or more protective of human health and the environment than those of the United States Clean Air Act. Seven local clean air agencies enforce air pollution rules in Washington. The Washington State Department of Ecology handles air pollution matters in areas of the state where a local agency has not been established.

PL 98-339 Washington State Wilderness Act of 1984

Designates the Salmo-Priest Wilderness

Programmatic Agreement

Memorandum of Understanding between the U.S. Department of Agriculture Forest Service and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds

Wyden Amendment

Authorizes the Forest Service to enter into cooperative agreements to benefit resources within watersheds on National Forest System lands. Agreements may be with willing Federal, State, Tribal, and local governments, private and non-government entities, and landowners to conduct activities on public or private lands. Under this authority, the Forest Service may enter into agreements to support or conduct invasive species management activities on aquatic and terrestrial areas owned by local and State governments, Tribes, other Federal agencies, and private individuals or organizations, to benefit and protect the National Forest System and other resources within a watershed at risk from invasive species.

Appendix E. Response to Public Comments

Introduction

This appendix documents the Colville National Forest (Colville NF) responses to substantive comments that were received during the 135-day comment period for the draft Land and Resources Management Plan (draft plan, or draft revised forest plan) and draft Environmental Impact Statement (DEIS). A 90-day public comment period for the DEIS and draft revised plan was initiated by publication of a Federal Register Notice on February 19, 2016. Another notice was published in the Federal Register on March 25, 2016, to extend the public comment period for an additional 45 days (total 135 days). The comment period ended on July 5, 2016.

The Forest received 926 comment letters, of which 363 contained unique or substantially different comments. The Forest analyzed 2,058 comments from these letters to identify possible changes to existing alternatives or need to develop new alternatives. Comments were received by e-mail, in person and via the U.S. Postal Service. The original comments received on the DEIS are available on the project website in the Comments Reading Room at https://cara.ecosystem-management.org/Public//ReadingRoom?Project=45826, and included in the project record. Table E-4 below lists the names of commenters.

Content Analysis Process

The comment content analysis followed a systematic process of reading, coding, and summarizing the comments that were submitted. This process ensured that every comment was read, analyzed, and considered. The comments that were most helpful were those that were unique and specifically related to the plan and analysis in the DEIS. Each commenter was assigned a letter number. Unique letters are listed in Table E-4. Each unique comment was numbered sequentially and coded by topic in a database. Similar comments were grouped and nearly identical comments were combined. The comments in this appendix are paraphrased based on this grouping strategy, and addressed by topic below. The interdisciplinary team (IDT) prepared responses for these comments based on its content, regardless of the source or whether expressed by many commenters or by one.

Comments and Responses

Alternatives

Comment: (Letter Number(s): 72, 131, 476, 478, 519, 520, 521, 645, 666, 748, 881, 971, 996, 1009, and 1010) The Forest should select Alternative B, with additional protections for wild areas and watershed health, as the final preferred alternative because it is based on collaboration between logging and environmental interests.

> ***Response**: The FEIS considers the no action alternative and five action alternatives (proposed action and alternatives P, B, R, and O) in detail. These six alternatives provide a range of protections for unroaded areas and watersheds, and were developed based on key issues raised internally and by the public. Table 3 of the FEIS includes a brief description of the alternatives, and Chapter 2 provides a detailed description.*
>
> *All alternatives considered in detail were shared in the DEIS for public comment. Public participation in the forest planning process reached a broad variety of interest groups, and included*

engaging with industry and environmental groups, both within and outside of the formal collaborative process.

Alternative B was partially developed by the Northeast Washington Forestry Coalition (NEWFC) which includes representatives from environmental groups and industry. However, where plan components were not specified by this group, plan components would default to the 1988 forest plan. For example, alternative B would retain INFISH instead of adopting the more integrated watershed approach of the Aquatic and Riparian Conservation Strategy (ARCS) included in the other action alternatives, therefore alternative B does not meet the need to focus and integrate watershed restoration efforts across the forest as well as the preferred alternative. Alternative R includes a vegetation management approach similar to alternative B, and includes the more integrated ARCS approach to watershed health. The responsible official has documented the rationale for the selected alternative in the draft Record of Decision (ROD) for the FEIS.

Comment: (Letter Number(s): 170, 664, 696, and 737) The Forest should develop another alternative to provide a sufficient range of alternatives that would provide varying effects allowing the agency to make a reasoned decision. The Forest should select a final preferred alternative that has less emphasis on resource extraction and non-sustainable recreation than Alternative P.

***Response**: The FEIS considers six alternatives in detail, including the no action alternative. More than 20 additional alternatives were considered but not fully developed (see FEIS, chapter 2).*

Alternatives considered in detail provide a range of protections for watersheds, aquatic habitat and fisheries, wildlife habitat and species, and unroaded areas, and also provide a broad range of opportunities for recreation and multiple uses such as vegetation management, and mining. Alternatives considered in detail were developed based on key issues raised internally and by the public.

The responsible official has determined that this range of alternatives, including the detailed analysis in chapter 3 of the FEIS, considers a sufficient range of reasonable alternatives to make an informed decision.

Comment: (Letter Number(s): 77, 529, 552, 627, 696, 701, and 715) The final EIS should analyze the following alternatives:

1. Modified alternative P that adds more recommended wilderness

   ***Response:** The proposed action and alternatives R and B propose more acres of recommended wilderness than alternative P. All areas eligible for inclusion in the wilderness preservation system are included in alternative B. The suggested alternative was considered but eliminated from detailed study (see FEIS chapter 2).*

2. Modified alternative P that removes all areas currently shown as recommended wilderness.

   ***Response:** Alternatives analyzed in the FEIS include acres of recommended wilderness ranging from zero acres (no action alternative) to 220,300 acres of recommended wilderness (alternative B).The no action alternative does not include any acres of recommended wilderness, and alternative O proposes only 15,900 acres of recommended wilderness. The responsible official determined the range of alternatives regarding proposed recommended wilderness to be sufficient, therefore the suggested alternative was considered but eliminated from detailed study (see FEIS chapter 2).*

3. Modified Alternative P that removes any recommended wilderness areas that would affect existing mineral claims or access to those claims.

Response: *Modifications were made to alternative P between the DEIS and FEIS based on additional field review and public comments such as this one. The no action alternative and alternative O do not propose recommended wilderness that would affect existing mineral claims or access to them. Some existing mining claims and other mineral-rich areas are within inventoried roadless areas (IRAs), and the 1872 Mining Law, as amended, and §478 of the Organic Administration Act provide for reasonable access to mining claims. The responsible official determined a sufficient range of alternatives related to minerals and mining claims is included in the FEIS, therefore an alternative that completely removes any recommended wilderness that may affect existing mineral claims was considered but eliminated from detailed study.*

4. Modified Alternative P that removes any recommended wilderness areas that include evidence of roads or vegetation management.

   Response: *Alternative O and the no action alternative include less recommended wilderness than alternative P. Between the draft and final versions of the EIS, the IDT reviewed the recommended wilderness areas proposed under alternative P for manageable boundaries and presence of substantially recognizable roads and vegetation management activities. This resulted in a reduction of approximately 7,000 acres of recommended wilderness in the final alternative P.*

5. An alternative that provides increased motorized and mechanized recreation opportunities: an increase in motorized recreation opportunities (various lengths; loops; various skill levels); allows both mountain bikes and motorcycles on single-track trails; all roads to be closed to full-size vehicles should be converted to ATV routes; all reasonable routes be designated for dual-use so that a system of roads and trails can be used by motorized recreationists; actions that will develop regional (inter-forest and interstate connections) motorized recreational opportunities; no reduction in number of dispersed campsites; mitigation plan be included as part of this action to compensate for past cumulative negative impacts; no designation of special areas (RNA, unroaded areas); acquire private land and right-of-ways to provide access to public land that is now blocked off to the public.

   Response: *The proposed revised forest plan provides programmatic direction as to where recreation opportunities may or may not be suitable. During the planning process, the need to provide a range of recreational opportunities while considering many other resource management needs, user safety, and budget limitations were considered. The desired range of recreation opportunities on the Forest includes a variety of motorized and non-motorized recreation opportunities during the summer and winter that provide a range of difficulty and seclusion levels, are located in diverse ecological, geological, and scenic settings, minimizes user conflicts, provides destination and loop opportunities (FW-DC-AS-02, FW-OBJ-AS-01, FW-GDL-AS-05, MA-OBJ-KCRA-02) of various lengths that connect communities, trail systems, and popular dispersed camping areas, while protecting the natural and cultural resources of the Forest (FW-DC-AS-02. Trail System – Motorized and Non-Motorized).*

   The FEIS provides an analysis and comparison of recreation opportunities between the various action alternatives and explains the integration with other resource areas. For example, alternative O provides the greatest opportunity to increase motorized and mechanized recreation by limiting the number of acres of recommended wilderness and maximizing both backcountry and backcountry motorized management area acres. Conversely, alternatives R and B both minimize motorized and mechanized recreation opportunities by maximizing the number of acres of recommended wilderness while minimizing both backcountry and backcountry motorized management area acres. The proposed action and the preferred alternative (alternative P) both strive to balance the various demands for outdoor recreation, including motorized and mechanized recreation, by providing

additional backcountry (mountain bike trail opportunities), backcountry motorized (motorized trail opportunities), and recommended wilderness acres when compared to the existing condition.

While the desired condition is to provide for a range of recreation opportunities, the Forest recognizes the difficulty in meeting the demands of all recreation groups equally. However, the proposed revised forest plan does maintain the existing number of motorized trails, has an objective to add additional road miles as open to OHVs (FW-OBJ-AS-01. Designated Routes for Off-Highway Vehicle Use) and provides additional acreage in a backcountry setting for the potential development of new motorized and mechanized trails in the future. Site-specific planning would analyze the effects that specific recreation and trail proposals have on users, as well as the effects of those proposals on other resources such as wildlife and water quality. Changes to specific types of recreation opportunities, including dispersed camping and the addition/subtraction of specific trail routes, are not a forest plan decision, but an outcome of a site-specific analysis process. Where appropriate, recreation opportunities will be maintained if they are suitable for the management area (see Table 239 in FEIS chapter 3), and may be expanded under the proposed revised forest plan after site-specific analysis is completed and public input has been considered.

6. An alternative that identifies and authorizes all reasonable OHV routes within short distance of urban areas be developed and that urban OHV trail heads be developed where ever public right-of-way allows access to public land.

   Response: *The proposed revised forest plan is not making site-specific road or trail designations; the plan identifies which management areas include motorized recreation as a suitable use and does not preclude development or improvement of trails at the project level. The safety and impact analysis for designating motorized routes is completed at a project level that would incorporate forest plan direction and public involvement. The number of motorized trail miles analyzed in a given year would be based on the Forest workforce capacity and budget, as well as public input. See also response to number 5 (above).*

7. An alternative that designates all reasonable routes for dual use (highway-legal and motorized recreational vehicles) and includes a mitigation plan to compensate for inadequate consideration in the past.

   Response: *The proposed revised forest plan does not make site-specific road or trail designations; the plan identifies which management areas include motorized recreation as a suitable use and does not preclude development or improvement of trails at the project level. The safety and impact analysis for designating motorized routes is completed at a project level that would incorporate forest plan direction and public involvement. The number of motorized trail miles analyzed in a given year would be based on the Forest workforce capacity and budget, as well as public input. See also response to number 5 (above).*

8. An alternative that is more aggressive than Alternative P in managing the road system to implement the Forest Subpart A Transportation Plan to improve wildlife and aquatic habitat.

   Response: *All alternatives include desired conditions and objectives for road system management. None of the alternatives restrict the rate at which the Forest transportation plan is implemented. Rate of road system change is dependent on budget, and road-specific management decisions are made at the project level rather than in the forest plan.*

9. An alternative that meets the needs for livestock grazing by identifying ways to increase livestock grazing and meet the unfilled local demand; restore grazing on the 16 vacant allotments, modify INFISH standard to be more (not less) flexible, and maximize livestock grazing on suitable lands.

Response: *Authorization for grazing on an individual allotment is determined at the project level rather than at the forest plan level. The purpose of the proposed revised forest plan is to identify suitable uses for each management area, including livestock grazing, and provide objectives, standards, and guidelines that guide project-level analysis to move those lands toward desired conditions (see FEIS appendix G, and Range Specialist Report). Under the proposed revised forest plan, grazing is a suitable use in all management areas except for Research Natural Areas, and in the Salmo-Priest Wilderness.*

There are a total of 58 grazing allotments on the Colville National Forest. Forty-two of these allotments currently have permitted use and 16 are in a vacant status. Most vacant allotments are not permitted at this time because no current project level (allotment level) NEPA document, which assesses and discloses the effects of grazing to various resources, and no current allotment management plan (AMP) is in place. These vacant allotments need to be assessed under the NEPA at the project level to determine the appropriateness of future grazing use. Thirty-eight of the total 58 active and vacant grazing allotments have been assessed under regional protocols for resource conditions, and analyzed under the provisions of the NEPA and the Rescissions Act of 1995.

10. An alternative that removes all domestic grazing allotments.

    Response: *The purpose of the proposed revised forest plan is to identify whether domestic livestock grazing is a suitable use for each management area and provide objectives, standards, and guidelines that guide project-level analysis to move those lands toward desired conditions. Grazing has been determined to be a suitable use for most of the Colville National Forest (see FEIS appendix G and Range Specialist Report), therefore, the suggested alternative was not developed in detail.*

11. An alternative that reduces the level of domestic grazing on the Forest.

    Response: *The purpose of the proposed revised forest plan is to identify whether domestic livestock grazing is a suitable use for each management area and provide objectives, standards, and guidelines that guide project-level analysis to move those lands toward desired conditions. The plan does not specify the actual amount of livestock grazing (stocking) that could occur on the forest. The amount of land suitable for livestock grazing varies slightly between alternatives due to additional acres of proposed Research Natural Areas (RNAs) in the action alternatives. The decision to remove all domestic grazing allotments is outside the scope of a forest plan; therefore, the suggested alternative was considered but eliminated from detailed study.*

    Authorization for grazing on an individual allotment is determined at the project level rather than at the forest plan level. The livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions. Effects analyses for all resource areas includes information related to domestic livestock grazing. The proposed revised forest plan will provide desired conditions, standards and guidelines for resource protection. Grazing is authorized through term grazing permits subject to forestwide standards and guidelines, and grazing can be reduced or adjusted in response to any site-specific resource condition within any grazing allotment.

12. Include alternatives that would provide for non-use (vacancy) of grazing allotments during the life of the Forest Plan when a permittee decides to voluntarily relinquish the associated grazing privileges or permit.

    Response: *The purpose of the proposed revised forest plan is to identify whether domestic livestock grazing is a suitable use for each management area and provide objectives, standards, and guidelines that guide project-level analysis to move those lands toward desired conditions. The plan does not*

specify the actual amount of livestock grazing (stocking) that could occur on the forest. Authorization for grazing on an individual allotment is determined at the project level rather than at the forest plan level. The proposed revised forest plan will provide desired conditions, standards and guidelines for resource protection that are applied to an individual allotment at the project level. The suggested alternative was considered but eliminated from detailed study (see FEIS chapter 2).

13. Modification of at least one alternative to increase timber and fuels treatments to show annual outputs of 80 MMBF.

    Response: *Forest plans are strategic documents to guide management, and do not set targets for annual timber harvest. The forest's annual timber target is determined by budget and ability to analyze and complete a project that would harvest timber or reduce fuels. The proposed revised forest plan displays a Projected Wood Sale Quantity (PWSQ), which is the estimated quantity of timber and all other wood products that are expected to be sold for all lands in the plan area, based on current budget and staffing. The PWSQ for the preferred alternative (alternative P) is 62 MMBF (see also FEIS chapter 2 and Forest Vegetation section in chapter 3). This is a projected value of the annual amount of volume to be sold but is neither a target nor a limitation on harvest. Should adequate budget and staffing be available, and harvest levels do not exceed the decadal allowable sale quantity (ASQ) on lands suitable for timber production, additional volumes could result from activities consistent with the multiple-use management objectives of the proposed revised forest plan.*

14. An alternative that focuses on improving forest health, reducing exposure to catastrophic fire and provides raw materials to area sawmills.

    Response: *The preferred alternative (alternative P) and proposed revised forest plan address forest health with desired conditions, objectives, standards and guidelines for integrated pest management. The desired condition is that native insect, plant, and animal disease exist at endemic levels (FW-DC-VEG-02. Insects and Diseases, FW-IPM-01. Integrated Pest Management). The integrated pest management standard (FW-STD-IPM-01. Integrated Pest Management) states that intervention occurs when risks such as wildfire hazard or increased impacts to threatened or endangered species occur.*

    The proposed action, preferred alternative, and alternative O would increase the number of acres that are suitable for mechanical treatment in wildland urban interface (WUI) areas (see FEIS chapter 3, Fire). The preferred alternative would also allow the use of planned and unplanned ignitions across the forest. The proposed revised forest plan includes a desired condition for fuels treatments that aims to lower the potential for high-severity wildfires in WUI (FW-DC-VEG-11), and the annual predicted wood sale quantity (PWSQ) would be 62 MMBF. All action alternatives propose management areas that would be suitable for scheduled timber production and timber harvest for other resource benefit. The annual PWSQ varies from 14 MMBF to 62 MMBF across the alternatives.

15. Modified Alternative B that reflects newer NEWFC direction for vegetation management and includes departure from long-term sustained yield (accelerated restoration).

    Response: *The proposed revised forest plan does not provide target requirement for timber outputs nor an upper limit on the amount of timber produced per year. The plan identifies areas of the Forest that are suitable for scheduled timber harvest and provides an estimate of what might possibly be produced annually during the life of the plan at a given budget level. The vegetation modeling also estimates the volume that could be produced by the Forest once the landscape has reached the identified desired future condition. Use of departure schedule would not result in meeting desired future condition faster than the direction included in alternative P (see FEIS appendix G). Therefore, developing an alternative that identifies an annual output of greater than 62 MMBF (as in the*

preferred alternative) would not provide additional information needed for a reasoned decision (see project record for document "Excess Harvest Volumes and Attainment of Desired Conditions for the Colville National Forest").

16. An alternative that reduces roads, trail and vegetation management: emphasizes carbon-storage in trees, down wood, and soils in the forest; protects all roadless areas so they maintain the characteristics necessary to be designated as Wilderness by Congress in the future; includes enforceable standards that protect clean and cold water and complex, connected and comprehensive habitats; includes meaningful and enforceable standards to protect soils as required by law; curtails domestic livestock grazing so it does not negatively affect watersheds and fish habitat; allows fire to perform its necessary ecosystem rejuvenating function over much of the forest, saving fire suppression costs markedly; allows insects and disease to play their ecological functions; allows natural recovery and restoration in areas damaged by past development practices; protects old-growth forest habitat and allow mature forests to develop old-growth characteristics such as large snags, down woody material and other habitat components so vital for many wildlife and bird species; curtails clearcutting and other silvicultural prescriptions that leave large openings, which cause edge effects that fragment the landscape; adopts enforceable standards that are informed by monitoring. Management activities which risk water and soil resources, wildlife habit or other ecological components would only be allowed if monitoring determines that current conditions are meeting standards and the activity wont degrade natural resources; provides wildlife linkage corridors so that animals can move unimpeded across the landscape, facilitating migration and genetic interchange, and emphasizes connecting old-growth forest habitat; reduces the roads network to improve wildlife security and watershed integrity, while also providing good paying restoration jobs.

    Response: *Carbon storage, downed wood, snags and old growth are analyzed for each alternative considered in detail (see FEIS, chapter 3).*

    All inventoried roadless areas (IRAs) are proposed primarily for backcountry, backcountry motorized or recommended wilderness management area designation, which would protect existing characteristics of these areas with management direction that limits timber harvest and road building.

    The preferred alternative (alternative P) and proposed revised forest plan include components addressing water quality, riparian and fish habitat, soils and sedimentation, wildlife conservation and habitat protection. The preferred alternative and proposed revised forest plan also address forest health with desired conditions, objectives, standards and guidelines for integrated pest management. The desired condition is that native insect, plant, and animal disease exist at endemic levels. The preferred alternative also includes monitoring requirements to help ensure that these plan components are met and will be effective (see proposed revised plan, chapter 4).

17. Modified Alternative P that includes comprehensive management plan components and final management area corridor (location) for Pacific Northwest Trail (PNT) across Colville NF.

    Response: *The Pacific Northwest National Scenic Trail (PNNST) Comprehensive Plan, anticipated to be completed in 2019, will identify specific uses that are compatible and incompatible with the nature and purposes of the trail. This direction will be incorporated in the proposed revised forest plan through amendment of the revised forest plan, as necessary where plan components conflict or do not provide for the nature and purposes identified in the PNNST Comprehensive Plan. The proposed revised forest plan does identify specific uses that are not compatible with the purposes for which the trail was designated and which may not be authorized in the management area (see proposed revised plan chapter 3, suitability direction for Nationally Designated Trails).*

Requirements of the National Trails System Act have been brought into agency policy through Forest Service Manual (FSM) 2353. Many requirements of the National Trails System Act will be met through the PNNST Comprehensive Plan. The proposed revised plan is consistent with Forest Service policy and the National Trails System Act (see FEIS appendix D).

18. An alternative that includes: no development, no commercial timber removal, no mining, no road or trail construction, no use of the land or waters that interferes with wildlife.

    Response: *The NFMA states that forest plans must provide for multiple use and sustained yield of products and services obtained. Because of this legal requirement, an alternative that would eliminate all of the activities suggested was not considered for development in detail. The alternatives considered in detail propose a range of acres that would be suitable for timber harvest, road building, trail construction, motorized use, and associated protections for wildlife and habitat.*

19. An alternative that proposes introduction of wild horses to the Colville NF.

    Response: *This alternative was not fully developed because there are no Wild Horse Territories (FSM 2260; 2003) on the Colville National Forest. Introducing non-native animal species is outside the scope of forest planning.*

20. An alternative that excludes mineral-rich areas and areas with existing mining claims from backcountry and recommended wilderness management areas.

    Response: *This alternative was not fully developed because the no action alternative and alternative O do not propose recommended wilderness that would affect existing mineral claims or access to them. Some existing mining claims and other mineral-rich areas are within inventoried roadless areas; however, the 2001 Roadless Area Conservation Rule, Mining Law of 1872, as amended, Multiple Use Sustained Yield Act, and §478 of the Organic Administration Act provide for the use and administration of minerals on NFS lands unless withdrawn from mineral entry. Appendix G of the proposed revised plan shows lists the locations of areas withdrawn from mineral entry on the Colville National Forest. Additionally, based on public comments and additional field review, some modifications were made to boundaries of recommended wilderness areas associated with alternative P between the publication of the DEIS and FEIS to address access to existing claims.*

21. Modification of an alternative to not include ARCS direction related to riparian management area widths.

    Response: *This alternative was not fully developed because management direction to protect and improve riparian conditions is necessary to meet the purpose and need. The no action alternative and alternative B include direction from the Inland Native Fish Strategy (INFISH) rather than ARCS direction.*

22. An alternative that includes no development or commercial activity.

    Response: *The NFMA states that forest plans must provide for multiple use and sustained yield of products and services obtained. Because of this legal requirement, an alternative that would eliminate development or commercial activity was not considered in detail. See also response to number 16 above.*

Comment: (Letter Number(s): 24, 37, 66, 85, 538, 560, 561, 567, 595, 683, 695, and 790) The Forest should select the No Action alternative for the final revised forest plan to meet the economic needs of the local communities and protect wildlife habitat.

***Response**: The no action alternative would continue management of the Colville National Forest as defined in the 1988 forest plan. Economic, social, and ecological conditions have changed since 1988 (see FEIS, chapter 1). The National Forest Management Act (NFMA) and its implementing regulations found in 36 CFR 219 direct National Forests to revise their plans on a 10-15 year schedule. Due to these changed conditions and the age of the plan, the Colville National Forest analyzed a range of alternatives in detail, including the no action alternative, to determine the best course of action to address the need for change and the significant issues identified during the public involvement process. The no action alternative would not address the need for change as stated in FEIS chapter 1. New species listings, designated critical habitat for listed species, and new science related to terrestrial and aquatic plant and animal species and their habitat would not be addressed. The no action alternative would not provide integrated management direction to maintain and restore properly functioning watersheds because it does not include an ARCS. Analysis shows that alternative P (preferred alternative) best meets the purpose and need of the plan revision (see FEIS chapter 3). The Responsible Official recognizes the tradeoffs in the benefits of each altern ative considered in detail and has documented that rationale in the Record of Decision.*

Comment: (Letter Number(s): 11, 16, 17, 19, 39, 78, 89, 500, 518, 525, 533, 547, 568, 571, 582, 632, 701, 709, 771, 804, 953, 954, and 1000) The Forest should select either the No Action alternative or Alternative B as the final preferred alternative to support multiple use management.

***Response**: The no action alternative and alternative B are analyzed in detail under each resource section in chapter 3 of the FEIS. These resource sections provide a comparison for the effects of each alternative.*

Comment: (Letter Number(s): 45, 63, 92, 147, 177, 485, 543, 574, 599, 636, 645, 682, 694, 703, 760, 789, 888, 959, 961, 966, 967, 976, 977, 984, 988, and 1015) The Forest should select Alternative P as the final preferred alternative because it provides a balance between motorized and non-motorized recreation, retains existing uses within recommended wilderness, provides management options for vegetation and fuels management, and addresses aquatic habitat protection.

***Response**: The FEIS considers the no action alternative, the proposed action alternative, and alternatives B, O, P, and R in detail. These were developed based on key issues raised internally and by the public. Table 3 of the FEIS shows the comparison of alternatives. Alternative P is the preferred alternative in the final EIS.*

Comment: (Letter Number(s): 641, 669, and 678) The final revised forest plan should be based on an alternative that provides positive support to the local economy.

***Response**: All alternatives analyzed in detail provide contributions to local economies and communities through support of recreation, grazing, timber management and ecosystem services. The FEIS addresses the importance of multiple uses, including the social and economic value of livestock grazing, timber harvesting, and recreation (FEIS chapter 3, vol. 2). The social and economic consequences of the alternatives, including number of jobs supported, are disclosed in FEIS chapter 3, economics section.*

The proposed revised forest plan contains desired conditions and objectives for vegetation and fuels management, recreation, and livestock grazing which will contribute to the local economy. The proposed revised forest plan increases PWSQ from 41 MMBF under the 1988 forest plan, to 62 MMBF. The plan would support an estimated 500 timber industry jobs in Ferry, Pend Oreille and Stevens Counties, with an estimated annual labor income of $31,089,000. Recreation and grazing

related employment will contribute 300 jobs, with an estimated labor income of $5,080,000 annually (see FEIS chapter 3, economics section).

Management Areas

Comment: (Letter Number 727) The revised forest plan should identify how management for a single species or single purpose addresses sustainability and decreasing uncharacteristic disturbance.

***Response**: The proposed revised forest plan is designed to meet the requirements of the NFMA and the 1982 planning rule. The 1982 planning rule requires forest plans to provide for multiple use and sustained yield of goods and services from the National Forest System (NFS) in a way that maximizes long-term net public benefits in an environmentally sound manner, and provides for viability of fish and wildlife species.*

The proposed revised forest plan does not provide direction to manage an individual species or to provide only one output. The proposed revised forest plan is designed at the Forest level to address multiple resource issues and concerns and to promote diversity and sustainability. Only those plan components that relate to a specific area would be used at the site-specific project level. For example, plan components related to trail management may not be needed for stream habitat improvement work, if the work will not affect any trails. The proposed revised plan also provides direction for when multiple resource areas might be affected and one plan component provides more restrictive direction than another, by stating that the most restrictive plan direction would apply. For example, riparian management areas occur within general restoration management areas. Because riparian areas are more sensitive to disturbances, a separate set of plan direction would apply.

Comment: (Letter Number 646) The forest plan should provide site-specific direction since the Forest includes a wide variety of conditions and settings.

***Response**: The proposed revised forest plan is designed to meet the requirements of the NFMA and the 1982 planning rule. The 1982 planning rule states that plans should guide all natural resource management activities and establish management standards and guidelines for the National Forest System, and determine resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.*

The proposed revised forest plan provides land management direction for the Colville National Forest guiding programs, practices, uses and projects. This information is developed at the forest level, and provides broad guidance and information for project and activity decision-making for the life of the revised plan. Because the forest covers a wide range of ecological condition, specific activities need to be analyzed at the site- level and include public involvement for those site-specific proposals.

Backcountry

Comment: (Letter Number(s): 91, 529, 566, 574, 686, 929, and 974) Alternatives should include a range of direction for management of Backcountry management area. Effects to types of use within areas identified as Backcountry management area should be identified, analyzed and disclosed for each of the alternatives. Alternatives and uses that should be in the final EIS include: 1) Continuation of existing uses including mountain bike use and development of existing mining claims; 2) Direction to limit public access in areas key to wildlife and plant survival; 3) A limit on the number of people that can access sensitive areas at any one time; 4) Exclusion of existing mining claims from Backcountry designation; 5) Include road construction related to development of mining claims as Suitable Use in Backcountry; 6) Relocate existing motorized trails out of the Twin Sisters area and designate it as Backcountry; 7) Relocate existing motorized trails out of the Albion Hill area and designate it as Backcountry.

***Response**: Alternatives in the FEIS contain a range of management direction that allows for existing uses, such as mountain biking and motorized trails, to continue in varying amounts. Changes in the amount of areas open to mountain biking and motorized use is described for each alternative and summarized in the FEIS (chapter 3, Recreation), and is based on whether or not an area is designated as Backcountry Motorized or Recommended Wilderness.*

According to the Mining Law of 1872, as amended, "All valuable mineral deposits in lands belonging to the United States,…, are hereby declared to be free and open to exploration…and the lands in which they are found to occupation…" a possessory right to any discovered minerals can by protected by a properly located and recorded mining claim filed on Public Domain lands open to mineral entry. A mining claimant has an exclusive and statutory right to develop the locatable mineral deposit on the mining claim. Further, the Organic Administration Act provides "any mineral lands in any forest reservation which have been or which may be shown to be such, and subject to entry under the existing mining laws of the United States and the rules and regulations applying thereto, shall continue to be subject to such location and entry." The FEIS states that locatable mineral exploration and development is allowable in all areas of the Forest open to mineral entry (FEIS chapter 3, Minerals and Geologic Resources), including the Backcountry management areas. Locatable mining operators are entitled to reasonable access to explore for and develop valuable mineral deposits under an approved Plan of Operations under all alternatives (FEIS, Minerals and Geologic Resources), and in all management areas. Designation of management areas, especially recommended wilderness and backcountry areas, would have the most potential effect on access to mining claims. Access to mining claims in unroaded areas of the Forest would be administered according to the Forest Service's locatable mining regulations found at Title 36 CFR 228 Subpart A, and applicable Forest Service policies. Access to explore for and develop valuable minerals deposits according to an approved Plan of Operations may include motorized access in all management areas when determined reasonable, and commensurate with the level of activities (FEIS, Minerals and Geologic Resources) authorized under a Plan of Operations. Access to NFS lands for the purpose of exploring and development of valuable minerals deposits are authorized under an approved Plan of Operations.

Each of the alternatives limit public access in caribou habitat and grizzly bear habitat through desired conditions and objectives for road closures and restrictions on over-snow vehicle access. Access in lynx habitat is limited by the amount of groomed trails available for non-motorized and over-snow vehicle use. In addition, the preferred alternative (alternative P) contains many standards and guidelines to protect aquatic and riparian areas from impacts caused by recreation sites, trails, firewood cutting, grazing, roads, special uses, and fire/fuels management. The interdisciplinary team did not determine a need to limit the number of people that can access sensitive areas at one time. Through monitoring components defined in chapter 4 of the proposed revised forest plan, any needs to limit public access in sensitive areas can be identified. Nothing in the proposed revised forest plan would prevent such a management action from being implemented. For a complete list of management direction designed to ensure the survival of key wildlife, aquatic and plant species, please review the Water Resources, Wildlife Habitats, and Riparian Management Areas sections in chapters 2 and 3 of the proposed revised forest plan.

The exploration and development of locatable mineral deposits are protected through law and confirmed in the suitable uses table for each management area, including Backcountry, Recommended Wilderness and Congressionally Designated Wilderness. Public domain lands not withdrawn from mineral entry are available for the exploration and development of locatable minerals by any U.S. citizen under provisions of the Mining Law of 1872 as amended, and the Organic Act. Mineral operators are entitled to reasonable access to these lands including where

reasonable and necessary as determined by the authorized officer's review and approval of a Plan of Operations. Forest Service approval of such activities may include requirements for mitigation to minimizing surface impacts and is implemented by the approval decision based on the findings in an environmental analysis of individual proposals (36 CFR 228 Subpart A).

Implementation of alternatives R and B would both result in the Twin Sisters (Albian Hill) area being designated as Recommended Wilderness, which would result in the existing motorized trails being converted to non-motorized/non-mechanized trails. The Forest agrees that this would reduce potential motorized noise from the trail system into the Profanity (Kettle Crest) Backcountry management area. This change would affect a popular jeep/ATV trail system on the Forest, which would change the mix of backcountry trail opportunities provided. Given limited budgets and available backcountry terrain open for motorized use, it is unlikely that the Forest could relocate these trails in a timely manner or find a similar setting in which to relocate the trails. An alternative changing the Twin Sisters area from Backcountry Motorized to Backcountry was not considered because of the impacts to motorized recreation opportunities on the forest, recognizing also that the Backcountry Motorized designation already allows for mountain bike use, which would be the only additional use allowed in Backcountry that would not be allowed in Recommended Wilderness under alternatives R and B.

The Recreation Specialist Report and the FEIS have been updated to reflect the potential noise impacts associated with the Backcountry Motorized designation of the Twin Sisters area, as well as the potential increase in use associated with the designation of a recreation area along the Kettle Crest on existing levels of solitude associated with the Profanity Backcountry management area.

Comment: (Letter Number(s): 53, 63, 696, 701, and 727) For Backcountry and Backcountry Motorized management areas the final revised plan should include objectives to reduce or, at a minimum, not expand the current amount of motorized trails; include standards and guidelines to maintain wilderness qualities; amend the existing standards and suitable uses to allow motor vehicle use and temporary road construction for vegetation management (harvest as a tool).

***Response**: The proposed revised forest plan allows for motorized trail use within the Backcountry Motorized (BCM) management areas. The presence of existing motorized trails have been analyzed by the forest plan interdisciplinary team to determine the effects of these trails on resource values and social systems. The results are displayed in the FEIS. The proposed revised plan retains these trails as they comprise the core of the Forest's BCM recreation trail opportunities. Expanding these trail systems in the future would be a site-specific decision that will be made after the appropriate level of public involvement and resource analysis is completed under the NEPA.*

Management intent for Backcountry (BC) and BCM management areas is described in the desired conditions (MA-DC-BC-01. Vegetation, MA-DC-BC-02. Habitat, MA-DC-BC-03. Recreation Setting and Activities, MA-DC-BC-04. Developments and Improvements, MA-DC-BC-05. Travelways, Roads, MA-DC-BC-06. Existing and Proposed Uses; MA-DC-BCM-01. Vegetation, MA-DC-BCM-02. Habitat, MA-DC-BCM-03. Recreation Setting and Activities, MA-DC-BCM-04. Developments and Improvements, MA-DC-BCM-05. Travelways, Roads, MA-DC-BCM-06. Existing and Proposed Uses). Each area's existing backcountry characteristics including the natural setting, high levels of habitat effectiveness, and unroaded semi-primitive recreational opportunity setting would be maintained, while allowing for uses such as mountain biking, cabin rentals, motorized trail use, and chainsaws for trail maintenance. We believe that this mix of management direction will maintain the existing backcountry characteristics associated with each management area.

Many of the Backcountry and Backcountry Motorized management areas on the Forest overlay inventoried roadless areas identified in the 2001 Roadless Area Conservation Rule which, by regulation, generally prohibits road construction and commercial harvest (see FW-GDL-VEG-05 and FW-GDL-AS-06). Timber harvest as a restoration tool is suitable in these management areas and is intended to provide managers the flexibility to improve threatened, endangered, or sensitive species habitat (such as improving whitebark pine health and vigor through the removal of competing species); or to maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects through implementation of shaded fuel breaks or hand thinning.

Comment: (Letter Numbers 51 and 737) The final EIS should include alternatives that address both views related to Backcountry and Recommended Wilderness designations: An alternative that includes Backcountry and Backcountry Motorized rather than Recommended Wilderness to meet the public demand for backcountry recreation and an alternative that increases the amount of Recommended Wilderness (non-motorized primitive recreation) designation. The final revised plan should include direction that activities within Inventoried Roadless Areas (2001) are required to comply with the Roadless Conservation Area Rule.

***Response**: The FEIS includes alternatives that support a maximum amount of mechanized and motorized backcountry recreation opportunities (alternative O) and a maximum amount of non-motorized primitive recreation opportunities by increasing the amount of recommended wilderness (alternatives R and B). The Forest is required to comply with the 2001 Roadless Area Conservation Rule when proposing and implementing projects in inventoried roadless areas. The proposed revised plan contains direction for activities within inventoried roadless areas (see FW-GDL-VEG-05 and FW-GDL-AS-06).*

Focused Restoration

Comment: (Letter Number 701) The revised forest plan should designate the sub-watershed in the area between Republic and the Colville Reservation, and between the western boundary of the Kettle Range and east through the Wedge, as Focused Restoration due to their importance to habitat connectivity.

***Response**: Focused Restoration management areas emphasize restoration of ecological integrity and ecosystem function at the landscape scale. These areas include the key watersheds, and grizzly bear and caribou recovery areas not included in Backcountry and Backcountry Motorized management areas. The proposed revised forest plan designates most of the Kettle Crest area as either Backcountry, Backcountry Motorized, or Recommended Wilderness. The area around these designations are either Focused or General Restoration. The proposed management designations under alternative P, combined with plan components for wildlife habitat and vegetation management address the importance of habitat connectivity.*

Comment: (Letter Number 727) The final EIS should include analysis that identifies how the restrictions (standards and guidelines) associated with key watersheds affect the ability of the Forest to manage vegetation, reduce fuels, and protect riparian habitat.

***Response**: Standards and guidelines for key watersheds provide the framework for protection of aquatic resources through the minimization of risk, and the maximization of passive and active restoration, while still providing critical access, and allowing for active management of vegetation, grazing, and other forest uses. Standards and guidelines for all management areas were analyzed by the interdisciplinary team to determine operational feasibility. While some Key Watershed standards and guidelines may limit certain management activities, they do not constrain management to the*

point that it cannot occur. For example, FW-STD-WR-05 includes language that provides flexibility to increase system road mileage if the overall result of the actions would reduce road-related risk to the watershed. The language in this standard acknowledges that certain roads are a greater risk to hydrologic and aquatic function. The FEIS supports the conclusion that the road system on the Colville National Forest is one of the largest risks to hydrologic and aquatic function (FEIS chapter 3, Hydrology Affected Environment). Projects in Key Watersheds would be designed to reduce hydrologic impacts from the road system while continuing to facilitate other management actions.

Research Natural Areas

Comment: (Letter Number(s): 77, 529, 538, 569, and 686) The Forest Service should consider the following related to research natural areas: identify the direction in regulation or policy used to identify and manage research natural areas. Management designations should not impact existing uses or effect the multiple use and sustained yield mandates for management of national forests, and should identify suitable uses and any changes to designation or management from the 1988 Colville National Forest Plan.

***Response**: The Forest Service Manual (chapter 4063) directs the designation and management of Research Natural Areas: "The general provisions of the Organic Administration Act of 1897 (16 U.S.C. 551) authorize the Secretary of Agriculture to designate Research Natural Areas. Under regulations at 7 CFR 2.60 (a), the Secretary has delegated this authority to the Chief, who, pursuant to 36 CFR 251.23, selects and establishes Research Natural Areas as part of the continuing land and resource management planning process for NFS lands (36 CFR 219.25 and FSM 1922)."*

The Forest Service Manual also states: "The Station Director, with the concurrence of the Forest Supervisor, may authorize management practices that are necessary for invasive weed control or to preserve the vegetation for which the Research Natural Area was created (FSM 4063.3). These practices may include grazing, control of excessive animal populations, or prescribed burning. In Research Natural Areas where livestock grazing is not part of the management prescription, the Regional Forester and Pacific Northwest Research Station Director have the responsibility, as appropriate, to establish a level of acceptable casual or incidental livestock use that can be tolerated and is consistent with the management prescription for the Research Natural Area (4063.04b). Where grazing is needed to establish or maintain vegetative communities, define objectives for grazing."

The proposed revised forest plan would not change management direction for established research natural areas. All action alternatives propose two new research natural areas that would need site-specific documentation and analysis prior to finalizing establishment of their management plans. Suitable uses for these proposed Research Natural Areas are displayed in the proposed revised forest plan. Additional information is in FEIS, chapter 2, Elements Common to All Action Alternatives, and in the proposed revised forest plan.

Scenic Byways

Comment: (Letter Number 49) The revised forest plan should not provide direction that gives human-perceived aesthetics precedence over natural forest structure.

***Response**: The NFMA and 1982 planning rule direct the Forest Service to consider the effects of forest management on scenery. Additionally, Forest Service manual and handbook guidance directs scenery management on the national forest.*

Many users of national forests express a strong interest in maintaining the character of the forest and grassland settings. The proposed revised forest plan addresses scenic integrity objectives for the entire forest, but does not prioritize scenery over natural forest structure. The desired condition for

vegetation (FW-DC-VEG-03) promotes forest resilience and compatibility with maintaining characteristic disturbance processes such as wildland fire, insects and diseases. The desired condition states that forest structure contributes to aesthetic settings, scenic quality and contributes to desired landscape character, particularly along scenic byways and highways.

The proposed revised forest plan incorporates scenic integrity objectives (SIO) based on the scenery management system. Scenic integrity is addressed with forestwide desired conditions, objectives, and guidelines. Scenery is also addressed at the management area level, with each management area being assigned a scenic integrity level ranging from low to high. Definitions of these scenic integrity levels are found in appendix D of the proposed revised forest plan.

Kettle Crest Recreation Area

Comment: (Letter Number(s): 49, 162, 195, 562, 645, 751, and 1015) The revised forest plan should include direction for Special Interest Area management that protects vegetation and other natural resources. The Forest should include options for new mountain bike loop trails near Republic and Kettle Falls to support economies of local communities.

***Response**: The term "special interest area" has been removed from the FEIS and proposed revised forest plan. In the proposed revised forest plan, the Kettle Crest Recreation Area (KRCA) represents a special type of management area that overlays both forestwide and management area (i.e. Backcountry, Backcountry Motorized, Scenic Byway, National Scenic Trail, Focused Restoration, and General Restoration) specific direction. For example, motorized recreation could occur in the Scenic Byway, Backcountry Motorized, Focused and General Restoration Management Areas, but could not occur in the Backcountry Management Areas (Profanity, Bald-Snow, and Hoodoo Inventoried Roadless Areas) or National Scenic Trail Corridor associated with the Recreation Area. A list displaying the types of activities that may or may not be suitable in each management area is contained in the proposed revised forest plan.*

In addition, the KRCA incorporates the management direction contained in the forestwide management direction to protect vegetation and other natural resources (air, soil, vegetation, water resources, and wildlife habitats) as well as the social systems that exist (grazing, heritage resources, recreation, minerals, special uses, etc.) within the KRCA. If a conflict in management direction is identified between the KRCA specific management direction and the underlying management area direction, the KRCA specific direction would apply, except for conflicts with the Nationally Designated Trails MA. Because the National Scenic Trail was designated by Congress and will be supported by a congressionally mandated comprehensive plan, the National Scenic Trail management direction would take precedence over the KRCA management direction. The FEIS displays the effects of the KRCA management direction on natural resources and social systems for each alternative.

The proposed revised forest plan provides programmatic direction as to where recreation opportunities may or may not be suitable. Site-specific planning analyzes effects that specific recreation and trail proposals have on users as well as the effects of those proposals on other resources such as wildlife and water quality. The FEIS provides an analysis and comparison of recreation opportunities between the various action alternatives and explains the integration with other resource areas.

The proposed revised forest plan seeks to provide a range of recreational opportunities while considering many other resource management needs and responsibilities combined with user safety. Changes to specific types of recreation opportunities are not a forest plan decision, but an outcome of a site-specific analysis process. Where appropriate, recreation opportunities will be maintained and

may be expanded under the proposed revised forest plan after site-specific analyses are completed and public input has been considered. The proposed revised forest plan recognizes the importance of loop trails near communities and the need for recreation opportunities on the Forest to help maintain and grow local economies through the following desired conditions and objectives: FW-DC-REC-01 Recreation Settings and Experiences, FW-DC-AS-02 Trail System – Motorized and Non-Motorized, FW-DC-AS-04 Connections, MA-DC-ARS-03 Developments and Improvements, and MA-OBJ-KCRA-02 Trail Management.

The ability of the Forest to pursue additional trail development during the life of the revised forest plan will be limited by the projected recreation and trails budget, which is expected to be, at best, flat, or continue to decline during the life of this revised plan. This scenario would severely limit additional development of the trail system.

Comment: (Letter Number(s): 62, 98, 147, 153, 468, 471, 472, 478, 536, 541, 559, 562, 645, 691, 701, 1002, 1008, and 1010) The Forest should analyze designating Quartzite, Swan-Cougar (Republic south to the Colville Confederated Tribes reservation), Abercrombie-Hooknose, Calispell and Baldy areas as Special Interest Areas to develop recreational opportunities across the forest.

***Response**: The term "special interest area" has been removed from the FEIS and proposed revised forest plan, to be consistent with terminology in Forest Service Manual 2372, which refers to special areas. All proposals brought forward by collaborative groups that support the idea of adding additional recreation areas (special areas) into the proposed revised forest plan were reviewed. Special areas are a type of special management area comprised of NFS lands that are: 1) not designated as wilderness, and 2) contain outstanding examples of plant and animal communities, geological features, scenery, or other unique attributes (such as recreation opportunities) that merit special management by the Forest Service. Unlike National Recreation or National Scenic Areas, which are designated by law through Congress, special areas are designated administratively by either the Regional Forester (for areas under 100,000 acres) or the Secretary of Agriculture (for areas greater than 100,000 acres). The primary management objective for a special area managed by the Forest Service is "to protect and manage for public use and enjoyment, special recreation areas with scenic, geological, botanical, zoological, paleontological, archaeological, or other special characteristics or unique values."*

The forest determined that the areas listed above do not possess the unique attributes necessary to merit a special management area designation, and were not included in the proposed revised forest plan as special areas or recreation areas. However, the proposed revised plan emphasizes the Forest's commitment to work with collaborative groups to look for opportunities to enhance the recreational opportunities during the life of the revised forest plan. (FW-DC-REC-03 Sustainable Recreation; FW-DC-PA-02 Cooperation and Community Involvement).

Comment: (Letter Number(s): 50, 51, 53, 137, 144, 149, 152, 153, 178, 185, 193, 194, 195, 468, 472, 478, 539, 541, 550, 578, 588, 596, 623, 645, 647, 665, 670, 680, 694, 701, 713, 722, 735, 736, 753, 789, 818, 929, 951, 952, 981, 982, 1003, 1010, 1013, and 1015) The final EIS should analyze effects between designating Profanity, Twin Sisters, Hoodoo, Bald Snow, and Abercrombie as Backcountry versus Recommended Wilderness on recreation opportunities, emphasis on non-motorized recreation, access to the Pacific Northwest National Scenic Trail and protection of wildlife habitat.

***Response**: The proposed revised forest plan provides programmatic direction as to where recreation opportunities may or may not be suitable and includes the effects that management area designations have on users and other resources such as wildlife and water quality. The FEIS provides an analysis*

and comparison of recreation opportunities between the various action alternatives and explains the integration with other resource areas.

We agree that a variety of opportunities should be provided to meet the needs of the recreating public. However, a variety of resources is affected by recreation use. The proposed revised forest plan seeks a range of recreational opportunities while considering many other resource management needs and responsibilities combined with user safety. Another factor considered in the development of this forest plan is the limitation of current and future recreation and trail budgets.

The six alternatives contained in the FEIS describe the effects of various management area designations, including recommended wilderness and backcountry, on the recreation opportunities that would be allowed in the inventoried roadless areas (IRAs) within the Colville National Forest.

Alternatives R and B assign the Profanity, Twin Sisters, and Hoodoo IRAs to recommended wilderness management areas. Alternative P assigns all of the IRAs along the Kettle Crest as a recreation area (special area) with additional management direction provided by the underlying Backcountry and Backcountry Motorized Management Areas, except for the part of the Bald-Snow area generally south of Snow Peak Cabin, which is recommended wilderness.

Alternative O assigns the Kettle Crest IRAs as a recreation area with additional management direction provided by the underlying Backcountry and Backcountry Motorized Management Areas which maximizes the most access to the Pacific Northwest National Scenic Trail. Likewise, alternative O assigns the Abercrombie-Hooknose area as backcountry, while the proposed action and alternatives P, B, and R all assign the area to the Recommended Wilderness Management Area.

The desired range of recreation opportunities on the Colville National Forest includes a variety of non-motorized and motorized recreation opportunities during the summer and winter (FW-DC-REC-01 Recreation Settings and Experiences and FW-DC-AS-02 Trail System – Motorized and Non-Motorized). While the desired condition is to provide for a range of recreation opportunities, the Forest recognizes the difficulty in meeting the needs and desires of all recreation groups.

Alternative P was designed to maintain a balance of motorized, mechanized, and non-motorized/non-mechanized recreation opportunities. As a result, Abercrombie-Hooknose and Bald-Snow IRAs will be managed as Recommended Wilderness, while Profanity, Hoodoo, and part of the Bald-Snow IRA north of Snow Peak Cabin will be managed as Backcountry (allowing mountain biking) and Twin Sisters will be managed as Backcountry Motorized. For all alternatives, the effects to wildlife habitat have been analyzed and displayed in the FEIS. The analysis in the Recreation Specialist Report and the FEIS has been updated for each alternative to clarify effects on the remote characteristics (i.e. solitude) of each inventoried roadless area as a result of the Recreation Area designation along the Kettle Crest and the presence of motorized use in the Twin Sisters IRA.

Wild and Scenic Rivers

Comment: (Letter Number(s): 1, 507, 546, 696, 818, and 1015) The Colville NF should complete additional review of rivers to determine eligibility for designation as a wild or scenic river. The Forest should designate the Kettle River, Salmo River and Sullivan Creek as wild and scenic rivers.

***Response**: The Wild and Scenic Rivers Act of 1968 provides federal protection for the most outstanding of the country's free-flowing rivers; preserving them and their immediate environments for the use and enjoyment of present and future generations. Identifying rivers is a two-step process. First, eligibility is determined based on whether the river or stream is free-flowing and has one or more outstandingly remarkable value. This creates an inventory of rivers. The second step is to*

determine suitability. Suitability examines a number of factors such as compatibility with resource uses, impacts on non-federal lands, and the costs of land acquisition. This information informs an agency's decision on whether to recommend the designation of a river or its segments.

To be eligible, a river must be free-flowing and have one or more outstandingly remarkable value. The Wild and Scenic Rivers Act defines "free-flowing" as: "existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway."

The 1982 planning rule does not require identification of eligibility of rivers for inclusion in the National Wild and Scenic Rivers System. However, the Forest Service Handbook (FSH) 1909.12 chapter 80 provides agency guidance for when additional review of eligibility is needed in conjunction with revising land management plans. A systematic inventory of eligible rivers was completed for the 1988 forest plan and the forest plan revision team concluded that no circumstances had changed that would warrant additional review. Based on this information, the forest supervisor decided not to evaluate suitability for the eligible rivers on the Colville National Forest during the plan revision process. As a result, the Kettle and South Salmo Rivers remain eligible as recreational and wild (respectively) rivers under the Wild and Scenic Rivers Act in the proposed revised forest plan.

Sullivan Creek was not found to be free-flowing or have an outstandingly remarkable value during its eligibility assessment for the 1988 forest plan. When Mill Pond Dam is removed, and if kayaking is established on this stretch of river, it may be reassessed as an eligible river during the next forest plan revision process. Until then, the plan direction for the Focused Restoration management area in which the river is located is designed to retain the rivers existing eligibility criteria ratings.

Wilderness - Congressionally Designated

Comment: (Letter Number(s): 623, 632, and 664) The final revised plan should clearly display any changes proposed to management direction for the Salmo-Priest Wilderness. The Forest should provide direction to maintain existing trails within the Wilderness. Related to options for designating recommended wilderness, the Forest should consider that the low level of use in the Salmo-Priest Wilderness does not reflect a need for additional wilderness designation on the Forest.

***Response**: While the language and terminology is different, the majority of the management direction for the Salmo-Priest Wilderness contained in the 1988 forest plan carries forward in the proposed revised forest plan. However, the proposed revised forest plan will change how wildfire and prescribed fire (also called unplanned and planned ignitions) fire may be managed within the Salmo-Priest Wilderness. Planned and unplanned ignitions could be used in situations that meet a specific set of criteria, which was not allowed under the 1988 forest plan.*

The proposed revised forest plan contains new plan components that modernize wilderness management, but do not represent a change in management. New plan components include a standard that requires the completion of a minimum requirement analysis for projects that may involve motorized equipment, mechanical transport, or structures and guidelines regarding the management of campsites, communication facilities, pets, research, caching, invasive plants and environmental clean-up. Plan components in the 1988 forest plan that are incorporated into the proposed revised forest plan (and are not listed as standards and guidelines) through law and policy include management of cultural resources, insect and disease control, land ownership adjustments, and minerals management.

The wilderness ROS classifications within the Salmo-Priest Wilderness will also change slightly to better reflect the current condition with adjustments made in the primitive and semi-primitive

classification boundaries. Likewise, the visual management system has changed since the 1988 Plan from visual quality to the scenery management system, which will result in a change in terminology.

The proposed revised forest plan provides direction for trail maintenance through desired conditions (FW-DC-AS-01. Access System, FW-DC-AS-02. Trail System – Motorized and Non-Motorized, FW-DC-AS-05. Wilderness Trails) and objectives (FW-OBJ-AS-02. Trail Management, FW-OBJ-AS-03 Trail Maintenance). The Forest's intent is to maintain its wilderness trails commensurate with available funding and assistance from outside sources (FW-DC-REC-03. Sustainable Recreation). Arterial trails that disperse use throughout the wilderness will receive regular maintenance while side trails may be less maintained and provide a more primitive recreation opportunity. The ability of the Forest to pursue additional trail maintenance above what is listed in the objectives will be limited by the projected recreation and trails budget.

The 1982 planning rule requires that certain areas be evaluated and considered for recommendation into the National Wilderness Preservation System. Existing levels of recreation use in the Salmo-Priest Wilderness is not the only factor the Forest must consider when reviewing the need for additional wilderness. The Forest must determine the need for an area to be designated as wilderness through an analysis of the degree to which it contributes to the overall National Wilderness Preservation System. "Need" is considered on a regional basis and evaluated through such factors as the geographic distribution of areas that may be suitable for inclusion in the National Wilderness Preservation System. The Forest completed a wilderness need assessment in September of 2009 in accordance with FSH 1909.12 chapter 70 (effective January 31, 2007) which included an assessment of 1) recreation need, 2) the need for refugia, and 3) the need for preserving landforms and underrepresented ecosystems (see FEIS, chapter 3, recreation section).

Terrestrial and Aquatic

Forest Vegetation

Comment: (Letter Numbers 627 and 727) The Forest should define the term "model", provide a description of the vegetation and fuel models which includes inputs, assumptions and limitations, and address the role of annual weather patterns and conditions on the fuel model results; disclose the impacts of treating between 6,000 and 12,000 acres per year on moving toward desired conditions; Clarify how treatment options are defined under the Eastside Screens related to HRV; Clarify the location and types of potential treatments proposed under alternative R; Base potential treatment options on economic feasibility rather than volume outputs and allow road construction for access to minimize cost (e.g., no helicopter logging).

***Response**: The model used is described in FEIS chapter 3, Forest Vegetation section and in Appendix G. Description of the Analysis Process. This appendix describes the inputs, assumptions, and limitations of the model. The role of annual weather patterns were not explicitly addressed, however the assumptions and inputs used in the model implicitly take into account the effects of weather by using historical fire data.*

FEIS appendix G describes the assumptions for each alternative, including those alternatives which retain Eastside Screens. Historical range of variability is part of all alternatives and is described in the FEIS.

FEIS appendix G also describes the assumed treatment types under alternative R. Specific treatments and locations are not proposed in the proposed revised forest plan, and instead would be part of a project-level analysis. Assumed treatment types used in the modeling are based on averages. Specific

logging methods or road construction activities are not addressed in the proposed revised forest plan and would be addressed in project-level analysis.

Comment: (Letter Number(s): 180, 196, 199, 275, 339, 427, 506, 507, 538, 543, 550, 571, 574, 577, 581, 592, 594, 609, 623, 691, 696, 701, 727, 861, 965, 989, 990, and 991) The Forest should increase proposed vegetation treatments to reduce fuel levels and fire risk, improve forest health, and increase forage. The Forest should not use current budget for determining objectives and should consider accelerated restoration program for faster movement toward desired condition. The final revised forest plan should include direction that: allows for climate directed change to landscape complexity; protects habitat connectivity and large trees; reduces the desired condition amount for closed canopy, multi-layer mixed conifer structural stage 6 to address landscape vulnerability to insect outbreaks and stand-replacing wildfires; removes logging and slash piles; includes precommercial thinning and prescribed fire as management options. The Forest should limit logging and grazing to that needed to improve forest and watershed health.

***Response**: The proposed revised forest plan and alternatives described in the FEIS identify areas where vegetation treatments (scheduled timber harvest or harvest for other resource benefit) are suitable. The types of silvicultural treatments that are expected to be used to move toward desired conditions are described, but no site-specific vegetation treatments are proposed in the proposed revised forest plan or FEIS.*

The 1982 planning rule defines an objective as a concise, time-specific statement of measurable planned results that respond to pre-established goals. The proposed revised forest plan states that objectives are based on recent trends and short-term budgets, to be able to establish reasonable, measureable results. However, forest plan objectives are not limits, and additional resources can allow the Forest to exceed objectives.

The proposed revised forest plan uses a landscape approach to management that is described in the summary of effects in the FEIS (chapter 3, Forest Vegetation). Restoring landscape heterogeneity through forest structure results in a high flexibility to adjust to climate change influence and provides reduced risk of fire to adjacent communities. Restoring forest structure also moves species composition, process, and spatial pattern toward more resilient conditions. The proposed revised forest plan is expected to provide a high contribution to species viability through habitat connectivity (see FEIS volume II, summary of effects to wildlife). Large trees are part of the late structure classes and the forest structure desired condition (FW-DC-VEG-03, FW-DC-VEG-04, FW-DC-VEG-05, FW-GDL-VEG-03) is the direction in the proposed revised forest plan to maintain large trees on the landscape. Structural stages are defined in the proposed revised forest plan and includes five different classes. Desired late closed structure percentages across the landscape are defined in the forest structure desired condition (FW-DC-VEG-03) and vary depending on vegetation type. The methodology for developing the forest structure desired condition is described in the methods section of the FEIS (chapter 3 Forest Vegetation).

Slash removal and brush disposal are addressed in project-level decisions and not included in the proposed revised forest plan. The proposed revised forest plan allows the use of precommercial thinning or prescribed fire as management tools. Modeling for the effects analysis includes both of these tools as described in appendix G (FEIS). The proposed revised forest plan sets forth a suite of desired conditions, standards, and guidelines that are directed toward restoration which includes forest and watershed health.

Comment: (Letter Number(s): 46, 49, 53, 86, 108, 627, 637, 642, 645, 696, 723, and 727) The final plan revision documents should include direction that addresses the need to develop large diameter trees;

develop resilience related to climate change; reduce road density; define catastrophe as something related to ecological processes rather than economic; clarify how appropriate scale will be determined for evaluation of historical range of variability; clarify the intent for collection of native vegetation seed and genetic material; expedite vegetative management to move the Forest toward desired condition faster and not limit proposed treatment by the current budget; clarify difference between regulated timber harvest and scheduled timber harvest; address economic feasibility of proposed vegetation management activities.

***Response**: The proposed revised forest plan contains direction for developing large diameter trees. The desired future condition for forest structure (FW-DC-VEG-03) includes late open and late closed structure classes, each of which are made up of trees at least 20 inches in diameter. Large trees and resilience to climate change are addressed in the FEIS Forest Vegetation analysis climate change section.*

General and Focused Restoration areas include road density desired conditions that should result in a reduction in road densities. The word "catastrophe" is used in the plan in FW-STD-VEG-06, and is based on language within the National Forest Management Act of 1976.

Historical range of variability will be evaluated at the appropriate scale given vegetation type and natural disturbance history (FW-DC-VEG-03). The appropriate scale will be determined at the project level, and guided by the desired condition, and be based on the best available science. Landscape ecology is a dynamic field of study with frequently changing science that is best addressed more frequently in project-level work.

The long-term sustained-yield (LTSY) is the only limit regarding vegetation treatments and this pertains to desired conditions. There is nothing in the plan that imposes a budget constraint. The term "regulated timber harvest" appears in FW-STD-VEG-03 and is analogous to the terms "scheduled timber harvest" and scheduled or regulated "timber production". The definition for "regulated timber production" appears in the glossary.

No vegetation treatments are being proposed in the proposed revised forest plan. For the purposes of analyzing effects, assumptions were made about the amount and type of vegetation treatments that may occur in the future to move toward desired conditions. These assumptions are described in FEIS appendix G. These assumptions are based on types of vegetation treatments that have occurred on the forest in the recent past and which have been economically feasible.

Comment: (Letter Number(s): 42, 275, 538, and 804) The Forest should: open roads and reduce restrictions for gathering firewood; not mark dead trees for wildlife use within 200 feet of the road; treat woodcutters with respect and not seize chainsaws; open areas for firewood cutting.

***Response**: The proposed revised forest plan does not make specific decisions regarding opening or closing roads, wildlife trees, or firewood cutting areas. These activities would be addressed at the project-level. The proposed revised forest plan does describe suitable uses for each management area, including where firewood cutting for personal or commercial use is suitable. The majority of management areas include firewood cutting as a suitable use. Law enforcement activities related to firewood cutting are outside the scope of the plan revision process.*

Comment: (Letter Number(s): 20, 25, 34, 36, 46, 50, 53, 76, 78, 108, 169, 339, 538, 547, 578, 595, 608, 609, 627, 641, 645, 664, 665, 667, 681, 684, 691, 696, 715, 727, 737, 809, 968, 991, 993, 999, and 1008) The Forest should explain how timber outputs are developed, include an objective with higher timber harvest levels, a desired condition to reach the allowable sale quantity (ASQ), remove the 21-inch diameter limit to improve ability to manage at the landscape level, and provide direction that permits

timber harvest to be profitable. Since current planned outputs are below the growth rates across the landscape, the Forest should use the Washington State sustainable harvest concept (used for State trust lands) for management of National Forest Systems lands and should not allow current budget to determine timber harvest objectives and the Forest should allow private businesses to harvest and take over management of the public forest. The final revised forest plan should not include the 21-inch diameter limit. The Forest should have an alternative with reduced or no timber outputs to increase oxygen, water in aquifers, address drought, and protect the climate. The Forest should not increase harvest above current levels to protect the market price of timber. The Forest should have an alternative that uses a departure schedule to bring the Forest close to the desired conditions within the 10- to 15-year time horizon stated in the revised plan. The Forest should have an alternative that reflects Alternative B modified to include vegetation management planned with a departure schedule. The final plan revision documents should identify timber harvest levels in million board feet (MMBF) rather than in hundred cubic feet (CCF).

***Response**: The process used to derive timber outputs is explained in FEIS chapter 3, Forest Vegetation section, and in FEIS appendix G. The process used is consistent with the 1982 planning rule. Additionally, to help address public comments on this issue, the Colville National Forest Plan Revision Update dated August 2, 2016 (available online) was focused on further explaining the timber output numbers.*

Refer to the document titled "Determining Lands Suitable For Timber Production, And Long-Term Sustained Yield, Allowable Sale Quantity And Harvest Volume Estimates For Forest Plan Revisions Under Provisions Of The 1982 Rule" from the Pacific Northwest Region, March 14, 2011(available in the project record) for further information.

Objectives are defined in the proposed revised forest plan and are based on recent trends and short-term budgets. The restoration objective (FW-OBJ-VEG-01) of 18,000 to 25,000 acres per year is based on recent trends and is not a limit. The Forest is not prohibited from exceeding objectives.

The forest structure desired condition (FW-DC-VEG-03) is used to develop the allowable sale quantity (ASQ). The ASQ takes into account the amount of timber that may be sold from lands identified as suitable for scheduled timber production, which contributes to moving toward this desired condition. The desired condition for renewable forest products (FW-DC-RFP-01. Commercial Products) is to regularly meet the average decadal allowable sale quantity.

Timber sale profitability is analyzed at the project-level as part of the appraisal and is outside the scope of the proposed revised forest plan.

The proposed revised forest plan contains a guideline (FW-GDL-VEG-03. Large Tree Management) that provides direction for the circumstances under which large trees (defined as larger than 20 inches dbh) may be removed. The forest structure desired condition (FW-DC-VEG-03) includes a variety of structure types across the different vegetation types. As shown in the forest vegetation effects analysis (FEIS chapter 3), time is required for trees to grow into late structure classes.

The Colville National Forest currently contracts with private businesses to harvest timber for resource goals on NFS lands. However, the Transfer Act of 1905 gave the Secretary of the Department of Agriculture authority to manage the forest reserves. The Colville Forest Reserve was proclaimed in 1907. Other laws, including the Organic Administration Act of 1897, the Multiple-Use Sustained Yield Act of 1960, and the National Forest Management Act of 1976 give authority to manage NFS lands to the Forest Service.

A departure schedule was considered and described in appendices B and D of the Forest Vegetation Specialist Report addresses a departure schedule (referred to as "unconstrained"). A departure schedule can only be used when doing so would "lead to better attaining the overall objectives of multiple-use management". Modeling showed that a departure schedule did not better meet the desired future condition for forest structure. The principle of non-declining even flow is intended to provide a steady and predictable supply of timber products from NFS lands that does not decline over time. It is further intended to ensure consistent long-term flow of timber products.

Timber harvest levels are described in MMBF throughout the proposed revised forest plan.

Comment: (Letter Number 548) The Forest should award a percentage of the funds generated from restoration projects to the Counties affected by the Colville National Forest, and projects be designed to allow small business to compete for contract award.

***Response**: The Forest does not have the authority to modify timber sale or stewardship accounting and contracting practices with the proposed revised forest plan. Congress designates the authority to retain or disburse receipts. Rules and policies regarding award of contracts to small businesses are set by the Small Business Administration.*

Comment: (Letter Number(s): 569, 623, 627, 645, 689, 696, 701, 737, 818, 861, 950, 951, 963, 964, 974, 1002, 1003, and 1010) The final revised forest plan and preferred alternative should include designation of large areas of the forest for emphasis on old growth dependent species and direction for passive management; Protection for large trees and any existing old growth; Management direction to develop the amount and distribution of old growth necessary to sustain old-growth associated wildlife species; No direction related to diameter limits so management can be more specific to individual landscapes.

***Response**: The no action alternative would continue to manage approximately three percent of the forest in old growth dependent species habitat/ late forest structure management areas (as in the 1988 forest plan). The preferred alternative (alternative P) would use the dynamic landscape approach for providing late forest structure and allowing late structure forests to shift location in response to ecological processes.*

The proposed revised forest plan includes a desired condition for forest structure (FW-DC-VEG-03) that applies to all areas of the forest and emphasizes late structure types. Table 5 in the proposed revised forest plan shows that nearly all vegetation types have a desired condition of having a large percentage of structure in the late open and late closed types.

Alternatives R, B, O, and the no action alternative all include a 21" diameter limit. Additionally, the proposed revised forest plan contains a guideline (FW-GDL-VEG-03. Large Tree Management) that directs management activities to retain and generally emphasize recruitment of individual large trees across the landscape, and provides direction for the circumstances under which large trees (defined as larger than 20 inches dbh) may be removed. The effects analysis described in the FEIS shows that maintaining a 21" diameter limit reduces the ability to attain the desired future condition of having a majority of most vegetation types in late structure.

Modeling results described in the FEIS (chapter 3 Forest Vegetation) indicate that time is required to develop late structure across the landscape. This is consistent with other recent scientific articles (Haugo et al. 2015). The forest structure desired condition (FW-DC-VEG-03) includes an evaluation of the historical range of variability (HRV) and vegetation treatments at the project level will need to show movement toward this desired condition. This means that until the desired condition is reached,

existing late structure would need to be maintained on the landscape. There is nothing in the plan prohibiting tree thinning or other methods that may increase the development of late structure.

Relationship of large trees and structural stages related to specific species is discussion in the FEIS (chapter 3 Wildlife).

Comment: (Letter Number(s): 645, 701, and 727) The final plan revision document must incorporate a process for assessing and restoring landscape pattern using empirically based guidance. The process should address how old forest and associated habitat were arranged (stand size and location) across the landscape. The final plan revision documents should describe: How historical range of variability percentages are to be used during project implementation; Whether the land and old structure percentages are based on expected effects of climate change and whether they are obtainable and maintainable; Whether the document manages for individual late and old trees or late and old stands.

***Response**: The forest structure desired condition (FW-DC-VEG-03) states that size and distribution of forest openings would be commensurate with historical conditions and reflect natural processes. The desired condition also includes patch and opening sizes by vegetation type. Best available science will be used at the project level to assess spatial patterns and fulfill this desired condition. The forest structure desired condition describes that the historical range of variability (HRV) will be evaluated at the appropriate scale for vegetation type and natural disturbance history, allowing the HRV analysis process to follow the best available science. All structure type desired conditions are based on state and transition modeling as described in FEIS appendix G.*

Climate change as it relates to the modeling is described in FEIS chapter 3, Forest Vegetation section. This section describes how obtainable and maintainable the desired condition is. Late structure types are part of the desired condition for forest structure (FW-DC-VEG-03). This desired condition is based on stand-level historical range of variability analysis, with definitions of each structure type (FEIS chapter 3). The proposed revised forest plan contains a guideline (FW-GDL-VEG-03. Large Tree Management) that directs management activities to retain and generally emphasize recruitment of individual large trees across the landscape, and provides direction for the circumstances under which large trees (defined as larger than 20 inches dbh) may be removed. However late structure stands require individual large trees, and therefore the forest structure desired condition indirectly addresses the need for large individual trees.

Comment: (Letter Number(s): 627, 645, 683, 685, 976, 978, and 990) The Forest should complete an analysis of the current landscape pattern of specific forest landscapes compared to the reference conditions to develop complex landscape patters that contribute to viability for wildlife; Consider a departure schedule to address faster movement toward the desired vegetation conditions and to lower fire risk for adjacent private lands; Increase treatment to create a diverse ecosystem that provide forage and wildlife habitat.

***Response**: The forest structure desired condition (FW-DC-VEG-03) includes a requirement that forest openings be commensurate with historical conditions for size and distribution to reflect natural disturbance processes. The desired condition also includes patch and opening sizes by vegetation type. Best available science will be used at the project level to assess spatial patterns and fulfill this desired condition.*

A departure schedule was considered and described in Appendices B and D of the Forest Vegetation Specialist Report. Modeling showed that a departure schedule did not better meet the desired future condition for forest structure. The principle of non-declining even flow is intended to provide a steady

and predictable supply of timber products from NFS lands that does not decline over time. It is further intended to ensure consistent long-term flow of timber products.

The proposed revised forest plan provides a desired condition for forest structure (FW-DC-VEG-03) that provides for a diversity in forage and wildlife habitat. Additionally, forest-wide desired condition (FW-DC-WL-03 and FW-DC-WL-13) state that habitat conditions should be consistent with the historical range of variability.

Comment: (Letter Number(s): 20, 32, 75, 109, 472, 543, 554, 555, 585, 645, 667, 696, 727, 804, 978, 983, 986, and 993) The final revised forest plan and preferred alternative should not limit vegetation management objectives based on current budget. Vegetation management objectives should be increased to address wildlife habitat, forest health, fuel levels and fire risk, and forage. The final revised forest plan should retain a range of management options within the area north of the Colville Confederated Tribes reservation to address forest health, structure classes, seral stages, access, and tribal subsistence and culture. The final EIS should define "forestland not appropriate for timber production" and include analysis of post disturbance restoration.

***Response**: There is no limit on vegetation management in the proposed revised forest plan related to budget. The restoration objective (FW-OBJ-VEG-01) projects 18,000-25,000 acres of vegetation treatment per year which is based on recent trends and available budget. Objectives are not limits and can be exceeded. Other resource areas such as wildlife, fuels, and range have separate objectives as described in the proposed revised forest plan.*

The majority of the area north of the Colville Confederated Tribes reservation is within Focused or General Restoration management area which allows a full suite of vegetation management activities, or Backcountry which also allows activities such as timber harvest as a tool for restoration purposes. Appendix C of the Forest Vegetation Specialist Report describes the timber suitability analysis and how areas not appropriate for timber production were computed. FEIS appendix G describes the modeling done for the vegetation effects analysis and includes estimates of post-disturbance restoration and salvage for each alternative and vegetation type.

Comment: (Letter Number(s): 574, 637, and 696) The final plan revision documents should: clarify terms and phrases used in standards and guidelines such as "habitat disturbing" to identify thresholds or measures that would be used during monitoring; identify threatened, endangered or sensitive plant species currently found on the Forest and the type of habitat they occupy; identify by species or species group the season or type of disturbance that would jeopardize the viability of the population; identify timing method of surveys; not include "Survey and Manage" requirements since those surveys are not required and are expensive to implement; consider revising FW-GDL-VEG-01 to more closely follow requirements identified in 16 USC 1536(a)(2) and Section 7 Consultation requirements with USFWS.

***Response**: The FEIS contains a glossary of terms that applies to the proposed revised forest plan. The term "habitat disturbing" is not used in the FEIS or proposed revised plan. Monitoring components are listed in chapter 4 of the proposed revised forest plan. For project-level monitoring, thresholds would be determined by the kind and extent of the proposed ground disturbance, as well as the rarity of the plant, wildlife or fish species that may be affected.*

Threatened, endangered and sensitive plants species and habitats for the forest plan revision are included in appendix C of the proposed revised forest plan, in the wildlife and fisheries sections of FEIS chapter 3, and in the Botany Specialist Report.

Effects to plant habitat groups are discussed in FEIS chapter 3, including viability outcomes. Threats and risks to viability discussed include alteration of hydrologic regime, insects and disease, environmental change, livestock grazing and trampling, plant collection and recreation.

The 1982 planning rule requires that fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species within the planning area. Additionally, Forest Service Manual 2670 directs the Forest Service to manage habitats for all existing native and desired nonnative plants, fish, and wildlife species to maintain at least viable populations of such species. In addition the Forest Service must conduct activities and programs to assist in the identification and recovery of threatened and endangered plant and animal species, and to avoid actions which may cause a species to become threatened or endangered. Through this direction the Forest Service must assist states in achieving their goals for conservation of endemic species by determining the potential effect on sensitive species from proposed activities. The Forest Service is directed to a void or minimize impacts to species whose viability has been identified as a concern. For each proposed project, the Forest Service must analyze, if impacts cannot be avoided, the significance of potential adverse effects on the population or its habitat within the area of concern and on the species as a whole. The line officer, with project approval authority, makes the decision to allow or disallow impact, but the decision must not result in loss of species viability or create significant trends toward federal listing.

The Forest Service has obligations to manage rare plants under the Endangered Species Act (ESA), the National Forest Management Act and national policy as stated in Forest Service Manual 2670 and the U.S. Department of Agriculture Regulation 9500-4. The primary policy objectives are to recover federally listed and proposed species and, for sensitive species, to ensure that actions do not contribute to a loss of viability or cause a significant trend toward listing under the ESA. The effects of any action authorized, funded, or carried out by the Forest Service on a federally listed, federally proposed, or sensitive species will be analyzed in a Biological Evaluation or project National Environmental Policy Act analysis. Surveys are conducted for these plant species in proposed project areas, including roads, trails, campground expansions, timber sales, grazing allotments, and fish and wildlife habitat improvement projects. Surveys are timed to occur when target species are identifiable.

For the Pacific Northwest Region of the Forest Service, sensitive species are defined as those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density and habitat capability that would reduce a species" existing distribution (FSM 2670.5). Management of sensitive species "must not result in a loss of species viability or create significant trends toward federal listing" (FSM 2670.32). The Regional Forester is responsible for identifying sensitive species and shall coordinate with federal and state agencies and other sources, as appropriate, to focus conservation management strategies and to avert the need for Federal or State listing as a result of National Forest management activities.

Under section 7 of the ESA, consultation is required for all federal actions that may affect listed species. Forest Service Manual 2670 also directs consultation with the U.S. Fish and Wildlife Service. The Forest Service must adhere to this requirement regardless of forest plan direction.

Comment: (Letter Number 554) The final forest plan should include objectives that propose at least 100 to 150 acres of restoration of native vegetation over the life of the plan and restoration of 5 to 30 acres of non-forest habitat annually over the life of the plan.

***Response**: The proposed revised forest plan contains an objective to restore an annual average of 50 acres of native vegetation (for the next 15 years) by mulching, seeding, or planting to promote*

revegetation of native plants to help resist introduction, establishment, and spread of invasive plant species (FW-OBJ-IS-01). This is not an upper limit on the acres of native vegetation that can be restored if funding and personnel allowed for it.

Climate Change - Global Warming

Comment: (Letter Number(s): 707, 798, and 987) The final EIS should identify how climate change and global warming is considered in determining effects of alternatives and should address the need to retain carbon.

***Response**: The proposed revised forest plan and FEIS contain an analysis and summary of current climate change and carbon resources literature as well as specific analysis of the potential effects of climate change on each resource in chapter 3 of the FEIS. The proposed revised forest plan contains desired conditions for soil, snags, and down wood that provide for retention of carbon by promoting soil organic matter.*

Comment: (Letter Numbers 574 and 627) The final EIS should provide estimates, based on current science, of total amounts of greenhouse gas emissions caused by Forest Service management actions and should model the carbon flux over time for all of its proposed management scenarios for each of the forest types found on the CNF.

***Response**: The proposed revised forest plan provides a framework and guidelines to promote ecological function and sets the management of the Colville National Forest to add resilience, resistance, and adaptation to the potentials effects of climate change and results of the those second order effects, such as wildfire, insect and disease, soil moisture.*

The FEIS addresses greenhouse gas emissions in chapter 3, Climate Change section. At the forest scale, all of the alternatives are expected to have similar discharges of greenhouse gases and the same effects on carbon storage. The amount of prescribed fire, fuel reduction, and timber harvest treatments completed on NFS lands are consistent throughout the alternatives. These are the major components in greenhouse gas emissions and potential changes in carbon storage and are the same across alternatives and thus most likely would not change. Nitrous oxide emissions from Forest Service land management activities is a very small percentage of United States nitrous oxide emissions (less than 1%) and is viewed as a minor component in Forest Service greenhouse gas emissions. Planned ignitions would be the major contributor of nitrous oxide emissions with a lesser extent of fossil fuel consumption to complete treatments/accomplishment and cattle grazed on NFSs lands. Carbon accounting and emissions on a regional or national scale is beyond the scope of proposed revised forest plan and forest plan analysis.

Carbon flux over time is presented in the Climate Change section of chapter 3 (FEIS) which is a summary of Forest Service Region 6 carbon analysis and reporting document (USDA Forest Service 2014b). The current modeling shows that the Colville National Forest is a possible sink of atmospheric carbon and should continue on this trend. The sequestration of carbon is one of the possible ecosystem functions of forests, although some systems are net sources. This trend should continue as additional stands are moved into the path of old forest structure. Old forests contain large amounts of carbon in a stable form that is resistant to large-scale disturbance.

In addition to carbon sequestration, protecting that carbon from high severity wildfire should be considered. Removal of carbon due to timber harvest is less than the potential for removal of carbon from the landscape from high severity wildfire. The risk for carbon to be emitted from uncharacteristic fire needs to be considered in restoration treatments as well as past fire history,

historical range of variability, and potentials for the achieving of old forest stand structure. The type of forest management should match multiple goals and not solely focus on the amount of carbon.

Comment: (Letter Numbers 569 and 627) The final EIS should cite the science supporting the climate change analysis addressing carbon dioxide, and document the review and consideration of opposing research related to cattle effects on soils and carbon dioxide.

***Response**: The climate change section of chapter 3 of the FEIS cites the best available science supporting the climate change analysis, including Dilling et al. 2003, Potter and Klooster 1999, Rasmussen 2006, and IPCC 2014, and more.*

Peer reviewed literature was used in completing the Range Specialist Report and resource discussion in chapter 3 of the FEIS. Regarding the effects of grazing on climate change, the Forest Service acknowledges that there are competing viewpoints within the peer-reviewed, published literature. Svejcar et al. (2014) found synthesis of the scientific literature to be challenging. The legacy effects of uncontrolled grazing during the homestead era further complicate analysis of current grazing impacts. Interactions of climate change and grazing would depend on the specific situation (Svejcar et al. 2014).

Beschta et al. (2013) argue that grazing by large ungulates (both native and domestic) should be eliminated or greatly reduced on western public lands to reduce potential climate change impacts. Svejcar et al. (2014) found that the authors in Beschta et al. (2013) did not present a balanced synthesis of the scientific literature, and that their publication is more of an opinion article with their conclusions not being reflective of the complexities associated with herbivore grazing (Svejcar et al. 2014). Beschta et al. (2013) devote a significant portion of their climate change discussion to warmer spring temperatures, reduced snow packs, earlier peak flows, and reduced summer stream flows. Svejcar et al. (2014) found it to be unclear how removing grazing would overcome the effects of large-scale climatic changes (such as reduced snow packs) that are triggered by larger and more complex resource issues than grazing (Svejcar 2014).

Comment: (Letter Number(s): 50, 535, and 627) The final revised forest plan should include desired conditions and objectives that address the effects of changing climate on plant species, wildfire risk, water temperature, and soil temperature.

***Response**: The science concerning climate change is continuously being expanded and updated. The predictions of climate change as a general trend are clear in the scientific literature but planning for specific changes in precipitation and changes in temperature is beyond the scope of forest planning.*

The proposed desired conditions and objectives in the proposed revised forest plan promote the development of a resilient forest stand structure as well as protecting riparian conditions and wetland function. The effects of climate change to resources on the Colville National Forest are documented in the resource specific sections of chapter 3 of the FEIS.

Fire/Fuels and Wildland Urban Interface (WUI)

Comment: (Letter Number 645) The revised plan and/or FEIS should include a copy of the Fire management plan and disclose consistency with the preferred alternative.

***Response**: Fire management plans are no longer required by Forest Service Manual (FSM) direction. The FSM now states broad direction for guiding response to unplanned ignitions that must be displayed in the spatial fire planning process and documented in the Fire Management Reference System plans and guides. Spatial fire planning, which is contained within the Wildland Fire Decision*

Support System (WFDSS), is used to determine appropriate actions to take on wildland fires, and is based on values at risk and guidance in the forest plan.

The proposed revised forest plan allows for use of planned and unplanned ignitions across the forest to meet site-specific objectives and strategies (FW-GDL-VEG-04).

Comment: (Letter Number(s): 81, 561, and 580) The plan revision analysis should identify and analyze the increased costs of managing fuels and fighting fire; changes in fire severity levels resulting from decreased treatment; and the changes to fire risk to local communities following related to decreased access proposed in the final EIS.

***Response**: The cost of fuel treatments and fire suppression was not analyzed in detail because it is dependent on many variables. Historic costs of fuels reduction work on the Colville National Forest show that prices do increase when walk-in distances increase. However, costs also fluctuate based on the price of fuel, food, and housing for workers, as well as the difficulty of completing the work.*

At the project level, temporary road systems are often used to reach unroaded areas, which provides more access during the project to complete fuels reduction. There is no correlation between wildfire suppression cost and road presence on the Colville NF. The Fire Regime Condition Class (FRCC) analysis summarizes the effects of different alternatives based on modelling of different treatment scenarios. Fire severity is an input in the FRCC model. Analyzing risk to specific points of interest should be done at the project level because the specific location, design, and extent of treatment activities are generally not known at this time. Without specific treatment locations, it is not possible to model potential changes in fire risk. However, the proposed revised forest plan does increase the number of acres that are suitable for mechanical treatment in WUI's, and allows for use of planned and unplanned ignitions across the forest to meet site-specific objectives and strategies (FW-GDL-VEG-04).

Comment: (Letter Number(s): 339, 580, and 872) The fuels analysis should include effects of permitted grazing on reducing fuel levels and fire severity.

***Response**: The analysis did not include the effects of grazing on fuel levels and fire severity because of the short-term nature (typically less than 1 year) of grazing effects on reducing levels of fine fuels. While allotments and pasture locations are known, the timing and rotation of livestock around the allotment varies, and precipitation can affect re-sprouting of grass or other vegetation grazed by livestock in a given year. The analysis instead focused on long-term, ecological changes to the forest. When looking at large fires (over 100 acres) from 1944 and earlier, total acreage burned by large fires was 901,900 acres, with a total of 91 large fires. From the time period of 1944-2015, total acreage burned by large fires was 158,700 acres, with a total of 38 large fires.*

Comment: (Letter Numbers 50 and 627) The fire effects modeling should not limit use of natural ignitions to achieve desired conditions. The EIS should disclose a normal range for fire return intervals, how abnormal a fire return interval outside of 50-150 years would be for Mesic Mixed Conifer, and disclose the limitations of its other fire modeling inputs, such as the Fire Regime Condition Class.

***Response**: Analysis in the FEIS provides historic fire return intervals for each vegetation type (chapter 3, Fire, Affected Environment). Fire modeling to incorporate natural ignitions was used, and is described in the final EIS (chapter 3, Fire, Affected Environment). Abnormal fire return intervals and their effects are described throughout the Fire section of the FEIS. The limitations of the model are limited to the spatial inputs, and are included by reference.*

Comment: (Letter Number(s): 14, 40, 97, 505, and 627) The plan revision analysis identifies a high fuel loading condition across a large part of the forest. The analysis and preferred alternative should include direction for higher level of fuel treatment, maintaining access to permit cost-effective treatments, and plan components that encourage use of fire (planned and unplanned) rather than commercial treatments.

***Response**: An integrated fuels reduction objective of 5,000 acres is included in the proposed revised forest plan (FW-OBJ-VEG-02. Fuels Treatments). Planned and unplanned ignitions are tools that are suitable across the forest, but will be determined on a case-by-case basis to ensure the most appropriate strategy is selected.*

Comment: (Letter Number(s): 37, 91, 506, 627, and 639) The plan revision analysis should emphasize public safety and protection of improvements, especially in the Wildland-Urban Interface (WUI). The documents should clearly identify how the revised plan addresses:

1. Issues listed in each of the County Wildfire Protection Plans and protection of property surrounded by recommended wilderness.

   ***Response**: Forest Service Manual direction states: Identify and use fire ecology to frame land and resource management objectives; (FSM 5103.2-1), so site specific fire modeling of potential impacts was not completed, instead, a landscape approach to changes in fire ecology was modeled. Wildland-urban interface (WUI) will continue to change during the life of the forest plan. The proposed revised forest plan does not specifically address consistency with issues identified in Community Wildfire Protection Plans (CWPPs) because CWPPs are generally updated every 5 years. Listing how the proposed revised forest plan addresses issues within them could result in the revised forest plan being out of date with CWPPs when they are updated. However, the proposed revised forest plan does include a desired condition for fuels treatments in WUI and providing protection for communities (FW-DC-VEG-11)*

2. Protection of communities, especially those adjacent to recommended wilderness.

   ***Response**: The proposed revised forest plan does not provide direction for site-specific treatments. Specific treatments to protect values at risk, such as communities and property, will be determined at the project level because the purpose, specific location, design, and extent of treatment activities are generally not known at this time. The proposed revised forest plan acknowledges recommended wilderness management area designations that overlap areas identified as WUI by counties, and contains desired conditions for fuels treatments in WUI and providing protection for communities (FW-DC-VEG-11). Desired conditions for recommended wilderness include retaining wilderness characteristics. This overlap of management area desired conditions will also affect management of fuels and fire risk.*

3. Why the WUI area around communities (e.g., Metaline, Ione, Flowery Trail Association) was not removed from recommended wilderness designation.

   ***Response**: Some current WUI boundaries lie within the inventoried roadless areas. The methods used to determine WUI areas are made by a broad group, with counties being the lead agency in the direction of the CWPPs. It is not known how future updates to the CWPPs will change WUI boundaries, or if WUI boundaries will be placed inside inventoried roadless areas, recommended wilderness areas or wilderness areas. Each of the recommended wilderness areas in the proposed revised forest plan and action alternatives were evaluated by the forest plan revision team according to the process identified in FSH 1909.12 Chapter 70 (January 2007) and determined to contribute to the capability, availability, and need for additional wilderness in the Okanogan Highlands ecoregion.*

The proposed revised forest plan includes 61,700 acres of recommended wilderness, including the Salmo-Priest Adjacent recommended wilderness. The boundaries of this recommended wilderness area were adjusted between draft and final based on public comment to provide more flexibility for management near the communities of Metaline and Metaline Falls. There is no recommended wilderness along the Flowery Trail in the proposed revised forest plan.

4. A clear fire management policy related to planned and unplanned ignitions.

***Response**: Planned and unplanned ignitions are allowed as management tools across the forest under the proposed revised forest plan (FW-GDL-VEG-04). Specific decisions regarding the use of either tool will be made on a case-by-case basis to ensure the appropriate strategy is chosen. Fire management plans are no longer used. The Forest Service now uses Spatial Fire Planning, based on allowed strategies derived from the forest plan and values at risk are incorporated into Wildland Fire Decision Support System.*

Comment: (Letter Number(s): 7, 17, 68, 90, 538, 557, 627, 805, and 989) The revised plan should include direction for treating a much higher number of acres that have dead or infected trees or high fuel levels. Effects of using mechanical methods versus grazing or unplanned ignition to accomplish fuel reduction should be analyzed.

***Response**: An integrated fuels reduction objective of 5,000 acres per year is included in the proposed revised forest plan (FW-OBJ-VEG-02. Fuels Treatments). This objective is not a maximum of acres that can be treated. The Forest's capacity to complete fuels treatments is dependent on budgets and staffing, and target acres are negotiated each year based on the budget received by the forest. It is expected that the target for fuels reduction will remain at approximately 5,000-6,000 acres per year. The analysis did include the effects of unplanned ignitions, as described in chapter 3 of the FEIS. The effects of grazing were not included due the short term and changing nature of the effects of grazing.*

Comment: (Letter Number 562) The final revised forest plan should address requirements for supporting initial attack with a clear fire policy and criteria for unplanned ignitions.

***Response**: Requirements for response to fires is defined in policy (Forest Service Manual 5130). Specific forest-level direction for fire response is contained within Spatial Fire Planning (formerly fire management plans), which is a part of the Wildland Fire Decision Support System and is derived from forest plan resource objectives and requirements.*

Comment: (Letter Number(s): 594, 645, and 805) The revised plan should identify why unplanned ignitions would be allowed to burn if the forest is no longer in a "natural" condition and they result in effects such as increased noxious weed levels. MA-GDL-SIA-03 criteria (PL & RMP page 110) should be reworded and incorporated as a Forest-wide guideline. The revised plan should consider increased logging and prescribed burning to help with lowering fuel loads along with increasing education of public about resource benefits of fire.

***Response**: Unplanned ignitions are a tool that may be used, and will be determined on a case-by-case basis if the effects of the unplanned ignition will meet objectives of the proposed revised forest plan (see FW-GDL-VEG-04). Strategies for individual fires will be made on a case-by-case basis dependent on weather, proximity of values, resource availability, and other fire management concerns. Decisions made will be based on interdisciplinary input for resources that may be affected, and documented according to current policy. Unplanned ignitions that occur in current project areas, and near future project areas would likely be suppressed to protect timber resources and improvements done by other resource areas.*

The MA-GDL-KRCA-03 guideline (appeared as MA-GDL-SIA-03 in the draft revised forest plan) was not included forest wide due the need to protect resource concerns beyond those listed in the guideline. However, FW-GDL-VEG-04 was added to the proposed revised forest plan to guide the use of planned and unplanned ignitions. The analysis included treatments that are reasonably expected based on current and projected budget received by the forest. Compared to the 1988 forest plan, the proposed revised forest plan increases the area where timber production would be suitable, and increases the annual projected wood sale quantity would be 62 MMBF.

Air Quality

Comment: (Letter Numbers 664 and 727) The final EIS should address using active management, including prescribed fire, to reduce impacts of unplanned fire on air quality.

***Response**: All alternatives analyzed in the FEIS would maintain air quality that meets or exceeds applicable Federal, State, and/or local standards or regulations. The proposed revised forest plan contains a desired condition and a standard for air, and states that the Forest Service is responsible for protecting air resources on national forests. This includes protecting national forests from adverse impacts caused by off-forest sources, and protecting the national forest and surrounding areas from the adverse effects of air pollution that are sources of air pollution originating on Forest Service land. Smoke from both wildfires and from prescribed burns are two of the largest sources of emissions of air pollutants on the forest. When conducting prescribed burns on national forests, the Forest Service will comply with the Washington State Department of Natural Resources Smoke Management plan.*

Fish and Fish Habitat

Comment: (Letter Number(s): 45, 569, 627, and 729) The analysis completed for the final EIS should disclose how management direction ensures survival of not only Bull trout, but all native species, and impacts to fish and fish habitat from activities such as non-native species, grazing, roads, and logging.

***Response**: Surrogate species are used in the final EIS to assess the effects of management direction on the survival of bull trout and other native species. The process and rationale for using the surrogate species approach and selection of the MIS/surrogate species is documented in the FEIS (chapter 3, Fisheries). The surrogate fish species are bull trout, westslope cutthroat trout and interior redband trout. The current viability of the surrogate species is also discussed in the FEIS (chapter 3, Fisheries).*

The Fisheries section of chapter 3 (FEIS) also includes documentation of the relative risks to riparian habitat and aquatic species due to land management activities that would be implemented under the management direction of each alternative. The potential effects of each alternative are discussed by key indicators as stated in chapters 1 and 3 of the FEIS. The Aquatic Conservation Strategy (ARCS) associated with each alternative, is discussed under Riparian and Aquatic Resource Management, including the effects of management direction for aquatic invasive species and management direction for grazing within Riparian Management Areas.

For each alternative there is an assessment of the Forest Service contribution to the surrogate species viability. The process for determining the Forest Service contribution and the relative Forest Service contribution to viability to MIS/surrogate species, including bull trout, is documented in the FEIS (chapter 3, Fisheries).

The Aquatic and Riparian Conservation Strategy (ARCS) included in the proposed revised forest plan is a refinement of three existing strategies; the Northwest Forest Plan, Interim Strategies for

Managing Anadromous Fish-Producing Watersheds in Eastern Oregon, Washington, Idaho, and portions of California (PACFISH), and the Inland Native Fish Strategy (INFISH) developed by the Forest Service Region 6 to guide forest plan revisions across the region. Background for the Colville ARCS used by the Forest is in appendix H of the FEIS. Aquatic and riparian direction in the proposed revised forest plan is expected to contribute to networks of properly functioning watersheds, recovery of Endangered Species Act (ESA) listed fish, healthy populations of native fish and other aquatic and riparian-dependent organisms.

Comment: (Letter Number(s): 550, 569, and 580) The final preferred alternative should include an Aquatic and Riparian Conservation Strategy (ARCS) that identifies: how it was developed; how and why it was modified for Alternative P; where the public can review the full ARCS report; the flexibility of ARCS requirements to meet site-specific conditions; how it compares to existing INFISH requirements and why all of the INFISH components were not incorporated; whether all of the ARCS components were analyzed for feasibility.

***Response**: The final EIS and proposed revised forest plan for the Colville National Forest integrated the regional direction included in ARCS-2016, and produced a Colville National Forest Aquatic and Riparian Conservation Strategy, included as appendix H to the FEIS. The Colville ARCS is a refinement of three existing strategies; the Northwest Forest Plan, Interim Strategies for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon, Washington, Idaho, and portions of California (PACFISH), and the Inland Native Fish Strategy (INFISH) developed by the Forest Service Region 6 Office to guide forest plan revisions across the region. Background for the Colville ARCS used by the Forest is in FEIS appendix H.*

The ARCS was modified for alternative P in the draft forest plan based on public and internal comments on the original ARCS (2008a) included in the proposed action, best available science, and new policies on Forest Service management of aquatic and riparian resources, including the National Water Quality Best Management Practices Program, and the National Watershed Condition Framework. The ARCS included in alternative P and in the proposed revised forest plan was further refined based on a 2016 update to ARCS at the regional-level. The regional document is available in the project record.

The Colville ARCS components were also developed based upon the operational experience gained through implementation of the Northwest Forest Plan, PACFISH and INFISH. The operational considerations for the components of the Colville ARCS, including each standard and guide were discussed at length by the Forest and Regional Office staffs before they were included in both the draft and final plans. A crosswalk between the ARCS components proposed for the alternatives (including the no action alternative and alternative B which are based on INFISH) is located in FEIS appendix H, The intent of all INFISH standards and guidelines are carried-through into the Colville ARCS, however, wording of standards and guidelines have been updated based on over 15 years of INFISH implementation and new science since the INFISH amendment. The proposed revised forest plan also includes a desired condition specifying a goal to have the ever-changing distribution of stream conditions in watersheds across NFS lands to be similar to the dynamic distribution of conditions in reference watersheds (that is, those that have been the least affected by past management activities). This contrasts with PACFISH and INFISH, which established relatively uniform and static Riparian Management Objectives (RMOs) as interim targets for management. Besides more completely specifying management goals through additional desired conditions, ARCS more explicitly defines the spatial scale(s) over which the desired conditions apply than do the existing strategies.

ARCS includes a core set of desired conditions, standards, guidelines, suitable uses, and designation of Riparian Management Areas (RMAs) and Key Watersheds to improve and protect aquatic and riparian function and provide flexibility for management at the project level. For example, FW-STD-WR-05 includes language that provides flexibility to increase system road mileage if the overall result of the actions would result in reduced road-related risk to the watershed. The language in this standard acknowledges that certain roads are a greater risk to hydrologic and aquatic function. MA-STD-RMA-09 includes language that offers flexibility to construct watering facilities within RMAs if they inherently must be located within an RMA, or if they are needed for resource protection. This standard would require documentation of the rationale for why a watering trough would be located in an RMA based on operational feasibility and outline the benefits to RMAs that are achieved through off-stream watering troughs. Additionally, the desired conditions identify specific scales (e.g., subbasin, watershed, subwatershed) recognizing varying natural conditions across the Forest.

The eight INFISH riparian goals are similar to desired conditions in alternative P, however alternative P builds upon the INFISH goals with a more comprehensive set of desired conditions to guide management for watersheds and Riparian Management Areas. The desired conditions in alternative P identify the specific scale for which they are to be applied and were developed based on new science since the INFISH strategy was implemented, including the dynamic nature of watersheds and aquatic habitat, and the role of natural disturbance.

The alternative P ARCS standards and guidelines expand upon the INFISH standards and guidelines (INFISH did not differentiate between standards and guidelines) based upon the Regional experience implementing INFISH, PACFISH, the Northwest Forest Plan, and the Forest's experience implementing INFISH. The Riparian Habitat Conservation Areas of INFISH and the Riparian Management Areas included in alternative P, as discussed in the Fisheries Section, FEIS chapter 3, are similar except in the final Colville ARCS additional consideration is given to the riparian areas adjacent to intermittent streams, wetlands less than 1 acre, seeps and springs and unstable and potential unstable areas in all watersheds. The increase in RMA widths for headwater channels provides additional protection to these areas, recognizing their importance for maintaining watershed function and protecting downstream aquatic habitat as well as associated riparian dependent species.

The final Colville ARCS includes desired conditions, standards and guidelines addressing the threat of aquatic invasive species that are not included in INFISH.

Under INFISH there are 13 Priority watersheds that cover 214,283 acres or about 19 percent of the Forest. These watersheds are a priority for restoration and were established in the Pend Oreille subbasin, primarily to benefit bull trout, but there was little additional management direction for the Priority watersheds. Alternative P includes key watersheds which are a primary component to maintain and improve aquatic conditions for the MIS/surrogate species' populations (rather than bull trout only), other aquatic species, and to provide high water quality. Management in key watersheds emphasizes minimizing risk and maximizing restoration or retention of ecological health. The key watersheds are a priority for restoration to improve watershed conditions, riparian and aquatic habitats. There are also desired conditions, standards, and specific objectives for key watersheds that were not included in INFISH (see the Water Resources section of the proposed revised forest plan and the Fisheries section in FEIS chapter 3). The alternative P Key watershed network includes 26 subwatersheds covering approximately 458,025 acres of the Forest. The Key Watershed network includes the bull trout critical habitat within the Forest and expands the key watershed network to include not only bull trout habitat but important habitat for interior redband trout and westslope cutthroat trout.

The INFISH strategy included riparian management objectives (RMOs) for stream and streamside conditions to provide criteria against which attainment or progress toward attainment of the riparian

goals would be measured. RMOs include number of pools per mile, and number of pieces of large woody debris in a stream channel. The relatively uniform and static RMOs were established as interim targets for management. As discussed in the Fisheries section of chapter 3 in the FEIS, criticisms of static numeric stream habitat objectives as a one-size fits all approach are that such objectives may not adequately describe habitat conditions by not accounting for variability across the landscape and recognition of the difficulty of separation of land use effects from natural disturbance. The RMOs are replaced by desired conditions; particularly FW-DC-WR-04 Physical Integrity of Aquatic and Riparian Habitat which states: "National Forest System lands provide aquatic habitats in which the distribution of conditions (e.g., bank stability, substrate size, pool depths and frequencies, channel morphology, large woody debris size and frequency) in the population of watersheds on the Forest is similar to the distribution of conditions in the population of similar, reference condition watersheds." The monitoring program, which includes using the PACFISH/INFISH Biological Opinion (PIBO) monitoring results, will be used to track aquatic habitat conditions on the Forest compared to reference conditions.

Comment: (Letter Number(s): 29, 569, 574, and 729) The analysis completed for the final EIS should disclose any differences in how INFISH and ARCS address watershed improvement and how INFISH and ARCS address fish passage, road culverts, roads, logging and grazing.

***Response**: Differences between INFISH and ARCS are discussed in FEIS chapter 3 under the fisheries and hydrology sections, in the effects discussion of the no action alternative and Summary of Effects and Comparison to Other Alternatives. Appendix H also contains a comparison of the INFISH (no action and alternative B) components with the various ARCS components included for the action alternatives.*

The INFISH strategy is included in the no action alternative and alternative B. Under INFISH there are currently 13 priority watersheds, primarily where inland native fish are to receive special emphasis (FEIS chapter 3). The priority watersheds cover 214,280 acres or about 19 percent of the Forest. Watershed restoration was a component of INFISH although no restoration strategy was originally included (FEIS). The proposed revised plan includes 25 Key Watersheds designated at the subwatershed scale covering 458,025 acres. Management in Key Watersheds emphasizes minimizing risk and maximizing passive and active restoration or preservation of watershed function and aquatic and riparian habitat (proposed revised forest plan). Specific restoration objectives have been identified for Key Watersheds and the Key Watersheds are the priority for active restoration (proposed revised forest plan).

As mentioned above, unlike INFISH, the Colville ARCS within the proposed revised Plan includes specific objectives for watershed and habitat restoration, including restoration objectives for Key Watersheds. There are objectives for aquatic invasive and non-native species, watershed restoration, stream restoration including improving fish passage, road and range infrastructure improvements, and improving upland vegetation conditions within RMAs. Alternatives with either the ARCS, ARCS-modified, or the Colville ARCS are determined to result in greater benefit to aquatic and riparian resources than the INFISH strategy in the no action alternative.

Comment: (Letter Number(s): 45, 46, 53, 574, and 701) Aquatic Riparian Conservation Strategy - We support using ARCS-modified which addresses restoration and protection of riparian habitats. The analysis completed for the final EIS and final revised plan should explicitly state some of the desired conditions that would be laid out in the ARCS model to better understand the overall direction related to fish management.

***Response**: The Colville ARCS desired conditions, standards, guidelines, and objectives are found in the proposed revised forest plan in chapter 2 under Water Resources, in chapter 3 under Riparian Management Areas (RMAs), and in FEIS chapter 3, fisheries and hydrology sections. FEIS appendix H also contains the Colville ARCS.*

The desired conditions in the Water Resources section in chapter 2 of the proposed revised forest plan are to be applied Forestwide and the scale to which they are to be applied is identified. The Water Resources section includes desired conditions for key watersheds. The RMA desired conditions are specific to that land allocation. Desired conditions are just one component of the Colville ARCS, which also includes forestwide standards, guidelines and objectives.

The suitability of different land management activities within RMAs are also displayed in chapter 3. Collectively, the desired conditions, standards and guidelines, objectives and suitability define the Colville ARCS.

Comment: (Letter Number(s): 569, 627, 637, 701, and 729) The analysis completed for the final revised plan should include:

1. Information used to support the discussion about distribution (past, existing & potential) of, and effects to, Bull trout.

   ***Response**: Information regarding historical and current distribution and status of bull trout on the Colville National Forest is discussed in the FEIS chapter 3, Fisheries.*

   The methodology for determining the current condition and viability of the MIS/surrogate species, including bull trout, the current viability of bull trout on the Forest and the relative Forest Service contribution to the viability of the surrogate species, including bull trout discussed for each alternative in the final EIS (chapter 3, Fisheries).

2. How effects to bull trout and to grazing permits from standards and guidelines were analyzed.

   ***Response**: The FEIS contains the rationale for discussing the effects of livestock grazing on riparian and aquatic resources in chapter 3, hydrology section., Potential effects of grazing on riparian and aquatic resources is discussed by alternative. The methodology for determining the effects of alternatives and a summary of the effects of riparian and aquatic management direction to livestock grazing programs, is found in the livestock grazing section of the FEIS, where the effects to livestock grazing programs is discussed by alternative.*

3. Disclosure of requirement to monitor populations of specific fish species since introduced populations of hatchery fish, rainbow trout and cutthroat trout have changed genetic make-up of populations across the forest, and genetic testing is expensive.

   ***Response**: Monitoring is discussed in the final EIS in chapter 3 (Fisheries) and in the proposed revised forest plan in chapter 4 (Monitoring). Chapter 4 lists specific monitoring questions for monitoring watershed condition and aquatic habitat and the information needed to answer the questions. The Forest Service conducts stream surveys that collect information regarding fish distribution, but not do not estimate population size. The proposed revised forest plan does not contain species-specific population monitoring. The Forest is not proposing any genetic studies. The discussion of genetic make-up of westslope cutthroat trout and for interior redband trout are in the FEIS (chapter 3, Fisheries).*

   The population genetic information used in the analysis in the FEIS was obtained from Trotter et al. (2001).

4. Discussion of what the AEC is, how is it calculated, what it means, and how is it used.

   Response*: The Aquatic Ecological Condition (AEC) model is discussed in FEIS chapter 3, Fisheries section. The AEC was developed to assess the current condition of aquatic habitat and MIS/surrogate species population status and to inform the species viability assessment.*

   The information for the model is assessed at the HUC12 scale (sub-watersheds averaging 10,000 to 40,000 acres) (FEIS). The AEC score is developed using information regarding the status of the MIS/surrogate species and the watershed/aquatic habitat condition in each HUC12. The information used to assess the MIS/surrogate species, status included; such as fish distribution data, population status and abundance, habitat and genetic connectivity, and impact of non-native species.

   The habitat condition component of the AEC model was designed to assess ecological processes and watershed function, rather than evaluate the specific habitat needs of any particular species. The habitat condition component of the AEC was evaluated using information regarding channel shape and function, large woody debris, road density within the sub-watersheds, road densities adjacent to water, risk of sediment delivery to streams due to roads, fire regime condition class and the condition of riparian wetland vegetation. The species status portion and habitat condition portions were then combined to obtain the final AEC score. The full description of the AEC is in the final EIS (chapter 3, Fisheries).

5. A strategy, proposed under ARCS or ARCS-modified, that is at least as protective of riparian resources and species as INFISH.

   Response*: The proposed action and alternatives P, R, and O include an ARCS that is more protective than INFISH. A comparison of all aquatic and riparian direction (including no action/INFISH) is contained in FEIS appendix H.*

6. Effects of both standards and guidelines to the riparian resource including spawning habitat as well as indirect effects to other resources such as grazing.

   Response*: A comparison of the ARCS strategies associated with the proposed action alternative, alternatives P, R, and O and INFISH (no action and alternative B) is included FEIS appendix H. Additional information is located in the effects discussion of the no action alternative, the effects discussion for each alternative, and the Summary of the Effects of the Alternatives on Aquatic Resources in the Fisheries section of FEIS chapter 3.*

7. Rationale used to support the requirements and measures in ARCS-modified.

   Response*: The ARCS was developed based upon lessons learned during implementation of the Northwest Forest Plan, PACFISH and INFISH (FEIS chapter 3, Hydrology). The ARCS is included as plan components in the Proposed Action. The ARCS-modified was developed by the Colville National Forest based upon the Region 6 ARCS 2008 and is included in alternatives R and O. Much of the rationale for the ARCS 2008 is included in USDA Forest Service (2008a) as cited in the Fisheries Specialist Report. The final Colville ARCS was developed for alternative P by the interdisciplinary team and Regional Office staff, and is based on the ARCS 2016 (USDA Forest Service 2016a). The rationale behind the Colville ARCS is included in USDA Forest Service (2016a) and FEIS appendix H.*

8. Disclosure of what was used to determine if a watershed is, or is not, properly functioning.

   Response*: Watershed condition is discussed in FEIS chapter 3, Hydrology section. Watershed condition was assessed using the Watershed Condition Framework (WCF), as described in the FEIS.*

The WCF was conceptualized at the National scale to change the Forest Service approach to landscape and watershed restoration. The WCF established a nationally consistent approach to classify watersheds based on underlying ecological, hydrological, and geomorphic functions and targets implementation of focused restoration activities in priority subwatersheds. Consistent with the national process established in the WCF, subwatersheds on the Colville National Forest were classified based on classes described in Forest Service manual FSM 2521.1 8994 and Potyondy and Geier (2010).

Comment: (Letter Number 637) Why is monitoring of populations of specific fish species required since introduced populations of hatchery fish, rainbow trout and cutthroat trout have changed genetic make-up of populations across the forest, and genetic testing is expensive?

***Response**: The Forest is not proposing species-specific population monitoring. Forest plan monitoring is discussed in chapter 4 of the proposed revised forest plan, and in chapter 3 of the FEIS fisheries section. The table in chapter 4 lists specific monitoring questions for monitoring watershed condition and aquatic habitat and what information will be used to answer the questions. The Forest Service collects information in stream surveys regarding fish distribution, but does not estimate population size. The population genetic information used was obtained from Trotter et al. (2001) as cited in the FEIS. The discussion of genetic make-up of westslope cutthroat trout, and for interior redband trout is in the Fisheries section of chapter 3 (FEIS).*

Comment: (Letter Numbers 637 and 729) What is the information used to support the discussion about distribution (past, existing & potential) of, and effects to, Bull trout? How are effects to bull trout and to grazing permits from standards and guidelines analyzed and disclosed in the final EIS?

***Response**: Information regarding historical and current distribution and status of bull trout on the Forest, including citations, are discussed in FEIS chapter 3, Fisheries section. The FEIS also contains the methodology used to determine current condition and viability of the surrogate species, including bull trout, and the relative Forest Service contribution to the viability of the surrogate species.*

FEIS chapter 3, Fisheries section also discusses the potential effects of grazing on riparian and aquatic resources by alternative. The methodology for determining those effects, and effects to livestock grazing programs, including standards and guidelines, is found in the FEIS (chapter 3 Fisheries).

Comment: (Letter Number(s): 580, 627, 637, and 642) The standards and guidelines in the final revised plan should provide clear, consistent or implementable direction related to grazing use within the riparian management areas. The final EIS and final revised plan should provide information on how projects and activities, including management of existing facilities or structures, would be managed to meet stated requirements such as impacts to fish redds and how adaptive management would be used while being consistent with riparian area protection.

***Response**: The proposed revised forest plan includes three standards (RMA standards 8-10), and three guidelines (MA-GDL-RMA-12, 13, and 14) for management of grazing in Riparian Management Areas. Based on discussions with national, regional, and forest-level grazing and aquatics professionals, the interdisciplinary team determined that these plan components are implementable, and facilitate protection and recovery of aquatic and riparian resources, including water quality and ESA-listed fish and critical habitat while supporting continued grazing on NFS lands. The components guide management to achieve desired outcomes, while providing flexibility to local managers and staff and provide consistency with best available science, law and policy.*

Grazing standards and guidelines provide the flexibility to adaptively manage grazing to facilitate continued grazing and protection and recovery of aquatic and riparian resources. MA-GDL-RMA-12 (MA-GDL-RMA-09 in the draft revised forest plan) has been updated to provide greater flexibility for management and recognition that not all grazing indicators are appropriate for use at every site. Actual values need to be based on site-specific conditions and may need to be adjusted over time based on long-term monitoring. The scientific rationale and implementation framework for this guideline are included in appendix H of the FEIS and in, Regional Aquatic and Riparian Conservation Strategy Guideline for Annual Livestock Use and Disturbance Indicators (USDA Forest Service 2017b).

MA-STD-RMA-10 requires analysis and minimization of negative impacts to water quality and aquatic function of existing livestock handling or management facilities and structures in RMAs. This standard does not unnecessarily constrain management, but rather directs interdisciplinary teams to determine and address impacts of handling and management facilities at the allotment management planning phase. This standard does not preclude retaining these facilities, if they can be adaptively managed to minimize impacts and attain desired conditions.

The draft revised forest plan contained a standard (MA-STD-RMA-11) prohibiting livestock trampling of ESA listed fish redds. This standard has been re-worded and is MA-GDL-RMA-14 in the proposed revised forest plan. Bull trout are currently the only ESA listed (threatened) fish species on the Forest. Bull trout lay their eggs in September or October, making removal of cattle from an allotment before redds are susceptible to trampling an adaptive management practice that could facilitate grazing and meet the guideline.

Comment: (Letter Number(s): 637, 696, and 729) The final revised plan should include specific water resources and riparian management area standards and guidelines for protection of water quality and aquatic habitat that can be adapted to site-specific conditions to allow riparian habitat improvement projects.

***Response**: The proposed revised forest plan includes the Colville ARCS (see FEIS appendix H). The forestwide Water Resources section (chapter 2) contains standards and guidelines that are part of this ARCS strategy, as does the management areas specific direction under Riparian Management Areas in chapter 3 of the proposed revised forest plan. The proposed revised forest plan provides protections to aquatic and riparian habitat and function and offers flexibility for management.*

The Colville ARCS is a broad-scale strategy for plan implementation guidance and restoration of the ecological health of watersheds and aquatic and riparian ecosystems. It is a science-based strategy that allows for adaptive management.

Comment: (Letter Number(s): 506, 547, 569, 571, 580, 586, 592, 610, 637, 642, 645, 646, 683, 688, 690, 691, 981, 982, 983, 985, 986, 1008, and 1016) RMA - Stubble Height - The DEIS states a requirement for maintaining at least 6”– 8” of residual stubble height within greenline vegetation. This is different than the current plan. The analysis completed for the final EIS should include:

1. Science used to determine the minimum stubble height numbers.
2. Rationale for use of residual stubble height numbers when the existing species in many riparian areas don’t reach 6” height even when cattle do not graze the area.
3. Science or rationale for determining that one number is appropriate for use across the entire forest.
4. Science behind using stubble height to determine improving trend and time frame involved.

5. How opposing research was addressed.

***Response**: The scientific and management rationale as well as the references for residual stubble height (MA-GDL-RMA-12, which was MA-GDL-RMA-09 in the draft revised forest plan) are found in the FEIS and in USDA Forest Service (2017b), as cited in the FEIS and Fisheries Specialist Report. The guideline was revised between the draft EIS and draft forest plan and the final versions of these documents. Guideline MA-GDL-RMA-12 was developed based both upon USDA Forest Service (2017b) and extensive discussions between the Colville National Forest and Regional Office staff. The guideline was developed specifically with the recognition that not all grazing indicators are appropriate for use at every site. The actual values need to be based on site-specific conditions and may need to be adjusted over time based on long-term monitoring.*

Comment: (Letter Number 699) The final EIS should use PIBO within the context for which its data is appropriate. The attributes proposed to be monitored during PIBO IM (greenline stubble height, streambank alteration, and woody species browse) fail to address the impacts of grazing on stream and riparian habitats and are only meant to determine whether the current years livestock grazing is meeting planned stocking levels, grazing intensity and duration, and criteria for livestock use of riparian areas. PIBO effectiveness monitoring is not effective at the Forest or smaller scale. The final revised forest plan should include forest-specific monitoring to ensure aquatic habitat and watershed function is protected or improved.

***Response**: Monitoring information collected for the PACFISH/INFISH Biological Opinion (PIBO) has been used and referenced in the FEIS.*

The PIBO effectiveness monitoring (EM) data focuses on the long-term trends from long-term indicators/attributes. The appropriate thresholds for the PIBO implementation monitoring (IM) indicators/ attributes, such as greenline stubble height, streambank alteration and woody species browse, should be determined at the allotment or pasture level. Through the Colville ARCS, which guides riparian area management for the proposed revised forest plan and alternative P, appropriate values will be identified at the pasture level though a separate process. Allotment Management Plans are the most appropriate location to identify thresholds for short-term indicators, such as those mentioned above for PIBO EM.

There is a substantial amount of peer-reviewed science which supports the Multiple Indicator Monitoring (MIM) protocol found in BLM Technical Reference 1737-23. This is the protocol that guides the PIBO data collection, and it is being used to collect information on streams and riparian areas throughout Forest Service lands in the Pacific Northwest Region.

While PIBO EM data can apply at regional scales, it can also be refined down to be applicable and provide guidance at the more local Forest and allotment level if Designated Monitoring Areas (DMAs) exist. The Colville National Forest has many PIBO DMAs within its boundaries. As described in the Fisheries Specialist Report and in FEIS chapter 3, the PIBO EM monitoring uses an index approach so monitored sites within managed areas can be compared to similar reference sites across either an ecoregion or the whole PIBO monitoring area. In the Fisheries section of FEIS chapter 3 and in the Fisheries Specialist Report, the current condition of streams within the Forest, including the conditions with PIBO monitored DMAs, has been compared to reference streams. As of now, specific trends in stream habitat within DMAs can be assessed for the Forest as a whole, but not in individual subbasins due to low sample size. The situation should change as monitoring continues into the future and the sample size increases. Finally, monitoring, including use of the PIBO information will determine if management actions, including grazing are meeting Forest-wide desired condition FW-DC-WR-04 Physical Integrity of Aquatic and Riparian Habitat which states "National

Forest System lands provide aquatic habitats in which the distribution of conditions (e.g., bank stability, substrate size, pool depths and frequencies, channel morphology, large woody debris size and frequency) in the population of watersheds on the Forest is similar to the distribution of conditions in the population of similar, reference condition watersheds." Comparing the monitoring results with the results for reference watersheds should help determine if aquatic habitat is improving. The monitoring program (chapter 4 in the proposed revised plan) also includes updating the Watershed Condition Framework that will help determine if watershed function is protected or improved.

Hydrology

Comment: (Letter Number 701) The Plan Revisions standards and guidelines should reflect science and improve management in areas critical to aquatic and riparian function, including bank stability.

***Response**: The Colville ARCS, included in the proposed revised forest plan and as a stand-alone strategy document for plan implementation guidance, is a broad-scale strategy to maintain and restore the ecological health of watersheds and aquatic and riparian ecosystems. ARCS is a science-based strategy that allows for adaptive management based on best available science. ARCS is described in the FEIS (chapter 3, Hydrology), and the Colville ARCS is included in FEIS appendix H. The proposed revised forest plan includes desired conditions, standards, and guidelines for Riparian Management Areas and Water Resources that provide protections to aquatic and riparian habitat and function, including bank stability (see FW-DC-WR-04 and MA-GDL-RMA-12).*

Comment: (Letter Number(s): 506, 574, 627, 664, and 699) The final EIS should disclose the measurable objectives used to determine how each alternative would contribute to restoring watersheds, and discuss the impacts of temporary and level 1 roads on aquatic function. The final EIS should analyze and disclose the effects the proposed objectives, standards and guidelines have on hydroelectric development and water quantity.

***Response**: The FEIS includes a discussion of the measurable objectives for Key Watersheds, Riparian Management Areas (RMAs), and general water resources that describes how each alternative would address the pace and scale of aquatic restoration (see chapter 3, Hydrology section).*

The FEIS includes a discussion of the effects of roads on hydrologic and aquatic function, and a discussion on temporary roads and level 1 roads and their potential effects to hydrologic and aquatic function.

The proposed revised forest plan includes two standards regarding hydroelectric development (FW-STD-WR-06 and FW-STD-WR-07), neither of which preclude hydroelectric development on the Forest. These standards require maintenance of in-stream flows and habitat conditions that maintain desired conditions, and ensure that there are minimal risks to fish and water resources.

The proposed revised forest plan includes components to improve and restore hydrologic function, which allows the landscape to hold water longer and release water slower in the summer months when streamflow is low. Desired conditions for water resources provide the framework for hydrologic function, and implementation of the proposed revised forest plan would move the Colville National Forest toward these desired conditions. Watershed restoration objectives outline specific activities that will improve landscape function and resiliency, including reducing sediment from the roads system and stream restoration treatments, including placement of large woody debris in stream channels, streambank stabilization, and floodplain reconnection. In addition, the proposed revised forest plan includes a robust set of standards and guidelines for protection of water resources and

RMAs that protect the watershed functions that could improve summer low flows. Water quantity is discussed in the hydrology section of chapter 3 of the FEIS.

Comment: (Letter Number 637) The final EIS should identify how AEC is calculated, what it means, and how is it used.

***Response**: The Aquatic Ecological Condition (AEC) model was developed to assess the current condition of aquatic habitat and MIS/surrogate species population status and to inform the species viability assessment (see FEIS, chapter 3, Fisheries section). The information for the model is assessed at the HUC12 scale (sub-watersheds averaging 10,000 to 40,000 acres). The AEC score is developed using information regarding the status of the MIS/surrogate species and the watershed/aquatic habitat condition in each HUC12. The information used to assess the MIS/surrogate species, status included; data on fish distribution, population status and abundance, habitat and genetic connectivity, and impact of non-native species.*

The habitat condition component of the HUC12 AEC model was designed to assess ecological processes and watershed function, rather than evaluate the specific habitat needs of any particular species. The habitat condition component of the AEC was evaluated using information regarding channel shape and function, large woody debris, road density within the sub-watersheds, road densities adjacent to water, risk of sediment delivery to streams due to roads, the fire regime condition class, insects and disease affecting the forest lands within the sub-watershed, and the condition of riparian wetland vegetation. The species status portion and habitat condition portions were then combined to obtain the final AEC score. The full description of the AEC is in the FEIS chapter 3).

Comment: (Letter Number(s): 74, 180, 543, 699, 982, and 986) Desired conditions and objectives do not appear to require projects to meet Washington State water quality standards including TMDLs and temperature, nor do they appear ambitious enough to move the forest watersheds to properly functioning condition. The final EIS and final revised plan should include desired conditions and objectives that meet or exceed the most current Washington State water quality standards; direct management in riparian corridors to maximize riparian shade; disclose effects of roads to water quality; and address the effects of roads on water quality.

***Response**: The proposed revised forest plan includes the Colville ARCS, which is a comprehensive strategy to maintain or move watersheds toward properly functioning conditions. The Colville ARCS is supported by best available science that reinforces the need for a landscape approach to aquatic habitat conservation that focuses on protection and restoration of the natural processes that create and maintain habitats at multiple scales; the importance of headwater streams; the need to protect riparian areas; and the role of disturbance in maintaining functional ecosystems (see FEIS Appendix H, and Hydrology and Fisheries sections of the FEIS for additional discussion and references).*

In addition, there is evidence that the existing strategies (PACFISH/INFISH, and the Northwest Forest Plan) upon which the Colville ARCS is built are working. Independent assessments concluded that their basic components and associated management direction are fundamentally sound, generally understood, valued, and implemented by Forest personnel, and have significantly improved the ways in which aquatic resources are managed on NFS lands. Recent monitoring and assessments also suggest the strategies appear to be achieving their goals of maintaining and restoring aquatic and riparian habitats and key ecological processes at watershed and larger scales (see FEIS appendix H, and Hydrology and Fisheries sections of the FEIS for additional discussion and references).

Washington State Water Quality standards are outlined in the Hydrology section of chapter 3 (FEIS), where it describes how the Forest works with the Washington Department of Ecology to comply with the Clean Water Act. At the programmatic level, this includes following the 2000 MOA between Ecology and Region 6 of the Forest Service (FEIS chapter 3, Hydrology). The proposed revised forest plan (chapter 2) describes in the background information for the Water Resources section in that all projects on NFS lands will comply with the Clean Water Act. This section also outlines the process the CNF has successfully followed to comply with the Colville National Forest and Colville River TMDLs and WQIPs. The CNF works in close collaboration with Ecology to make progress toward meeting TMDL requirements.

The FEIS includes a detailed discussion of the effects of roads on water quality (chapter 3, Hydrology) and recognizes that roads are one of the primary limiting factors to watershed and aquatic function and water quality. The Forest Service continues to prioritize and treat roads that are the greatest risk to aquatic and riparian systems. The Forest uses a science-based roads analysis procedure to evaluate road risk and uses this information to prioritize road treatments based on beneficial uses and conditions. In addition, the Forest minimizes the construction of new roads, especially those located near streams or unstable areas, and decommissions or hydrologically stabilizes high risk roads (FEIS, Hydrology section).

The proposed revised forest plan includes a suite of plan components that provide the framework for assessment and treatment of roads to reduce hydrologic and aquatic risk and improve water quality, including standards and guidelines that protect water quality from roads. The proposed revised forest plan includes an objective for key watersheds (FW-OBJ-WR-06) to replace culverts for improved aquatic organism passage on 53 culverts and reduction of hydrologic risk on 116 miles of road. There are additional objectives for 81 miles of stream restoration (FW-OBJ-WR-09), and improvement of range infrastructure to improve water quality (FW-OBJ-WR-07).

The proposed revised forest plan includes standard FW-STD-WR-05 to reduce hydrologic risk and improve watershed function in key watersheds.

Comment: (Letter Number(s): 45, 507, and 574) The final EIS should disclose why some INFISH key watersheds were not included as key watersheds in the preferred alternative, and how Alternative P would improve watershed conditions better than other alternatives.

***Response**: The Hydrology section in the FEIS addresses the changes in the priority or key watershed network by alternative. In alternative P, the INFISH priority network is replaced with the Key Watershed network. The Key Watershed network encompasses nearly all of the existing INFISH priority watershed network and additional subwatersheds across the Forest that were not included in the INFISH priority watershed network (which included only those watersheds with bull trout critical habitat, without regard to other surrogate aquatic species).*

There are two INFISH priority watersheds not included in the Key Watershed network in the proposed revised forest plan: Outlet South Salmo River and Middle Creek Pend Oreille River. The area encompassed by the Outlet South Salmo River is included in the Key Watershed network, but due to changes in subwatershed names and boundaries since the designation of the INFISH Priority Network, the area previously encompassed by the Outlet South Salmo River subwatershed is now included in the Headwaters South Salmo subwatershed. The Middle Creek Pend Oreille River subwatershed is not included in the Key Watershed network because it has a low percentage of Forest Service ownership and did not meet the ownership criteria used to delineate the Key Watershed network due to the Forest Service's limited ability to influence conditions on lands of other ownership.

Greater protection is given to key watersheds under alternative P than the existing INFISH priority watershed network (no action, and alternative B) due to standards and guidelines regarding road management and hydroelectric development, and measureable restoration objectives for key watersheds. The INFISH priority network (no action, and alternative B), and Key Watershed networks are displayed in tables in FEIS chapter 3, Hydrology section, under the analysis for the no action alternative and alternative P.

Alternative P includes more robust measureable objectives for key watersheds, and would improve watershed conditions more effectively than all other alternatives (see FEIS, chapter 3 Hydrology section). Completion of essential projects in 14 key watersheds, and one additional priority watershed (not included in the key watershed network—Ninemile subwatershed) are expected under alternative P. Treatments to achieve this goal are included as objectives in the proposed revised forest plan (see proposed revised forest plan, chapter 2, and Water Resources section).

Comment: (Letter Number(s): 637, 645, 664, 696, 699, 701, 727, and 729) The final revised plan and final EIS should include clarification for: watershed condition class, and definitions or measures for high, moderate and low integrity; the 12 watersheds listed as priority for restoration, and how the forest will identify the order within that list for allocating funds and resources for restoration activities; how activities outside identified riparian management area designations are analyzed for impacts to water resources and what standards or guidelines are in place to minimize or restrict those impacts; Identification of standards and guidelines used to protect or increase water quantity; why standards and guidelines do not require prevention of degradation at the site level for riparian areas, specifically in watersheds not properly functioning; why riparian widths are considered background information rather than designated boundaries; compliance with Washington State water temperature requirements; standards and guidelines that maintain or restore healthy aquatic and terrestrial ecosystems.

Response: *A brief description of the Watershed Condition Framework (WCF) (including a citation for the Forest Service watershed condition classification technical guide) is described in the proposed revised forest plan (chapter 2 Forestwide Direction for Water Resources). A more complete description of the WCF including how watershed integrity is considered, is included in the Colville ARCS (FEIS appendix H).*

There are a total of 109 subwatersheds with acreage in the Colville National Forest administrative boundary, 104 subwatersheds with greater than 5 percent total area within the Forest Administrative Boundary, and 75 subwatersheds with greater than 25 percent total area within the Forest Administrative Boundary (FEIS chapter 3 Hydrology). Twenty-five of these subwatersheds, are designated as "Key" in alternative P based on the criteria and process described in the FEIS (chapter 3 Hydrology). Key Watersheds are described briefly in the proposed revised Plan (chapter 2 Forestwide Direction for Water Resources), and the language has been updated to describe that certain key watersheds have been designated as a priority for restoration and the rationale for their designation in the proposed revised forest plan.

Twelve Key Watersheds are designated as a priority for restoration and specific objectives for these key watersheds are defined in the Hydrology section of chapter 3 (FEIS). These 12 Key Watersheds represent the watersheds where the Forest will focus active watershed and aquatic restoration through the life of the forest plan based on established national and regional protocols for establishment of priorities (WCF, and ARCS), and partnership and funding opportunities.

In addition to forest plan components specific to Riparian Management Areas (RMAs), the proposed revised forest plan includes components for forestwide water resources that provide the framework for protection of aquatic resources outside of RMAs, including 19 desired conditions, 11 objectives, 8

standards, and 5 guidelines. In addition, the Colville ARCS (FEIS appendix H) provides the framework for forest management both within RMAs and in upland areas to improve watershed function and resources.

In general, all forest plan components that move toward water resources and RMA desired conditions are expected to improve aquatic function, and improve landscape resiliency to low flows, which could provide modest increases in summer low flows. Specifically, the proposed revised forest plan includes a water resources desired condition that Forest watersheds produce high-quality water for downstream ecological communities (including human communities) dependent upon them (FW-DC-WR-10). The proposed revised forest plan also includes FW-DC-WR-07 pertaining to in-stream flows, and FW-DC-VEG-03, which promotes forest stand conditions that promote potential modest increases in water quantity over more dense forest stand conditions. See document titled "Forest Plan Water Quantity in the Colville Subbasin Response to DEIS comments" (available in the project record) that outlines how the proposed revised forest plan and FEIS describes water quantity.

Certain plan components in the proposed revised forest plan have been updated to provide greater protections to improve conditions in watersheds that are functioning at risk, or not properly functioning (under the WCF). Specifically, a guideline for forestwide water resources management (FW-GDL-WR-01) that considers current watershed condition has been added.

MA-STD-RMA-01 in the draft forest plan has also been updated and changed from a standard to a guideline in the proposed revised forest plan (*MA-GDL-RMA-01).*

Riparian widths are described in the background section of the RMA section of chapter 3 of the proposed revised forest plan. RMAs are management areas with specific management direction provided by multiple plan components including desired conditions, suitability, objectives, standards, and guidelines.

RMAs are designated in the proposed revised forest plan based on distance and are not mapped at the forest plan level due to the difficulty of mapping at the forest scale. RMA boundaries are often delineated at the project level. RMA widths are uniform as described in the proposed revised forest plan, however management within these areas is not intended to be uniform. RMAs provide for a range of management activities with varied prescriptions based on watershed and site scale analysis to inform project-specific designs. All projects in RMAs must meet RMA standards and guidelines.

All projects on the Colville National Forest must comply with the Clean Water Act. The proposed revised forest plan includes language in the background section of the "Water Resources" section stating that projects will comply with the Clean Water Act.

The proposed revised forest plan includes desired conditions, objectives for watershed restoration, and standards and guidelines that operate with BMPs to maintain and improve water quality. In addition, the 2010 Watershed Condition Framework, and the Key Watershed designation process accomplished through the forest plan revision process helps to prioritize and focus water quality improvement and aquatic habitat restoration.

As discussed in the FEIS, the Colville National Forest has demonstrated a commitment to meeting water quality improvement targets outlined in the Colville National Forests TMDL and WQIP. The proposed revised forest plan includes 7 standards and 6 guidelines specific to water resources management, and 24 standards and 22 guidelines specific to RHCAs. The proposed revised forest plan also includes the Colville-Aquatic and Riparian Conservation Strategy (ARCS) which includes a

detailed description of the overarching watershed strategy the Forest will use to maintain and improve watershed condition.

Comment: (Letter Number 701) The selected alternative should include desired conditions for Riparian Management Areas for pool frequency, water temperature, large woody debris, bank stability, lower bank angle, width/depth ration and other habitat features as dictated by advances in scientific understanding.

***Response**: The Colville ARCS strategy associated with alternative P (preferred alternative) does not include specific numeric criteria for pool frequency, water temperature (numeric criteria are specified as clean water act standard), large woody debris, bank stability, lower bank angle, width/depth ratio and other habitat features. However, it is a framework that provides for the restoration and maintenance of conditions that create, maintain, and promote watershed function and quality aquatic habitat.*

The Colville ARCS also includes a desired condition (FW-DC-WR-04) specifying a goal to have the dynamic distribution of stream conditions in watersheds across NFS lands to be similar to the dynamic distribution of conditions in reference watersheds (that is, those that have been the least affected by past management activities). This contrasts with PACFISH and INFISH, which established relatively uniform and static Riparian Management Objectives (RMOs) as interim targets for management. In addition to completely specifying management goals through additional desired conditions, the Colville ARCS more explicitly defines the spatial scale(s) over which the desired conditions apply than do the existing strategies. The relatively uniform and static RMOs were established as interim targets for management. As discussed in the Fisheries section of chapter 3 in the FEIS, criticisms of static numeric stream habitat objectives as a one-size fits all approach are that such objectives may not adequately describe habitat conditions by not accounting for variability across the landscape and recognition of the difficulty of separation of land use effects from natural disturbance. Over 20 years of project implementation under INFISH RMOs which include numeric criteria for pools per mile, width to depth ratio, percent undercut banks, and large woody debris, have shown that the "one size fits all" approach prescribed by RMOs does not account for natural capability of stream systems based on climate, slope, geology, watershed area, vegetation, and other factors.

Invasive Plants

Comment: (Letter Number(s): 49, 554, 627, and 637) The final EIS should identify: potential sources for increases in invasive species including motorized and non-motorized recreation; impact of non-native vegetation to other resources; potential methods for treating invasive plants, and the effects, by alternative; effects to native vegetation and animals of using chemicals to manage invasive plants; plan for implementation and enforcement of the standard requiring equipment and vehicles to be cleaned of invasive plant seeds and material; difference in effects to invasive plant spread between vehicles that operate outside a road prism and vehicles that operate on a road. The final revised forest plan should include direction to limit unsustainable management and invasive weed spread; an objective that increases amount of invasive plant treatment above 2,000 acres annually; desired conditions that are coordinated with fuels treatment and other vegetation-related desired conditions and objectives.

***Response**: The FEIS, chapter 3 Invasive Plants section includes a discussion that addresses the many potential sources of invasive plant introduction and vectors that could contribute to the spread of invasive plants on the Colville National Forest.*

The Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants FEIS (R6 2005 FEIS) (USDA Forest Service 2005a) described the vectors for invasive plant spread,

including recreation, and is incorporated by references in the FEIS. Many invasive plants most successfully propagate in recently disturbed areas, and recreational activities can, to varying degrees, create such disturbances. Heavy use areas such as trailheads and parking lots can create prime environment for invasive plants. Recreation users can also unknowingly spread invasive plant seeds and propagating parts across and between landscapes, with the most likely vectors of spread being roads, trails and riparian corridors.

Off-highway vehicles are vectors of invasive plant transport and dispersal and allow recreationists to travel across many more miles in a given time than with non-motorized modes of transportation, greatly expanding the activities ability to spread invasive plants from one location to another. While off highway vehicles and pack animal feed are clear modes of ground disturbance and/or invasive plant seed transport, other vectors also exist; including humans participating in a range of dispersed and concentrated recreational activities. People (and their pets) participating in recreational pursuits can unknowingly spread invasive plant seeds or propagating plant parts. Seeds stick to gear, clothing, hair, and other objects, are then easily transported, and deposited (USDA Forest Service 2005a).

Forest Service policies as codified in FSM 2900 require that risks of spreading invasives be addressed in recreation and other program and project planning. The Forest Service is required to determine the vectors, environmental factors, and pathways that favor the establishment and spread of invasive species in aquatic and terrestrial areas within the National Forest System, and design management practices to reduce or mitigate the risk for introduction or spread of invasive species in those areas. The Forest is also required to determine the risk of introducing, establishing, or spreading invasive species associated with any proposed action, as an integral component of project planning and analysis, and where necessary provide for alternatives or mitigation measures to reduce or eliminate that risk prior to project approval. All Forest Service management activities are to be designed to minimize or eliminate the possibility of establishment or spread of invasive species on the National Forest System, or to adjacent areas (FSM 2900).

The impact of non-native vegetation to ecosystem sustainability is discussed throughout the planning documents, and the need for change described in chapter 1 of the proposed revised forest plan.

The impact of invasive plants on other resources is discussed in the Invasive Plants section of the FEIS. The R6 2005 FEIS also included a detailed discussion about the adverse impacts of non-native vegetation to multiple resources.

The methods available for treating invasive plants is discussed in the FEIS (chapter 3) in the Invasive Plants section under "Affected Environment" and "Assumptions". Decisions about methods that are appropriate to invasive plants management on the Forest are made at the project scale. None of the alternatives, including no action, change the methods that are available for treating invasive plants.

The R6 2005 FEIS (incorporated by reference into the FEIS) discussed the general impacts to native vegetation and animals from chemical use for invasive plant treatment across the Pacific Northwest. The Forest Service pesticide use policy (FSM 2109.14) requires the Forest Service to prepare risk assessments quantifying the environmental fate and hazards to native vegetation, wildlife, aquatic organisms, and other elements of the environment, including soils and water, from use of pesticides in wildland settings. Project level NEPA documents will address site specific risks and hazards associated with any chemical use proposed. The proposed revised forest plan does not authorize any site-specific chemical use for invasive plant management, though it does allow the use of pesticides where appropriate. Management direction in the proposed revised forest plan ensures adverse effects associated with chemical use will be minimized.

Invasive species management direction has been modified in the proposed revised forest plan. The proposed revised forest plan contains two sections that were not included in the draft (see chapter 2, forestwide Invasive Species and forestwide Integrated Pest Management).

Forestwide direction (FW-STD-IS-01) is intended to reduce the potential for plant seeds and propagules from being deposited in disturbed areas most susceptible to invasive plants. Road prisms are not as susceptible because they are compacted, surfaced or paved. Not all vehicle use is subject to permitting and there is no requirement for washing vehicles of casual users, whether on or off road. Annual operating instructions would cover site-specific invasive plant prevention requirements, including vehicle washing. Inspections may occur and there could be consequences to non-conformance.

The R6 2005 FEIS discussed road use as a vector of invasive plant spread. Based on that analysis the Regional Forester decided to require vehicle and equipment washing for a subset of all vehicles. The Regional Forester considered more stringent requirements such as requiring the cleaning of all vehicles prior to and before leaving the project site when operating in areas where invasive plants have been identified as present at a level where transport of invasive plant seed or vegetation propagules (root fragments) is likely and a concern. The Regional Forester determined that wash stations are not readily available so cleaning all vehicles and equipment before entering the National Forest or leaving a project site would be cost-prohibitive, except in rare site-specific circumstances (R6 2005 ROD).

Standard FW-STD-VEG-03 that was included in the draft revised forest plan has been incorporated into FW-STD-IS-01 in the proposed revised forest plan. The language has been modified to focus the standard on "equipment" and not "vehicles and equipment," so there will not be a need to distinguish between vehicles operating on or outside of a road prism. The proposed revised forest plan includes direction to limit unsustainable management and invasive weed spread; an objective that increases amount of invasive plant treatment above 2,000 acres annually; desired conditions that are coordinated with fuels treatment and other vegetation-related desired conditions and objectives:

The proposed revised forest plan does contain direction to limit invasive plant establishment and spread through various Desired Conditions, Objectives, Standards and Guidelines, which are included in the forestwide direction for Invasive Plants and Integrated Pest Management (see proposed revised forest plan chapter 2).

While the Invasive Plant treatment objective (FW-OBJ-IS-01) does state that the Forest should control an average of 2,000 acres of invasive plants per year, it does not cap the level of treatment at 2,000 acres. Funding levels fluctuate and often infested areas require multiple treatment entries to reach control objectives. The amount of 2,000 acres was identified based on modeling within the Invasive Plant section of the FEIS and predicted funding levels for invasive plant treatments.

Soil

Comment: (Letter Numbers 627 and 727) The final EIS should: Disclose effect of noxious weeds on soil productivity; Provide analysis of past management activities; Provide analysis of soil productivity over time identifying soils with permanent impairment or long-term detrimental impacts; Analyze and disclose effects to soils based on Region 6 soil quality standards - soil biology, soil hydrology, nutrient cycling, carbon storage, soil stability and support, and filtering and buffering; Clarify if and how roads contribute to detrimental soil conditions.

***Response**: The effect of invasive plant species is described in multiple resource areas through the FEIS. The analysis of interaction between invasive and native plant species is provided in the botany*

section of FEIS chapter 3. The Soils section in the FEIS discusses the potential impacts of the management alternatives as well as past management direction in terms of soil productivity, ecosystem function, and total soil resource commitment. These impact discussions include discussion of how the plan incorporates regional and national guidance on the soil resource.

Comment: (Letter Number(s): 77, 574, 637, and 977) The final revised forest plan should: Not provide direction to close motorized routes based on sediment contribution to streams; Recognize carbon storage, soil fungi, and humic materials in soils as part of ecosystem services provided by the Forest; Include desired conditions and guidelines for soil management that are feasibly attainable or measurable; Be consistent with, or provide relationship to, the Natural Resource Conservation Service soil survey information.

***Response**: The proposed revised forest plan does not direct the closure of motorized routes based on sediment contribution to streams. The analysis and planning for closure of motorized routes occurs at the project level and takes in consideration public comment and interdisciplinary input. Excess sediment into streams pose concerns for water quality, stream function, and aquatic organism habitat and can come from a variety of sources.*

Information concerning carbon storage on the Colville National Forest is provided in FEIS chapter 3, and the Climate Change Specialist Report as well as for soil carbon pools in the Soil Resource Specialist Report. Management of carbon in soil carbon pools is complex. Soil carbon pools are variable across the landscape depending on soil depth, rock fragment content, and parent materials as well as the composition of fine root and coarse root carbon pools. The management of soil carbon pools occurs on a decadal scale that is difficult to measure on a site-specific level. Management of soils to retain soil productivity and ecological function will sustain and expand soil carbon pools, the objectives and desired conditions in the proposed revised forest plan will promote those conditions.

Soil humic materials are discussed in the FEIS chapter 3 Soils section and Soil Resource Specialist Report. Soil humic and organic materials are stated as important for soil productivity and function in desired condition FW-DC-SOIL-01.

The present understanding of soil fungus/mycology in the context of land management in the scientific literature and general technical publications is limited. It is suggested that maintaining healthy forests and restoring ecosystems will promote healthy fungus populations relevant to ecological function and possible forest products. The proposed revised forest plan contains a desired condition (FW-DC-RFP-02) that seeks to provide a reasonable variety of forest products to the public, which includes mushrooms.

The proposed revised forest plan contains desired conditions for soil productivity and function, detrimental soil conditions, and soil stability. It also contains a measureable objective for soil productivity and function.

Desired conditions for soils are similar to desired conditions used in the 1988 forest plan, which, through monitoring, have been shown to be effective at protecting soil productivity and ecosystem function. These desired conditions are tiered to the Region 6 Soil Quality Standards and Guidelines.

The Natural Resource Conservation Service soil information for the Colville National Forest is used for all large planning projects. Soil attributes and potentials for soils on the Colville National Forest detailed in the proposed revised forest plan comes from the county soil mapping for Ferry, Stevens, and Pend Oreille Counties completed by the Natural Resource Conservation Service (previously

known as the Soil Conservation Service). Forest plan revision analysis used the soil mapping to develop the soil specific information in the planning and revision process.

There are approximately 6,480 acres of prime farmland in the planning area. Prime farmland has a specific definition involving soil moisture regime, soil temperature regimes, soil pH, and other soil properties that define highly productive soils for the production of food and fiber. It is described by USDA Department Regulation 9500-003 and defined by the Farmland Protection Policy Act (FPPA) subtitle I of Title XV, Section 1539-1549.

Prime Forestlands and Prime Rangelands have not been designated on the Colville National Forest. Some timbered areas are designated as "Farmlands of Statewide Importance." Prime rangeland is rangeland that, because of its soil, climate, topography, vegetation, and location, has the highest quality or value for grazing animals. The potential natural vegetation is palatable, nutritious, and available to the kinds of herbivores common to the area. The prime rangeland designation is based on criteria outlined in DR 9500-3. Rangeland or grassland of statewide importance also has high quality or value for grazing animals. The State government, (that is, the office of the State secretary of agriculture or a higher office) must designate rangeland or grassland of statewide importance. The NRCS State Conservationist must concur with this designation for it to apply to Federal farmland protection. The proposed revised forest plan does not analyze or detail local government designations for Federal lands.

Wildlife

Comment: (Letter Number(s): 569, 627, 696, 701, and 729) The final EIS should include the following information: Bighorn sheep - a map of core herd home ranges; potential bighorn sheep habitat; domestic sheep allotments; risk level for overlap between domestic and bighorn sheep; Vegetation - consideration of opinions opposing use of desired condition (HRV) for restoring wildlife habitat; Roads - clarification of why zone of influence is not used as a part of plan components if it is better indicator of habitat condition; More detailed analysis of effects to terrestrial wildlife from mechanized and motorized use; Wildlife categories - clarification of similarities and differences between management indicator, focal, sensitive, species at risk, species of concern, surrogate and species of management interest. Clarification of how categories will be used to recover species no longer found on the Forest (e.g., Pacific fisher).

***Response**:*

Bighorn Sheep:

The bighorn sheep core herd home ranges are available in Gaines et al. (2017) (cited in the FEIS, chapter 3 Wildlife section and in the Wildlife Specialist Report) and from the Washington Department of Fish and Wildlife (WDFW). At this time there are no active domestic sheep grazing allotments, pastures, or driveways on the Colville National Forest. In assessing the viability of bighorn sheep, one of the factors considered was the proximity of bighorn sheep to active domestic sheep grazing on national forest lands. At the time of this assessment, there are no active sheep grazing allotments to assess. Because of this, a more formal risk of contact (see Carpenter et al. 2014, O'Brien et al. 2014) was not completed. If a proposal to graze domestic sheep on the Colville National Forest is made, a more formalized risk of contact assessment would be conducted as part of the project-level NEPA planning to evaluate such a proposal.

Vegetation direction as surrogate for wildlife habitat:

One of the key assumptions of the species viability assessments was that by restoring both the amount and connectivity of habitats to closer match the historical range of variability, considerable

improvements in the viability outcomes for surrogate species could be achieved (Landres et al. 1999). Thus, two action alternatives (proposed action, preferred alternative and the proposed revised plan integrated wildlife and vegetation management so that both resources were focused on moving vegetation across landscapes toward conditions that are more similar to the historical range of variability. It is important to note however, that vegetation management is only on part of improving the viability of wildlife species. Other parts of the proposed revised plan address the impacts of roads, grazing, and recreational activities on wildlife viability. This provides an overall approach that focuses on ecosystem restoration while also providing species-specific protections for listed and surrogate species that contribute to their recovery and viability.

Other approaches that have been used to conserve wildlife species include the protection of habitat in areas often referred to as reserves. An example of this approach is reflected in alternative R. Habitat reserves are often identified for wildlife species associated with old-forest habitats and are delineated as a static management area. Challenges to the reserve system occur in ecosystems that are influenced by fire as research has shown that wildfires greatly influenced the amount and location of old-forest habitats across the landscape (Hessburg et al. 1999, 2007, 2015). The amount of fire that is occurring in western forests has been increasing substantially (Westerling et al. 2006, Westerling 2016) and is expected to increase even more as climate changes (Littell et al. 2009). In addition, as climate changes old forest associated species may need to adjust their ranges to find suitable climatic conditions and a static reserve network may not accommodate these movements (Carroll et al. 2010).

<u>Zone of influence</u>:

The zone of influence refers to the distance on each side of a road or trail within which habitat use by a species of interest is affected by the human use that occurs on the road or trail, and is defined in the proposed revised forest plan and glossary. Based on a review of the scientific literature on the effects of roads and trails on wildlife, road density was a good indicator of habitat conditions for some species, while the zone of influence was a better indicator for other species. Thus, both are used in plan components in the proposed revised plan. Road density is used to quantify a desired condition for some management areas. The zone of influence is used in the desired conditions for deer and elk winter and summer ranges (FW-DC-WL-13) and is based on the methods found in Gaines et al. (2003). In addition, the zone of influence is used in the calculation of core areas in the recovery area for grizzly bears (FW-DC-WL-05).

<u>Species categories:</u>

Several terms are used to categorize species. The 1982 planning rule requires us to identify management indicator species, while other processes such as the Endangered Species Act (ESA) and the Region 6 Species Viability Assessment Processes also have categories of species. In addition, the 2012 planning rule requires a list of focal species to be identified for use in monitoring. The proposed revised forest plan was developed under the 1982 planning rule, but will follow the monitoring requirements of the 2012 planning rule. Table E-1 provides a list of the categories of species and how they were used in the forest planning process for clarification.

Table E-1. Species categories used in forest planning

Species Category	Why the category is needed	How the species is used
Endangered or Threatened Species	Required under ESA	To identify plan components that contribute to recovery
Sensitive Species	Regional Forester's Sensitive Species List	To identify species for which there are known viability concerns
Surrogate Species	Region 6 Terrestrial Species Viability Assessment Process	To assess species and ecosystem viability, identify plan components that contribute to viability
Management Indicator Species	Required by 1982 planning rule and associated regulations	Evaluate the effects of alternatives
Focal Species	Required by the 2012 planning rule and associated regulations	Monitor the effectiveness of plan components
Species of Concern	Region 6 Terrestrial Species Viability Assessment Process	A long list of species used to identify wildlife that have documented viability concerns, including Region 6 Sensitive Species
Species of Management Interest	To address species that are of high interest to State agencies and the public	To identify plan components that contribute to the sustainability of the species

Fisher recovery:

The surrogate species that were used to assess species and ecosystem viability were not selected as a substitute for Sensitive species. The sensitive species list was used to develop a long list of species of concern, which included the fisher. However, because the fisher has been extirpated from the Colville National Forest (Lofroth et al. 2010), it was recommended by members of the Interagency Fisher Biology Team that it not be used as a surrogate species at this time. Instead, other species known to be currently present on the Forest and associated with old forest habitat conditions be used to evaluate old forest species and ecosystem viability. On the Colville National Forest, the recovery of fisher will require more than managing for habitat, and will likely require a population reintroduction effort as is happening in other parts of Washington by the Washington Department of Fish and Wildlife. Such an effort is beyond the scope of what is addressed in a forest plan.

Effects of motorized recreation:

For several surrogate species, motorized recreation was identified as a risk factor that influenced the effectiveness of their habitats and reduced their viability outcomes. Thus, an important consideration in the development of plan components for the proposed plan was the reduction of the negative impacts of motorized routes on wildlife habitats. The alternatives, including the preferred alternative (alternative P), were evaluated by assessing the direct, indirect and cumulative effects on wildlife species whose viability is influenced by motorized access. The preferred alternative was determined to make a relatively high contribution to the viability of wildlife species (see FEIS, chapter 3, summary of effects to wildlife, and proposed revised forest plan FW-DC-WL-14, FW-STD-WL-07, FW-GDL-WL-08 and 13)

Grizzly bear recovery:

The grizzly bear recovery plan includes a broad array of actions needed to recovery grizzly bears in the Selkirk recovery area. These recovery actions fall under the management jurisdiction of a variety of agencies, including the USFWS, WDFW, and Forest Service. Generally, recovery actions that are related to the management of the bear population such as population augmentation or removal of problem bears falls under the management of the WDFW or USFWS.

The Forest Service is generally responsible for habitat or factors that influence habitat. In the case of the grizzly bear, the primary recovery action the Forest Service is responsible to implement is associated with access management. Plans to implement access management recovery actions have been in place and implemented since the Selkirk recovery area were identified when the grizzly bear was listed on the ESA in 1975. Thus, access management was incorporated into the forest plan that was first implemented in 1988. This has allowed managers to implement on-the-ground actions that have resulted in meeting access management goals within the portion of the Selkirk recovery area that is on the Colville National Forest. Because of this, there was not a need to introduce additional guidance relative to access management. Instead, existing guidance is being carried forward into the proposed revised plan (FW-STD-WL-07).

Comment: (Letter Numbers 101 and 729) The final revised plan should identify how the Forest will monitor wildlife use to meet riparian stubble height requirements, and how the Forest will accomplish desired conditions for over-snow use within deer and elk winter range habitat.

***Response**: The proposed revised forest plan does not include monitoring of wildlife use of forage. The riparian stubble height is proposed as a guideline for domestic grazing allotments that occur on national forest lands. Standard protocols are available for monitoring stubble height and will be used in forest plan monitoring.*

The proposed revised forest plan and preferred alternative (alternative P) include a dynamic landscape approach to managing forest vegetation and wildlife habitat, including cover and forage for deer and elk. This was done to better incorporate disturbances, such as wildfire, and to assure that cover requirement for deer and elk were sustainable. The management of human activities to minimize disturbance to deer and elk during the winter has been ongoing since implementation of the 1988 forest plan. The desired condition in the proposed revised forest plan would be met through site-specific analyses where a project-level interdisciplinary team would assess the kinds of human activities and the proportion of the winter range being effected. Site-specific actions would be developed at the project-level to identify where motorized access would be appropriate or where the winter range would be closed to motorized access. The proposed revised forest plan does not include any actions that would limit foraging opportunities for deer and/or elk.

Comment:(Letter Number(s): 48, 569, 627, 637, 696, 701, 727, and 729) The final revised plan should: focus on restoration of landscape pattern and function while reducing effects of roads on terrestrial wildlife species; analyze the risk of contact between bighorn and domestic sheep; include components that address important biological needs and recognize key habitat components; identify why and how livestock may impact the life cycle of MacGillivray's warbler such that the warbler can be used as a focal species; be supported by rationale disclosed in the analysis documents; identify how standards and guidelines will be used during project implementation including following large-scale disturbances such as wildfire.

***Response**:*

Restore landscape pattern and function while reducing effects of roads:

The proposed revised forest plan (based on alternative P) is focused on restoring the amount and spatial pattern of forested habitats to desired conditions that are guided by the historical range of variability (HRV) (see FW-DC-VEG-03). Species viability assessments assumed that using the HRV to guide vegetation management would greatly improve viability outcome for surrogate species (Landres et al. 1999). In addition, roads were identified as a risk factor reducing viability outcomes for several

surrogate species. Thus, the proposed revised forest plan also includes desired conditions to reduce road densities and restore habitats for wildlife.

Many of the plan components were developed based on recovery actions identified in listed species recovery plans and the assessment of species viability for a broad array of surrogate species. Key habitat components and risk factors that influenced the viability outcomes were addressed in plan components such as FW-STD-WL-12. Large Snag Habitat, FW-GDL-WL-03. Unique Habitats, or FW-DC-WL-07. Woodland Caribou Seasonal Habitat Components, just to identify a few examples. To better recognize the ecological relationships between key habitats and natural processes, the historical range of variability was used to guide development of habitat and vegetation management plan components. By using the historical range of variability, the amount and spatial pattern of habitats, and the disturbance processes that create and maintain them, will be more similar to the conditions under which surrogate wildlife species evolved.

Grazing and the MacGillivray's warbler:

The MacGillivray's warbler was selected as a surrogate species in the Region 6 Terrestrial Species Viability Assessment Process (USDA Forest Service 2006b, updated 2010). It was subsequently used to assess species and ecosystem viability for the northeastern Washington national forests, including the Colville National Forest (Gaines et al. 2017). One of the risk factors used to assess the viability of the MacGillivray's warbler was the grazing in riparian habitats. In three separate studies, this species was absent from heavily grazed or browsed areas but was found on nearby ungrazed or lightly grazed comparison plots (Berger et al. 2001, Medin and Clary 1991, Mosconi and Hutto 1982). The MacGillivray's warbler was chosen as a Management Indicator Species/focal species for monitoring the effects of grazing on shrub habitats within riparian areas (proposed revised forest plan). The monitoring proposed for the MacGillivray's warbler in the proposed revised proposed plan includes monitoring of habitat conditions but does not include population monitoring. A detailed monitoring protocol has not been developed at this time.

Timing restrictions to protect nest sites from disturbance associated with management activities:

The standards and guidelines associated with protecting raptor nest sites from noise disturbances associated with management activities were initially implemented in the 1988 forest plan, and across the Region 6. These standards and guidelines provide short-term protections from management activities that create noise above ambient noise levels, such as chainsaw cutting, felling of trees, road construction, etc. Their inclusion in the proposed revised forest plan is to improve viability outcomes for surrogate species and to meet obligations of the Migratory Bird Treaty Act and associated regulations. These protections generally do not apply to grazing as these activities typically do not create noise conditions that would disturb nesting birds.

Groomed and designated winter routes in lynx habitat:

The standard for groomed and designated routes in lynx habitat (FW-STD-WL-04) is based on information summarized in the Canada lynx conservation assessment and strategy (Interagency Lynx Biology Team 2013). The standard only applies to groomed and designated winter routes in lynx habitat within the Kettle-Wedge Core Area (USDI Fish and Wildlife Service 2005). It does not pertain to other recreation, including motorized, that occurs on routes that are not groomed or designated. It provides guidance to managers to make routes that access non-recreation uses part of the existing groomed and designated route network.

Consultation for grizzly bears on the proposed plan:

The Colville Plan revision team met several times with the USFWS during the development of the proposed revised forest plan. The USFWS provided formal written comments on the draft forest plan and suggestions for changes that were incorporated in the proposed revised plan. The biological assessment contains an analysis of the effects of the proposed revised forest plan on grizzly bear. Formal consultation with USFWS began in Consultation will be completed prior to the signing of a final Record of Decision.

Comment: (Letter Number(s): 48, 169, 569, 574, 585, 701, 815, and 824) The final revised forest plan and EIS should include: Identification of the role of the Forest in management of wildlife populations; Specific language that protect species-specific habitat; Direction to minimize impacts of recreational activities, including noise, to terrestrial wildlife including educational outreach, signage and closure of areas; Analysis and disclosure of effect of the special interest area designation to terrestrial wildlife; Potential to introduce wild horses to the Forest; Direction to improve habitat connectivity.

***Response**: The Forest Service is generally responsible for habitat or factors that influence habitat. Regulatory agencies, such as the USFWS, and state agencies such as WDFW, have responsibilities for managing populations of species. The proposed revised forest plan contains desired conditions, objectives, standards and guidelines for management of specific species, including woodland caribou, Canada lynx, grizzly bear, deer and elk.*

The impacts that human activities can have on wildlife is often a combination of the intensity of the noise associated with the activity, the number of times an animal is exposed to the activity, and the how long the activity persists. The metrics that are most often used to assess these activities is the zone of influence, which is a measure of the distance between a human activity and how far from the activity animals react to the human activity. This is why the zone of influence was used in the effects analysis as an index to how various proposed activities and alternatives affected wildlife habitat. The zone of influence is also used as a conservation measure in some of the plan components for wildlife species that are sensitive to motorized recreation.

Habitat effectiveness for wildlife sensitive to motorized recreation would be addressed in the proposed revised forest plan by retaining the unroaded character of areas that may be suitable for inclusion in the National Wilderness Preservation System and reducing the negative impacts of the road network on wildlife habitats in the intervening areas between areas that may be suitable for inclusion in the National Wilderness Preservation System. The programmatic nature of a forest plan does not make site-specific decisions about the management of specific roads. This would occur through site-specific analyses and decision making.

The management guidance provided in the proposed revised forest plan includes forest-wide plan components to provide for wildlife habitat security (see proposed revised forest plan, Wildlife section including FW-DC-WL-09, FW-DC-WL-14, FW-STD-WL-04, FW-STD-WL-07, FW-STD-WL-11, FW-GDL-WL-02, FW-GDL-WL-07), and connectivity (FW-GDL-WL-08, FW-GDL-WL-09). Direction to improve habitat connectivity is discussed in detail starting on page 60 of this appendix (below). In areas where recreational use is expected to be high, such as the Kettle Crest Recreation Area, a site-specific management plan would be developed that would provide additional guidance to provide habitat security for wildlife sensitive to recreational activities.

Management of post-fire landscapes is of concern for species such as black-backed woodpecker. Limits on post-fire logging are essential: There are three plan components that would help to assure the viability of post-fire dependent wildlife species, including the black-backed woodpecker. There is a

desired condition (FW-DC-WL-10) to reduce risk factors to contribute to the viability of surrogate species, which include the black-backed woodpecker. There is a standard to retain large snag habitat (FW-STD-WL-12), which is particularly important for post-fire wildlife. Finally, there is a guideline for fire-dependent surrogate species to assure that they are provided at levels at least approximating the historical range of variability (FW-GDL-WL-15).

There are no Wild Horse Territories (FSM 2260; 2003) on the Colville National Forest and introducing non-native animal species is outside the scope of forest planning.

Comment: (Letter Number(s): 48, 90, 689, 696, 701, 737, and 753) The final revised plan and EIS should analyze and disclose effects to Canada lynx, great gray owls and pine marten related to retention and recruitment of snags and effects of stand-replacing fire.

***Response**: White-headed woodpecker, Lewis Woodpecker, and black-backed woodpecker were selected as surrogate species to represent a host of terrestrial wildlife species associated with post-fire habitats and also old-forest-single-story habitats. The current conditions of their habitats were evaluated along with factors that put their populations at risk. From this assessment, conservation actions were identified that were incorporated into the proposed revised forest plan.*

There are three plan components that would help to assure the viability of post-fire dependent wildlife species, including the black-backed woodpecker. There is a desired condition (FW-DC-WL-10) to reduce risk factors to contribute to the viability of surrogate species, which include the black-backed woodpecker. There is a standard to retain large snag habitat (FW-STD-WL-12), which is particularly important for post-fire wildlife. Finally, there is a guideline for fire-dependent surrogate species to assure that they are provided at levels at least approximating the historical range of variability (FW-GDL-WL-15).

One of the key assumptions of the species viability assessments was that restoring habitats, both the amount and connectivity, to closer match the historical range of variability, provided considerable improvements in the viability outcomes for surrogate species (Landres et al. 1999). This was particularly important for terrestrial species associated with old forest ponderosa pine habitats. Thus, two alternatives (proposed action, preferred alternative) and the proposed revised forest plan integrated wildlife and vegetation management so that both resources were focused on moving vegetation across landscapes toward conditions that are more similar to the historical range of variability. For example, the desired conditions to create more late-open forest structure within dry forests (FW-DC-VEG-03) while also restoring the abundance of large trees and snags in dry forests (FW-DC-VEG-04) were important components of providing for the viability of wildlife species associated with old forest ponderosa pine (dry forest late-open) habitats.

Comment: (Letter Number(s): 48, 87, 485, 701, 729, and 737) The plan revision analysis should analyze and disclose the effect to habitat connectivity, and include maps showing desired connectivity outcomes and how the Colville National Forest contributes to connectivity across a larger (regional) landscape. The final revised plan should include protection and conservation direction including reduction of road miles and increased protection for currently unroaded areas.

***Response**: Wildlife - Habitat Connectivity*

Providing for habitat connectivity has become an important conservation emphasis and there were several comments that related to this topic. To address these comments, an overview of the process used to assess connectivity and develop plan components is provided.

The process used to address habitat connectivity is detailed in Gaines et al. (2013, updated 2015) and was peer-reviewed by members of the Washington Wildlife Habitat Connectivity Working Group (WWHCWG) in 2012. This group was selected to conduct the peer review due to their involvement in designing and completing habitat connectivity assessments at state-wide and ecoregional scales within Washington State (WWHCWG 2010, 2012).

Approaches to providing habitat connectivity have focused on two concepts: corridors and permeability. For the Colville forest plan revision process, the focus was placed on issues that influence landscape permeability instead of the more site-specific and detailed information and analyses needed to identify corridors for specific species. Permeability is defined as the quality of a heterogeneous land area to provide for the passage of animals (Singleton et al. 2002). Permeability provides a broader measure of resistance to animal movement and gives a consistent estimate of the relative potential for animal passage across entire landscapes (Singleton et al. 2002). The focus on permeability is further supported by the broad-scale nature of the science available to address habitat connectivity within the planning area (Singleton et al. 2002, WWHCWG 2010, Gaines et al. 2017).

To address the viability of wildlife species in forest planning, a process was followed to select a suite of surrogate species for which viability assessments were completed (Suring et al. 2011, Gaines et al. 2017, see previous discussion). Because of the importance of habitat connectivity to the viability of several of the surrogate species, an assessment of landscape permeability (referred to as Dispersal Habitat Suitability in Singleton et al. 2002 and Gaines et al. 2017) was completed. Surrogate species used to evaluate landscape permeability were selected using the following criteria: (1) moderate to large home range size (greater than 2,500 acres), (2) relatively large dispersal distances (greater than 6 miles), (3) knowledge of potential dispersal barriers, and (4) the species is dispersal and habitat limited. Based on these criteria, the following surrogate species were selected: American marten (Martes americana), bighorn sheep (Ovis canadensis), wolverine (Gulo gulo), and Canada lynx (Lynx canadensis). Thus, information concerning how current landscapes influence habitat connectivity for these species was used to inform forest planning efforts.

Maintaining and restoring ecological connectivity is the most often cited climate adaptation strategy for biodiversity conservation (Heller and Zavaleta 2009, Opdam and Wascher 2004, Parmesan 2006, Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in northeastern Washington (Gaines et al. 2012). This is because range shifts have been the primary biological response to past episodes of climatic change. However, widespread anthropogenic barriers to movement now challenge species' abilities to respond (Price 2002, Thomas and Lennon 1999, Wormworth and Mallon 2006). Thus, addressing land management activities that affect landscape permeability of the selected surrogate species is important for the restoration and maintenance of viable populations, especially in an environment where climate is changing relatively rapidly.

The WWHCW developed guilds of species used in their statewide assessment. The montane species guild includes species associated with montane and forested habitats, including several Colville Forest Plan surrogate species that correspond well with the distribution of national forest lands in eastern Washington. Therefore, to capture broad-scale patterns that may have been missed by limiting use to the forest planning surrogate species, information about the montane species guild that was assessed by the WWHCWG (2010) was used. In addition to the guild approach used by the WWHCWG, there have been three broad-scale species-specific assessments of habitat connectivity that address some or all of the proposed revised forest plan surrogate species and that intersect with the planning area. These include an assessment of Canada lynx and wolverine in Singleton et al. (2002); Canada lynx, wolverine, American marten, and bighorn sheep assessed in WWHCWG (2010) and Gaines et al. (2017). The combined results of all of these assessments were used to identify

connectivity issues that influenced landscape permeability. This information was then used to develop specific plan components for the proposed revised forest plan that were relevant to the maintenance and restoration of habitat connectivity. The connectivity issues and plan components are displayed in the following table.

Table E-2. Habitat connectivity issues and their relationship to plan components in the Colville National Forest land and resource management plan

Connectivity Issue	Plan Component Description
Habitat Related Issues	
Amount, size, and juxtaposition of patches of old forest habitats	Desired Conditions for the amount and patch size of old forest habitats, including old forest associated surrogate species, based on natural range of variation
Dry forests with uncharacteristically high fuel loads that occur adjacent to cool/moist forests may facilitate the spread of uncharacteristically severe fires to American marten source habitats	Considerable emphasis on the restoration of dry and mesic forests. Desired Conditions for the amount, patch size, and distribution of habitats based on natural range of variation. Objectives describe the amount and location of restoration treatments
The number and distribution of bighorn sheep populations limits the potential for interactions among populations	Desired Conditions and Objectives maintain or restore habitat effectiveness in current bighorn sheep ranges, and reduce the potential for disease spread from domestic to wild sheep
Fire exclusion has reduced the amount of old forest single story habitat within dry and mesic forests	Considerable emphasis on the restoration of dry and mesic forests. Desired Conditions for the amount, patch size, and distribution of habitats based on natural range of variation. Objectives describe the amount and location of restoration treatment.
Amount, patch sizes, and juxtaposition of structural stages in boreal forest habitats	Desired Conditions for the extent and distribution of structural stages within the boreal forests based on natural range of variation
Extent and location of areas with a persistent snowpack	The plan emphasizes restoration of forest disturbance regimes and resiliency to changing climate. Green forests retain snowpack longer than forests with extensive high-severity fire.
Human Development Related Issues	
Distribution of public lands and human development in low elevation valley bottoms outside the national forests	Beyond the scope of forest plans
Areas with no motorized travel routes or low motorized travel route densities on national forest lands	Some additional Wilderness may be recommended. All inventoried roadless areas to remain unroaded. Desired Conditions for road density vary by alternative. Considerable emphasis on restoration of watersheds by reducing the negative impacts of roads. Objectives describe the amount and location of habitats to be restored by reducing road impacts.
High motorized travel route density and the negative impacts of roads on habitats, particularly riparian habitats	Desired Conditions for open road density (can vary by alternative). Considerable emphasis on restoration of watersheds by reducing the negative impacts of roads. Objectives described the amount and location of habitats to be restored by reducing road impacts.
Highways and freeways limit wildlife movement and cause mortality	Not addressed in forest plans (see related issue below)
Human development in valleys outside the national forests	Beyond the scope of forest plans

Wildlife - MIS/Surrogate

Comment: (Letter Numbers 627 and 689) The final revised forest plan should include standards for minimum snag retention levels and limitations on post-fire logging to maintain habitat for avian species of conservation concern.

***Response**: Management of post-fire landscapes is of concern for species such as black-backed woodpecker. Limits on post-fire logging are essential. There are three plan components that would help to assure the viability of post-fire dependent wildlife species, including the black-backed woodpecker. There is a desired condition (FW-DC-WL-10) to reduce risk factors to contribute to the viability of surrogate species, which include the black-backed woodpecker, and a desired condition for snags and coarse woody debris (FW-DC-VEG-04). There is a standard to retain large snag habitat (FW-STD-WL-12), which is particularly important for post-fire wildlife. Finally, there is a guideline for fire-dependent surrogate species to assure that they are provided at levels at least approximating the historical range of variability (FW-GDL-WL-15).*

Wildlife - TES

Comment: (Letter Number(s): 48, 67, 77, 93, 544, 701, 727, 729, 872, and 976) The plan revision documents should analyze and disclose effects, by alternative, to each threatened and endangered species found on the Colville National Forest. Documents should explain why the woodland caribou population on the Forest is declining and include a management plan that addresses distribution of the woodland caribou population and the balance between winter recreation and habitat requirements.

***Response**: The proposed revised forest plan includes plan components to reduce the negative impacts on fish and wildlife habitats, including threatened and endangered species. Information related to threatened and endangered species is found in the FEIS chapter 3 in the Fisheries and Wildlife sections.*

Woodland caribou are vulnerable to climate change and the potential impacts of climate change were addressed in the proposed revised forest plan. Specifically, providing for adequate amounts and spatial arrangement of old forest habitats and providing areas secure from human disturbance, especially during the winter are key to addressing the non-climate related risk factors that would contribute to making woodland caribou populations more resilient to anticipated effects of climate change. There are plan components that address habitat (FW-DC-WL-07, FW-DC-WL-08, FW-STD-WL-09) and those aimed at reducing the impacts of winter recreation on caribou winter ranges (FW-DC-WL-09, FW-STD-WL-11). Specific winter routes that have been identified in the woodland caribou recovery area are described in the Winter Recreation Strategy (USDA Forest Service 2003).

The augmentation of the woodland caribou herd is a recovery action identified in the U.S. Fish and Wildlife Service and Washington Department of Fish and Wildlife recovery plans.

Some commenters were interested in the effects of wolf predation on woodland caribou. The Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and USDA Wildlife Services are responsible for managing the impacts of wolf predation. These are not actions that the Forest Service, Colville National Forest, is responsible for addressing in forest planning.

Comment: (Letter Number(s): 637, 645, 727, and 729) The plan revision documents should analyze and disclose habitat locations and effects to Canada lynx including the size of individual lynx analysis units, and number and distribution of lynx analysis units across the Forest. The documents should clarify how the Forest has identified Canada lynx core areas but does not have any designated critical habitat for

Canada lynx and what science or research is used to support the lynx conservation strategy. The final revised forest plan should not include direction restricting public use in identified Canada lynx habitat.

***Response**: Plan - Lynx*

A lynx analysis unit, as recommended by the Interagency Lynx Biology Team (ILBT 2013), is an area within lynx habitat (subalpine fir forest) that approximately an individual lynx home range (25-50 square miles) that is used to assess and monitor the direct, indirect, and cumulative effects of management activities on lynx habitat. A map of the lynx analysis units on the Colville National Forest is included with the map packet accompanying the FEIS.

The USFWS designates both Core Areas (USDI Fish and Wildlife Service 2005) and Critical Habitat (USDI Fish and Wildlife Service 2009) for Canada lynx. The Colville National Forest is responsible for using this information in the development of the proposed revised forest plan. The Interagency Lynx Biology Team (ILBT 2013) developed the lynx conservation assessment and strategy to assist forest planning teams in the development of plan components for Canada lynx. They used the stratification of Core Areas, Secondary Areas, and Peripheral Areas (USDI Fish and Wildlife Service 2005, ILBT 2013) to develop their conservation measures. In other words, conservation measures for Core Areas are different than those for Secondary Areas that differ from those for Peripheral Areas. The Colville National Forest has a mix of each of these areas with the Kettle-Wedge being the Core Area. The conservation measures identified by the lynx biology team for each of these areas is what was used to guide the development of plan components for lynx in the proposed revised forest plan.

The research associated with how winter recreation can influence Canada lynx is summarized by the Interagency Lynx Biology in the Lynx Conservation Assessment and Strategy (ILBT 2013). They also recommended conservation measures that were used to develop plan components that address winter recreation in lynx habitat in the proposed revised forest plan. These recommendations and plan components were not in the land management plan that was completed in 1988.

The proposed revised forest plan includes plan components to reduce the negative impacts on fish and wildlife habitats, including Canada lynx. However, the programmatic nature of the plan does not make site-specific decisions about road closures. Decisions on how to manage specific roads to desired conditions will be make at the project-level. The primary literature used to develop the plan components for Canada lynx in the proposed revised forest plan is summarized and presented by the Interagency Lynx Biology Team in the Canada Lynx Conservation Assessment and Strategy (ILBT 2013).

Wildlife - Viability

Comment: (Letter Number(s): 48, 627, and 689) The plan revision documents need to include a wildlife viability analysis that:

- Is based on current science;
- Identifies the science on which it is based; Is completed at a Forest-wide or larger scale;
- Identifies the modeling system used and the limitations associated with that modeling;
- Includes standards and guidelines that ensure species viability.

***Response**:*

Wildlife Viability:

The process used to assess the viability of wildlife species for the Colville National Forest plan revision followed guidance provided in the Terrestrial Species Assessments-Region 6 Forest Plan Revisions (USDA Forest Service 2006 updated 2010). Beck and Suring (2009) reviewed the available literature on wildlife habitat-relationship modeling to make suggestions that would improve their rigor and application. Mr. Suring was a member of the Region 6 Species Viability Assessment Workgroup due to his extensive experience and expertise in the development of these kinds of habitat models. Beck and Suring (2009) suggested the following:

- *Wildlife Habitat-Relations Models should address multiple spatial scales. The process used to assess species viability for the Colville plan revision assess habitat and risk factors at three spatial scales: Northeastern Washington, the Colville National Forest, and watersheds within the Colville National Forest.*
- *Models should be spatially explicit and use the best available spatial data. The species viability assessment models were spatially explicit and the Workgroup worked closely with Oregon State University to develop the best vegetation and habitat data available. Additional on-forest data that was used included roads, trails, recreation sites, etc., that was updated with the most current information.*
- *Models should be published in a peer-reviewed process. Both the species viability assessment process and modeling results went through extensive peer reviews and publication processes which are described in more detail below.*
- *Models should be validated. The species viability assessment models were evaluated using independent data for as many surrogate species as possible.*

The Peer Review Process:

The Species Viability Assessment process went through extensive peer review to assure a high level of scientific rigor and credibility. The peer review included the Assessment Process and the application of the process to the national forests in northeastern Washington, including the Colville National Forest.

Region 6 Species Viability Assessment Process:

Step 1) The Region 6 Species Viability Assessment Workgroup (Workgroup) developed a draft of the species viability assessment process.

Step 2) The draft process was reviewed by the Region 6 Species Viability Science Review Team (Science Review Team). The process was revised by the Workgroup to address comments from the Science Review Team.

Step 3) The Region 6 Species Viability process was applied to a pilot landscape using a small subset of surrogate species and the results of the pilot effort were written up and published in a peer-reviewed journal article (Suring et al. 2011).

Terrestrial Species Viability Assessments for the National Forests in Northeastern Washington:

Step 1) The Region 6 Species Viability Assessment process was applied to the Okanogan-Wenatchee National Forest and Colville National Forest.

Step 2) The development of the surrogate species assessment models were reviewed by species experts that included scientists with expertise in avian ecology, carnivore ecology, landscape ecology, woodpecker ecology, and amphibian ecology. To identify surrogate species, the Workgroup went through the following eight-step process: (1) identification of species of concern, (2) description of source habitats, and other important ecological factors, (3) organizing species into groups, (4) selection of surrogate species for each group, (5) development of surrogate species assessment models, (6) application of the surrogate species assessment models to evaluate current and historical conditions (7) development of conservation strategies, and (8) designing monitoring and adaptive management. Following the application of species screening criteria, 209 species were identified as species of concern within the planning area. The 209 species of concern (including Region 6 Sensitive Vertebrate Species) were aggregated into 10 families (these are not phylogenetic families) and 28 groups based primarily on their habitat associations. Next, 26 surrogate species (77 percent birds, 15 percent mammals, 8 percent amphibians) were selected for use on the Colville National Forest, based on risk factors and ecological characteristics. The best available science was used to identify risk factors and habitat relationships for surrogate wildlife species. The best available information was used to develop maps to quantify their habitats and identify risk factors that influenced the quality or effectiveness of the habitats, so that species viability could be assessed across the entire Colville National Forest and surrounding land ownerships. The viability assessments included all lands to better evaluate cumulative effects.

Step 3) The viability concerns for surrogate species identified in the assessment of the current conditions were used to design plan components that address their habitats and risk factors. These plan components were developed in collaboration with local biologists to gain their knowledge of local conditions. By addressing the habitat needs and risk factors identified for surrogate species through the assessment, ecological conditions capable of supporting viable populations of all native and non-native desirable wildlife species, including R6 Sensitive Species, should be enhanced. Some of the surrogate species occur on only a small portion of the forest or within watersheds with only a minor amount of national forest land. Because the Forests process was based on an all-lands approach, the viability of these species was assessed. However, conservation measures identified to improve their viability outcomes were not applicable to the forest planning process. In many cases, the range of the surrogate species was considerably larger than the Colville National Forest, thus the management direction provided in the proposed revised plan can only make a "contribution to viability" because the viability of the surrogate species was dependent on other lands outside of the Colville National Forest.

Step 4) Draft results of the species viability assessment process to evaluate the current condition of surrogate species habitats and risk factors for the Colville National Forest were reviewed by local biologists and adjustments made as necessary.

Step 5) A final report summarizing the results of the viability assessments to evaluate the current conditions was submitted to the Pacific Northwest Research Station for publication as a general technical report. This required additional peer reviews from four scientists, a technical review, a policy review, and editorial review. The product is General Technical Report No. 907 (Gaines et al. 2017)

Step 6) The surrogate species assessment models and baseline conditions provided in the General Technical Report were used to assess surrogate species viability for each of the alternatives proposed in the Programmatic Environmental Impact Statement for the Proposed Revised Land Management Plan for Colville National Forest (Gaines et al. 2017).

Social and Economic

Social/Economics

Comment: (Letter Number(s): 100, 627, and 696) The final revised forest plan and EIS should clarify: how the final management direction will impact local small businesses, how the plan revision documents relate to the 1982 and the 2012 planning rules, which parts of each rule pertain to the Colville National Forest planning process, and why timber analysis not required under the 1982 planning rule (e.g., determination of fiscal capability, PWSQ and PTSQ) is included in the plan revision documents.

> ***Response****: Effects of the proposed revised plan are analyzed and disclosed in the economic analysis in chapter 3 of the final EIS. The proposed revised forest plan does not have authority to regulate small business nor does it identify or restrict the types of contracts that might be used to implement management activities on the Forest.*
>
> *The proposed revised forest plan and FEIS clarify the direction followed for development of the plan revision documents. The plan revision process followed direction identified in the 1982 planning rule for development of alternatives, issues, analysis and plan components. The proposed revised forest plan monitoring plan is based on the requirements of the 2012 planning rule.*

Comment:(Letter Number(s): 14, 20, 22, 23, 39, 77, 78, 91, 468, 565, 642, 664, 665, 683, 691, 694, 696, 718, 727, 756, 789, 818, 858, 950, 969, 998, and 1008) More information should be provided in the analysis disclosing the economic and social differences between alternatives related to how they propose to increase or decrease motorized and mechanized recreation, vegetation management (timber sales, fuel reduction), grazing, and mining opportunities. The analysis should explain how the preferred alternative meets the USDAs strategic goal of assisting rural communities to be economically thriving.

> ***Response****: The FEIS evaluates a range of alternatives. All of the alternatives would continue to provide opportunities for the public to use and enjoy resources on the Colville National Forest.*
>
> *The FEIS, which discloses economic and social differences between alternatives. As reported in the economic resources section, all considered alternatives would support consistent levels of employment and labor income associated with recreation, livestock grazing, national forest expenditures, and payments to states and counties. However, the alternatives differ in terms of employment and labor income associated with timber harvesting on the Colville National Forest. Alternatives considered in detail propose timber harvest volumes above (proposed action and alternative B), below (alternative R), and at levels similar to current conditions (alternatives B and O as well as the no action alternative). The social resources analysis addresses the relationship between Forest Service management and social well-being. In particular, the social resources analysis considers the consequences of management actions related to old forest management and timber production, motorized recreation trails, access, and recommended wilderness areas (FEIS, chapter 3, Social Resources).*

Comment: (Letter Number(s): 40, 53, 63, 84, 105, 574, 627, 691, 696, and 756) The revised plan and analysis should include initiatives for economic development within and adjacent to the forest. The documents should analyze and disclose the social importance of agriculture industry (e.g., timber, farming, ranching); and impacts of designating recommended wilderness and limiting motorized access for industry and recreational uses. The environmental analysis should include analysis of effects to ecosystem services as identified under the 2012 planning rule.

***Response**: The proposed revised forest plan was developed in accordance with the 1982 planning rule, with the exception of the monitoring plan, which is in accordance with the 2012 planning rule. An analysis of ecosystem services is not required under the 1982 planning rule.*

Even though the 1982 planning rule does not require an analysis of ecosystem services, the FEIS does describe some ecosystem services. In some cases, ecosystem services, such as clean water, fish and wildlife habitat, and soil nutrient cycling, are discussed without using the term ecosystem services. The social resources section addresses the relationship between designated wilderness and ecosystem services in chapter 3 of the FEIS.

Public opinions regarding the use of wilderness vary greatly. Future management of inventoried roadless areas is a controversial and polarizing issue. While forest plans may make a preliminary recommendation for additional wilderness, as the proposed revised forest plan for the Colville National Forest does, only Congress can designate wilderness.

Some stakeholders are concerned that the proposed action recommends too much additional wilderness. They commented that more wilderness areas hurt the economy by limiting timber harvest, grazing, mountain biking, and motorized recreation. Some of the same stakeholders also raised concerns about the cost of managing additional wilderness. Other stakeholders said that the proposed action does not include enough additional wilderness. Some of these stakeholders want to make sure that wilderness provides habitat connections for wildlife. Additionally, they are concerned about protecting the uniqueness of these areas. They believe that additional wilderness improves the local economy (FEIS, chapter 1).

The Land Management Planning Handbook (FSH 1909.12 Chapter 70; effective January 31, 2007) for the 1982 planning rule outlines the process for wilderness designation. It explains that the recommendation for additional wilderness is a preliminary administrative recommendation that the Chief of the Forest Service, Secretary of Agriculture, and the President of the United States reviews and modifies. Congress reserves the authority to make final decisions on wilderness designation.

The social and economic resources section of the FEIS addresses the social consequences of changes in motorized recreation access that may stem from recommended wilderness and other proposed management actions.

The FEIS addresses importance of multiple uses, including the social and economic value of livestock grazing and timber harvesting. (FEIS, chapter 3, Social Resources). Opportunities for livestock grazing on the Colville National Forest would not change under any considered alternative, therefore, livestock grazing on the forest would continue to support 98 jobs and $1.5 million in labor income in the three-county area (FEIS, chapter 3, Economic Resources).

The FEIS evaluates a range of alternatives related to timber harvest. The Proposed Action would support the highest levels of timber harvest, which would support approximately 539 jobs and $31.2 million in labor income in the three-county areas. Alternative R would reduce annual timber harvested from the Colville National Forest and would support approximately 114 jobs and $6.7 million in labor income in the three-county area (FEIS, chapter 3, Economic Resources).

Comment: (Letter Number(s): 77, 642, and 727) The environmental justice analysis should include effects of access management proposals to disabled and senior members of the public who wish to use National Forest System lands and facilities. The preferred alternative should disclose how it complies with PL 105-359, specifically the efforts to meet the goal of equal opportunities for access by persons with disabilities and identify the balance between resource protection and accessibility. The

environmental justice analysis should include an adequate evaluation of the public need for motorized and non-motorized access for all age groups and abilities.

***Response**: Access was identified as a planning issue and it is a factor in the decision-making process. The FEIS analyzed a range of alternatives related to opportunities for motorized access.*

Some comments expressed concern that changes to motorized access would prevent future access to NFS lands for those with disabilities. Under section 504 of the Rehabilitation Act of 1973, no person with a disability can be denied participation in a Federal program that is available to all other people solely because of his or her disability. There is no legal requirement to allow people with disabilities use of motor vehicles on roads, trails, or other areas that are closed to motor vehicles. Restrictions on motor vehicle use that are applied consistently to everyone are not discriminatory. Therefore, the proposed revised forest plan is not discriminatory toward persons with disabilities, because it applies equally to all groups.

Executive Order (EO) 12898 directs Federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations to the greatest extent practicable and permitted by law. The EO also directs each agency to develop a strategy for implementing environmental justice. It is intended to promote nondiscrimination in federal programs that affect human health and the environment. Agencies must provide access to information and opportunities for participation to minority and low-income populations. Consideration of people with disabilities is not discussed in the EO on Environmental Justice. Instead, consideration of people with disabilities is required by the Rehabilitation Act of 1973.

The proposed revised forest plan and final EIS are programmatic planning documents. They neither specify nor authorize the closure of roads and trails to motorized access. Decisions related to closing specific roads and trails, which are also known as site-specific travel management decisions, require subsequent project-level NEPA analysis and may require a detailed Civil Rights Impact Analysis.

A Civil Rights Impact Analysis (CRIA) provides information and data on topics related to access for people with disabilities. The Civil Rights Policy for the USDA, Departmental Regulation 4300-4 dated May 30, 2003, states that the following are among the civil rights strategic goals; (1) managers, supervisors, and other employees are held accountable for ensuring that USDA customers are treated fairly and equitably, with dignity and respect; and (2) equal access is assured and equal treatment is provided in the delivery of USDA programs and services for all customers. This is the standard for service to all customers regardless of race, sex, national origin, age, or disabilities.

Comment: (Letter Number(s): 7, 68, 80, 181, and 691) The revised plan and analysis should support vegetation management over time so the counties continue to receive funding to support schools and road maintenance. The preferred alternative should be consistent with county management plans and reflect county priorities related to economic, social, political and cultural customs of the counties.

***Response**: The Forest Service makes payments to states and counties to support local government operations, schools, and road maintenance. Payments in Lieu of Taxes (PILT) are based on federal acreage and are not contingent on vegetation management or any forest plan decision. The Secure Rural Schools and Community Self-Determination Act of 2000 (Pub.L. 106 - 393) (also known as the Secure Rural Schools Act) was a bill passed into law by the United States Congress on October 30, 2000. The law allows states or counties to choose to receive the average of the three highest payments for FY1986-FY1999 in lieu of the regular 25 percent payment. The Act requires that 15-20 percent of those payments be used by the counties for specified purposes in accordance with recommendations*

of resource advisory committees for projects on Federal lands. If the funds are not used for the specified purposes then they must be returned to the Treasury. The Act originally expired in 2006, and has been renewed several times (most recently in 2015), each time at reduced spending levels. However, as of March 2017, the Act has not been reauthorized. Instead, counties receive 25 percent payments. The economic analysis in the FEIS compares the economic contributions of Secure Rural Schools and Community Self-Determination Act payments to 25 percent payments. In the Colville National Forest socio-economic impact zone, the 25 percent payments are approximately one-fifth of amount of payments under the Act (FEIS, chapter 3, Economic Resources). The 25 percent payments are contingent on receipts to national forests, from activities such as timber harvesting. Therefore, changes in vegetation management under the forest plan could affect county revenues.

Comment: (Letter Numbers 627 and 696) The economic analysis should include the cost of implementing the management actions proposed for each alternative such as government cost per grazed animal unit month or per thousand board feet of timber sold. The economic analysis should also include the change in vegetation management costs related to the reduced road density desired conditions reflected in the alternatives. Reducing vehicle access across the landscape will increase the operating costs for managing trees and fuels.

***Response**: An economic efficiency analysis, in compliance with 1982 planning rule direction, was completed and is available in the project record. Neither revenues nor expenditures are expected to change as a result of the alternative selected. Budget appropriations may differ in the future, but forest planning will not affect these decisions. Similarly, future revenue may vary with market conditions, visitor preferences, or national policy. None of these changes will be meaningfully influenced by forest planning. Due to uncertainty about future conditions, the economic efficiency analysis does not make assumptions about how factors outside the forest planning process will affect the net present value of forest management.*

This analysis finds that the Colville National Forest spends approximately $17.2 million annually on salary and non-salary expenditures (e.g., contracts and supplies). The Forest receives approximately $4.1 million annually in revenue from timber sales, grazing and recreation fees, and other commercial uses. The largest sources of revenue include timber and salvage sales, the Knutson-Vandenberg fund, and recreation special uses. Over a 20-year period, the net present value of Colville National Forest revenues less expenditures is approximately negative $191.2 million. This type of economic efficiency analysis only captures a portion of the costs and benefits associated with the Colville National Forest: the cash outlays and cash receipts. Many of the public benefits of the Colville National Forest are not captured in this type of analysis. For example, when visitors to the Colville National Forest recreate at fee-free sites, the value of these experiences is not captured in this analysis. Similarly, the water provision and purification services that the forest provides to downstream communities do not appear as benefits. The economic efficiency analysis does not incorporate estimates of these non-market benefits. Therefore, the net present value calculation substantially underestimates the benefits of the Colville National Forest.

The proposed revised forest plan and FEIS are programmatic planning documents. They neither specify nor authorize the closure of roads and trails to motorized access. Site-specific decisions related to changes in the forest road system would require site-specific NEPA documents. Therefore, at this point it is not possible to estimate the potential change in vegetation management costs due to changes in the forest road system.

Comment: (Letter Number(s): 77, 506, 645, 664, 727, and 956) The social and economic analysis should use and analyze effects to individual counties and local communities and disclose impacts to the community resiliency. The analysis would include a small business impact statement that considers the

impacts the plan will have on local infrastructure and the ability to manage the forest properly over the life of the proposed plan. The economic analysis should be re-analyzed to properly reflect local (tri-county) employment categories and roles (e.g., wood/tree processing, tribal employment, medical field, retired). The economic effect of designating recommended wilderness to local communities and individual counties should be clearly disclosed. This includes the reduced availability of routes for OHV and mountain bike use.

***Response**: The Forest Service recognizes that stakeholders want to better understand social and economic consequences of the proposed revised forest plan on individual counties and communities. However, meaningful economic impact analysis necessitates the designation of functional economic areas. Counties and towns are political jurisdictions that do not necessarily align with functional economic areas. In this case, individual county-level economic impact analyses underestimates the true economic contributions of activities on the Colville National Forest, because the model ignores the flow of goods and services between counties in the planning area. Additionally, the Forest Service cannot address potential sub-county economic changes because they are generally not quantifiable given the broad scale and programmatic nature of forest plan decisions (FEIS, chapter 3, Economic Resources).*

A small business impact assessment was not conducted as part of the plan revision process because it applies to regulatory agencies that develop and enforce rules on private sector firms. The Forest Service is not a regulatory agency. Agencies covered by the Small Business Regulatory Enforcement Fairness Act include the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the Consumer Financial Protection Bureau (CFPB).

Livestock Grazing

Comment: (Letter Number(s): 52, 569, 580, 585, 591, 699, 976, and 977) The Forest should consider new or modified alternatives that include: Reduced livestock numbers to address livestock impacts on the landscape; Removal of all permitted grazing (no-grazing alternative) since cattle are a non-native species; Direction to phase-out domestic grazing allotments across the forest; Provisions for non-use (vacancy) of grazing allotments when a permittee decides to voluntarily relinquish a permit and that allotment would not be reauthorized under another permittee; Focus on increasing acres available for grazing and authorized number of animals; authorize grazing for the 16 vacant allotments. The final EIS should disclose the difference in effects to grazing opportunities between Backcountry, Backcountry Motorized, Recommended Wilderness and designated Wilderness.

***Response**: The forest plan revision process analyzes the suitability of NFS lands for grazing. Forest plans also establish parameters within which grazing can occur. Appropriate numbers of livestock are determined at the allotment level, through separate analysis. Addressing livestock impacts on the landscape and determining the appropriate intensity, timing and duration of use is accomplished at the project, or allotment, level to be in compliance with the parameters set in the proposed revised forest plan.*

The FEIS, chapter 3, Livestock Grazing section and Range Specialist Report states "It is Forest Service policy that decisions on management of individual grazing allotments be made after project-level environmental analysis for the particular allotment as described in Forest Service Handbook (FSH) 2209.13 91. Management on specific livestock grazing allotments must comply with the provisions of the forest land and resource management plan and applicable standards and guidelines must be included in the term grazing permit, as described in FSH 2209.13 91.1 and 91.2".

Livestock grazing is a recognized and appropriate use of NFS lands. It is Forest Service policy to make forage available to qualified livestock operators from lands suitable for grazing consistent with land management plans. This is discussed in Forest Service Manual (FSM) 2203.1, based on 36 Code of Federal Regulations (CFR) 222 (c).

Grazing provides contributions to the economic and social well-being of the American people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood, as discussed in FSM 2202.1."

The Rescissions Act of 1995 (Public Law 104-19) Section 504(a) requires each National Forest System unit to identify all allotments for which NEPA analysis is needed. It is Forest Service policy to not authorize vacant allotments for use until allotment level analysis is complete. Determinations on which allotments will be authorized for use and the number of livestock and length of season will be determined at the allotment level, consistent with the proposed revised forest plan.

Through the forest plan revision process, livestock grazing has been determined to be appropriate in backcountry, backcountry motorized, recommended wilderness and designated wilderness, with the exception of the Salmo-Priest Wilderness (see suitability tables in chapter 3 of the proposed revised forest plan). The effects of livestock grazing have been disclosed in the FEIS.

Comment: (Letter Number(s): 35, 43, 78, 275, 427, 580, 586, 637, 664, 665, 976, 981, 982, and 983) The Forest should not include a reduction of domestic livestock allotments; number of permitted animals; reduction of motorized access; or increase in allotment management costs in the final revised forest plan. The final revised forest plan should maintain the economic viability of grazing on the Forest. The Forest should include a proposal to increase livestock grazing on the Forest.

***Response**: Changing the levels or amounts of livestock use is accomplished at the allotment level, and therefore, this is not covered in the forest planning process. As stated in FEIS chapter 3, Livestock Grazing section, and the Range Specialist Report, Forest Service policy states decisions on management of individual grazing allotments be made after project-level environmental analysis for the particular allotment as described in Forest Service Handbook 2209.13 91.*

None of the alternatives considered in the FEIS directly recommend or describe changes to domestic livestock grazing or grazing allotments. The FEIS states that changes to livestock grazing and grazing allotments would be addressed at the project level, which is consistent with the proposed revised forest plan. However, implementation of various alternatives could have an eventual effect to livestock grazing and livestock management. For example, the amount of potential forage, created through timber and fuels management on the Colville National Forest, will vary by alternative and the effects of this have been analyzed in the Livestock Grazing section of FEIS chapter 3, under the heading of Old Forest Management and Timber Production for each alternative.

The Economic Resources section of FEIS chapter 3 accounts for the attributes of livestock grazing and the economic effects of livestock grazing in regard to the number of jobs and the amount of income generated.

Livestock grazing was not identified as an issue to be addressed in the proposed revised forest plan (see FEIS chapter 1), so the various alternatives did not make changes to livestock grazing or grazing allotments except where they interact with other resource issues identified in the need for change.

Comment: (Letter Number(s): 52, 538, 546, 594, 627, and 664) The Forest should require permit holders to maintain their fences and ensure monitoring and enforcement of allotment permit provisions occurs. The final EIS should analyze and disclose both beneficial and adverse direct and indirect effects related to

domestic grazing activities on the forest including: rate of noxious weed spread; soil compaction and sedimentation; infrastructure installation and maintenance cost to taxpayers; reduction of brush related to fire risk and improved wildlife habitat; relationship between cattle use and forest health (insect and disease levels). The final EIS should provide information on how forage utilization monitoring is used to determine impacts from both wildlife and domestic livestock.

***Response**: The maintenance of fences and other rangeland improvement projects is required of grazing permittees as a term and condition of their grazing permit. The cost of rangeland infrastructure is something that is addressed at the project or allotment level that provides adequate information to make cost projections. Both the term grazing permit and accompanying analysis and decision address, at the site-specific level compliance mechanisms and infrastructure costs.*

Acknowledgment of livestock grazing being one of many potential vectors for invasive plant spread can be found in the Invasive Plants and Livestock Grazing sections of chapter 3 (FEIS).

Soil was a consideration in the completion of the rangeland capability and suitability analysis. This analysis is an appendix to the Range Specialist Report and is included in appendix G of the FEIS. Effects from grazing to soil are listed the Soil section of the FEIS under cumulative effects. Sedimentation is addressed in the both the Fisheries and Hydrology sections of the FEIS and there are forest plan components in the proposed revised forest plan to provide direction relating to grazing and sedimentation (see MA-DC-RMA-03, MA-STD-RMA-10, MA-GDL-RMA-12).

Current livestock grazing is not resulting in increased incidences of forest health issues. The reference made in chapter 1 of the proposed revised forest plan (management challenges, insects and diseases) is referring to historic grazing practices that occurred many decades ago in reference to increased levels of mid and late seral species rather than insects and diseases. Historic grazing practices have altered the types of herbaceous and woody vegetation in portions of the forest.

Forage utilization is a short-term indicator/attribute that is used in implementing allotment management plans, therefore, this information is useful at the project or allotment level.

Comment: (Letter Number(s): 35, 43, 88, 107, 109, 169, 580, 718, 981, and 985) The Forest should retain the current grazing levels; manage for transitory range; and manage forest vegetation to increase available forage.

***Response**: None of the alternatives analyzed in the FEIS recommend or describe changes to the current grazing levels. The FEIS, chapter 3, Livestock Grazing section lists the following assumptions:*

1) *This programmatic analysis does not analyze changes that may occur to livestock management at an allotment level. Instead, project level analysis would be completed independent of this planning effort at the allotment level to determine the appropriate intensity, timing and duration of livestock use.*

2) *Under all alternatives, project-level analysis, including season of use, permitted livestock numbers, and forage use levels occur at the allotment level. Livestock grazing under all alternatives would be managed with adaptive management to match livestock numbers with annual forage production and resource needs based upon assessment and monitoring data.*

In the FEIS, under alternative P (preferred alternative), the livestock grazing section has been updated to accurately and correctly reflect that the amount of available forage is expected to increase

based on the Projected Wood Sale Quantity being higher than that experienced under the 1988 forest plan and desired conditions for creating gaps and patches of vegetation ranging up to 40 acres.

Comment: (Letter Number(s): 38, 52, 101, 103, 507, 547, 559, 568, 571, 580, 592, 637, 664, 699, 701, 798, 982, and 1016) The Forest should allow grazing opportunities in all alternatives and management areas; maintain existing level of authorized cattle use; and not include direction in the final revised forest plan that would increase management costs to the allotment permittee. The Forest should require permit holders to maintain their fences and ensure monitoring and enforcement of allotment permit provisions occurs. The final EIS should identify: potential environmental and managerial effects of adaptive management techniques proposed for use within riparian areas; how off-stream and off-site water developments would be constructed and analyze the effects of the developments on water flow, runoff and sedimentation; how the forest will measure and monitor forage utilization; how allotment permit provisions will be monitored and enforced; how direction related to protection of threatened, endangered and sensitive plants will be implemented at the individual allotment level; role and authority of external groups such as Washington State and Tribes related to rangeland improvement projects; literature or other references used to support analysis and conclusions of effects. The final revised forest plan should: not include any direction for management of grazing allotments since that should be left to the Forest range specialists and permittees; include stricter standards for recreation grazing than for domestic grazing where the two uses overlap; standards and guidelines requiring rest-rotation management for domestic grazing allotments.

***Response**: All alternatives in the FEIS allow for livestock grazing. Table 228 in chapter 3 of the FEIS displays the amount of capable rangelands for domestic sheep as well as cattle. Table 230 displays the amount of suitable rangelands by alternative. It shows that the amount of suitable rangelands are very similar throughout all of the different alternatives. The rangeland capability and suitability analysis is located in FEIS appendix G. The restriction on permitted livestock grazing in administrative sites, Research Natural Areas, and Wilderness Areas that did not have permitted grazing at the time of designation (Salmo-Priest) is consistent with law and FS policy.*

FEIS chapter 3, Livestock Grazing section, states that this programmatic analysis does not analyze changes that may occur to livestock management at an allotment level. Instead project-level analysis would be completed independent of this planning effort at the allotment level to determine the appropriate intensity, timing and duration of livestock use. Therefore, the proposed revised forest plan does not make changes to allotment management or grazing permits. However, there are some components within the alternatives analyzed in the FEIS that could affect permitted grazing as projects are completed at the allotment level and the proposed revised forest plan is implemented (see FEIS chapter 3, Livestock Grazing section).

Adaptive management is used at the project or allotment level when implementing Allotment Management Plans (AMP). Adaptive management is used to achieve either the forest plan or AMP standards or guidelines. Because the proposed revised forest plan does not prescribe management at the allotment level, adaptive management is not included. The effects of various adaptive management strategies are discussed and disclosed at the project level.

Off-site water developments are a method used to reduce or lessen livestock effects on streams and riparian areas by providing livestock a place to drink that is outside of the riparian area. Methods and designs for constructing water developments vary greatly and depend on the specific attributes found at the site. In general, water developments are constructed following guidance in Forest Service General Technical Report PNW-GTR-250. Water developments are analyzed and authorized at the project level

Forage utilization, as well as other rangeland monitoring, will be conducted with accordance with Forest Service approved methods found in Interagency Technical References 1734-3 (Utilization Studies and Residual Measurements) and 1734-4 (Sampling Vegetative Attributes).

Grazing allotments on the Colville National Forest will be administered consistent with direction contained in Forest Service Manual 2200 and Forest Service Handbooks 2209.13.

Forest plan direction relating to grazing and sensitive plants can be found in the proposed revised forest plan in chapter 2 under FW-GDL-VEG-01. This guideline would be assessed at the allotment level through Allotment Management Plan (AMP) revision and management direction be consistent with the language found in this guideline.

Because rangeland improvement projects are assessed and authorized at the project level, the ability for external groups and tribes to engage in processes concerning them would generally be during AMP revisions and Range NEPA efforts.

Literature cited can be found in the References section Volume II of the FEIS.

It is appropriate for forest plans to contain management direction that guide project-level analysis and the protection of various resource of the national forest. The various alternatives analyzed in the FEIS offer a varied approach to applicable resource management where some are more imposing and some are less so.

The type of grazing management prescribed for a given allotment, such as rest-rotations, is assigned and analyzed at the project level through an AMP revision process. There is no one size fits all approach that would be applicable across the entire forest.

Comment: (Letter Number(s): 52, 339, 569, and 976) The final EIS should identify: which of the existing allotments are designated for cattle grazing and which are specifically for sheep; the conversion method to be used to determine number of authorized animals if changing an allotment between sheep and cattle; The definitions and differences between capability and authorization for cattle and sheep. The final revised forest plan should include standards prohibiting converting allotments authorized for sheep to authorizations for other classes of livestock or relocating the sheep allotments to other areas on the Forest.

***Response**: A map depicting the current domestic sheep grazing allotments and Bighorn sheep habitat is available in the project file.*

Determining or changing the kind of livestock to graze an allotment is something that is done at the project level and not at the forest plan level. This is most appropriately done at this level because it is the scale at which the condition of resources and the amounts and locations of suitable rangelands within allotments can be meaningfully evaluated. The conversion rates would be determined through this project level analysis.

The primary difference in determining rangeland capability between domestic sheep and cattle is the steepness of slope. This is included in the rangeland capability analysis that is in FEIS appendix G. Rangeland capability is not the same as authorized use. Capability and suitability are important to understand where the grazable area are within an allotment, but predictions on forage production and livestock dispersal cannot be ascertained from this GIS modeling exercise.

The proposed revised forest plan does not limit the ability of the Colville National Forest to administer grazing allotments consistent with various laws and policies. Making changes to the kind

of livestock that graze on various allotments is to be considered and analyzed at the allotment level through the revision of allotment management plans.

Comment: (Letter Number(s): 569, 580, 872, and 976) The final EIS should include the following information related to suitability for permitted cattle use: Definitions of capability and suitability for cattle grazing; Maps and data use to determine capability and suitability; Discussions of the overlap between allotment boundaries and lands unsuitable for grazing; Effects of grazing use on any unsuitable land located within allotment boundaries; The relationship between Forest Service identified suitable grazing lands and lands identified by Ferry County as agricultural lands of long term commercial significance.

***Response**: Definitions of rangeland capability and suitability are included in FEIS appendix G and as an appendix to the Range Specialist Report. The data used to complete the rangeland capability and suitability analysis is displayed in the appendices, including maps of both sheep and cattle capability and suitability.*

The effects discussion in the Livestock Grazing section of the FEIS does not differentiate between suitable and unsuitable, because suitability can change over time. Factors evaluated during the analysis, such as canopy density changes over time due to disturbance, management or forest maturity, lands that are determined to be suitable will change.

Ferry Countys process for determining agricultural lands of long -term commercial significance is a separate process from an entity different than the Forest Service. The Forest Service determines rangeland suitability by evaluating the physical soil, slope, and vegetative characteristics of the land combined with any special designations that preclude permitted livestock grazing to arrive at which lands are capable and suitable. See FEIS appendix G.

Comment: (Letter Number(s): 69, 580, 637, 690, and 976) The final forest plan revision documents should provide direction that maintains existing grazing levels.

***Response**: The programmatic analysis for the FEIS does not analyze changes that may occur to livestock management at an allotment level. Instead, project level analysis would be completed at the allotment level to determine the appropriate intensity, timing and duration of livestock use."*

The Colville National Forest developed and analyzed a range of alternatives, which have differing approaches and strategies to managing and protecting the resources of the Forest. The Livestock Grazing section of the FEIS discusses the differences between alternatives and how they will affect livestock grazing.

Comment: (Letter Number 699) The final EIS should include an economic analysis that addresses the costs as well as the benefits of authorizing domestic grazing allotments. Costs included in the economic analysis should include both direct costs such as fencing and indirect costs such as potential gain or loss of potential partners for restoration efforts.

***Response**: An economic efficiency analysis, in compliance with 1982 planning rule direction, was completed and is available in the project record. Neither revenues nor expenditures are expected to change as a result of the alternative selected. Budget appropriations may differ in the future, but forest planning will not affect these decisions. Similarly, future revenue may vary with market conditions, visitor preferences, or national policy. None of these changes will be meaningfully influenced by forest planning. Due to uncertainty about future conditions, the economic efficiency analysis does not make assumptions about how factors outside the forest planning process will affect the net present value of forest management. The proposed revised forest plan is a programmatic*

document; it does not make site-specific decisions. The decisions regarding particular allotments will be made in a subsequent range allotment management plan. Direct costs, such as fencing, and indirect costs, such as gains or losses from restorations efforts, will be included in the analysis for site-specific decisions.

Comment: (Letter Numbers 574 and 699) The final EIS should analyze and disclose how management of a grazing allotment within bull trout critical habitat can operate in a manner to meet Endangered Species Act requirements and still be economically feasible.

***Response**: Standards and guidelines for management activities within Riparian Management Areas, including grazing, vary by alternative. The effects of implementing the Riparian Management Area standards and guidelines are included in the Livestock Grazing section of chapter 3 of the FEIS. However, allotment management actions are identified at the project level. The proposed revised forest plan does not prescribe specific management for allotments, therefore, an economic analysis is more appropriate at the project scale.*

Comment: (Letter Number 699) The final EIS should analyze and disclose economic and resource effects to Trout Habitat Restoration Program (THRP) restoration efforts related to overlap of authorized domestic grazing allotments and bull trout critical habitat watersheds.

***Response**: This is a concern that would be addressed during project -level planning and implementation. The relative benefits of standards and guidelines for grazing are discussed for each alternative in the Fisheries section of chapter 3 of the FEIS. A table displaying the relative contribution to the viability of bull trout, westslope cutthroat trout and interior redband trout by alternative is included. The specific restoration objectives for key watersheds (all bull trout critical habitat is within a key watershed) are included for each alternative by either narrative (no action and alternative B) or in a table (FEIS tables 104 and 106 and 109).*

Comment: (Letter Number 699) The final revised forest plan should include direction and timeframe to incorporate new management direction into allotment management plans and annual operating instructions to address other resource, social and tribal interests that overlay grazing allotments. The final EIS should address the other ecological and social values of watersheds were domestic grazing allotments are authorized.

***Response**: Final direction on when all ongoing projects and activities will be made compliant with the proposed revised forest plan is in the record of decision accompanying the FEIS. Direction contained within the proposed revised forest plan will be incorporated into grazing allotment management as planning projects are completed on allotments, or as opportunities present themselves through other planning projects.*

Other plan components, such as implementation of the Colville ARCS, would be incorporated into allotment management consistent with the implementation strategy.

Issues such as ecological and social values within lands authorized for grazing would be addressed at the allotment level and not at the forest plan level.

Tribal

Comment: (Letter Number(s): 181 and 960) Tribal rights protected by Executive Order and heritage resources should be protected during any Agency management actions.

***Response**: The proposed revised forest plan complies with all Federal laws, regulations, and executive orders with regard to the protection of Tribal cultural and historic uses across the Forest. See proposed revised forest plan chapter 2, American Indian Rights and Interests, and Heritage Resources sections.*

Comment: (Letter Number 699) The final preferred alternative and revised forest plan should analyze impacts to and protect Tribal cultural and historic uses across the Forest, especially those areas identified by the Tribe as culturally significant.

***Response**: The proposed revised forest plan will comply with all Federal laws, regulations, and executive orders with regard to the protection of Tribal cultural and historic uses across the Forest.*

Comment: (Letter Number 699) The revised forest plan should include management direction that protects natural resources and Tribal cultural uses during implementation of commercial activities such as domestic livestock grazing.

***Response**: The proposed revised forest plan will comply with all Federal laws, regulations, and executive orders, with regard to the protection of Tribal cultural and historic uses across the Forest.*

Comment: (Letter Number 699) The revised forest plan should include implementation and monitoring requirements that provide thresholds and criteria for protection of Tribal cultural uses.

***Response**: The proposed revised forest plan contains a desired condition (FW-DC-HR-01) that states heritage resources on the national forest, including known Native American sacred sites and traditional cultural properties, are preserved, protected, and/or restored per applicable law, regulation, executive order, and directives. As appropriate, eligible and historically significant heritage properties are listed on the National Register of Historic Places. The Forest's priority heritage assets are protected and preserved per applicable law, regulation, executive order, and directives. Opportunities to connect people with the heritage of the land are provided.*

The plan components developed for the proposed revised forest plan are designed to improve protection of natural resources through incorporation of more recent scientific findings (since the 1988 forest plan was finalized); through coordination and integration of a wide variety of resource needs and desired conditions; and through conversations with external state, federal, Tribal and local governments, groups and individuals.

Comment: (Letter Number 699) The revised forest plan should provide direction to ensure the forest is meeting its environmental stewardship obligations and that project can be implemented under the revised plan to protect natural resources.

***Response**: The plan components developed for the proposed revised forest plan are designed to improve protection of natural resources through incorporation of more recent scientific findings (since the 1988 forest plan was finalized); through coordination and integration of a wide variety of resource needs and desired conditions; and through conversations with external State, Federal, Tribal and local governments, groups and individuals. Desired conditions, standards and guidelines identified in the proposed revised forest plan are developed so projects would be designed to improve site-specific conditions or move an area toward desired conditions.*

Minerals

Comment: (Letter Number(s): 52, 529, and 686) The final EIS should analyze and clearly discuss the effects of management area designations, standards and guidelines on opportunities for mineral

exploration and development of mining claims as well as impacts of mining on water quality and aquatic habitat.

***Response**: The proposed revised forest plan aims to reduce the amount of repetition of law, policy and regulation. It is, however, the policy of the Forest Service to:*

- *Integrate mineral resource programs and activities with the planning and management of renewable resources through forest land and resource management plans (FSM 1922) recognizing mineral development may occur concurrently or sequentially with other resource uses;*
- *Plan for and provide access and occupancy on NFS lands for mineral resource activities that are consistent with the forest land and resource management objectives and the rights granted through statues, leases, licenses, and permits;*
- *Consider strategic and critical minerals, the value of the mineral resource that may be foregone, and the value of the resource or improvement being protected (FSM 2760) before withdrawing NFS lands from mineral entry";*
- *Ensure that lands disturbed by mineral and energy activities are reclaimed for other productive uses consistent with forest land and resource management plans and;*
- *Ensure that private mineral rights are protected when resource management decisions are made that affect NFS lands. [Forest Service Manual 2803- policy].*

The FEIS states that locatable mineral exploration and development is allowable in all areas of the Forest that are open to mineral entry (FEIS, chapter 3 Minerals and Geologic Resources). Currently, and with the proposed revised forest plan, the vast majority of the Forest will remain open to mineral entry, though some areas are withdrawn from mineral entry subject to valid existing rights. Examples of withdrawn areas include congressionally designated wilderness areas, developed recreation areas, seed orchards, research natural areas, and Forest Service administrative sites, which have been withdrawn from mineral entry under Public Law, Public Land Orders or Secretarial Orders. Under alternative P in the FEIS, there would be a 17 percent increase in recommended wilderness. Recommended wilderness areas in the FEIS and proposed revised forest plan would not become designated until Congress takes action, and until then, those recommended wilderness areas are open to mineral entry. The recommended wilderness boundaries in the proposed revised forest plan have been modified to exclude some areas where existing mining claims are located. These adjustments have been made in recognition of northeastern Washington's high mineral potential and the statutory rights of U.S. citizens to explore for and develop valuable minerals deposits (Sec. 2319, Mining Law of 1872 as amended).

U.S. citizens are entitled to reasonable access to Public Domain lands to explore for valuable minerals and develop mining claims under all alternatives (FEIS), and in all management areas in accordance with Forest Service regulations at 36 CFR 228 Subpart A. Designation of management areas, especially Recommended Wilderness and Backcountry Non-Motorized areas, would have the most potential to affect access to mining claims. The Backcountry Non-Motorized areas depicted in the FEIS and proposed revised forest plan are designated Management Area 11, Semi-Primitive, Non-Motorized in the 1988 forest plan, as amended. Access to conduct exploration and development operations in unroaded areas of the Forest would be addressed using the locatable mining regulations found at Title 36 CFR 228 Subpart A, the 2001 Roadless Area Conservation Rule and applicable Forest Service policies. Access to conduct approved exploration and development operations may include motorized access in all management areas when determined reasonable, and commensurate with the level of development approved in a Plan of Operations (FEIS, chapter 3,

Minerals and Geologic Resources). Access to conduct operations must be approved by the authorized under an approved Plan of Operations, or a special use authorization for mineral leases.

Salable mineral material (sand, gravel, etc.) disposals by the Forest Service are discretionary, and most disposals are in support of Forest Service or public works projects (FEIS). If there are private sources that can accommodate a need for mineral material, a line officer can deny an application for disposal of mineral material from Forest sources. Salable mining activities are governed by Forest Service regulations for mineral materials (36 CFR 228 Subpart C), and the Forest standards and guidelines for the area of the Forest where the mining activities occur. Free-use mineral material contracts for personal use in small quantities remain available to the public under the proposed revised forest plan.

The proposed revised forest plan contains standards and guidelines for water quality and aquatic habitat would apply to mining activities that have the potential to effect those resources. While mining operations may have short-term effects to aquatic and riparian conditions, it is expected those effects would not be long-term, and that standards and guidelines for aquatic and riparian conditions (MA-GDL-RMA-01 and MA-STD-RMA-17-20) can be met by implementation of best management practices, and other resource protection measures described in an approved Plan of Operations required under 36 CFR 228 Subpart A.

Comment: (Letter Number(s): 506, 639, 664, 691, 872, 970, and 1008) The final revised plan should not include management area designations or restrictions that would increase economic cost for developing existing or locating new mineral claims.

***Response**: The Forest has adjusted Recommended Wilderness boundaries in areas of Pend Oreille County where many claim blocks are located to exclude existing mining claims from within future proposed wilderness. Based on comments received during the comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness areas were modified to exclude some areas where existing mining claims are known to exist to the extent practicable. These adjustments have been made in recognition of the high mineral potential of northern Pend Oreille County, the statutory rights of U.S. citizens to explore for and develop valuable mineral deposits, and other considerations. The adjusted acres of recommended wilderness areas will allow for current and future mineral exploration and development, however, there are still claims located inside these Recommended Wilderness areas.*

Until Congress chooses to designate Recommended Wilderness areas and legislation is enacted, these areas would continue to be managed similar to how they have been since the 1970s. The majority of those areas are managed as Management Area 11, Semi-Primitive, Non-Motorized in the 1988 forest plan, as amended. With the exception of the Halliday Fen Research Natural Area which falls within the Salmo-Adjacent Recommended Wilderness, the Recommended Wilderness areas are not currently withdrawn from mineral entry. Access into recommended wilderness and roadless areas for the purpose of minerals exploration and development would be addressed in a Plan of Operations as described in 36 CFR 228 Subpart A. Mining claimants have a reasonable right of access to their claims whether in a general forest setting, inventoried roadless area, or designated wilderness area.

The Forest processes submitted Plans of Operations for mineral exploration and development in accordance with Federal laws and Forest Service regulations found at 36 CFR 228 Subpart A.

Comment: (Letter Number(s): 169, 272, 579, and 737) The final EIS should identify how management areas are coordinated with existing law to prevent conflict with direction such as the Federal mining law.

The final revised forest plan should not allow mining activity: near Goat Mountain in roadless or unroaded areas, or where unacceptable damage to wildlife habitat or water quality might occur.

***Response**: Statutes or Federal laws take precedence over management direction in a forest plan. The management areas in the proposed revised forest plan are ways of allocating the Forest land base into units where one or more forest activities takes precedence over other forest management strategies or objectives. As established by the Mining Act of 1872, as amended, a mining claimant has an exclusive possessory right to the development of deposits of valuable locatable minerals on their mining claim. As described in the Act, a U.S. citizen can explore for, develop and claim valuable mineral deposits on public domain lands that are open to mineral entry; most of the Forest is open to mineral entry. Certain lands have been withdrawn from mineral entry by public land order by the Secretary of the Interior or by legislation enacting wilderness. After January 1, 1984, land included in the Wilderness Act of 1964 are legislatively withdrawn from entry under the mining laws of the United States including the Salmo-Priest Wilderness. Management area standards, resource guidelines and Forest Service regulations would be used to administer exploration and mining operations on the Forest, regardless of the management area.*

The only location on the Forest with a name similar to Goat Mountain is Billy Goat Mountain, located in the north central part of the Forest. There are no inventoried roadless or Recommended Wilderness areas adjacent to or near Billy Goat Mountain.

On NFS lands open to mineral entry, locatable mining claims could be filed in a Backcountry or inventoried roadless area. A Federal mining claim provides the claimant with an exclusive possessory right to the locatable mineral(s) on a claim. The Mining Act of 1872, as amended, provides mining claimants with reasonable access to their claims. Reasonable access is defined by the level of development described in a Notice of Intent or Plan of Operations submitted by an operator. For example, in a Backcountry area, if a prospector or mining claimant needs access to monument or maintain claim corners, or collect mineral samples, reasonable access could include hiking on non-motorized trails, riding and/or leading pack animals. If the stage of development of a mining claim requires taking core samples with a drilling rig, the use of a helicopter may provide reasonable access for ingress and egress to the claim. If helicopter use is impracticable, reasonable access may entail construction of a temporary road, or motorized use of an existing trail. Access to explore for and develop minerals resources on NFS lands must be described in a Notice of Intent or Plan of Operations as described in the regulations found at 36 CFR 228.

Forest Service regulations found at 36 CFR 228.8(g) requires a mining operator to protect surface resources including vegetation and water quality, where practicable. It is a Forest Service policy objective found in the Forest Service Manual under section 2840.2 to 1) Minimize the environmental impacts resulting from such [exploration and mining]activities; and 2) Ensure that disturbed lands are returned to a use that is consistent with the long-term forest and resource management plans. To attain those objectives, authorized officers should coordinate with operators to mitigate the effects of their mine operations prior to approval. Forest Service regulations for locatable minerals pertain to the protection of surface resources are found at 36 CFR 228.8 Subpart A.

Comment: (Letter Number(s): 529, 538, 686, and 976) The management area designations and plan components should not restrict or reduce access to existing or potential mineral claims. The final revised forest plan should acknowledge the important role, past and present, mineral resource and mining activity have played in the area as well as address recreational prospecting.

***Response**: Mineral exploration and development activities can potentially occur throughout the Forest, regardless of management area designation, with the exception of areas withdrawn from*

mineral entry, which include, but are not limited to, congressionally designated wilderness, developed recreation areas, and administrative sites. Management area direction, and resource standards and guides apply to the surface resources in whichever management area on the Forest the claim is located. Forest Service regulations for locatable minerals, found at Title 36 CFR 228 Subpart A, apply to all approved locatable mineral operations.

Some mining claims are currently located in unroaded areas. For example, the Backcountry areas depicted in the FEIS and proposed revised forest plan are the same areas designated Management Area 11, Semi-Primitive, Non-Motorized in the 1988 forest plan, as amended.

A Federal mining claim provides the claimant with an exclusive possessory right to the locatable mineral(s) on a claim. The Mining Act of 1872, as amended, and Organic Act provide mining claimants reasonable access to their claims. Regulations regarding access to mining claims are found in 36 CFR 228 Subpart A. Additionally, 36 CFR §261.13 specifically permits "motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations." Reasonable access is commensurate with the level of development on a mining claim. For example, in a Backcountry area if a mining claimant needs access for monumenting or maintaining claim corners, or collecting mineral samples, reasonable access could include hiking on non-motorized trails, riding and/or leading pack animals. If the stage of development of a mining claim requires taking core samples with a drilling rig, the use of a helicopter may provide reasonable access for ingress and egress to the claim. If helicopter use is impracticable, reasonable access may entail construction of a temporary road, or motorized use of an existing trail. Access to mining claims is authorized in an approved Plan of Operation, or in some cases a special use permit.

Many of the roadless areas on the Forest will become recommended wilderness areas under the new plan. Prior to congressional designation, proposed wilderness areas would be managed as roadless areas. After designation by Congress, the Forest Service will conduct Validity Existing Right (VER) determinations on all claims located inside designated wilderness areas. The VER determines the validity of the claims at the time of withdrawal. Claims determined to pass the VER would be considered valid, though additional claims could not be filed in designated wildernesses after the withdrawal is effective.

Based on comments received during the comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness areas were modified, to the extent practicable, to exclude some areas where existing mining claims are known to exist. These adjustments have been made in recognition of the high mineral potential of northern Pend Oreille County, the statutory rights of U.S. citizens to explore for and develop valuable mineral deposits, and other considerations. The adjusted acres of Recommended Wilderness areas will allow for current and future mineral exploration and development, however, there are still claims located inside these Recommended Wilderness areas.

The proposed revised forest plan acknowledges contributions the mining industry has made to the development of northeastern Washington's communities, local economies, and the delivery of strategic minerals to the nation. The mining industry has been, is, and will continue to be a major employer in northeastern Washington, and its economic reach extends not only to local economies, but also internationally.

There is no mention of recreational prospecting in the proposed revised forest plan because the Forest Service does not recognize recreational prospecting per se. Prospecting on public lands, including NFS lands with Public Domain status that are open to mineral entry, is allowable under the General Mining Law of 1872. However, the objective of prospecting is to discover a valuable mineral deposit.

While some may prospect as a recreational activity, that activity is administered under Forest Service mining policy and regulations, which are focused on the protection of surface resources (see Title 36 CFR 228 Subpart A).

Forest Transportation System - Access System

Comment: (Letter Number(s): 180, 571, 646, 664, 665, 683, 696, 727, 783, 991, and 1016) The concerns are in regards to public and administrative use of roads for multiple uses of National Forest System lands, in particular for fire suppression, logging, mining, hunting and gathering, and recreational uses.

***Response**: The stated concerns are partially addressed by existing regulation and policy propagated from 36 CFR Parts 212, 251, 261, and 295 Travel Management; Designated Routes and Areas for Motor Vehicle Use, which provides the framework for managing the National Forest transportation system for multiple uses including fire suppression, logging, mining, hunting and gathering, and recreational uses. 36 CFR §261.13 specifically permits "use of any fire, military, emergency, or law enforcement vehicle for emergency purposes; motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations; and use of a road or trail that is authorized by a legally documented right-of-way held by a State, county, or other local public road authority." The proposed revised forest plan does not contradict or supersede this regulation and adds desired conditions such as FW-DC-AS-01 and FW-DC-REC-01 (proposed revised forest plan) that support administrative and public uses of the transportation system while balancing safety, economic, and ecological concerns. The proposed revised forest plan does not designate roads, trails, and areas for motor vehicle use (FEIS). However, it does add an objective (FW-OBJ-AS-01) to increase the amount of motorized mixed-use roads.*

Comment: (Letter Number(s): 507, 546, 627, and 645) The revised forest plan should not allow construction of additional system roads.

***Response**: The proposed revised forest plan identifies areas that are suitable for road building, but does not make specific decisions to construct roads. Under the 1988 forest plan (no action alternative), 83 percent of the forest is suitable for road building. All action alternatives reduce the number acres suitable for road building to between 73 percent and 75 percent of the forest. All alternatives in the FEIS address the ecological, social, and economic sustainability of the road system and address the stated concerns with variations. The FEIS addresses access and road density by analyzing a range of alternatives (best summarized in chapter 2 of the FEIS, table 22). There are many plan components in the proposed revised forest plan that address road densities, maintenance, and management concerns. These are articulated in applicable management area direction as well as in Forestwide direction for key resources such as water resources and wildlife. In particular, FW-DC-AS-01 address the sustainability of the transportation system. Also, FW-DC-WR-17, FW-OBJ-WR-06, FW-STD-WR-04, FW-STD-WR-05, FW-GDL-WR-05, FW-STD-WL-07, MA-DC-RMA-04, MA-OBJ-RMA-02, MA-STD-RMA-05, MA-STD-RMA-06, MA-STD-RMA-07, MA-GDL-RMA-04, MA-GDL-RMA-05, MA-GDL-RMA-06, MA-GDL-RMA-07, MA-GDL-RMA-08, MA-GDL-RMA-09,MA-GDL-RMA-10, MA-DC-ARS-04, MA-DC-FR-05, and MA-DC-GR-05 among other desired conditions, objectives, standards, and guidelines address suitability of areas, road densities, road construction and decommissioning, hydrologic function of roads, and road treatments. These plan components, along with other existing regulation, policy, and direction address the stated concerns.*

Comment: (Letter Number(s): 20, 42, 65, 108, 259, 275, 467, 696, 718, and 734) The Plan should allow for more public use of the Colville National Forest by keeping roads open and accessible to the general public.

***Response**: The stated concerns are partially addressed by existing regulation and policy propagated from 36 CFR Parts 212, 251, 261, and 295 Travel Management; Designated Routes and Areas for Motor Vehicle Use, which provides the framework for managing the National Forest transportation system for multiple uses including fire suppression, logging, mining, hunting and gathering, and recreational uses. 36 CFR §261.13 specifically permits "use of any fire, military, emergency, or law enforcement vehicle for emergency purposes; motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations; and use of a road or trail that is authorized by a legally documented right-of-way held by a State, county, or other local public road authority." The proposed revised forest plan does not contradict or supersede this regulation and adds desired conditions such as FW-DC-AS-01 and FW-DC-REC-01 that support administrative and public uses of the transportation system while balancing safety, economic, and ecological concerns. The proposed revised forest plan does not designate roads, trails, and areas for motor vehicle use (see chapter 1 of the FEIS). However, it does add an objective (FW-OBJ-AS-01) to increase the amount of motorized mixed-use roads.*

Comment: (Letter Number(s): 24, 25, 77, 78, 101, 275, 538, 551, 698, 713, 805, 824, 974, 987, and 991) The final preferred alternative should not propose closure of any system road or limit motorized access to Forest lands and should allow construction of additional roads. Any roads closed to passenger vehicles should remain open to OHV use.

***Response**: The stated concerns are partially addressed by existing regulation and policy propagated from 36 CFR Parts 212, 251, 261, and 295 Travel Management; Designated Routes and Areas for Motor Vehicle Use, which provides the framework for managing the National Forest transportation system for multiple uses including fire suppression, logging, mining, hunting and gathering, and recreational uses. 36 CFR §261.13 specifically permits "use of any fire, military, emergency, or law enforcement vehicle for emergency purposes; motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations; and use of a road or trail that is authorized by a legally documented right-of-way held by a State, county, or other local public road authority*." *The proposed revised forest plan does not contradict or supersede this regulation and adds desired conditions such as FW-DC-AS-01 and FW-DC-REC-01 that support administrative and public uses of the transportation system while balancing safety, economic, and ecological concerns. The proposed revised forest plan does not designate roads, trails, and areas for motor vehicle use (see chapter 1 of the FEIS). However, it does add an objective (FW-OBJ-AS-01) to increase the amount of motorized mixed-use roads.*

Comment: (Letter Number 729) The concern is regarding the process for designation of roads, trails, and areas for motor vehicle use.

***Response**: The proposed revised forest plan does not designate roads, trails, and areas for motor vehicle use (see FEIS chapter 3). The stated concerns are addressed by existing regulation and policy propagated from the Travel Management Rule (36 CFR 212). Criteria for designation of roads, trails, and areas are articulated in 36 CFR 212.55 and elsewhere in the Travel Management Rule. The proposed revised forest plan addresses many of these criteria, such as the potential for damage to soil, watershed, vegetation, and other forest resources, yet because the proposed revised forest plan does not designate individual roads, trails, and areas for motor vehicle use, in context with the concerns addressed, they do not specifically apply.*

Comment: (Letter Number(s): 77, 509, and 594) The concerns are generally regarding access to National Forest System lands across private lands and access to private lands across National Forest System lands.

***Response**: The concerns regarding access across private lands to access NFS lands are addressed by Desired Condition FW-DC-AS-01 and Guideline FW-GDL-AS-04 of the proposed revised forest plan. The concerns regarding access across NFS lands to access privately held inholdings is addressed by other regulation, law, and policy (specifically 36 CFR 212.6 and 36 CFR 251 Subpart D).*

Comment: (Letter Number(s): 17, 29, 58, 63, 68, 77, 202, 277, 506, 561, 564, 595, 635, 641, 664, 734, 757, and 929) The Forest Plan should not close any roads that access trails or recreation facilities. All roads open to licensed highway-legal vehicles should also be authorized for OHV use. Any road closed to highway-legal vehicles should remain open for OHV use.

***Response**: The proposed revised forest plan does not designate roads, trails, and areas for motor vehicle use, or make decisions to close roads or trails (see FEIS chapter 3). However, it does add an objective (FW-OBJ-AS-01) to increase the amount of motorized mixed-use roads.*

No roads are closed under any alternative in the FEIS for the proposed revised forest plan that access trails or recreation facilities.

Comment: (Letter Number(s): 10, 46, 85, 103, 506, 547, 592, 627, 664, 691, 696, 727, 729, 737, and 1008) The final EIS should disclose the effects of increased or reduced road miles across the forest on fish habitat, water quality, wildlife habitat, forest health, recreation opportunities, and ability to maintain the road system to designated standards. The final revised forest plan should address the Forests economic ability to manage the road system, but should also retain the same or higher level of road miles to provide forest access related to needs of an aging population and local economic impacts (e.g., tourism). The forest plan revision should develop direction for management of the Forest road system. Including: Identification of a minimum road system and an implementation strategy; the removal of all unneeded system and non-system roads; decommissioning roads that pose significant erosion hazards or are otherwise particularly vulnerable to climate change stressors; removal of barriers to fish passage; needed roads to be upgraded and maintained to standards able to withstand more severe storms and flooding; retain a transportation infrastructure that provides for safe and consistent access for the utilization and protection of the forest; Prioritize maintenance of needed routes based on: storm-proofing needs and opportunities; reducing landscape-scale fragmentation and enabling landscape-scale processes; restoring aquatic and terrestrial habitats and habitat connections by, in part, reducing stream crossings; and increasing resilience; establish a publicly available system for tracking temporary roads.

***Response**: All alternatives in the FEIS address the ecological, social, and economic sustainability of the road system and address the stated concerns with variations. The FEIS addresses access and road density by analyzing a range of alternatives (best summarized in chapter 2, table 22). There are many plan components in the proposed revised forest plan that address road densities, maintenance, and management concerns. These are articulated in applicable management area direction as well as in Forestwide direction for key resources such as water resources and wildlife. In particular, FW-DC-AS-01 addresses the sustainability of the transportation system. Also, FW-DC-WR-17, FW-OBJ-WR-06, FW-STD-WR-04, FW-STD-WR-05, FW-GDL-WR-05, FW-STD-WL-07, MA-DC-ARS-04, MA-DC-FR-05, MA-DC-GR-05, MA-DC-RMA-04, MA-OBJ-RMA-02, MA-STD-RMA-05, MA-STD-RMA-06, MA-STD-RMA-07, MA-GDL-RMA-04, MA-GDL-RMA-05, MA-GDL-RMA-06, MA-GDL-RMA-07, MA-GDL-RMA-08, MA-GDL-RMA-09, MA-GDL-RMA-10 among other desired conditions, objectives, standards, and guidelines address suitability of areas, road densities, road construction and decommissioning, hydrologic function of roads, and road treatments. These plan components, along with other existing regulation, policy, and direction address the stated concerns. Additional language was added to FW-DC-AS-01 to clarify that excess system and unauthorized roads are assessed at the sub-watershed scale and decisions regarding their disposition are made at the project level.*

Comment: (Letter Number 729) The final EIS and revised plan should address the requirements of the 2012 planning rule, 36 CFR 219.7 and the travel management rule.

***Response**: The stated concerns are addressed by existing regulation and policy propagated from the Travel Management Rule (36 CFR 212). Criteria for designation of roads, trails, and areas are articulated in 36 CFR 212.55 and elsewhere in the Travel Management Rule. The proposed revised forest plan addresses many of these criteria such as the potential for damage to soil, watershed, vegetation, and other forest resources, yet because the proposed revised forest plan does not designate roads, trails, and areas for motor vehicle use, in context with the concerns addressed, they do not specifically apply. All alternatives in the FEIS address the ecological, social, and economic sustainability of the road system and address the stated concerns with variations. The FEIS addresses access and road density by analyzing a range of alternatives (best summarized in table 22, FEIS chapter 2). There are many plan components in the proposed revised forest plan that address road densities, maintenance, and management concerns. These are articulated in applicable management area direction as well as in Forestwide direction for key resources such as water resources and wildlife. In particular, FW-DC-AS-01 addresses the sustainability of the transportation system. Also, FW-DC-WR-17, FW-OBJ-WR-06, FW-STD-WR-04, FW-STD-WR-05, FW-GDL-WR-05, FW-STD-WL-07, MA-DC-ARS-04, MA-DC-FR-05, and MA-DC-GR-05 among other desired conditions, objectives, standards, and guidelines address suitability of areas, road densities, road construction and decommissioning, hydrologic function of roads, and road treatments. These plan components, along with other existing regulation, policy, and direction address the stated concerns.*

Recreation

Trails

Pacific Northwest National Scenic Trail (PNNST)

Comment: (Letter Number 816) The FEIS should include the following information about management of the Pacific Northwest National Scenic Trail (PNNST): Identify that the Secretary of Agriculture (not Congress) is assigned the authority to select the right-of-way for the PNNST. List PNNST as an identified management area in all management area tables in Chapter 3 (effects analysis). Identify how the Comprehensive Plan, once completed, would be incorporated into the revised plan. Analyze consistency with the requirements of the National Trails System Act and options for alternative PNNST management area locations. Analyze and disclose effects of the proposed action and alternatives on the PNNST including direct, indirect and cumulative effects, and impact of proposed actions to PNNST management direction. Establish recreation opportunity spectrum settings of primitive or semi-primitive along the PNNST corridor.

***Response**: While Congress designated the route of the Pacific Northwest National Scenic Trail (P.L. 111-11), the rights-of-way—which most closely correspond to the boundary—will be selected by the Secretary of Agriculture. National Trails System Act, Sec. 7(a)(2): "the appropriate Secretary shall select the rights-of-way for national scenic and historic trails." Agency policy delegates this authority to the Chief: "The Chief of the Forest Service is responsible for: Selecting the corridor for National Scenic and National Historic Trails and publishing notice of availability of required maps and descriptions in the Federal Register (16 U.S.C. 1246(a)(2))" (FSM 2353.04b).*

The Pacific Northwest National Scenic Trail (PNNST) Comprehensive Plan direction, once completed, will be incorporated into the proposed revised forest plan through amendment of the proposed revised forest plan as necessary where plan components conflict or do not provide for the nature and purposes of the PNNST as identified in the PNNST Comprehensive Plan.

Requirements of the National Trails System Act have been brought into agency policy through FSM 2353. Many requirements of the National Trails System Act will be met through the PNNST Comprehensive Plan, anticipated to be completed in 2019. Direction from the Comprehensive Plan - including any relocations of the PNNST - will be incorporated into the proposed revised forest plan through amendment of the proposed revised forest plan as necessary where plan components conflict or do not provide for the nature and purposes of the PNNST. The PNNST management area on the Colville National Forest should align with the designated and/or relocated route of the PNNST. Potential relocations are being considered through the PNNST Comprehensive Plan process, in consultation with the PNNST Advisory Council, and will be analyzed in the PNNST Comprehensive Plan EIS. The PNNST Comprehensive Plan/EIS is a Chief -level decision in accordance with agency policy for authority to relocate segments of National Scenic Trails (FSM 2353.04b). The proposed revised forest plan is not a Chief-level decision and further approvals and analysis at the Chief level on potential relocations would duplicate the ongoing PNNST Comprehensive Plan process.

Because the PNNST crosses a multitude of management areas, establishing recreation opportunity spectrum (ROS) settings of primitive or semi-primitive along the PNNST corridor may not be practical and is not expressly required by the National Trails System Act or agency policy. Segments of the PNNST corridor not on open roads prohibit motorized use (with limited exceptions for designated crossings) on the trail and within the management area (1/2 mile from centerline) to be consistent with the National Trails System Act prohibition on motorized use. "Other uses" that may be allowed in Roaded Natural, Rural, and Urban ROS classes would not necessarily substantially interfere with the purposes for which the PNNST was designated, particularly if those uses predated designation. When the nature and purposes of the PNNST are identified in the PNNST Comprehensive Plan, they will be incorporated in the proposed revised forest plan through amendment, which may include amendment of standards and guidelines to set ROS classes for the PNNST management area to align with the nature and purposes.

Comment: (Letter Number(s): 69, 77, 623, 713, 737, and 1013) The final revised plan should include: desired conditions and suitable use designations for National Trails that are compatible with the National Systems Trails Act and Pacific Northwest National Scenic Trail comprehensive plan, direction for no decrease from existing amount of motorized routes direction to increase motorized routes to meet public demand desired condition for both motorized and non-motorized trails accessible from populated areas direction to prevent adverse effects from OHVs to soil, vegetation, wildlife habitat and cultural resources objectives for updating camping facilities across the Forest over the life of the plan

***Response**: Suitable uses for national trails are listed in Table 24–Suitable uses for Nationally Designated Trails management areas in chapter 3 of the proposed revised forest plan. These uses have been reviewed by the Pacific Northwest National Scenic Trail Program Manager and by the Forest Plan Revision Team and have been determined to be compatible with the National Trails System Act and the enabling legislation for the Pacific Northwest National Scenic Trail (PNNST). Once the comprehensive plan for the PNNST is complete, the proposed revised forest plan would be amended if suitable uses listed in the proposed revised forest plan are inconsistent with the PNNST's comprehensive plan.*

The preferred alternative (alternative P) does not reduce the number of miles of motorized trail or motorized mixed-use roads on the Colville National Forest. It would be inappropriate to include language in the proposed revised forest plan that prohibits a decrease in a specific type of trail use as future safety concerns (i.e., potential slope failures), resource concerns (such as newly listed endangered species habitat), reduced funding, or reductions in user demand could all result in a trail needing to be closed permanently. In cases where a motorized route is closed for safety or resource

concerns, the preferred alternative would allow for the construction of new motorized routes subject to site-specific NEPA analysis and funding. The proposed revised forest plan also contains an objective (FW-OBJ-AS-01. Designated Routes for Off-Highway Vehicle Use) to annually designate an average of one additional motorized-mixed use route for use by OHVs and a second objective to design and construct at least one motorized loop trail (MA-OBJ-KCRA-02. Trail Management) during the life of the revised forest plan. The limited numbers contained in these two objectives are based on the Forest's expected recreation and trails budget during the life of the revised forest plan.

Item number 4 of this comment references part of desired condition FW-DC-AS-02. Trail System – Motorized and Non-Motorized. This desired condition specifically states that "Trails accessible from populated areas are available for non-motorized opportunities in blocks of forest that are free from the sights and sounds of motorized recreation," Motorized routes (trails and motorized mixed-use roads) already exist in close proximity to most of the communities within the Colville National Forest, as do non-motorized trails. This desired condition is specific to looking at non-motorized trail opportunities that are "free from the sights and sounds of motorized recreation." As a desired condition, the goal of this sentence is to look at opportunities for new non-motorized trails close to communities in blocks of ground that are closed to motorized use – an opportunity that the non-motorized trail community requested through public comments. Therefore, this component of desired condition FW-DC-AS-02. Trail System – Motorized and Non-Motorized would not apply to motorized routes. However, other components within the same desired condition supports motorized trails that offer a variety of summer and winter system trails that provide a range of difficulty and seclusion levels, are located in diverse ecological, geological, and scenic settings, minimizes user conflicts, and supports destination and loop opportunities of various lengths. In addition, this desired condition states that the motorized routes should be accessible from local communities, State, county, and local public roads and trails.

We agree that the proposed revised forest plan needs to provide direction to prevent damage to the Forest's natural and cultural resources that may be caused by OHV use. This assertion is reinforced in the National Forest Access System section of the proposed revised forest plan where a desired condition (FW-DC-AS-02. Trail System – Motorized and Non-Motorized) states the forest will "have a maintained and environmentally sound trail system that provides for user safety and access to locations of interest and the use of the Forest (e.g., recreation, minerals, vegetation treatment, and fire protection) while protecting the natural and cultural resources through which the trail system passes." Specific laws, desired conditions, standards, and guidelines regarding cultural resource protection, plant community composition, TES species protection, water quality, sediment delivery, the construction of trails, the hydrologic function of trails, and key habitat can be found throughout the Soils, Vegetation, Water Resources, Wildlife Habitats, and Heritage Resources sections of the proposed revised forest plan.

Over the past 20 years, the Forest has actively pursued funding to update its recreation sites to meet accessibility and modern design standards. Improvements have included the installation of new accessible toilet facilities, reconstructed accessible water systems, and the installation of new accessible picnic tables, fire grills, and information boards. In addition, some sites have received new pavement and enlarged parking spurs for modern RVs, while other sites have received widened corners and road widths to allow access by longer trailers and motorhomes. Furthermore, when a recreation site is planned for reconstruction, Forest Service policy requires that any features that are replaced or reconstructed meet current accessibility guidelines and are planned and designed to follow recommendations set forth by the Forest Service Built Environment Image Guide for National Forests and Grasslands (FS-710, 2001) along with meeting the appropriate recreation opportunity spectrum objectives for the location in which the site is located. The pace of updating the Forest's

recreation sites is subject to the level of funding the Forest receives through appropriations, special internal funding, and external grants. To affirm the Forest's intent to improve its recreation sites, a new desired condition has been added to the Administrative and Recreation Sites section (MA-DC-ARS-07. Recreation Site Improvements) of the proposed revised forest plan that clearly states the Forest's commitment to pursuing improvements in its recreation sites as funding opportunities become available during the life of the revised forest plan.

Comment: (Letter Number(s): 69, 572, 816, 929, and 1015) The Plan revision documents should include more detailed information and direction related to the Pacific Northwest National Scenic Trail (PNNST). The following direction that should be included in the revised plan: Coordinate with the advisory committee to identify the trail corridor, establish management direction, establish reasonable location for the management area, define the nature and purpose of the PNNST, and identify right-of-way involving non-federal land Plan components that ensure management of the trail corridor meet the nature and purpose of the PNNST and protect visual quality along the PNNST including Identifying specific uses that are compatible with the nature and purpose of the PNNST Identify that the final revised plan will be modified to incorporate the PNNST comprehensive plan for all segments of the trail located on the Colville National Forest All plan components should meet the requirements of the National Trails System Act Establish recreational opportunity spectrum settings of primitive or semi-primitive along the PNNST corridor Address segments currently located on motorized routes; management area objective MA-OBJ-NT-01 should be changed to reflect an objective of relocating at least 30 percent of the trail away from motorized routes within 15 years Prohibit water developments or salt blocks within a specific distance of the trail; Direction provided in the revised forest plan should protect potential corridor locations; not limit choice of reasonable alternatives; not prejudice location decisions

***Response**: Coordination with the advisory committee to identify the trail corridor, establish management direction, establish reasonable location for the management area, define the nature and purpose of the PNNST, and identify right-of-way involving non-federal land is ongoing and occurring at a trailwide level through the PNNST Comprehensive Plan process. The PNNST Advisory Council has held three meetings (October 2015, May 2016, and November 2016), and will continue to meet through completion of the PNNST Comprehensive Plan, anticipated for 2019. Coordination at the Forest level would duplicate this process and would extend the timeframe to complete the PNNST Comprehensive Plan.*

The nature and purposes of the PNNST will be identified in the PNNST Comprehensive Plan, anticipated to be completed in 2019. The Comprehensive Plan will also identify specific uses that are compatible and incompatible with the nature and purposes. This direction will be incorporated in the proposed revised forest plan through amendment of the proposed revised forest plan, as necessary where plan components conflict or do not provide for the nature and purposes identified in the PNNST Comprehensive Plan. In Table 24 (chapter 3), the proposed revised forest plan does identify specific uses that are not compatible with the purposes for which the trail was designated and which may not be authorized in the management area.

Requirements of the National Trails System Act have been brought into agency policy through FSM 2353. Many requirements of the National Trails System Act will be met through the PNNST Comprehensive Plan, anticipated to be completed in 2019. Direction from the Comprehensive Plan, including any relocations of the PNNST, will be incorporated into the proposed revised forest plan through amendment of the proposed revised forest plan as necessary where plan components conflict or do not provide for the nature and purposes of the PNNST.

Because the PNNST crosses a multitude of management areas, establishing recreation opportunity spectrum (ROS) settings of primitive or semi-primitive along the PNNST corridor may not be

practical and is not expressly required by the National Trails System Act or agency policy. Segments of the PNNST corridor not on open roads prohibit motorized use (with limited exceptions for designated crossings) on the trail and within the management area (1/2 mile from centerline) to be consistent with the National Trails System Act prohibition on motorized use. "Other uses" that may be allowed in Roaded Natural, Rural, and Urban ROS classes would not necessarily substantially interfere with the purposes for which the PNNST was designated, particularly if those uses predated designation. When the nature and purposes of the PNNST are identified in the PNNST Comprehensive Plan, they will be incorporated in the proposed revised forest plan through amendment, which may include amendment of standards and guidelines to set ROS classes for the PNNST management area to align with the nature and purposes.

MA-OBJ-NT-01 of the proposed revised forest plan addresses segments on the PNNST currently located on motorized routes and reflects an objective that is reasonably attainable, given funding and other constraints.

Prohibiting water developments or salt blocks within a specific distance of the PNNST is not expressly required by the National Trails System Act or agency policy. Where the PNNST goes through grazing allotments, there may be existing grazing-related water developments, which may predate designation of the PNNST. Water developments are often established to protect the ecological conditions of springs and other aquatic features. Salt blocks are often put in place for similar reasons to manage livestock and protect resources and infrastructure (such as trails). Allotment management plans may be the most appropriate place to address the relationship between water developments and/or salt blocks and the PNNST trail tread and corridor on a case-by-case basis using proper livestock management principles and considering the extent to which any range improvement projects may substantially interfere with the purposes for which the PNNST was designated. Any direction regarding water developments and/or salt blocks in the PNNST Comprehensive Plan (anticipated to be completed in 2019) will be incorporated into the proposed revised forest plan through amendment of the proposed revised forest plan as necessary where in conflict with plan components.

Trails – Other

Comment: (Letter Number(s): 69, 116, 138, 182, 183, 526, 538, 564, 565, 590, 593, 625, 630, 645, 670, 380, 694, 697, 701, 744, 753, 924, 929, 972, and 1015) The final revised plan should retain mountain bike use on trails where it is currently authorized as well and maintain and improve mountain bike access. Trail maintenance options on mountain bike trails should include use of motorized tools regardless of management area designation (outside congressionally designated Wilderness). If Recommended Wilderness will not include existing non-conforming uses to continue, then existing mountain bike trails should be excluded from Recommended Wilderness and designated as Backcountry. The final EIS should analyze and disclose the effect of recommended wilderness designation to mountain bike opportunities on the Forest for all alternatives.

***Response**: The preferred alternative (alternative P) retains inconsistent uses in the Recommended Wilderness management areas such as mountain bike and chainsaw use on existing trails (see proposed revised forest plan MA-GDL-RW-02). Motorized and mechanized trail maintenance and reconstruction equipment, other than chainsaws, are not allowed in recommended wilderness in the preferred alternative. Therefore, under the preferred alternative, the use of trails by mountain bikers would continue to be allowed in recommended wilderness until Congress acts to designate the areas as wilderness. The preferred alternative also increases (when compared to the existing condition) the number of backcountry acres managed for non-motorized trail uses, including mountain biking, by approximately 42,000 acres (see Table 243 in the FEIS). While the Forest's intent is to maintain its existing trail system to standard (see desired conditions FW-DC-AS-01. Access System and FW-DC-*

AS-02. Trail System – Motorized and Non-Motorized in the proposed revised forest plan), the Forest also intends to construct a minimum of one non-motorized loop trail (see MA-OBJ-KCRA-02. Trail Management) during the life of the revised forest plan. The described level of trail development is based on the Forest's projected recreation and trail budget during the life of the revised forest plan and is the minimum amount of development that is expected. Outside sources of funding and assistance from partner organizations could result in additional trail development.

Table 244 of the FEIS discloses the potential effect that Recommended Wilderness management areas would have on the number of miles of trail open to mountain bikes and the number of backcountry acres open to mountain bike trail opportunities for each alternative. In addition, the FEIS contains a narrative of these effects in the Recreation Section under the Recommended Wilderness subheading associated with each alternative. These effects are "potential" because they are based on the assumptions that 1) Congress will act to designate the areas as Wilderness and 2) Congress would prohibit mechanized and motorized uses in the enabling legislation of the Wilderness areas. However, Congress has the authority to write the enabling legislation in a way that could alter the effects listed in the effects analysis. For example, Congress could pass a law designating an area as Wilderness, but allow for a specific type of use inconsistent with wilderness designation (i.e., mountain biking).

Comment: (Letter Number(s): 77, 161, and 695) The final revised plan should include direction to allow expansion of the motorized trail system to develop loop trails.

***Response**: The proposed revised forest plan contains the following desired conditions, objectives, and guidelines that support the development of loop routes for OHVs: FW-DC-AS-02, FW-OBJ-AS-01, FW-GDL-AS-05, MA-OBJ-KCRA-02. In addition, the following section of FW-DC-AS-02 has been reworded to further support loop trail development for OHVs: "Motorized access and travel occurs on a well-designed system of designated NFS roads and motorized trails that provide loop-riding opportunities, connect trail systems, access communities, and link with popular dispersed camping areas."*

Comment: (Letter Number(s): 169, 197, 202, 258, 293, 352, 412, 606, 684, 757, 818, 906, 929, and 1015) The final preferred alternative should include: Objectives stating more miles (than draft plan) for development and maintenance of more non-motorized trails Objectives that include more miles than draft plan for development and maintenance of motorized trails and roads The final EIS should include analysis of recreational experience that identifies and discloses the different experiences of hikers on non-motorized versus motorized routes.

***Response**: The objectives contained in the proposed revised forest plan (related to the preferred alternative P) for trail maintenance and improvement (reconstruction) are based on the Forest's projected recreation and trails budget during the life of the revised forest plan. The numbers listed, 20 percent per year and 5 percent during the life of the revised forest plan, equate to 107 miles and 16 miles, respectively, and are the minimum accomplishments acceptable under the proposed revised plan. To achieve higher levels of maintenance and improvement would require a combination of additional outside funding (grants), partnerships, and volunteerism. The emphasis in the proposed revised forest plan to improve 5 percent of the Forest's trails that are designed for motorized, mountain bike, and pack stock use is based on the fact that 90 percent of the Forest's summer trail system is designed and maintained for these types of use and are located in settings where drainage and trail layout are most likely to cause resource damage. The remaining 10 percent of trails on the Forest, which are designed and managed specifically for hiking, are generally low-gradient trails around lakeshores, within developed recreation sites (i.e., interpretive trails), extend from a developed campground, or access scenic attractions. Although the objectives for trail maintenance and improvement does not specifically identify hiking trails as an emphasis, nothing in the proposed*

revised forest plan would preclude the forest from taking appropriate management action on a trail managed for hiking opportunities that required maintenance or improvement to reduce tread and resource damage. Likewise, if the opportunity presents itself (additional long-term funding, staffing, or volunteers) to increase the amount of trail maintenance or trail improvement over the objectives listed in the proposed revised forest plan, those efforts would be supported through the implementation of projects that meet the desired conditions (FW-DC-AS-01. Access System; FW-DC-AS-02. Trail System – Motorized and Non-Motorized) associated with the National Forest Access System.

We understand that hikers have a different experience on non-motorized trails than they do on motorized trails. That is why the preferred alternative designates 20 percent of the Forest be managed as backcountry (an increase of approximately 42,000 acres), recommended wilderness (an increase of 62,000 acres), and wilderness (see Table 243 and 246). Likewise, we also understand that motorized users enjoy a different experience in a backcountry setting, which is why the preferred alternative designates 5 percent of the forest be managed as a backcountry motorized area (an increase of 41,000 acres). Approximately 65 percent of the Forest's existing trail system is non-motorized and approximately 81 percent of the non-motorized trail system is located in Backcountry, Recommended Wilderness, or Wilderness management areas that provide a non-motorized recreational experience. The remaining non-motorized trail miles (approximately 64 miles) not located in a non-motorized setting include many outstanding trail opportunities along lakeshores (i.e., Bead and Sullivan Lakes) and scenic front country settings, including the Gibraltar Trail in the Okanogan Highlands. Conversely, of the 38 percent of the Forest's trail system that is motorized, only approximately 30 percent is located in a backcountry setting.

The Recreation Specialist Report does not evaluate the quality of different experiences of users on motorized verses non-motorized trails because the Forest provides opportunities for recreation, not experiences. The experience one has while recreating on the Forest is subjective and can be altered by many components (i.e. weather, personal beliefs, health, family issues, etc.). When the recreation analysis (FEIS chapter 3) states that non-motorized recreation trails could be located on nearly 100 percent of the Forest, the intent is not to imply the experience would be the same on every acre or mile of trail, but to affirm that non-motorized trails are suitable across the Forest.

Comment: (Letter Number(s): 39, 64, 77, 123, 474, 506, 559, 564, 588, 647, 713, 929, and 978) The final EIS should include alternatives that address public desire for motorized, mechanized and hiking/horse trails. The following should be included and analyzed in at least one alternative: Do not change the management area designation for existing trails to recommended wilderness since that would increase maintenance cost and increase trail maintenance backlog. Designate areas with existing mountain bike trails as Backcountry rather than Recommended Wilderness to permit continued bike use and ability to maintain trails. Retain existing mountain bike trails regardless of management area designation. Incorporate information from Conflicts on Multiple-Use Trails (1994) into the travel management plan to allow various types of use on more trails. Requirement to use Minimum Requirements Analysis for all trail maintenance projects, both inside and outside of wilderness. Objective to develop more trails for non-mechanized and non-motorized trails and increase miles of maintenance and improvement. Objective to include more trail improvement than in Alternative P.

***Response**: The FEIS for the proposed revised forest plan includes alternatives that address the public's desire for motorized, mechanized and hiking/horse trails.*

Under the no action alternative, no additional acreage is proposed as recommended wilderness. Similarly, alternative O only recommends approximately 16,000 acres of Recommended Wilderness, which would impact the maintenance tools that could be used on approximately twenty-nine miles (6

percent of the Forest's summer trail system) of trail. The no action alternative allows all of the existing maintenance tools (motorized, mechanized, hand tools) to continue to be used on all existing non-wilderness trails, which would maintain the current per mile trail maintenance costs (assuming no unusual blow down or erosion events) on the Forest subject to increases due to inflation. To a slightly less (6 percent) extent, this statement also holds true for alternative O on all existing non-wilderness trails except for the 29 miles of trail that would be within the Recommended Wilderness management area. However, the trail maintenance backlog may continue to grow under both alternatives as the Forest's projected recreation and trail budgets over the course of the proposed revised forest plan are not expected to keep up with the expected deterioration of the Forest's trail infrastructure regardless of whether motorized or mechanized tools can be used.

The no action alternative, the proposed action, and alternatives O and P each designate areas with existing mountain bike trails as backcountry ranging from approximately 87,000 to 174,000 acres (see Table 243 in the FEIS). Trails within these areas would remain open to mountain bike use and motorized/mechanized trail maintenance under the respective alternatives. To add clarity, a line will be added to Table 244 of the FEIS to show the number of trail miles in a Backcountry management area that would be open to mountain biking by alternative.

The proposed action and alternatives O and P would allow mountain bike use to continue within recommended wilderness until Congress takes action to designate the areas as wilderness. However, once an area is designated as wilderness, the Wilderness Act (law) and Forest Service policy would require that those trails within the newly created wilderness be closed to mountain bike use. Only Congress could change that requirement through specific exemptions within the enabling legislation for each wilderness.

Since Subpart B of the Travel Management Rule was implemented by the Forest in 2008, travel planning is not part of the forest plan revision process. Therefore, the information contained in the paper "Conflicts on Multiple-Use Trails" cannot be incorporated into the Forest's travel management plan through the forest plan revision process. In addition, the vast majority of the trails on the Forest are already open to a variety of multiple uses. For example, "jeep" trails are open to motorcycles and ATVs, while the majority of pack and saddle trails are open to hikers and mountain bikers. In most cases, motorized trails are also open to all non-motorized uses. Conversely, non-motorized trails generally cannot be opened to motorized use because of motorized use restrictions associated with the management areas (backcountry, recommended wilderness, wilderness) in which the majority of the Forest's non-motorized trails reside. However, given the usefulness of the 12 principles contained in the paper "Conflicts on Multiple-Use Trails," a desired condition (FW-DC-AS-07. Managing User Conflicts on Multiple-Use Trails) has been added to the Access System section of the proposed revised forest plan encouraging trail managers to be proactive, engage affected users, and use the best management tools available to resolve conflict on multiple-use trails.

Outside of wilderness, a Minimum Requirements Analysis is not required to complete trail maintenance or reconstruction as all tools (motorized, mechanized, and hand) are available to complete any required tasks. Inside of wilderness, the Minimum Requirements Analysis process is available to managers to determine the minimum activity necessary to accomplish a management action. These are site-specific decisions and the process for making these decisions are clearly defined in policy. Because the proposed revised forest plan does not change law or policy, it would not be appropriate to include direction in the plan to require the use of an existing management tool (the Minimum Requirements Analysis) in a manner contrary to national direction.

The objectives contained in the proposed revised plan (related to alternative P) for trail maintenance and improvement (reconstruction) are based on the Forest's projected recreation and trails budget

during the life of the revised forest plan. The numbers listed, 20 percent per year and 5 percent during the life of the revised forest plan, equate to 107 miles and 16 miles respectively and are the minimum accomplishments acceptable under the proposed revised plan. To achieve higher levels of maintenance and improvement would require a combination of additional outside funding (grants), partnerships, and volunteerism. The emphasis in the proposed revised forest plan to improve 5 percent of the Forest's trails designed for motorized, mountain bike, and pack stock use is based on the fact that 90 percent of the Forest's summer trail system is designed and maintained for these types of use and are located in settings where drainage and trail layout are most likely to cause resource damage. The remaining 10 percent of trails on the Forest that are designed and managed specifically for hiking are generally low-gradient trails around lakeshores, within developed recreation sites (i.e., interpretive trails), extend from a developed campground, or access scenic attractions. Although the objectives for trail maintenance and improvement do not specifically identify hiking trails as an emphasis, nothing in the proposed revised forest plan would preclude the Forest from taking appropriate management action on a trail managed for hiking opportunities that required maintenance or improvement to reduce tread and resource damage.

Similarly, the objective (MA-OBJ-KCRA-01. Trailhead Management) contained in the proposed revised forest plan to develop a minimum of one trailhead during the life of the revised forest plan is also based on the Forest's projected recreation and trails budget during the life of the revised forest plan. The Forest currently manages and maintains approximately 77 trailheads/trail access points for approximately 552 miles of summer trail, which equates to a trailhead facility/access point for every 7.2 miles of trail. Again, to achieve higher levels of trailhead development would require a combination of additional outside funding (grants), partnerships, and volunteerism. Additional funding and volunteer hours are not only needed to assist with the construction of new trailheads, but would also be needed to help maintain the existing and proposed new trailheads over time.

If the opportunity presents itself (additional long-term funding, staffing, or volunteers) to increase the amount of trail maintenance, trail improvement, or trailhead construction over the objectives listed in the proposed revised forest plan, those efforts would be supported through the implementation of projects that meet the desired conditions (FW-DC-AS-01. Access System; FW-DC-AS-02. Trail System – Motorized and Non-Motorized) associated with the National Forest Access System.

Motorized and Non-motorized Recreation

Comment: (Letter Numbers 77 and 623) The final revised plan should be based on an alternative that provides balance between motorized and non-motorized use. How areas are designated for motorized or non-motorized recreation use should consider number of users by type of use, estimated increase or decrease in public demand, and economic effect to local communities. The plan should include direction for developing additional motorized routes, specifically addressing single-track and connector routes, and to address need to engage OHV groups and individuals. The analysis completed for the final EIS should include: the benefits of motorized recreation/tourism; disclose location and miles of proposed trail closures by alternative, including maps and tables as well as narrative; direct, indirect and cumulative effects of trail closures; annual costs for construction and maintenance by trail type for at least the past five (5) years.

***Response**: Opportunities for a variety of recreation activities, motorized and non-motorized, are woven into the alternatives considered in this planning effort. Each alternative has a slightly different mix of motorized versus non-motorized opportunities.*

The proposed revised forest plan was designed to provide some balance between motorized and non-motorized recreation opportunities. However, the Forest recognizes that the proposed revised forest

plan may not meet each stakeholder's definition of balanced when it comes to motorized and non-motorized recreation. The proposed revised forest plan is based on land allocations that support specific types of recreation opportunities. These land allocations include Backcountry, Recommended Wilderness, Wilderness, and Backcountry Motorized management Areas. As shown in Tables 243 and 246 of the EIS, the preferred alternative (alternative P) supports approximately 54,600 acres of Backcountry Motorized Management Areas that would be open to motorized trail opportunities; 129,100 acres of Backcountry management areas that would be open to non-motorized trail uses including mechanized uses such as mountain biking; 61,700 acres of Recommended Wilderness management areas that would be open to non-motorized uses including mountain biking until such time as Congress takes action to designate the areas as wilderness; and 31,400 acres of existing designated Wilderness that are open to non-motorized, non-mechanized uses only. In addition, the remainder of the Forest not in the above-mentioned management areas would be open to both motorized (of which there are numerous miles of single track, ATV, and mixed-use roads that are open to motorized uses) and non-motorized recreation uses. This balance of management acres open to motorized and non-motorized uses compares well with the estimated use shown in Table 238 of the EIS (based on results of the 2009 National Visitor Use Monitoring Survey – the Forest does not possess quality data associated with specific types of motorized and non-motorized trail use), which indicates approximately four times as much hiking/walking occurs on the Forest than motorized trail activity. In addition, the proposed revised plan allows for increases in all types of motorized and non-motorized recreation trail opportunities based on future public demand and estimated increases in participation. As discussed under the heading "Survey, Trend, and Use Information" in the Recreation section of the FEIS , recreation use across the Forest has increased substantially over the past 20 years including trail uses such as day hiking, backpacking, off-highway motor vehicle (OHV) driving, and walking outdoors. In 2009, a study by Cordell et al., found that these trail activities have seen the greatest growth in the last two decades and, as a result, the desired conditions, objectives, standards, and guidelines related to trail and trailhead management in the proposed revised forest plan were developed, along with anticipated budgetary constraints, to allow for future demand.

The proposed revised plan contains desired conditions and objectives to develop additional motorized trails and mixed-use roads that connect communities, recreation sites, and create loop-riding opportunities. These plan components can be found under the headings National Forest Access System and Kettle Crest Recreation Area. The amount of additional development is based on the Forest's current and projected recreation and trail management budget during the life of the revised forest plan. Trail improvements and expansions are site-specific decisions that would be based on demand, safety issues, resource concerns, potential funding sources, and the level of public support from local and regional OHV clubs and individuals. In addition, new Desired Conditions (FW-DC-REC-03. Sustainable Recreation; FW-DC-PA-02. Cooperation and Community Involvement) have been added to the proposed revised forest plan to strengthen the Forest's commitment to work collaboratively with user groups on future recreation development and management issues.

No trail closures are proposed under the preferred alternative. However, due to differences between the alternatives in the FEIS regarding the areas that would be brought forward as recommended wilderness, some trails, by default, would be closed to specific types of use including motorized use and/or mountain bike use depending on which alternative is selected. These trails would remain open to other non-motorized and non-mechanized uses including hiking and equestrian use. The miles of trail that would be managed for motorized use by alternative can be found in Table 242, and the miles of trail that would be open to mountain bike use by alternative can be found in Table 244 in the FEIS. A narrative of the proposed reduction in trails open to motorized use can be found under the "Environmental Consequences" heading in the Recreation section of chapter 3 of the FEIS under the "Motorized Recreation Trails" sub-heading associated with each alternative. Likewise, a narrative

of the proposed reduction in trails open to mountain bike use can be found in the same section under the "Recommended Wilderness" sub-heading associated with each alternative. A list has also been added to each alternative under the "Recommended Wilderness" sub-heading of the EIS that shows which trails (by name and number) would be closed to motorized or mechanized use by alternative. These trails are listed by the recommended wilderness area they are located in. The recommended wilderness areas are located on the alternative maps, which should help readers understand where each of the affected trails are located. A map displaying each trail that could be closed to motorized or mechanized use by alternative would be difficult to read at the scale used for printing the FEIS. It may be possible to provide this level of detail on the interactive map available over the Internet.

The direct, indirect, and cumulative effects of closing trails to motorized and mountain bike use are listed in the Recreation section of chapter 3 of the FEIS. The effects analysis is limited to the quantity (miles of trail), spatial distribution (by county), and setting (acres of backcountry and acres of forest open to specific types of trail use) in which these trails exist. Potential effects on the quality of recreation trail opportunities were not assessed as quality is a very individualistic measure that cannot be accurately determined for a diverse group of users.

The annual cost for trail construction and maintenance by trail type was not included in the analysis for the proposed revised forest plan as it was not necessary to determine the effects of each alternative on the number or spatial distribution of trail opportunities associated with the six alternatives.

The economic effect to local communities resulting from whether an area is designated for motorized or non-motorized use was not evaluated as the data required to make specific economic determinations was insufficient to determine the effects on local communities. For example, if an area that currently receives mountain bike use is closed to that use as a result of a wilderness designation, then common sense would suggest there could be a loss of revenue to a local community. However, if those mountain bikers find a nearby area to ride that is outside of wilderness, that use could offset some of the potential economic loss. It is also possible that additional visitors may come to the area specifically to visit the new wilderness, which would also offset some of the potential economic loss or even result in additional revenue depending on the number of current users that are displaced from the local area versus the number of new users that are attracted to the area based on the new designation. Each of these potential decreases/increases in use are unknown factors that make community specific economic determinations regarding changes in one type of recreational use very difficult, if not impossible, to determine.

Comment: (Letter Number(s): 40, 41, 76, 77, 78, 275, 538, 559, 605, 639, 691, 695, 713, 893, and 1013) The Colville NF should consider: 1) Opening closed system roads to motorized vehicles during berrypicking and hunting seasons; 2) Recognizing Washington State laws that allow state licensed WATVs access on all open National Forest system roads; 3) No restriction to motorized access included in any alternative included in the plan revision documents; 4) Developing a pro-recreation alternative based on maintaining existing motorized routes and developing long-distance, loop, connector and variety of skill level routes, to address increased public demand; 5) Developing additional motorcycle trails and designating all single track trails as suitable for both motorcycles and bicycles; 6) Designating the entire forest as motorized, multiple use; 7) Addressing the safety of not having sufficient miles of routes for the number of motorized users; 8) Addressing the inequity of taxpayers covering the cost of non-motorized trails, but motorized trails not maintained; the Forest should use the OHV gas tax dollars for maintenance, education and development of motorized trails; 9) The revised forest plan should include a larger number in the Objectives for miles for new motorized routes to be designated over the life of the plan.

***Response**: The decision to open closed system roads seasonally is a site-specific travel management decision made by the district ranger and implemented through changes in the Forest's Motor Vehicle Use Map. These types of decisions are outside the scope of the proposed revised forest plan.*

The Regional Forester has provided direction to the Forest on how to implement the Washington State ATV law so that interpretation of the law is consistent throughout all Forest Service units in the state of Washington. The Forest does not have the authority to change this direction through the proposed revised forest plan.

We agree that motorized access is an important recreation use to meet the needs of many visitors. However, motorized traffic affects a variety of resources. The proposed revised forest plan seeks a range of recreational opportunities while considering many other resource management needs and responsibilities combined with user safety. Changes to specific routes are not a forest plan decision, but an outcome of a site-specific analysis process and corresponding update to local travel management plans, like the Forest's motor vehicle use map. Where appropriate, motorized recreation opportunities would be maintained and may be expanded under the proposed revised plan (with site-specific analysis and public input). However, designating the entire Forest as motorized, multiple-use, or not limiting motorized access in any alternative could negatively affect other recreational opportunities and resource values.

Travel management on Federal lands has been a challenging management issue since the late 1970s, when Executive Order 11644 was issued establishing policy and procedures "… that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resource of those lands, to promote the safety of all users of those lands and minimize conflicts among the various users of those lands." All land managers will continue to face the issue of what is a fair allocation among different forest users.

The proposed revised forest plan provides programmatic direction as to where motorized and non-motorized (including mountain biking) recreation may or may not be suitable. The proposed revised forest plan's desired conditions for motorized and non-motorized recreation are integrated to meet other resource needs, provide for user safety, and comply with all laws. The desired range of recreation opportunities on the Colville National Forest has a variety of motorized and non-motorized recreation opportunities during the summer and winter that provide a range of difficulty and seclusion levels; are located in diverse ecological, geological, and scenic settings; minimize user conflicts; and provide destination and loop opportunities of various lengths that connect communities, trail systems, and popular dispersed camping areas, while protecting the natural and cultural resources of the Forest (FW-DC-AS-02. Trail System – Motorized and Non-Motorized). While the desired condition is to provide for a range of recreation opportunities, the Forest recognizes it will be unable to meet the demands of all recreation groups equally on the Colville National Forest. However, the proposed revised forest plan does maintain the existing number of motorized trails, has an objective to add additional road miles as open to OHVs (FW-OBJ-AS-01. Designated Routes for Off-Highway Vehicle Use), and provides additional acreage in a backcountry setting for the potential development of new motorized trails in the future.

Specific to motorcycle trails and mountain biking, all 170 miles (33 percent of all summer trail miles) of summer motorized trail on the Forest are open to motorcycle use, with approximately 114 miles (22 percent of all summer trail miles) managed specifically for motorcycle use. These trails are also open to mountain biking. Only 10 miles of summer trail are managed specifically for mountain bike use on the Forest. These trails provide a unique recreational opportunity on the Forest that would be lost if they were opened to motorized use. Where appropriate, motorcycle trail opportunities may be expanded under the proposed revised plan (with site-specific analysis and public input). However,

designating all single-track trails in multiple-use portions of the Forest as open to motorcycles could negatively affect other recreational opportunities and resource values.

User safety is a priority of the Forest and is part of the desired conditions (FW-DC-AS-01. Access System; FW-DC-AS-02. Trail System – Motorized and Non-Motorized) listed in the National Forest Access System section of the proposed revised forest plan. Current use figures associated (National Visitor Use Monitoring Results regarding overcrowding) with the Forest's motorized trail system does not indicate there is a safety concern associated with overcrowding. As use of the motorized trail system grows, the proposed revised forest plan provides management direction that would allow additional trails to be constructed in both backcountry and multiple-use settings.

The Forest has a long history of using the funding (appropriations, grants, Collaborative Forest Landscape Restoration Program, partner match) and labor force available to manage its trail system including partners (Tri County Motorized Recreation Association, Panhandle Trail Riders Association, Backcountry Horsemen, Eastern Washington ATV Association, Washington Trails Association, Pacific Northwest Trails Association), volunteers (Evergreen Mountain Bike Alliance, individuals, Kettle Range Conservation Group, The Lands Council), and land corps organizations (Job Corps and the Northwest Youth Corps). The Colville National Forest uses OHV funds made available by the state of Washington and managed by the Recreation Conservation Office through a grant system. The Forest competes for these dollars with other entities by submitting annual grant applications. The Forest recognizes that these dollars need to be dedicated to the motorized component of the trail system and honor that commitment. The amount of maintenance, education, and trail development that occurs from year-to-year is dependent on those outside funding sources and the number of volunteers and partners that step up to assist with needed maintenance and improvements. The Forest also acknowledges and appreciates all of the trail clearing work that individual motorized and non-motorized users provide each year as they recreate across the Forest.

The objectives contained in the proposed revised forest plan for new motorized routes are based on the Forest's projected recreation and trails budget during the life of the revised forest plan. The numbers listed, the designation of an average of one new motorized mixed-use road annually, the construction of one new motorized trailhead, and the construction of one new motorized loop trail during the life of the revised forest plan are the minimum accomplishments acceptable under the proposed revised plan. To achieve additional motorized routes and improvements would require a combination of additional outside funding (grants), partnerships, and volunteerism. Additional motorized routes and improvements (beyond the minimum contained in the objectives) would be supported through implementation of the desired conditions (FW-DC-AS-01. Access System; FW-DC-AS-02. Trail System – Motorized and Non-Motorized) listed in the National Forest Access System section of the proposed revised forest plan.

Comment: (Letter Number(s): 77, 169, 251, 519, 566, 585, 623, 644, 711, 726, 818, and 824) The Forest should develop more than one alternative that keeps the level of motorized access to the current road and trail system. A greater percentage of the forest should be dedicated to non-motorized activities and motorized recreation opportunities limited to smaller area of the forest to address the state-wide increase in demand for non-motorized recreation and decrease in demand for motorized use. The Forest should ensure funding available to enforce use and protect resources for any areas designated for motorized recreation use. The final revised plan should include clarification of the differences between management for Backcountry and Backcountry Motorized designations.

***Response**: The no action alternative, the proposed action, and alternatives P and O all retain the existing levels of motorized access to the current road and trail system, while alternatives R and B reduce motorized trails by 39 miles (see Table 242 of the Final EIS). Opening additional roads to*

motorized mixed-use (OHVs) and the potential construction of new motorized trails could be authorized under each of these alternatives through site-specific project planning, which would include public input and a decision by the district ranger based on potential effects to resources and social systems. However, this type of site-specific decision is outside the broad planning scale of the proposed revised forest plan.

The preferred alternative (alternative P) provides over four times as many backcountry/wilderness acres for non-motorized recreation as motorized recreation (see Table 243 in the FEIS). Motorized recreation trails exist in fewer geographical locations across the Forest than non-motorized trails, which limits motorized trail use to a smaller percentage of the Forest. Non-motorized trails also comprise approximately 65 percent of the Forest's existing summer trail system (see Table 242). Based on results from the National Visitor Use Monitoring Survey and field observations of trail conditions, we believe the Forest has the capacity to meet the statewide increase in demand for non-motorized and motorized recreation expected during the life of the proposed revised forest plan.

Enforcement of travel management restrictions is not within the scope of forest plan decisions, but is site-specific implementation of travel management guidance. However, the Forest Service enforces existing laws and regulations through law enforcement and forest personnel. The Colville National Forest annually publishes a Motor Vehicle Use Map that displays where motor vehicle use (except over-snow vehicles) can occur across the Forest. In addition, the Forest has worked with local OHV enthusiasts to develop an OHV Ambassador Program. OHV ambassadors volunteer their time to educate motorized users on the Forest and self-police the actions of other OHV riders. The program is currently active on NFS lands between Highways 395 and the Pend Oreille River and south of State Highway 20 along the Little Pend Oreille Lakes. We will continue to educate user groups and individuals to prevent violations, and expect the OHV Ambassador program to expand to other parts of the Forest during the life of the revised forest plan.

Education and enforcement funding on the Colville National Forest generally comes from appropriations, Washington State RCO grants, Title II grants, and special Forest Service funds, such as those associated with the current regional Field Ranger program. To ensure education and enforcement efforts are sustained during the implementation of the proposed revised forest plan, the Forest will continue to partner with groups and organizations, work with volunteers, and look for other funding and grants to provide recreation opportunities across the Forest. This is addressed in the proposed revised forest plan and included in desired conditions: FW-DC-PA-02. Cooperation and Community Involvement and FW-DC-REC-03. Sustainable Recreation.

Backcountry and Backcountry Motorized management areas are comprised of essentially the same types of landscapes and ecosystems including the upper reaches of watersheds in the 2001 inventoried roadless areas; the potential wilderness areas identified during the plan revision wilderness evaluation process; wildlife habitats that include grizzly bear and deer/elk winter range; and threatened, endangered, and sensitive plant communities. The only difference in how these two management areas are managed is that BCM management areas allow for motorized trail use while the BC management area does not. The proposed revised forest plan has been updated to help clarify what can and cannot occur in each of these management areas.

Comment: (Letter Number(s): 10, 77, 578, 667, 888, and 986) The Colville NF should develop motorized routes for different skill levels, create loop routes, develop the same miles of OHV routes as the Forest currently has for non-motorized trails; increase OHV routes based on collaboration between motorized and non-motorized users; monitor existing trail system before any new routes are created; locate new routes with consideration of wildlife and fish habitat protection. The Colville NF should

reduce the miles of OHV trails on the forest to protect resources, and limit recreation OHV use in grazing areas to reduce potential conflict between recreational use and grazing allotment management.

***Response**: The proposed revised forest plan provides programmatic direction as to where motorized recreation may or may not be suitable. The proposed revised forest plan desired conditions for motorized and non-motorized recreation opportunities are integrated to meet other resource needs, provide for user safety, and comply with all laws. The desired range of recreation opportunities on the Colville National Forest has a variety of non-motorized and motorized recreation opportunities during the summer and winter that provide a range of difficulty and seclusion levels; are located in diverse ecological, geological, and scenic settings; minimize user conflicts, and provide destination and loop opportunities of various lengths that connect communities, trail systems, and popular dispersed camping areas; while protecting the natural and cultural resources of the Forest (FW-DC-AS-02. Trail System – Motorized and Non-Motorized). While the desired condition is to provide for a range of recreation opportunities, the Forest recognizes that it will be unable to meet the demands of all recreation groups equally on the Colville National Forest. However, the proposed revised forest plan does maintain the existing number of motorized trails, has an objective to add additional road miles as open to OHVs (FW-OBJ-AS-01. Designated Routes for Off-Highway Vehicle Use), and provides additional acreage in a backcountry setting for the potential development of new motorized trails in the future.*

In recent years, we have worked with local OHV enthusiasts to develop an OHV Ambassador Program. OHV ambassadors volunteer their time to educate motorized users on the Forest and self-police the actions of other OHV riders, while monitoring open system trails for illegal use. The program is currently active on NFS lands between Highways 395 and the Pend Oreille River and south of State Highway 20 along the Little Pend Oreille Lakes. We will continue to educate user groups and individuals to prevent violations, and we expect the OHV Ambassador program to expand to other parts of the Forest during the life of the revised forest plan. In addition, the Forest's Damage Response Team monitors for illegal OHV use and works to restore damaged areas and prevent future damage through signing, route obliteration, and fencing. New OHV routes are not a forest plan decision but an outcome of a site-specific analysis process and corresponding update to local travel management plans like the Forest's motor vehicle use map. Site-specific analysis would include considerations for wildlife and fish habitat protection through the implementation of standards and guidelines in the proposed revised forest plan.

We disagree that a reduction in the miles of OHV trail is needed to protect natural resources. Proper design and maintenance of the existing trail system, along with the implementation of the standards and guidelines in the proposed revised forest plan associated with plant, wildlife, and riparian habitats are expected to maintain the health of the Forest's ecosystems as described in the effects analysis associated with the Final EIS as it relates to legal OHV trail use.

The Forest agrees that at times there may be conflict between OHV use and permitted cattle grazing. However, OHV use managed by the Forest Service is already limited to designated trail systems and roads. No legal cross-country OHV travel is authorized under the proposed revised forest plan. Therefore, the vast majority of acreage within cattle allotments is not legally accessible by OHVs and the impacts from legal OHV use on the Forest would be similar to that of vehicle travel and non-motorized trail use. Potential conflicts with cattle permittees (i.e., leaving gates open at trail crossings) will continue to be an education point of emphasis for the Forest's OHV rangers and ambassadors.

Comment: (Letter Number(s): 77, 91, 131, 538, 598, and 729) The final EIS should include alternatives that: retain existing snowmobile routes and cross-county snowmobile areas; limit winter motorized

recreation use to the same areas where motorized use is allowed in summer. The final revised plan should include: a winter motorized use map; direction related to use of over snow vehicles; standards that identify minimum snow depths for over-snow vehicle use; standards that identify a season end date for use of over-snow vehicles; identify monitoring and enforcement plan for over-snow vehicle use.

***Response**: All existing groomed and non-groomed snowmobile routes are retained in each of the alternatives (see Recreation Section, Summary of Effects, in the FEIS). In addition, approximately 88 percent of the motorized over-snow cross-country travel areas under the 1988 forest plan are retained in the preferred alternative (alternative P). Table 241 in the FEIS lists the number of acres closed to motorized over-snow travel by alternative, as well as the management areas where reductions in motorized over-snow travel occurs. Under the preferred alternative, approximately 92,000 additional acres would be unsuitable for motorized over-snow vehicle travel, much of which includes heavily vegetated slopes or terrain that is difficult to access and currently supports only limited over-snow vehicle recreation opportunities. A narrative description of the effects to cross-country motorized over-snow vehicle use for each alternative can be found in the Recreation Section of the FEIS under the sub-heading Recommended Wilderness.*

Table 239 in the FEIS identifies the management areas associated with each alternative that would be suitable for motorized and non-motorized winter recreation opportunities. The suitability determinations associated with the preferred alternative, along with determinations made during the forest plan revision process regarding 1) potential damage to soil, watersheds, vegetation and other forest resources; and 2) harassment of wildlife and significant disruption of wildlife habitats will help inform the implementation of Subpart C (Over-snow Vehicle Use) of the Travel Management Rule (36 CFR 212) and the development of an Over-Snow Vehicle Use Map as the proposed revised forest plan is implemented.

Analysis of the impacts of motorized over-snow vehicle use was completed by the forest plan interdisciplinary resource team. As a result, management direction for over-snow vehicle use regarding cross-country travel and the use of roads by over-snow vehicles is included under the National Forest Access System section in the proposed revised plan. Direction related to the management of key wildlife species is listed under the Wildlife Resources section of the proposed revised plan. Additional management direction, such as minimum snow depths and season ending dates, for over-snow motorized use was not identified by the resource specialists on the plan revision team as necessary to protect the infrastructure and natural and cultural resources managed by the Forest.

Under the proposed revised forest plan, monitoring of snow depth will continue to occur through a combination of field checks conducted by the Forest's partners (snowmobile clubs), grooming contractors and Forest Service recreation staff. When snow depths become too low to protect the road base, soil, and vegetation from potential damage by over-snow vehicles, temporary road and area closures are tools that could be implemented to support the direction in standard FW-STD-AS-01. Cross-country Over-snow Vehicle Use and guideline FW-GDL-AS-03. Over-snow Vehicle Use on Roads to protect the natural resources and infrastructure of the Forest.

Comment: (Letter Number(s): 566, 585, and 684) The final revised plan should identify and protect areas on the forest for non-motorized winter recreation areas. The designated areas should include the upper part of the North Sherman Road as a non-motorized snow and ski area.

***Response**: The proposed revised forest plan protects the existing semi-primitive non-motorized areas on the Forest that are open to only non-motorized winter travel and, in many cases, expands those areas. The expanded areas include the Backcountry and Recommended Wilderness management*

areas. Likewise, the proposed revised forest plan does not change the existing designations for groomed ski trails or groomed and non-groomed over-snow vehicle routes. Therefore, the North Sherman Road #2020 would remain a designated non-groomed over-snow vehicle route. It is understood that many of the areas open to non-motorized use only are accessible to experienced winter recreationists only. It is also understood that skiing on roads that have been used by over-snow vehicles can be difficult. However, the Forest contains many roads, similar to the North Sherman Road, that access thousands of acres of terrain that are not easily accessible by over-snow vehicles that provide good snow cover and the opportunity for additional non-groomed ski trail opportunities.

While much of the Forest is open to over-snow vehicles, area and road closures limit where over-snow vehicles can travel to protect winter wildlife habitat. Implementation of all of the management direction contained in the preferred alternative (alternative P), including its winter recreation components, would make a relatively high contribution to: (1) the conditions that support sustainable populations of deer and elk habitat, (2) the recovery of the Canada lynx, (3) the recovery of grizzly bears in the Selkirk Recovery Area, and (4) the recovery of woodland caribou. For a complete discussion of the effects of implementing the preferred alternative on wildlife, please see the Wildlife section in the FEIS.

Recommended Wilderness

Comment: (Letter Number(s): 506, 665, and 737) The Forest should disclose the rationale supporting the need for each Recommended Wilderness area specifically addressing how areas with clearly evident roads, trails and identifiable logging activity meet the criteria for wilderness designation. The Forest should analyze and disclose effects to local economies, culture and customs and how the Recommended Wilderness designations meet Public Law 96-354 (FCC-Regulatory Flexibility Act). The final revised forest plan should clearly identify how many acres are designated as Inventoried Roadless Area.

***Response**: We agree that the preferred alternative should only include recommended wilderness areas that do not include areas with obvious timber sale activity or roads. The forest plan revision team implemented the direction in FSH 1909.12 chapter 70 (January 2007 version) on the wilderness evaluation process that provides the following examples of where timber harvest and prior road construction may not be evident: (1) areas containing early logging activities related to historic settlement of the vicinity, (2) areas where stumps and skid trails or roads are substantially unrecognizable, or (3) areas where clearcuts have regenerated to the degree that canopy closure is similar to surrounding uncut areas.*

The initial mapping of the areas that may be suitable for inclusion in the National Wilderness Preservation System attempted to exclude all substantially recognizable harvest activities and roads. Review of those area maps by the public over a number of years indicated there were several areas within each area that may contain road templates and harvest activity. Prior to the release of the revised forest plan, the Forest committed to boundary checking those areas that may be suitable for inclusion in the National Wilderness Preservation System that moved forward as Recommended Wilderness in the proposed revised forest plan and making the appropriate edits to the Recommended Wilderness management area boundaries. Boundary checks were completed during the 2016 field season through combined aerial interpretation, LIDAR mapping, and field verification by the recreation specialist on the forest plan revision team. LIDAR is a remote sensing method that uses a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses—combined with other data recorded by the airborne system—generate precise, three-dimensional information about the shape of the Earth and its surface characteristics, and can provide valuable information on the location of old road systems. The forest plan revision team used information obtained through the

boundary verification process to adjust the boundaries of the Bald-Snow, Abercrombie- Hooknose, and Salmo-Adjacent Recommended Wilderness Areas to remove areas with evidence of past harvest activity and roads. These changes were then approved by the Forest Supervisor. Appendix F of the FEIS describes the process followed in making the suitability determinations for unroaded areas and includes a summary for each area's capability, availability, and need.

The economic analysis associated with the proposed revised forest plan can be found in the FEIS under the Recreation Management heading of the Social and Economic Conditions section. In general, impacts resulting from the designation of unroaded areas as Recommended Wilderness cannot be accurately determined at the community level with the amount and quality of information that is available at this time.

The Regulatory Flexibility Act (PL 96-354) was passed "to improve Federal rulemaking by creating procedures to analyze the availability of more flexible regulatory approaches for small entities, and for other purposes." The purposes of the law lean heavily to regulations that impact competition, entrepreneurs, small businesses, or create barriers to industry. Sec. 2 (b) of the law states that "it is the purpose of this Act to establish as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration." As defined by the law, "the term "rule" means any rule for which the agency publishes a general notice of proposed rulemaking pursuant to section 553(b) of this title, or any other law, including any rule of general applicability governing Federal grants to State and local governments for which the agency provides an opportunity for notice and public comment…." Given the above intent of PL 96-354, we do not believe that identifying areas of the Forest as recommended wilderness in the proposed revised forest plan constitutes the promulgation of a rule or that it is a rule or regulation placed on the County or local businesses. Therefore, identifying lands as Recommended Wilderness would not be covered by the requirements of PL 96-354. Instead, completing the wilderness evaluation process and identifying areas as Recommended Wilderness constitutes implementation of existing policy as outlined in FSH 1909.12 chapter 70 (January 2007 version).

We understand the importance of areas that may be suitable for inclusion in the National Wilderness Preservation System to the customs, culture, and heritage of Ferry County and believe that the Bald-Snow Recommended Wilderness management area contained in the proposed revised forest plan supports those activities, ideas, and ways of life. Recommended Wilderness allows commercial grazing to continue at existing levels; allows access and development of existing valid mining claims, supports access for hunting, berry and mushroom picking; and provides access by foot, bicycle, and horseback while protecting significant heritage sites. Because the Bald Snow Recommended Wilderness is also an inventoried roadless area designated by the 2001 Roadless Area Conservation Rule, road development for scheduled timber harvest is already restricted and motorized access into the majority of the area has not been allowed since the implementation of the 1988 Colville National Forest Land and Resource Management Plan. In addition, the area's 200-foot setback (which is consistent with current firewood gathering regulations) from open system roads allows for continued access to firewood along those roads open to firewood gathering.

Table 22 in chapter 2 of the Final EIS has been updated to show the comparison of the number of acres (this number does not change by alternative) of inventoried roadless area designated under the 2001 Roadless Area Conservation Rule and the number of acres of Recommended Wilderness

management area by alternative. Unroaded areas identified through the forest plan wilderness evaluation process that are not part of an existing 2001 inventoried roadless area or Recommended Wilderness management area have been designated as either Backcountry or Backcountry Motorized management areas. These lands are to be managed to maintain their existing primitive and semi-primitive characteristics under the proposed revised forest plan, but they are not added to the inventory of existing 2001 Roadless Area Conservation Rule Inventoried Roadless Areas.

Comment: (Letter Number(s): 506, 529, 559, 627, 686, and 737) The final EIS should disclose: 1) the rationale supporting the need for additional wilderness in general, the need for each individual area designated as Recommended Wilderness, and how each individual area meets the standards for wilderness; 2) the beneficial or detrimental effects to various resource values including areas with significant mineral potential from designation as Recommended Wilderness; 3) suitable uses within Recommended Wilderness by alternative; 4) how designating the area around Metaline Falls, with existing mining rights and claims, meets the criteria for Wilderness designation and federal public land management policy and multiple use requirements for public lands.

***Response**: Appendix F of the FEIS describes the process followed in making the suitability determinations for areas that may be suitable for inclusion in the National Wilderness Preservation System and includes a summary table that lists the qualifying factors that support the capability, availability, and need determinations for each area that was analyzed through the wilderness evaluation process.*

Existing levels of recreation use in the Salmo-Priest Wilderness is not the only factor the Forest must consider when reviewing the need for additional wilderness. Instead, the Forest must determine the need for an area to be designated as wilderness through an analysis of the degree to which it contributes to the overall National Wilderness Preservation System. "Need" is considered on a regional basis and evaluated through such factors as the geographic distribution of areas that may be suitable for inclusion in the National Wilderness Preservation System. The Forest completed a Wilderness Need Assessment in September 2009 in accordance with FSH 1909.12 chapter 70 (effective January 31, 2007), which included an assessment of (1) Recreation Need, (2) the Need for Refugia, and (3) the Need for Preserving Landforms and Underrepresented Ecosystems.

Recreation Need assesses demographic trends relative to the current availability of wilderness and the future need for wilderness. The recreation need analysis identified the recreational market zone for each forest, and the analysis area was then broadened to examine the public land base accessible from major population centers within each market zone. Conclusions related to the assessment of recreation need are summarized in the Recreation section of the FEIS.

The Need for Refugia evaluates which species have an inability to survive in less than primitive surroundings, and how the areas that may be suitable for inclusion in the National Wilderness Preservation System would contribute to providing habitat for these species. The analysis of refugia tiered to the sustainability analysis that was completed for the revision process as a whole. None of the species identified needed wilderness to survive, provided the areas that may be suitable for inclusion in the National Wilderness Preservation System are managed to maintain their unroaded character. It was, however, determined that in most cases wilderness designation would be beneficial to the identified species. Conclusions relating to the analysis of the need for refugia included are summarized in the Recreation section of the FEIS.

The Need for Preserving Landforms and Underrepresented Ecosystems examines whether the landforms and ecosystems in the planning area are adequately represented in the National Wilderness

Preservation System. The findings of this examination are summarized in the Recreation section of the FEIS.

In addition to the need for wilderness, the Forest also considered the capability (the degree to which an area contains the basic wilderness characteristics that make it suitable for wilderness recommendation), availability (assessment of the other resource demands and uses that the area under evaluation could satisfy), and the Forest's ability to manage a proposed area as wilderness prior to designating any of the areas that may be suitable for inclusion in the National Wilderness Preservation System as recommended wilderness in the proposed revised forest plan.

All NFS lands determined to meet wilderness capability requirements are considered potentially available for wilderness designation. The Bald-Snow, Abercrombie-Hooknose and Salmo-Priest Adjacent areas were determined to meet wilderness capability requirements. However, the determination of availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources. During the wilderness evaluation process, the Forest evaluated the mineral potential for each potential wilderness area and that assessment is included in the 2009 Wilderness Evaluations for each respective area. As described above, the presence of mineral-rich areas does not preclude an area from being considered as recommended wilderness, but it does require the deciding official (regional forester) to consider the trade-offs between all of the values for which the areas could be used. Adjustments have been made to the boundaries of the Abercrombie-Hooknose and Salmo-Priest Adjacent Recommended Wilderness Areas contained in the proposed revised forest plan based on public comment. These adjustments have removed some of the mineral-rich areas associated with the perimeter of both recommended wilderness areas. However, both recommended wilderness areas in the proposed revised forest plan still encompass existing mining claims that are located deeper within the recommended wilderness area boundaries and their corresponding 2001 Roadless Area boundaries. No adjustments were made to the Bald-Snow Recommended Wilderness Area as a result of the presence of mineral-rich areas.

Based on comments received during the comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness Areas have been modified to exclude some areas where valid mining claims exist, and where the boundaries are adjacent to private land. These adjustments have been made in recognition of the high mineral potential of northern Pend Oreille County, the statutory rights of mining claimants to explore and develop their claims, and the difficulty in managing congressionally withdrawn areas adjoining private lands. The adjusted acres of recommended wilderness areas will allow for current and future mineral development; and provide the space the Forest needs to manage the wildland-urban interface, quality habitat for federally listed T and E species, additional acreage of under-represented eco-types in the wilderness preservation system, and wilderness-based recreation opportunities. After designation by Congress, the Forest Service will conduct Validity Existing Right (VER) determinations on all claims located inside congressionally designated wilderness areas. The VER would determine the validity of the claims at the time of withdrawal. Claims determined to pass the VER would be considered valid, though additional claims could not be filed in designated wildernesses after the withdrawal is effective.

As a whole, the Colville National Forest is managed for multiple uses under the Multiple Use-Sustained Yield Act of 1960 (or MUSYA) (Public Law 86-517). This law authorizes and directs the Secretary of Agriculture to develop and administer the renewable resources of timber, range, water, recreation, and wildlife on the national forests for multiple use and sustained yield of the products and services. It does not require every acre on the Forest to be managed for every type of use. Recommended wilderness meets the intent of the MUSYA by providing a specific type of recreation opportunity that emphasizes opportunities for solitude or a primitive and unconfined type of

recreation that occurs in an undeveloped, natural setting free of motorized intrusions. Recommended wilderness also supports grazing, clean water, and contributes to preserving natural behaviors and processes that sustain wildlife populations.

Whether inconsistent uses (mechanized recreation, motorized recreation, chainsaw use, cabin rentals) and motorized trail maintenance are allowed to continue in recommended wilderness is identified for each alternative in the FEIS under the heading "Recommended Wilderness" in the Recreation Section of the FEIS. The proposed action, alternative P, and alternative O all allow inconsistent uses to continue in recommended wilderness until Congress acts to designate the areas as wilderness. Alternative P only allows mountain biking to occur on existing trails and chainsaw use for the purpose of trail maintenance (see proposed revised forest plan MA-GDL-RW-02). Alternatives R and B do not allow inconsistent uses to continue in recommended wilderness once the proposed revised plan is approved. Table 38 in the proposed revised forest plan lists the suitable uses that may or may not be authorized in recommended wilderness. The suitable uses table does not apply to existing uses under the proposed action, alternative P, or alternative O, only newly proposed uses. The suitable uses table does apply to existing and newly proposed uses under alternatives R and B.

Comment: (Letter Numbers 623 and 818) The final revised forest plan should identify the management direction that protects existing wilderness values for any areas considered, but not designated as Recommended Wilderness, and clearly state that Inventoried Roadless Areas, Backcountry and Backcountry Motorized areas on the Forest will be managed for roadless character.

***Response**: Not all of the 2001 inventoried roadless area (IRA) acres on the Forest meet the criteria for designation as Backcountry (B), Backcountry Motorized (BCM), or Recommended Wilderness (RW). The portions of the IRAs that do not fit the requirements to be categorized as BC, BCM, or RW contain open system roads and harvest units that were constructed prior to 2001, and that, under the 2001 Roadless Area Conservation Rule, can be maintained in their open and managed state. In addition, some of the 2001 IRA boundaries were drawn incorrectly and include private land, which the Forest has no jurisdiction over.*

The vast majority of the 2001 IRA acres are, however, included in the BC, BCM, and RW management areas. These management areas contain desired conditions (MA-DC-RW-01. Uses Prior to Congressional Designation; MA-DC-BC-BCM-06. Existing and Proposed Uses; MA-DC-RW-02. Retention of Wilderness Characteristics), standards (MA-STD-BC-01. Motor Vehicle Use; MA-STD-RW-01. Existing and Proposed Uses), guidelines (MA-GDL-RW-01. Wilderness Characteristics), and a suitable uses table that provides the management direction that protects existing wilderness characteristics and unroaded character.

The proposed revised forest plan contains forestwide direction for compliance with the 2001 Roadless Area Conservation Rule (FW-GDL-VEG-05, and FW-GDL-AS-06).

Comment: (Letter Numbers 550 and 637) The final revised forest plan should provide clear direction to protect Backcountry and Backcountry Motorized characteristics or designate areas as Recommended Wilderness to ensure protection.

***Response**: Throughout the forest plan revision process, all areas that met the minimum criteria (FSH 1909.12 chapter 70 – January 2007 Version) for consideration as areas that may be suitable for inclusion in the National Wilderness Preservation System have been evaluated against the tests of capability, availability, and need. Areas of potential wilderness identified through the wilderness evaluation process are simply part of an inventory of unroaded lands and that inclusion in the inventory, by itself, is not a land designation. These inventoried areas are not granted any level of*

management direction or protection until they are classified into a management area, such as Backcountry (BC), Backcountry Motorized (BCM), or Recommended Wilderness (RW).

As shown in the suitable uses tables for these management areas, the proposed revised plan does not allow permanent or temporary road construction (except temporary roads required for mineral entry), scheduled timber harvest, utility corridors, and FERC licenses or permits in BC, BCM, and RW management areas. In addition, motorized recreation is not a suitable use in the BC and RW management areas. Other uses, such as salable, leasable, and locatable minerals, associated with valid mining claims, would be managed under existing United States mining laws. Appropriate access to valid mining claims is guaranteed under the law regardless of the management area designation. Many other uses, such as developed recreation sites, commercial forest products gathering, and special use permits may be authorized in both management areas. However, an activity that may be authorized as a suitable use does not mean it will always be authorized. Each proposed activity would need to go through site-specific analysis and be open to public comment prior to a decision by the responsible official Desired conditions in the proposed revised forest plan for the BC and BCM management areas support natural-appearing landscapes, aquatic, plant and wildlife habitat connectivity, semi-primitive recreational opportunity settings, and recreation facilities that enhance semi-primitive recreation experiences. The desired conditions for BC and BCM have been updated to clarify the Forest's intent to manage the areas to retain their existing semi-primitive characteristics (MA-DC-BC-BCM-06. Existing and Proposed Uses) while allowing for existing uses to continue. Management direction for Recommended Wilderness has also been updated to clarify the Forest's intent to manage the areas to retain their existing wilderness characteristics (MA-DC-RW-02. Retention of Wilderness Characteristics) while allowing for mountain bike and chainsaw use to continue. In addition, BC, BCM, and RW management areas also receive protections through forestwide management direction associated with air, soil, water, and wildlife resources.

We believe that an area's primitive and semi-primitive can be protected with the assertion that a BC or BCM management area needs to be designated as Recommended Wilderness to ensure an area's primitive and semi-primitive character is protected. We also disagree with the idea that existing inconsistent uses in recommended wilderness, such as mountain biking and chainsaw use, which are short-duration activities, will result in a long-term change in the wilderness characteristics of the areas.

Comment: (Letter Numbers 642 and 956) The final preferred alternative should identify Recommended Wilderness areas that do not include areas with obvious timber sale activity or roads.

***Response**: The forest plan revision team used the direction in FSH 1909.12 chapter 70 (January 2007 version) in the wilderness evaluation process that provides the following examples of where timber harvest and prior road construction may not be evident: (1) areas containing early logging activities related to historic settlement of the vicinity, (2) areas where stumps and skid trails or roads are substantially unrecognizable, or (3) areas where clearcuts have regenerated to the degree that canopy closure is similar to surrounding uncut areas.*

The initial mapping of the areas that may be suitable for inclusion in the National Wilderness Preservation System attempted to exclude all substantially recognizable harvest activities and roads. Review of those area maps by the public indicated there were several places within each area that may contain road templates and harvest activity. Prior to the release of the revised forest plan, the Forest committed to boundary checking those areas that may be suitable for inclusion in the National Wilderness Preservation System that moved forward as recommended wilderness in the proposed revised forest plan and making the appropriate edits to the recommended wilderness management area boundaries. Boundary checks were completed through a combination of aerial interpretation,

LIDAR mapping, and field verification by the recreation specialist on the forest plan revision team during the 2016 field season. LIDAR is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses—combined with other data recorded by the airborne system— generate precise, three-dimensional information about the shape of the Earth and its surface characteristics and can provide valuable information on the location of old road systems. Information obtained through the boundary verification process was then used by the forest plan revision team to adjust the boundaries of the Bald-Snow, Abercrombie-Hooknose, and Salmo-Adjacent Recommended Wilderness Areas to remove areas with evidence of substantially recognizable past harvest activity and roads. These changes were then approved by the responsible official.

Comment: (Letter Number(s): 1, 46, 48, 51, 53, 57, 59, 60, 61, 63, 64, 87, 93, 99, 103, 131, 188, 189, 202, 211, 293, 403, 507, 519, 522, 542, 544, 546, 566, 569, 576, 579, 608, 623, 637, 644, 645, 666, 684, 701, 731, 797, 807, 818, 898, 929, 947, 962, 968, 973, 975, 997, and 1004) The Forest should designate the following areas as Recommended Wilderness to prevent habitat fragmentation and limit development (logging, mining roads and recreation facilities) of the Forest: Profanity, Bald Snow, Hoodoo, Abercrombie-Hooknose, Salmo-Priest Adjacent, Thirteenmile, Cougar, Grassy Top, Hall Mountain and Quartzite. The final EIS should analyze and disclose effects of retaining mechanized use on trails and motorized tools to maintain trails within Recommended Wilderness.

***Response**: The proposed revised forest plan provides programmatic direction as to where recreation opportunities may or may not be suitable and includes the effect that management area designations have on users and other resources such as wildlife and water quality. The FEIS provides an analysis and comparison of recreation opportunities between the various action alternatives and explains the integration with other resource areas.*

The six alternatives contained in the FEIS describe the effects of various management area designations, including recommended wilderness, backcountry, backcountry motorized, and the Kettle Crest Recreation Area, on habitat fragmentation, road construction, timber harvest and recreation opportunities and facilities that would be allowed in the inventoried roadless areas within the Colville National Forest. Alternatives R and B both include the Profanity, Bald Snow, Hoodoo, Abercrombie-Hooknose, Salmo-Priest Adjacent, Thirteenmile, Cougar, Grassy Top, Hall Mountain and Quartzite areas that may be suitable for inclusion in the National Wilderness Preservation System as recommended wilderness management areas.

The description of each management area in chapter 3 of the proposed revised forest plan includes a table of suitable uses that describes what management actions may or may not occur within the management area. Scheduled production timber harvest as well as temporary (except for temporary roads required for mineral entry) and permanent road construction are not allowed in the Recommended Wilderness, Backcountry, Backcountry Motorized or Kettle Crest Recreation Area Management Areas. The 2001 Roadless Area Conservation Rule provides "Access for the exploration of locatable minerals pursuant to the General Mining Law of 1872 is not prohibited by this rule. Nor is reasonable access for the development of valid claims…" in inventoried roadless areas. Exploration and mining is subject to the regulations at 36 CFR 228 Subpart A.

The desired range of recreation opportunities on the Colville National Forest supports a variety of non-motorized and motorized recreation opportunities during the summer and winter (FW-DC-REC-01. Recreation Settings and Experiences and FW-DC-AS-02. Trail System – Motorized and Non-Motorized). While the desired condition is to provide for a range of recreation opportunities, the Forest recognizes the difficulty in meeting the desires of all recreation groups equally on the Colville National Forest.

The preferred alternative was designed to maintain a balance of motorized, mechanized, and non-motorized/non-mechanized recreation opportunities. As a result, Abercrombie-Hooknose, the portion of Bald-Snow south of Snow Peak Cabin, and Salmo-Priest Adjacent inventoried roadless area will be managed as Recommended Wilderness, while Profanity, Hoodoo, the Bald-Snow Inventoried Roadless Area north of Snow Peak Cabin, Thirteenmile, Cougar, Grassy Top, Hall Mountain and Quartzite will be managed as Backcountry (allowing mountain biking). For all alternatives, the effects to wildlife habitat have been analyzed and disclosed in chapter 3 of the FEIS. The analysis in the Recreation Specialist Report and the FEIS has been updated for each alternative to clarify effects on the remote characteristics (i.e., solitude) of each inventoried roadless area including a discussion on the effects of allowing mountain bike and chainsaw use on trails within recommended wilderness areas associated with the proposed action, and alternatives P and O.

Comment: (Letter Number(s): 623, 645, 667, 740, and 742) The final preferred alternative in the EIS should include desired conditions and standards that inventoried and non-inventoried roadless areas will be managed for their wilderness and roadless character. The Forest should consider all eligible areas for designation as Recommended Wilderness regardless of presence of non-conforming uses or location within the wildland-urban interface (WUI).

***Response**: Throughout the forest plan revision process, all areas that met the minimum criteria (FSH 1909.12 chapter 70 – January 2007 Version) for consideration as areas that may be suitable for inclusion in the National Wilderness Preservation System, regardless of inconsistent uses and the presence of WUI, have been evaluated against the tests of capability, availability, and need. The analysis of potential impacts resulting from inconsistent uses and WUI designations are assessed under the test of availability. Availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources including recreation opportunities and vegetation management. The Regional Forester, based on the recommendation of the Forest Supervisor, has the authority to not propose recommended wilderness in areas where the need for other resources outweighs the need for wilderness. Areas of potential wilderness identified through the wilderness evaluation process are simply part of an inventory of areas that may be included in the National Wilderness Preservation System. Inclusion in the inventory does not infer a land designation. These inventoried areas are not granted any level of management direction or protection until they are classified into a management area, such as BC, BCM, or RW. In addition, the application of the inventory criteria relies on local knowledge and judgment regarding unique, site-specific conditions of each area being considered for placement on the inventory of potential wilderness.*

As shown in the suitable uses tables for each management area, proposed revised plan does not allow temporary or permanent road construction (except for temporary roads required for mineral entry), scheduled timber harvest, utility corridors, and FERC licenses or permits from BC, BCM, and Recommended Wilderness management areas. In addition, motorized recreation is not a suitable use in the BC and Recommended Wilderness management areas. The 2001 Roadless Area Conservation Rule provides "Access for the exploration of [for] locatable minerals pursuant to the General Mining Law of 1872 is not prohibited by this rule. Nor is reasonable access for the development of valid claims…" in inventoried roadless areas. Exploration and mining is subject to the regulations at 36 CFR 228 Subpart A.

Many other uses, such as developed recreation sites, commercial forest products gathering, and special use permits may be authorized in both management areas. However, an activity that may be authorized as a suitable use does not mean it will always be authorized. Each proposed activity would need to go through site-specific analysis and be open to public comment prior to a decision by

the responsible official. Desired conditions in the proposed revised forest plan for the BC and BCM management areas support natural-appearing landscapes, aquatic, plant and wildlife habitat connectivity, semi-primitive recreational opportunity settings, and recreation facilities that enhance semi-primitive recreation experiences. The desired conditions for BC and BCM have been updated to clarify the Forest's intent to manage the areas to retain their existing primitive and semi-primitive characteristics (MA-DC-BC-BCM-06. Existing and Proposed Uses) while allowing for existing uses to continue. Management direction for recommended wilderness has also been updated to clarify the Forest's intent to manage the areas to retain their existing wilderness characteristics (MA-DC-RW-02. Retention of Wilderness Characteristics) while allowing for mountain bike and chainsaw use to continue. In addition, BC, BCM, and RW management areas also receive protection of their existing primitive, semi-primitive, or wilderness characteristics through forestwide management direction associated with air, soil, water, and wildlife resources.

Comment: (Letter Number(s): 623, 639, 701, 722, and 1002) The final forest plan revision documents should identify how areas eligible for and designated as Recommended Wilderness were selected and analyzed. The final revised forest plan should not allow large group camps for 100 plus people in or adjacent to Inventoried Roadless Areas or Recommended Wilderness areas, and should include direction that retains existing mountain bike trails and use in Recommended Wilderness.

***Response**: The Forest followed the steps and criteria outlined in FSH 1909.12 chapter 70 (January 2007 version) that describes the process used to identify, evaluate, map and document the wilderness evaluation process. Decisions regarding the areas that may be suitable for inclusion in the National Wilderness Preservation System that were located primarily on neighboring national forests were deferred to the adjacent forests. The public was heavily engaged throughout the evaluation process, with two series of collaborative meetings providing rich dialogue that informed the Forest Service of public uses, perceptions, and intimate knowledge of the landscape. Public comments on recommended wilderness were accepted and reviewed by the revision team until the release of the final revised EIS. Unroaded areas that met the criteria in FSH 1909.12 Section 71.1 (January 2007 Version) for placement on the inventory of areas that may be suitable for inclusion in the National Wilderness Preservation System were carried forward into the evaluation process. Evaluations for each unroaded area were completed by the forest plan revision team and were measured against the tests of availability, capability, and need. A summary document comparing how each unroaded area met the factors for capability, availability and need was provided to the responsible official to help inform the decision regarding which of the unroaded areas would be taken forward as recommended wilderness in the proposed action that the public commented on in 2011. Public comments submitted in response to the proposed action were analyzed by the forest plan revision team, and where appropriate, resulted in suggested changes to the recommended wilderness designations. Suggested changes were approved by the responsible official prior to the release of the proposed revised forest plan. Public comments received on the draft forest plan were also reviewed by the forest plan revision team and led to additional suggested changes to the recommended wilderness area boundaries. These suggestions were reviewed by the responsible official and used to make further adjustments to the recommended wilderness boundaries prior to the release of the revised forest plan. Appendix F of the FEIS describes the process followed in making the suitability determinations for unroaded areas and includes a summary for each area's capability, availability, and need.*

Developing a large group site adjacent to inventoried roadless areas or recommended wilderness areas could affect the primitive, semi-primitive or wilderness characteristics of those areas. Objective MA-OBJ-ARS-01. Large Group Sites is located in the Administrative and Recreation Sites Management Area direction of the proposed revised forest plan. The objective states that "within 15 years of plan implementation, provide a minimum of one large (100+ person capacity) group site for

day or overnight use in a location where there is a demonstrated need identified through public demand." The Forest placed this objective under the Administrative and Recreation Sites management area to reinforce the intent to consider this type of opportunity in the developed portions of the Forest, closer to large population centers. This type of project would need to meet the Forest's sustainable recreation strategy and ROS classifications, and would also require site-specific analysis and the opportunity for public comment prior to implementation.

Comment:(Letter Number(s): 6, 7, 8, 14, 15, 17, 21, 24, 25, 29, 39, 40, 65, 68, 76, 77, 98, 161, 198, 275, 339, 529, 538, 557, 559, 568, 592, 594, 637, 664, 665, 678, 686, 691, 695, 696, 735, 760, 798, 804, 872, 976, 981, 982, 985, 987, 1008, and 1013) The final preferred alternative should recommend less area for designation as wilderness. Management area designation should allow vegetation management for forest health and fuel management and reduce economic loss to local businesses and residents. The final EIS should: 1) disclose the supporting qualifying features and need for each individual area proposed for Recommended Wilderness designation; 2) identify why designation as Backcountry would not protect existing wild or remote characteristics; 3) how the individual area is consistent with County management plan goals and objectives related to timber, mineral and grazing lands of long term significance; 4) how designation as recommended wilderness meets the Forest Service multiple-use mandate; 5) analyze and disclose effects to domestic grazing allotments and existing mining claims potentially affected by recommended wilderness designation; 6) analyze and disclose effects to fire risk to adjacent communities and privately-owned lands.

***Response**: Appendix F of the FEIS describes the process followed in making the suitability determinations for areas that may be suitable for inclusion in the National Wilderness Preservation System and includes a summary table that lists the qualifying factors that support the capability, availability and need determinations for each area that was analyzed through the wilderness evaluation process.*

Existing levels of recreation use in the Salmo-Priest Wilderness is only one factor the Forest must consider when reviewing the need for additional wilderness. The Forest must also determine the need for an area to be designated as wilderness through an analysis of the degree to which it contributes to the overall National Wilderness Preservation System. "Need" is considered on a regional basis and evaluated through such factors as the geographic distribution of lands that may be suitable for inclusion in the National Wilderness Preservation System. The Forest completed a Wilderness Need Assessment in September of 2009, in accordance with FSH 1909.12 chapter 70 (effective January 31, 2007) which included an assessment of (1) Recreation Need, (2) the Need for Refugia, and (3) the Need for Preserving Landforms and Underrepresented Ecosystems, which is summarized in the Recreation section of chapter 3 of the FEIS.

In addition to the need for wilderness, the Forest also considered the capability (the degree to which an area contains the basic wilderness characteristics that make it suitable for wilderness recommendation), availability (assessment of the other resource demands and uses that the area under evaluation could satisfy), and the Forest's ability to manage a proposed area as wilderness prior to designating any of the areas that may be suitable for inclusion in the National Wilderness Preservation System as recommended wilderness in the proposed revised forest plan.

The FEIS and proposed revised forest plan include fewer acres as Recommended Wilderness than what was identified in the draft EIS and draft forest plan. Reductions between the draft revised and proposed revised forest plan occurred as a result of public comments that identified other resource potentials (mineral-rich areas with existing mining claims, WUI, community water source) that the responsible official determined to be of a greater need than the value of and need for additional wilderness.

Backcountry management area designations protect existing primitive or remote characteristics as described in the Recreation Specialist Report and FEIS associated with the proposed action and alternatives P and O. However, a Backcountry management area designation does not provide the same long-term protection of wilderness characteristics (untramelled, undeveloped, natural, opportunities for solitude or a primitive and unconfined type of recreation) that wilderness designation would provide. In addition, if all areas that may be suitable for inclusion in the National Wilderness Preservation System were designated as Backcountry management areas, the Forest would not provide the same diversity of recreational settings and opportunities that a mixture of Wilderness and Backcountry management areas could provide to Forest visitors.

Some areas that may be suitable for inclusion in the National Wilderness Preservation System are important to the customs, culture and heritage of Ferry, Pend Oreille, and Stevens Counties. The Bald-Snow Recommended Wilderness management area included in the proposed revised forest plan supports those activities, ideas, and ways of life. For example, Recommended wilderness allows for commercial grazing to continue at existing levels; allows for the exploration and development of locatable minerals; supports access for hunting, berry and mushroom picking; and provides access by foot, bicycle, and horseback while also protecting significant heritage sites. Because the Bald-Snow recommended wilderness area is also an inventoried roadless area under the2001 Roadless Area Conservation Rule, road development for scheduled timber harvest has already been restricted and motorized access into the majority of the Bald-Snow Recommended Wilderness area has not been allowed since the implementation of the 1988 Colville National Forest Land and Resource Management Plan. In addition, the recommended wilderness area's 200-foot setback (which is consistent with current firewood gathering regulations) from open system roads allows for continued access to firewood along those roads open to firewood gathering.

As a whole, the Colville National Forest is managed for multiple uses under the Multiple Use-Sustained Yield Act of 1960 (or MUSYA). This law authorizes and directs the Secretary of Agriculture to develop and administer the renewable resources of timber, range, water, recreation, and wildlife on the national forests for multiple use and sustained yield of the products and services. It does not require every acre on the Forest to be managed for every type of use. Recommended Wilderness meets the intent of the MUSYA by providing a specific type of recreation opportunity that emphasizes opportunities for solitude or a primitive and unconfined type of recreation that occurs in an undeveloped, natural setting free of motorized intrusions. Recommended wilderness also supports grazing, clean water, and contributes to preserving natural behaviors and processes that sustain wildlife populations.

Based on comments received during the comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness areas have been modified to exclude some areas where existing mining claims exist, and where the boundaries are adjacent to private land. These adjustments were made in recognition of the high mineral potential of northern Pend Oreille County, the statutory rights of U.S. citizens to explore for minerals and develop their claims, and the difficulty in managing congressionally withdrawn areas adjoining private lands.

Effects to domestic grazing allotments resulting from the designation of recommended wilderness in the proposed revised forest plan are discussed under the Livestock Grazing section of the FEIS. In the proposed revised forest plan, grazing would continue to be managed through the annual operating instructions for each allotment. Because the range improvements in the Recommended Wilderness management areas in alternative P are not currently accessed by motorized vehicles and chainsaw use is allowed to continue under alternative P until Congress designates an area as wilderness, permittees would experience no immediate changes to their operations. If Congress acts to designate

wilderness, the Congressional Grazing Guidelines would apply. These guidelines support maintaining existing levels of permitted grazing and the maintenance of existing infrastructure through the occasional use of motorized equipment. The guidelines go on to state that the "use of motorized equipment would be based on a rule of practical necessity and reasonableness. For example, motorized equipment need not be allowed for the placement of small quantities of salt or other activities where such activities can reasonably and practically be accomplished on horseback or foot. On the other hand, it may be appropriate to permit the occasional use of motorized equipment to haul large quantities of salt to distribution points. Moreover, under the rule of reasonableness, occasional use of motorized equipment should be permitted where practical alternatives are not available and such use would not have a significant adverse impact on the natural environment. Such motorized equipment uses will normally only be permitted to those portions of a wilderness area where they had occurred prior to the areas designation as wilderness or are established by prior agreement."

Comment: (Letter Number(s): 57, 110, 137, 177, 187, 471, 474, 540, 570, 637, 665, 686, 738, 976, and 1015) The Forest should analyze and disclose effects of allowing non-conforming uses within Recommended Wilderness for protection of existing characteristics. These include uses such as mechanical-based recreation (mountain bikes) and motorized-tool based trail maintenance (chainsaws). The Forest should disclose how each Recommended Wilderness area addresses the County land management plans related to agricultural, mineral and forest lands of long-term significance.

***Response**: The Recreation Specialist Report has been updated to provide a more in-depth qualitative analysis of the effects of inconsistent uses, including mountain biking and motorized trail maintenance, on existing wilderness characteristics associated with recommended wilderness areas.*

Ferry County's Comprehensive Plan designates the Bald-Snow Recommended Wilderness Area as both Agricultural Lands of Long-Term Commercial Significance and Mineral Lands of Long-Term Commercial Significance. However, the interdisciplinary team found that the designation of the Bald-Snow area as Recommended Wilderness is consistent with the County's Comprehensive Plan because the area will still support existing levels of commercial grazing and access for mineral discovery. Although temporary and permanent road construction is not allowed in Recommended Wilderness (except for temporary roads required for mineral entry), these types of activities have not been authorized in the Bald-Snow area since the implementation of the 1988 forest plan. In addition, nearly all of the Bald-Snow Recommended Wilderness is inventoried roadless area under the 2001 Roadless Area Conservation Rule, which also prohibits road construction. Therefore, the exclusion of temporary and permanent road construction (except for mineral entry) in the Recommended Wilderness areas does not change how that area has been managed over the past 30 years.

The FEIS appendix B (Coordination with Other Public Planning Efforts) provides more information related to review of County management plans.

Comment:(Letter Number(s): 529, 559, 595, 641, 664, 691, 991, and 1008) The Forest should disclose the implications for fire risk and response in areas adjacent to private ownership, improvements, and local communities related to Recommended Wilderness designation compared to if those areas were designated as Backcountry. The final plan revision documents should analyze and disclose effects within the wildland-urban interface (WUI) as defined by the County wildfire protection plans including areas around Metaline, Metaline Falls (including the municipal water source associated with North Fork Sullivan Creek), and Flowery Trail Homeowners Association.

***Response**: Comments received during the forest plan revision comment period raised concerns about the potential of fire spreading out of the recommended wilderness area onto private land, and*

potentially threatening infrastructure and other values at risk. An analysis was completed using two fire behavior modelling programs to determine the probability of such an event (FSPro model), and if treatments would alter fire movement to an appreciable degree (FLAMMAP model).

Fire Spread Probability Model

An analysis was completed using the Fire Spread Probability (FSPro) model. FSPro compiles weather and wind data from selected stations to build multiple weather scenarios, uses various wind and weather scenarios to predict fire growth, and then calculates the probability of fire reaching points on the landscape within a specified timeframe. The model assumes that no suppression action is taking place. For this analysis, 2,000 fires were modeled starting August 1 for 14 days of growth, using the Tacoma RAWS for weather inputs, and Deer Mountain RAWS for wind inputs. The model results indicate that in 14 days, there is a 20 to 39 percent or less probability of the fire leaving the recommended wilderness area.

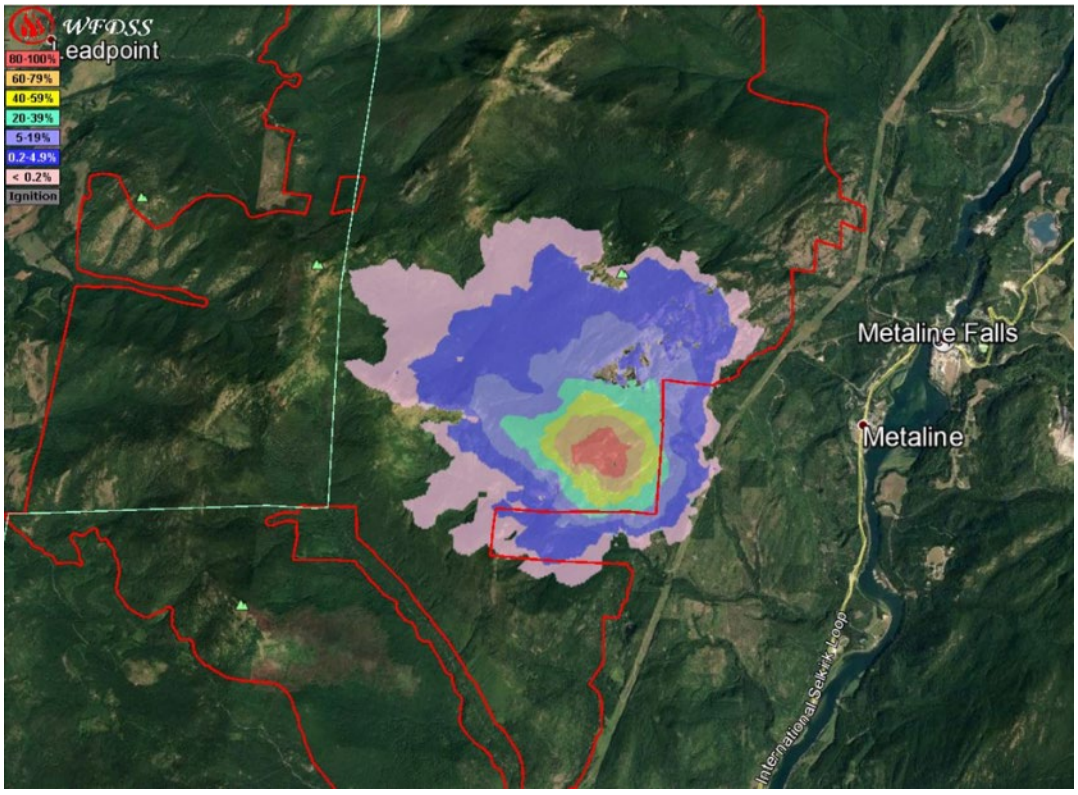

Figure E-1. Fire spread probability

FLAMMAP Model

The FLAMMAP model uses fuel moistures and wind information to predict fire growth. Model runs were completed using various fuel moisture conditions to simulate moderate (less than 90th percentile conditions), high (90th-96th percentile conditions), and extreme (97th percentile conditions) fuel moisture conditions. The model was run with current conditions, and then run after adjustments were made to fuel loadings to simulate treatments being completed. The same wind speed and direction were used for each model run. The model was set to simulate 12 hours of active burning conditions for each simulation. Under moderate conditions, with current fuel loadings, it is unlikely that fire would make a sustained run and leave the recommended wilderness area. Under high conditions, limited spread would be expected outside of the recommended wilderness area within 12 hours of

active burning conditions. Under extreme conditions, extensive fire spread would occur outside of the recommended wilderness area in 12 hours of active burning conditions. The model did not show fire directly impacting the towns of Metaline or Metaline Falls, which was a concern brought up in the comments; however, with the modelled fire movement, fire spread toward the towns should be expected under extreme fire conditions, and would be responsive to any wind events that may occur.

The model did not show that treating a 500-foot buffer along the boundary would be effective at limiting fire spread outside of the recommended wilderness area. While the model did show that crown fire activity would be reduced, rates of spread would remain high. This is due to the mapped fuel model from Landfire showing that the primary carrier of fire along the majority of the recommended wilderness area boundary is a grass fuel model. Fuel treatments in grass fuel models are typically limited to the use of prescribed fire, and are generally only expected to be effective for one year or less, depending on the timing of the burn and growth cycles of the grass.

It should also be noted that the Abercrombie-Hooknose Recommended Wilderness Area is an inventoried roadless area under the 2001 Roadless Area Conservation Rule, and there are currently no plans for vegetation management in this area during the next 10 years.

A similar analysis can be completed that looks at the probability of fire moving from recommended wilderness areas to private or other agency land, specifically to the Quartzite area. However, Quartzite is not listed as recommended wilderness in the preferred alternative and the area is not listed on the current 10-year plan for vegetation management.

Comment: (Letter Number(s): 79, 84, 98, 529, 556, 609, 627, 645, 686, 789, 818, 988, and 1002) The Forest should 1) provide an area between Recommended Wilderness designation and communities and privately-owned lands to address fire risk ; 2) disclose how individual areas meet the requirements of the 1964 Wilderness Act including - a. disclose the scientific findings required to support Recommended Wilderness designation, b. disclose documentation showing the areas are “untouched by human activity”, and c. excludes existing mining claims; 3) analyze and disclose effects to counties including effects to domestic grazing allotments. The final revised forest plan should include direction that retains wilderness characteristics in Inventoried Roadless Areas, Backcountry and Recommended Wilderness.

***Response**: There are three recommended wilderness areas in the proposed revised forest plan: Bald-Snow, Abercrombie-Hooknose, and Salmo-Adjacent. We understand that land owners and communities adjacent to these lands are concerned about the risk of fire escaping from the Forest and potentially impacting adjacent communities and privately owned lands. As a result, several different scenarios have been ran through fire behavior models and that information has been used to inform the effects to fire for each alternative in the FEIS.*

Fire risk to private lands is not an issue with the Bald-Snow Recommended Wilderness as there are no private lands adjacent to that recommended wilderness area. However, fire does pose a potential risk to private lands adjacent to the Salmo-Adjacent and Abercrombie-Hooknose recommended wilderness areas.

In response to public comments regarding fire risk, the southwestern border of the Salmo-Adjacent Recommended Wilderness (near Metaline Falls) has been adjusted in the proposed revised forest plan to provide a buffer between privately owned lands and the recommended wilderness area. However, most of the area removed from recommended wilderness designation is still part of a 2001 Roadless Area Conservation Rule inventoried roadless area, which prohibits the construction of roads and commercial timber harvest that will limit the management actions that can be taken on forest lands

adjacent to privately owned lands in that area. Fuel reduction activities, where allowed, would be analyzed in detail at a site-specific level and include public review and comment.

Again, in response to public comments, fire risk to private lands east of the Abercrombie-Hooknose Recommended Wilderness were assessed through additional fire behavior modeling between the draft and proposed revised forest plans. The results of this modeling indicates that treatments (up to 500 feet wide) adjacent to private property would be ineffective in reducing fire spread onto private land. In addition, most of the land associated with the Abercrombie-Hooknose Recommended Wilderness Area adjacent to private land is part of a 2001 Roadless Area Conservation Rule inventoried roadless area. These restrictions would limit the management actions that could be taken adjacent to privately owned lands, including those for fuel reduction. Because fire behavior modeling did not show a difference between the likelihood of fire escaping onto private land along the east side of the recommended wilderness whether the area was designated as recommended wilderness or backcountry, no changes were made to the eastern boundary of the Abercrombie-Hooknose Recommended Wilderness Area in the proposed revised forest plan.

The Forest has followed the direction in the 1982 planning rule that states that "roadless areas within the NFS shall be evaluated and considered for recommendation as potential wilderness areas during the forest planning process." The Forest also followed the direction in FSH 1909.12 chapter 70 (January 2007 version) that clearly describes the process used to identify, evaluate, and document the wilderness evaluation process. Appendix F of the FEIS describes the process followed in making the suitability determinations for inventoried areas that may be suitable for inclusion in the National Wilderness Preservation System and includes a summary for each areas capability, availability and need. FSH 1909.12 chapter 70 (January 2007 version) further stipulates that the results of the wilderness recommendation process is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, Secretary of Agriculture, and the President of the United States. Ultimately, Congress has reserved the authority to make final decisions on wilderness designation and can add or subtract from the recommended wilderness areas listed in the proposed revised forest plan.

Prior to the draft forest plan, some areas were removed from consideration as recommended wilderness because of their high mineral potential. In response to comments received on the draft plan, the Abercrombie-Hooknose and Salmo-Adjacent Recommended Wilderness area boundaries were adjusted to exclude areas where some existing mining claims are located. These claims were outside of the inventoried roadless areas, but inside the potential wilderness area additions identified through the forest plan wilderness evaluation process. Properly located and recorded (valid) claims will be managed under the provisions of existing United States Mining Law and the Organic Act, which provides for reasonable access to mining claims.

Based on comments received during the draft EIS and draft forest plan comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness Areas have been modified to exclude some areas where existing mining claims exist. Still, there are mining claims located in some of the Recommended Wilderness management areas identified in the proposed revised forest plan. These recommended wilderness areas remain open to mineral entry until withdrawn from the mining laws. Currently, there are no active mining operations on any of those claims. If a claimant or operator submits a Plan of Operation, it will be processed according to Forest Service regulations found at 36 CFR 228 Subpart A. Until designated as wilderness by Congress, recommended wilderness areas shall be managed to preserve their wilderness character. After the enactment of wilderness legislation, the Forest Service will conduct Valid Existing Right (VER) determinations on all claims where a Plan of Operations has been submitted inside newly

created wilderness. Such a determination would substantiate or invalidate the presence of a valuable mineral deposit and claim validity at the time of withdrawal. Claims determined to be valid could sustain approved mining operations and require reasonable access. Mineral deposits adjacent to valid claims cannot be subsequently claimed in designated wildernesses after the passage of a wilderness act.

Effects to domestic grazing allotments resulting from the designation of areas that may be suitable for inclusion in the National Wilderness Preservation System as recommended wilderness in the proposed revised forest plan are discussed under the Livestock Grazing section of the FEIS. In the proposed revised forest plan, grazing would continue to be managed through the annual operating instructions for each allotment. Because the recommended wilderness areas in alternative P (preferred alternative) are not currently accessed by motorized vehicles and chainsaw use is allowed to continue under the preferred alternative until Congress designates an area as wilderness, permittees would experience no immediate changes to their operations. If Congress acts to designate wilderness, the Congressional Grazing Guidelines would apply. These guidelines support maintaining existing levels of permitted grazing and the maintenance of existing infrastructure through the occasional use of motorized equipment. The guidelines go on to state that the "use of motorized equipment would be based on a rule of practical necessity and reasonableness. For example, motorized equipment need not be allowed for the placement of small quantities of salt or other activities where such activities can reasonably and practically be accomplished on horseback or foot. On the other hand, it may be appropriate to permit the occasional use of motorized equipment to haul large quantities of salt to distribution points. Moreover, under the rule of reasonableness, occasional use of motorized equipment should be permitted where practical alternatives are not available and such use would not have a significant adverse impact on the natural environment. Such motorized equipment use will normally only be permitted to those portions of a wilderness area where they had occurred prior to the areas designation as wilderness or are established by prior agreement. "

Throughout the forest plan revision process, all areas that met the minimum criteria (FSH 1909.12 chapter 70 – January 2007 Version) for consideration as areas that may be suitable for inclusion in the National Wilderness Preservation System have been evaluated against the tests of capability, availability, and need. It is important to understand that areas of potential wilderness identified through the wilderness evaluation process are simply part of an inventory of unroaded lands and that inclusion in the inventory, by itself, is not a land designation. Therefore, these inventoried areas are not granted any particular level of management direction or protection until they are classified into a management area, such as BC, BCM, or RW.

The suitable uses tables in the proposed revised plan restrict temporary (except for mineral entry) or permanent road construction, scheduled timber harvest, utility corridors, and FERC licenses or permits from BC, BCM, and RW Management Areas. In addition, motorized recreation is not a suitable use in the BC and RW Management Areas. The 2001 Roadless Area Conservation Rule states that "Access for the exploration of locatable minerals pursuant to the General Mining Law of 1872 is not prohibited by this rule. Nor is reasonable access for the development of valid claims…" in inventoried roadless areas. Exploration and mining is subject to the regulations at 36 CFR 228 Subpart A.

Many other uses, such as developed recreation sites, commercial forest products gathering, and special use permits may be authorized in both management areas. However, an activity that "may" be authorized as a suitable use does not mean it "will" be authorized. Each proposed activity would need to go through site-specific analysis and be open to public comment prior to a decision by the district ranger.

Desired conditions in the proposed revised forest plan for the BC and BCM Management Areas support natural-appearing landscapes, aquatic, plant and wildlife habitat connectivity, semi-primitive recreational opportunity settings, and recreation facilities that enhance semi-primitive recreation experiences. The desired conditions for BC and BCM have been updated to clarify the Forest's intent to manage the areas to retain their existing primitive and semi-primitive characteristics (MA-DC-BC-BCM-06. Existing and Proposed Uses) while allowing for existing uses to continue. Management direction for recommended wilderness has also been updated to clarify the Forest's intent to manage the areas to retain their existing wilderness characteristics (MA-DC-RW-02. Retention of Wilderness Characteristics) while allowing mountain bike and chainsaw use to continue. In addition, BC, BCM, and RW Management Areas also receive protections through forestwide management direction associated with air, soil, water, and wildlife resources.

Comment: (Letter Numbers 529 and 686) The Forest should not include areas with high locatable mineral potential or existing mining rights or claims within Recommended Wilderness since it does not satisfy the criteria for wilderness designation and is contrary to federal public land management policy. The Forest should not consider areas for Recommended Wilderness designation if the area has other important values such as a significant mineral potential.

***Response**: All NFS lands determined to meet wilderness capability requirements are considered potentially available for wilderness designation. The Abercrombie-Hooknose and Salmo-Adjacent areas were determined to meet wilderness capability requirements. However, the determination of availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources. During the wilderness evaluation process, the Forest evaluated the mineral potential for both areas and that assessment is included in the 2009 Wilderness Evaluations for the respective areas. The presence of mineral-rich areas does not preclude an area from being considered as recommended wilderness, but it does require the deciding official (regional forester) to consider the trade-offs between all of the values for which the areas could be used. Adjustments have been made to the boundaries of the Abercrombie-Hooknose and Salmo-Priest Adjacent Recommended Wilderness Areas contained in the proposed revised forest plan based on public comment. These adjustments have removed some of the mineral-rich areas associated with the perimeter of both recommended wilderness areas. However, both recommended wilderness areas in the proposed revised forest plan still encompass existing mining claims that are located deeper within the recommended wilderness area boundaries and their corresponding 2001 Roadless Area boundaries.*

Based on comments received during the comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness Areas have been modified to exclude some areas adjacent to private land.

These adjustments have been made in recognition of northeastern Washington's high mineral potential and the statutory rights of U.S. citizens to explore for and develop valuable minerals deposits (Sec. 2319, Mining Law of 1872 (as amended), and the difficulty in managing congressionally withdrawn areas adjoining private lands. The adjusted acres of recommended wilderness areas would allow for current and future mineral development; and provide the space the Forest needs to manage the wildland-urban interface, quality habitat for federally listed threatened and endangered species, additional acreage of under-represented eco-types in the wilderness preservation system, and wilderness-based recreation opportunities. After the enactment of wilderness legislation, the Forest Service will conduct Valid Existing Right (VER) determinations on all claims where a Plan of Operations has been submitted inside newly created wilderness. Such a determination would substantiate or invalidate the presence of a valuable mineral deposit and claim validity at the time of withdrawal. Claims determined to be valid could sustain approved mining

operations and require reasonable access. Mineral deposits adjacent to valid claims cannot be subsequently claimed in designated wildernesses after the passage of a wilderness act.

Comment: (Letter Number(s): 37, 56, 72, 85, 144, 146, 152, 153, 178, 185, 192, 193, 194, 195, 197, 199, 231, 258, 378, 385, 391, 396, 469, 472, 485, 505, 506, 508, 523, 524, 528, 529, 530, 539, 541, 543, 564, 565, 566, 577, 592, 596, 610, 623, 624, 644, 645, 664, 665, 670, 680, 684, 686, 694, 698, 701, 703, 713, 722, 735, 736, 737, 751, 753, 757, 760, 761, 789, 803, 805, 818, 824, 846, 861, 887, 906, 924, 929, 951, 952, 953, 954, 973, 974, 993, 1002, 1003, 1010, and 1015) The Forest should: 1) Consider designating Abercrombie-Hooknose as Backcountry to allow mechanical recreation use and mechanical and motorized methods for management of the domestic grazing allotments; 2) Retain the existing remote character of the Kettle Crest area without designating it as Recommended Wilderness; 3) Evaluate the Cougar Mountain area for designation as Recommended Wilderness; 4) Further evaluate the Sherman Pass area and designate it as Backcountry or Backcountry Motorized rather than Recommended Wilderness; 5) Analyze and disclose effects to the Pacific Northwest National Scenic Trail related to designation of the Kettle Crest area as Recommended Wilderness; 6) Analyze and disclose effects related to wildfire risk to the community of Flowery Trail Homeowners Association if Quartzite area is designated as Recommended Wilderness or Backcountry; 7) Protect retention of Snow Peak cabin and uses associated with it such as mountain biking and backcountry skiing; 8) Exclude existing mining claims from areas designated as Recommended Wilderness; 9) Exclude high fire frequency areas such as those found on the Kettle Crest from Recommended Wilderness designation; 10) Disclose economic impact to local communities related to areas designated as Recommended Wilderness; 11) Re-evaluate Profanity, Hoodoo, Harvey Creek, Twin Sisters, Grassy Top, Hall Mountain, Cougar Mountain, Bald Snow and Thirteenmile areas for Recommended Wilderness designation with consideration existing non-conforming uses and impacts from adjoining areas. The final revised forest plan should: 1) include direction that allows mountain bike use to continue within the Recommended Wilderness designation; and 2) direction to maintain wilderness character and suitability for areas designated as Recommended Wilderness, Backcountry and Backcountry Motorized.

***Response**: The proposed revised forest plan provides programmatic direction as to where recreation opportunities may or may not be suitable and includes the effects that management area designations have on users and other resources such as wildlife and water quality. The FEIS provides an analysis and comparison of recreation opportunities between the various action alternatives and explains the integration with other resource areas. We agree that a variety of opportunities should be provided to meet the needs of the recreating public. However, a variety of resources is affected by recreation use. The proposed revised forest plan seeks a range of recreational opportunities while considering many other resource management needs and responsibilities combined with user safety.*

The six alternatives contained in the FEIS describe the effects of various management area designations, including Recommended Wilderness, Backcountry, Backcountry Motorized and Kettle Crest Recreation Area, on the recreation opportunities that would be allowed in the unroaded areas within the Colville National Forest. The desired range of recreation opportunities on the Colville National Forest supports a variety of non-motorized and motorized recreation opportunities during the summer and winter (FW-DC-REC-01. Recreation Settings and Experiences and FW-DC-AS-02. Trail System – Motorized and Non-Motorized). While the desired condition is to provide for a range of recreation opportunities, the Forest recognizes it will be unable to meet the demands of all recreation groups equally on the Colville National Forest.

Abercrombie-Hooknose is analyzed as Backcountry in alternative O, allowing for mechanized recreation and motorized means for managing grazing allotments.

The Kettle Crest is analyzed as Backcountry in alternatives O and P to protect its remote character without the need for designating it as recommended wilderness.

The Cougar Mountain area is evaluated as recommended wilderness in alternatives R and B.

The Sherman Pass area is evaluated as Backcountry in the proposed action and alternatives P and O. The Sherman Pass area was not evaluated as Backcountry Motorized as there are no existing motorized trails or areas within the Sherman Pass area that would warrant a Backcountry Motorized designation.

Effects to the Pacific Northwest National Scenic Trail (PNNST) resulting from the designation of the Kettle Crest as recommended wilderness are evaluated in the proposed action and alternatives P, R and B. The only potential effect to the PNNST as a result of being located in recommended wilderness is a loss of access to the trail by mountain bikers under alternatives R and B, and the potential for an increase in trail maintenance costs resulting from the exclusion of motorized maintenance and reconstruction equipment. Under the proposed action and alternative P, however, mountain bike and chainsaw use would be allowed to continue until Congress designates the recommended wilderness areas as wilderness.

Snow Peak Cabin is retained in the no action alternative, the proposed action, and alternatives P and O. Snow Peak Cabin would be closed to use and removed from the Forest in alternatives R and B. These effects are disclosed in the FEIS.

All NFS lands determined to meet wilderness capability requirements are considered potentially available for wilderness designation. The Bald-Snow, Abercrombie-Hooknose and Salmo-Priest Adjacent areas were determined to meet wilderness capability requirements. However, the determination of availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources. During the wilderness evaluation process, the Forest evaluated the mineral potential for each potential wilderness area and that assessment is included in the 2009 Wilderness Evaluations for each respective area. The presence of mineral-rich areas does not preclude an area from being considered as recommended wilderness, but it does require the deciding official (regional forester) to consider the trade-offs between all of the values for which the areas could be used. Adjustments have been made to the boundaries of the Abercrombie-Hooknose and Salmo-Priest Adjacent Recommended Wilderness Areas contained in the proposed revised forest plan based on public comment. These adjustments have removed some of the mineral-rich areas associated with the perimeter of both recommended wilderness areas. However, both recommended wilderness areas in the proposed revised forest plan still encompass existing mining claims that are located deeper within the recommended wilderness area boundaries and their corresponding 2001 Roadless Area boundaries. No adjustments were made to the Bald-Snow Recommended Wilderness Area as a result of the presence of mineral-rich areas.

Based on comments received during the comment period, the boundaries of the Salmo-Priest Adjacent and Abercrombie-Hooknose Recommended Wilderness Areas have been modified to exclude some areas where existing mining claims exist, and where the boundaries are adjacent to private land.

These adjustments have been made in recognition of northeastern Washington's high mineral potential and the statutory rights of U.S. citizens to explore for and develop valuable minerals deposits (Sec. 2319, Mining Law of 1872 (as amended), and the difficulty in managing congressionally withdrawn areas adjoining private lands. The adjusted acres of recommended wilderness areas will allow for current and future mineral development; and provide the space the Forest needs to manage the wildland-urban interface, quality habitat for federally listed T and E

species, additional acreage of under-represented eco-types in the wilderness preservation system, and wilderness-based recreation opportunities. Prior to Congressional designation, proposed wilderness areas shall be managed as backcountry areas. After the enactment of wilderness legislation, the Forest Service will conduct Valid Existing Right (VER) determinations on all claims where a Plan of Operations has been submitted inside newly created wilderness. Such a determination would substantiate or invalidate the presence of a valuable mineral deposit and claim validity at the time of withdrawal. Claims determined to be valid could sustain approved mining operations and require reasonable access. Mineral deposits adjacent to valid claims cannot be subsequently claimed in designated wildernesses after the passage of a wilderness act. Areas with high fire frequency historically were tied to low fire severity. Wilderness areas that are untrammeled by man are the ideal place to allow fire to return to its natural role on the landscape, and areas that historically would experience low-severity fire are the ideal spot to begin that process. Fires in areas that would be of low severity, and have no reasonable expectation of negatively impacting values at risk would likely be managed in a way that would reduce risk and exposure to firefighting resources, while allowing fire to achieve some resource benefits.

The economic analysis associated with the proposed revised forest plan can be found in the Final EIS under the Recreation Management heading of the Social and Economic Conditions section. In general, impacts resulting from the designation of areas that may be suitable for inclusion in the National Wilderness Preservation System as Recommended Wilderness cannot be accurately determined at the community level with the amount and quality of information that is available at this time.

Alternative B evaluates the effects of the Profanity, Hoodoo, Harvey Creek, Twin Sisters, Grassy Top, Hall Mountain, Cougar Mountain, Bald Snow and Thirteenmile areas being designated as Recommended Wilderness on the other landscape features and dynamics and social systems managed on the Forest. Alternative B does not allow for inconsistent uses within recommended wilderness.

The proposed revised forest plan associated with alternative P allows mountain bike and chainsaw use to continue until Congress acts to designate the recommended wilderness areas as wilderness.

The Forest agrees that unroaded backcountry lands provide high quality, connected habitat for a multitude of fish and wildlife species by providing significant blocks of connected habitat and movement corridors. The Forest also agrees that efforts should be made to protect the existing primitive, semi-primitive or wild characteristics of these lands. The suitable uses tables in the proposed revised plan restricts temporary (except for mineral access) and permanent road construction, scheduled timber harvest, utility corridors, and FERC licenses or permits from BC, BCM, and RW Management Areas. In addition, motorized recreation is not a suitable use in the BC and RW Management Areas. Other uses, such as salable, leasable and locatable minerals may be allowed subject to existing laws and regulations. The 1872 Mining Law, as amended, and §478 of the Organic Act provide for reasonable access to mining claims regardless of the management area designation.

Many other uses, such as developed recreation sites, commercial forest products gathering, and special use permits may be authorized in both management areas. However, an activity that "may" be authorized as a suitable use does not mean it "will" be authorized. Each proposed activity would need to go through site-specific analysis and be open to public comment prior to a decision by the district ranger.

Desired conditions in the proposed revised forest plan for the BC and BCM Management Areas support natural-appearing landscapes, aquatic, plant and wildlife habitat connectivity, semi-primitive

recreational opportunity settings, and recreation facilities that enhance semi-primitive recreation experiences. The desired conditions for BC and BCM have been updated to clarify the Forest's intent to manage the areas to retain their existing primitive and semi-primitive characteristics (MA-DC-BC-BCM-06. Existing and Proposed Uses) while allowing for existing uses to continue. Management direction for Recommended Wilderness has also been updated to clarify the Forest's intent to manage the areas to retain their existing wilderness characteristics (MA-DC-RW-02. Retention of Wilderness Characteristics) while allowing for existing uses to continue. In addition, BC, BCM, and RW Management Areas also receive protection of their existing primitive, semi-primitive, or wilderness characteristics through forestwide management direction associated with air, soil, water, and wildlife resources.

Recreation – General

Comment: (Letter Number(s): 41, 65, 77, 94, 161, 293, 561, 691, 705, 906, 987, and 1015) The Colville NF should consider the following for inclusion in the final preferred alternative: Allow archery hunting within the US Air Force training area; Allow multiple uses including motorized access and recreation on at least 90% of the public land; Keep dispersed campsites open, or replace any closed dispersed campsites with new dispersed camping location; No additional development on the Forest; Removal of campground host program; Keep developed campgrounds open for longer periods during each year; Protection of existing mining and grazing permits; Enhancement of Batey-Bould trail; Access for aged and disabled members of the public.

***Response**: The proposed revised forest plan provides programmatic direction as to where recreation opportunities may or may not be suitable. Site-specific planning analyzes effects that specific recreation and trail proposals have on users as well as the effects of those proposals on other resources such as wildlife and water quality. The Final EIS provides an analysis and comparison of recreation opportunities between the various action alternatives and explains the integration with other resource areas.*

We agree that a variety of opportunities should be provided to meet the needs of the recreating public. However, a variety of resources are affected by recreation use. The proposed revised forest plan seeks a range of recreational opportunities while considering many other resource management needs and responsibilities combined with user safety. Another factor considered in the development of this proposed revised forest plan is the limitation of current and future recreation and trail budgets. Changes to specific types of recreation opportunities are not a forest plan decision, but an outcome of a site-specific analysis process. Where appropriate, recreation opportunities will be maintained and may be expanded under the proposed revised forest plan after site-specific analyses are completed and public input has been considered. Whether to allow archery hunting within the U.S. Air Force training area, to keep dispersed campsites open or to retain the existing number of dispersed campsites, to increase development on the Forest, to use the campground host program, to keep developed campgrounds open for longer periods during each year, or to enhance the Batey-Bould trail are all site-specific decisions that are made by the district ranger. While not part of the proposed revised forest plan, these concerns have been forwarded on to the Forest's district rangers, forest supervisor, and recreation staff.

Multiple recreation uses are allowed on nearly 100 percent of the Forest with motorized access and recreation uses allowed on approximately 80 percent of the Forest (See Table 243 in the FEIS). Increasing the percentage of the Forest open to motorized access and recreation would reduce those opportunities that require a non-motorized environment for forest users to achieve their desired recreation experiences. The desired range of recreation opportunities on the Colville National Forest has a variety of non-motorized and motorized recreation opportunities during the summer and winter

(FW-DC-REC-01. Recreation Settings and Experiences and FW-DC-AS-02. Trail System – Motorized and Non-Motorized). While the desired condition is to provide for a range of recreation opportunities, it is recognized that the Forest will be unable to meet the demands of all recreation groups equally on the Colville National Forest.

The protection of existing mining claims and grazing permits in the proposed revised forest plan are provided through management direction specific to each type of use in the proposed revised forest plan as well as existing laws and national policy such as the Congressional Grazing Guidelines and United States Mining Laws. The direction contained in these national level laws and policies remain in effect regardless of the management area, including Recommended Wilderness and congressionally designated Wilderness.

We agree that access to the Forest by all individuals, including those with disabilities is important. The Forest Service strives to meet user needs and incorporate universal design into construction of new and alteration of existing recreation facilities. The Forest Service Trail Accessibility Guidelines (FSTAG 2013) and the Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG 2013), are legally mandated for use within the National Forest System (FSM 2300). The desired conditions for Recreation (FW-DC-REC-01. Recreation Settings and Experiences), Administrative and Recreation Sites (MA-DC-ARS-07. Recreation Site Improvements; MA-DC-ARS-03. Developments and Improvements), and National Forest Access System (FW-DC-AS-02. Trail System – Motorized and Non-Motorized) all support the goal of recreation opportunities that are accessible by all individuals.

Comment: (Letter Numbers 77 and 729) The final EIS should include an alternative that includes a recreation opportunity spectrum (ROS) that addresses public need for an equivalent level of motorized (compared to non-motorized) recreation opportunities. The ROS should cover both summer and winter recreation or clarify why it doesn't cover all seasons of use.

***Response**: Travel management on Federal lands has been a challenging management issue since the late 1970s, when Executive Order 11644 was issued establishing policy and procedures "… that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resource of those lands, to promote the safety of all users of those lands and minimize conflicts among the various users of those lands." What represents a fair allocation between different forest users will continue to be an issue that all land mangers face. It is recognized that the Forest is not able to meet the needs of all recreation groups on the Colville National Forest and that there are motorized and non-motorized users who desire more or less motorized access across the Forest. The preferred alternative (alternative P) strives to balance the ROS classifications that support motorized, mechanized, and non-motorized/non-mechanized recreation opportunities and experiences.*

The first two paragraphs under the "Recreation" section of the Final EIS describe the recreation opportunity spectrum (ROS) on the Forest. Further detail regarding changes in ROS when compared to the existing condition associated with the 1988 forest plan can be found under the sub-heading "Identification of Lands Suitable for Recreation" for each alternative. Table 245 of the Final EIS shows the percentage of forest contained in each ROS classification by alternative and Table 239 shows which management areas are suitable for summer and winter non-motorized and motorized recreation by alternative. For clarity, the Final EIS has been updated to state that the ROS zoning associated with the preferred alternative will apply to both summer and winter recreation opportunities.

At first glance, Table 245 in the Final EIS appears to indicate that the preferred alternative reduces SPM ROS acreage by 50 percent when compared with the existing condition. However, the majority

of the BCM reduction is the result of an ROS classification correction from BCM to Roaded Natural (a more developed ROS classification that also allows for motorized trails and use), which better suits the existing managed environment of those re-classified lands, many of which are accessible by a system of open roads.

The following is a brief crosswalk between ROS and the management areas associated with the preferred alternative in the proposed revised forest plan:

Table E-3. ROS classification and the management areas associated with alternative P

ROS Classification	Primary Management Areas(s)	Motorized Rec Allowed	Non-Motorized Rec Allowed
Roaded Natural	General and Focused Restoration	Yes	Yes
Rural	General Restoration	Yes	Yes
Semi-Primitive Motorized	Backcountry Motorized	Yes	Yes
Semi-Primitive Non-Motorized	Backcountry, Recommended Wilderness, Wilderness	No	Yes
Primitive	Wilderness	No	Yes

Balancing motorized, mechanized, and non-motorized/non-mechanized recreation opportunities has more to do with the allocation of unroaded landscapes (Backcountry, Backcountry Motorized, Recommended Wilderness, and Wilderness Management Areas) than the roaded landscape (General and Focused Restoration Management Areas) because nearly 80 percent of the Forest is open to motorized recreation opportunities while approximately 90 percent is open to mechanized recreation, and nearly 100 percent is open to non-motorized/non-mechanized recreation trail opportunities. In addition, those recreation activities requiring a non-motorized/non-mechanized environment often require more acreage to meet the sought-after recreational experience to gain the separation necessary on the Colville National Forest to be free from the sights and sounds of motorized use. With that logic in mind, the preferred alternative increases (when compared to the existing condition) the acreage available for backcountry motorized recreation opportunities by approximately 41,000 acres, backcountry mechanized (and non-motorized) opportunities by approximately 42,000 acres, and backcountry non-motorized/non-mechanized opportunities by approximately 62,000 acres (see Tables 243 and 246 in the FEIS). While not perfectly equal, these increases reflect a substantial increase for all categories when compared to the existing condition and result in about twice as many acres open to backcountry mechanized recreation and backcountry non-motorized/non-mechanized recreation as backcountry motorized recreation.

Comment: (Letter Number(s): 68, 275, and 538) The final EIS should identify what regulation or policy governs use of special forest products such as berries, mushrooms, and Christmas trees, and where that direction can be found. The final revised forest plan should clearly disclose any changes to the process for: gathering special forest products for personal use and for obtaining commercial permits for activities such as outfitting and guiding

***Response**: The Renewable Forest Products (RFP) section of the proposed revised forest plan describes where relevant policy can be found concerning special forest products (FSH 2409.18-80, 2008) and the products available desired condition (FW-DC-RFP-02) explains that a variety of these products will be made available. Each management area also has a suitable uses table that explains whether forest product removal are authorized as a use. The proposed revised forest plan does not change any process related to gathering special forest products for personal use.*

The proposed revised forest plan direction provides standard and guidelines, and desired conditions regarding recreation special uses (FW-DC-LSU-05, FW-STD-LSU-01, FW-GDL-LSU-07). The Forest now has an Open Season to submit applications for both recreation and land-type special uses. The Open Season is in response to limited capacity on the Forest to respond to a growing demand for special-use permits. The process to obtain commercial permits for outfitting and guiding is found at the Forest's website. Please see http://www.fs.usda.gov/detail/colville/passes-permits/event-commercial/?cid=fseprd494012

Comment: (Letter Number(s): 25, 65, 275, and 538) The final revised plan should address camping and recreational mining interests from the public. The final revised plan should include direction to: open currently closed campgrounds; not close any existing developed campgrounds; and expand areas available for recreational prospecting.

***Response**: Whether to open currently closed campgrounds is a site-specific decision made by the district ranger. These decisions are based on the need to provide for public safety while staying within the Forest's recreation budget. There are many ways to achieve and maintain a safe recreation site, given recreation budget shortfalls at the Forest level, which may include the use of Forest Service employees, volunteers and concessionaires. Ultimately, these site-specific decisions are made by the district ranger and are outside the broad-scale planning scope of the forest plan revision process.*

No existing developed campgrounds are proposed to be closed under any alternative associated with the Environmental Impact Statement for the proposed revised forest plan.

There is no mention of recreational prospecting in the proposed revised forest plan because the Forest Service does not recognize recreational prospecting per se. Prospecting on public lands, including NFS lands with Public Domain status that are open to mineral entry, is allowable. However, the objective of prospecting is to discover a valuable mineral deposit. Forest Service locatable mining policy and regulations are focused on the protection of surface resources, potentially affected by exploration and mining activities. (see Title 36 CFR 228 Subpart A). Persons engaging in recreational prospecting on NFS lands should contact the Forest to determine whether the lands where they want to prospect are open to mineral entry, and whether their prospecting activities may require them to file a Notice of Intent or Plan of Operations for prospecting. Recreational prospecting, mining, and dredging in waters listed in the State of Washington's Department of Fish and Wildlife Gold and Fish Pamphlet may require filing of a Notice of Intent or Plan of Operations.

Process

Comment Period Extension

Comment: (Letter Number(s): 13, 479, 715, 727, 949, and 980) The Forest should provide additional time for the County Commissioners and interested members of the public to review and provide comment on the draft revised plan and DEIS.

***Response**: The Forest followed the public participation requirements outlined in the National Environmental Policy Act, National Forest Management Act, and provisions of the 1982 planning rule to develop the proposed plan and DEIS and make them available for review during a 90-day public comment period, which began on February 19, 2016. In response to requests from several interested groups and county commissioners, the comment period was extended 45 days for a total of 135 days for submitting public comments. The public comment period ended on July 5, 2016.*

Additional discussions with interested individuals and groups continued after close of the comment period to ensure the Forest understood comments and concerns received during the comment period.

DEIS - General

Comment: (Letter Number(s): 529, 627, 642, 686, 701, and 727) The Forest should ensure the final EIS includes: what activities would be prohibited by the revised forest plan and any resulting effects definitions for terms such as ecological integrity and forest health information summaries from supporting documents and how they relate to the analysis. All supporting documents should be made available for public review information on how standards and guidelines will be implemented and measured as well as ability of the Forest to implement them effects to all resource uses including mining

***Response**: Activities that might not be authorized are displayed in the suitability tables in the proposed revised forest plan. The proposed revised forest plan and FEIS include additional documentation including more definitions, information from references documents, and information about implementation and monitoring. Effects to resources and uses are disclosed in chapter 3 of the FEIS.*

Comment: (Letter Number(s): 509, 550, and 737) The final EIS should provide clear comparison of plan components between alternatives, clearly identify which alternative is used to develop the final revised forest plan, and disclose effects related to management of, and access to, private property by alternative and management area.

***Response**: Information comparing actions and effects by alternative is displayed in several areas in the FEIS including Table 3. Short description of alternatives considered in detail; Table 7. Proposed management area (MA) descriptions and percentages of total forest by alternative; Table 22. Comparison of alternatives (chapter 2, FEIS); as well as by resource area in chapter 3 (FEIS).*

The alternative used to develop the proposed revised forest plan (alternative P) is identified and discussed in the record of decision.

Management of access to private property is guided by law, regulation, and policy outside the forest plan process. Therefore, none of the alternatives or management area direction changes the authority or direction that would be followed related to access to private property.

Management of NFS Lands

Comment: (Letter Number(s): 89, 198, 275, 466, 538, 547, 561, 580, 590, 591, 609, 637, 682, 696, 717, 953, and 965) The revised forest plan should provide a balance for a wide variety of uses including commercial products (e.g., timber harvest and grazing), summer and winter motorized and non-motorized recreation, protection of terrestrial and aquatic habitat for both ESA listed (such as grizzly bear) and non-listed (such as big game and pollinators) species, and management that develops a resilient forest ecosystem.

***Response**: The proposed revised forest plan is based on alternative P. It would designate approximately 63 percent of the Forest as suitable for scheduled timber production, with an additional 19 percent suitable for timber harvest as a restoration tool. Approximately 75 percent of the Forest would be accessible and suitable for roads. Additionally, 6 percent of the Forest would be managed as recommended wilderness. As described in the FEIS, alternative P was developed to provide a spectrum of recreation opportunities, protect terrestrial and aquatic habitat, and support economic contributions to the local economy while moving the forest toward a condition more*

resilient to potential stress agents such as climate change. More detail about opportunities and effects of alternative P is in the FEIS.

Maps

Comment: (Letter Number(s): 29, 73, and 637) The Forest should make sure that both printed and electronic maps are easy to understand and use; that all maps include a date or other information to ensure the public knows they are reviewing the most current information; and any plan components that relate to management designations or habitat types include maps to show where those components would apply across the Forest.

***Response**: The Forest provided as much information as possible on the alternative maps. The Forest included additional information on both printed and electronic maps to make them easier for the public to understand and for the public to know when they were created. Additional maps are available in the map packet accompanying the FEIS to clarify where management designations and habitat types occur that are associated with plan components.*

Monitoring and Evaluation

Comment: (Letter Number(s): 77, 627, 637, 729, and 956) The monitoring and evaluation requirements listed in the revised plan should be based on most recent science, be feasible to implement (e.g., does the forest have sufficient funding & personnel to complete the monitoring), and provide information to the public on how the forest would complete the requirements (e.g., what techniques, methods, or timing would be used).

***Response**: The monitoring plan for the proposed revised forest plan is based on implementation of standards and guidelines to evaluate how project implementation is maintaining or making progress toward desired conditions and objectives. The standards and guidelines listed in the proposed revised forest plan are based on most recent science as documented in the FEIS. The table of monitoring questions also lists what would be measured and how often the measurements would occur.*

NEPA Process and Decision Making

Comment: (Letter Number(s): 77, 100, 102, 627, 701, and 956) The revised forest plan should identify its relationship to management of private lands and businesses, and should notify the public of process and procedures that occur after the objection period and signature of the Record of Decision.

***Response**: The proposed revised forest plan provides over-arching management direction for NFS lands managed by the Colville National Forest. The proposed revised forest plan does not have authority to provide direction, nor does it include direction, for management of private lands or businesses.*

Notification of timing and process for filing objections following release of the draft Record of Decision will be included in newsletters, emails and news releases provided to the public at the start of the objection process. Other information related to the objection process can be found at http://www.fs.fed.us/objections/objections_related.php

Comment: (Letter Number(s): 77, 100, 102, 627, 701, and 956) During the revision process, the Forest Supervisor and plan revision team lead have changed since the start of the public involvement part of the plan revision process. When that happened, the plan revision process should have restarted.

***Response**: The NEPA process for an individual project can restart for a number of different reasons such as changed conditions on the ground, or change to management policy such as a new law or*

regulation. However, a change in Forest Service personnel does not require a restart of the NEPA or public involvement process.

Public Involvement

Comment: (Letter Number(s): 25, 29, 36, 73, 98, 568, 637, 669, 670, 690, 785, 795, 812, and 1015) The Forest should ensure that the public has access to provide both electronic and printed comments during the entire comment period, and that all comments received from the public are available on the Forest webpage for the public to read. The Forest should explain what they will do with the comments.

***Response**: The Forest provided multiple ways to provide comment on the plan revision documents during the 135-day comment period. The public was able to submit comments electronically through the Forest Service Comment Analysis and Response Application (CARA) located on the Forest Plan Revision website; electronically to an email address (colvilleplanrevision@fs.fed.us); written comments submitted to the Colville National Forest office in Colville, Washington (mailed or hand-delivered); verbal or written comments provided at one of the three recorded listening sessions; or electronically provided to Amy Dillon, Plan Revision Team Lead (adillon@fs.fed.us).*

Comments received from the public through CARA were generally posted to the Reading Room within 24-48 hours. Comments received through other means were generally posted to the Reading Room within 48-72 hours. All of the public comments received on the draft forest plan and DEIS are available to the public for reading online in the Comments Reading Room: https://cara.ecosystem-management.org/Public//ReadingRoom?Project=45826I

The plan revision team is required to follow National Environmental Policy Act (NEPA) procedures during an official comment period during a planning process to review and analyze comments for substantive input. Responses were analyzed using a process called content analysis. Content analysis is a method commonly used by specialists to gather information regarding various types of messages. Each unique letter was read and substantive comments identified and coded by major topic. The substantive comments and their coding were entered into a database, allowing for reporting of all substantive comments by topic. Similar comments were then combined into a "public comment statement." Therefore, while not every comment is listed in this appendix exactly as written by each respondent, each comment was considered individually. Comments and responses are arranged alphabetically according to resource or topic.

Comment: (Letter Number(s): 33, 77, 80, 83, 86, 96, 108, 637, 664, 872, 976, 977, and 993) The Forest should coordinate development of the final revised plan and EIS with County governments with consideration of County management plans and promoting OHV recreation.

***Response**: The public involvement process is summarized in appendix A of the FEIS, and in the Coordination with Other Public Planning Efforts in appendix B of the FEIS. The forest supervisor and the interdisciplinary team (IDT) members met 69 times with Ferry, Stevens and/or Pend Oreille county commissioners since August 2005 to specifically discuss the forest plan revision process and the resulting documents. In addition, county commissioners participated in collaboration and general meetings with the public and Forest Service during development of plan revision proposals, providing input from a county government perspective. Commissioners from all three counties were at the table and helped to build the proposed action that was released in 2011. The proposed action was then used in developing alternative P for the DEIS and draft forest plan. The IDT members have reviewed management plans for all three counties and coordinated information from those documents with the plan revision documents. The forest supervisor discussed plan revision proposals and county concerns with the commissioners before, during and after the comment period to address any*

discrepancies and ensure availability of all information. The Colville National Forest will continue to coordinate with the counties in implementing the proposed revised forest plan. Part of this discussion includes the ability to develop OHV routes in each of the three counties. The proposed revised forest plan does not include designation of specific routes, but identifies where OHV routes are a suitable use and provides a range of management designations to address multiple types of recreational use.

Comment: (Letter Number(s): 40, 73, 81, and 101) Meetings with the public should be held locally and be available to all interested people. The Forest personnel should attend these meetings to hear comments and questions directly from the public.

***Response**: The Colville forest plan revision effort has been a multi-year effort to inform and engage stakeholders and interested citizens in the details and complexities of revising this forest plan. During the early stages of plan development, between 2004 and 2010, information and collaboration workshops were held in communities within the three-county area, including Spokane.*

Between 2012 and 2014, work was done to develop the draft plan and draft environmental impact statement. Meetings continued with counties, Tribes, and elected officials. The two forests also separated their efforts, which allowed us to zero in on issues specific to the Colville National Forest. The Forest was able to release a draft plan and analysis for public comment in February 2016.

It has been the Forest's intent to be as transparent and informative as possible. The Colville National Forest, working with the U.S. Institute for Environmental Conflict Resolution as a neutral third-party facilitator and convener (U.S. Institute, www.ecr.gov) worked together to offer a variety of opportunities for public participation during several phases of the planning effort, and the remainder of the Colville forest plan revision process. The U.S. Institute helped the Forest Service to provide as open and collaborative a process as is possible, with limited time and funding to accomplish this effort. The goal is to provide the public access to reliable information about Forest Service proposals, and engage the public in a shared understanding of the diversity of perspectives that will ultimately improve Forest Service decisions.

Several meetings were convened at the U.S. Institute, where the Forest Service was also invited to be a participant along with members of the public. These meetings were designed to help the Forest Service focus on problem-solving discussions with interest groups regarding some of the unique issues facing this forest and the broad interests of people and groups interested in the outcomes of this planning effort. Several of the meetings were designed based on feedback from the public, where they wanted an opportunity to provide verbal comment. All meetings hosted by the Forest Service have been open to all members of the public. By design, several of the interest-group discussions were hosted by U.S. Institute, as a neutral third-party convener, to help us and the public interest groups really focus on sharing information about the draft plan and DEIS to help the interests groups better understand how different alternatives may affect their user group or use. There are summary notes of the presentation and questions and answers from those meetings posted to the project website.

The Forest Service was present and participated in all of the public meetings that were either hosted by the Forest Service, or convened by the U.S. Institute. The forest supervisor was at many of the formal meetings, and the project team leader and many of the resource specialists participated in all of the meetings. Please note that other entities such as the counties and collaborative and community groups, did host their own meetings where plan revision was the topic, where the Forest Service was not a part of the agenda or invited to present. These are not considered part of the official public engagement process where notes were captured. However, these meeting may have helped some groups affirm the comments they were planning to submit. The plan revision team would like to stress that the Forest Service did put a big emphasis on getting information out about the draft plan and

DEIS to help the public better understand the proposal so they could focus their comments on the draft plan and DEIS documents. At this stage of the plan development, focus on the proposal and alternatives at hand is the main focus. The Forest emphasized the need for comments to be about the draft plan, alternatives or analysis at this juncture in the planning process, to help the public understand how comments would be used at this phase.

During the DEIS comment period, several community and user group organizations hosted meetings where they invited the Forest Service to share information about the draft forest plan and comment process. All of the meeting notes and summaries from this wide range of meetings are posted to the project website and remain available for public viewing: http://www.fs.usda.gov/detail/colville/landmanagement/planning/?cid=fseprd499830

Information and video clips from other public engagement meetings are also available on the project website: http://www.fs.usda.gov/detail/colville/landmanagement/planning/?cid=fseprd490436

Attachments

Comment: (Letter Number(s): 569, 664, 691, 701, 729, 816, and 1014) Information found in attachments to comment letters should be considered during development of final revised plan and environmental impact statement.

***Response**: All information provided during the comment period, including attachments, was considered for development of the plan revision documents. Attachments are included in the project record with the associated comment letter.*

Editorial

Comment: (Letter Number(s): 78, 83, 636, and 685) There is no authority in the Constitution for designations of national forests. Forest lands should be managed by local (state and/or county) governments. Forest Service should incorporate public input into the plan.

***Response**: Review of the authority for the federal government to designate and manage national forests is not within the scope of this analysis and would be an issue for the United States Congress to address.*

Some people have expressed a concern about the consideration that is given to public comments received from people who do not live in the immediate area, or in one of the counties that is directly served by the Colville National Forest.

As a national forest and resource, comments are welcome and accepted from anyone, and all comments received will be given a fair review. The comment process is not a vote, but more an evaluation process where the decision makers must weigh and evaluate the needs of the land and resources with the needs of the local communities and the nation. Decisions must be made within the framework of the law, regulation and policies set for the management of the national forests by Congress.

We would like to acknowledge that the comments submitted by people with local knowledge of the Forest, from those who have used the forest, or are familiar with the key issues being addressed by this forest plan revision analysis will likely include the level of substantive detail needed to ensure a well informed decision.

Comment: (Letter Number(s): 18, 95, 106, 198, 591, and 809) The Forest Service should turn ownership and management of Colville National Forest System lands to the State of Washington per wording in the U.S. constitution.

***Response**: Transfer of ownership of National Forest System lands is outside the authority of the forest plan revision process.*

Comment: (Letter Number(s): 140, 155, 570, 642, 751, 956, and 959) All comments received during the 30-day comment period should be reviewed & considered.

***Response**: All comments received during development of the plan revision documents are reviewed and considered, including those received during the 30-day comment period. This appendix documents the responses to comments received.*

Comment: (Letter Number(s): 34, 69, 509, 538, 572, 592, 637, 686, 696, 713, and 798) The final plan should be written to be understandable and implementable. Terms and phrases should be defined, and maps, tables and other graphics should be clear.

***Response**: The Forest provided additional information in the final revised plan and EIS to address missing or unclear information in the draft documents and in response to public comments. Additional terms and phrases are defined in the glossary.*

Comment: (Letter Number(s): 17, 22, 49, 586, 594, 627, 637, 664, 665, 666, 669, 696, 701, 727, 734, and 798) The revised forest plan should be written in a manner that is based on science, is understandable and is implementable. It should be clear to the public what outputs can be expected and how plan components would be implemented.

***Response**: The scientific basis for the proposed revised forest plan is documented in the final EIS. Additional documentation was added to the proposed revised forest plan to assist Forest Service employees and the public understand the difference between the types of plan components, including objectives, and how implementation and monitoring would occur.*

Comment: (Letter Number(s): 637 and 715) The final revised plan and EIS should correct any fatal flaws identified in the draft documents. Public comments should be reviewed and clarified by an external group rather than by the Forest.

***Response**: The Forest provided additional information in the final revised plan and EIS to address missing or unclear information in the draft documents and in response to public comments. The comments received during the public comment period were reviewed by Forest Service plan revision interdisciplinary team members; those providing comments that were unclear were contacted for clarification. There is no requirement to have an external individual or group review and clarify public comments provided as part of the forest plan revision process.*

Comment: (Letter Number(s): 509, 569, 574, 623, and 627) Any additional information provided as a reference or literature citations in the comment letters should be reviewed and considered during development of the final revised plan and environmental impact statement.

***Response**: All information received during the comment period, including references and citations, was reviewed and considered during development of the final plan revision documents. All referenced documents are included in the project record.*

Information Requests

Comment: (Letter Number(s): 68, 538, 569, 637, 803, and 960) The Forest should provide information related to specific information requests received during the 30-day comment period.

***Response**: A number of different information requests were received during the comment period. For individuals or groups that wanted to receive any future information that was made available to the public related to the plan revision process, their contact information was added to the plan revision mailing list.*

For requests to provide additional information related to a specific resource or activity related to the plan revision process information was added to the specialist report, FEIS, or to the proposed revised forest plan.

Information requests provided to us under the Freedom of Information Act (FOIA) were processed under that authority.

Law Enforcement

Comment: (Letter Numbers 88 and 538) The final EIS should identify the authority under which the Forest Service enforces laws or regulations.

***Response**: The Forest Service is part of the Department of Agriculture. The Secretary of Agriculture can establish procedures for the protection of our resources under 16 USC 551. With the Secretarys authority, the Forest Service enforces laws passed by the Legislative branch, primarily those in 36 CFR Parts 200 to 299, although there are other Laws and Acts that we also enforce. Forest Service law enforcement actions tie to protection of natural resources and safety associated with National Forest System lands. Law enforcement is outside the scope of the forest plan revision process.*

Science

Comment: (Letter Number(s): 27, 585, 627, and 789) The Forest should use the best science available to develop alternatives, design plan components, and analyze effects to resources.

***Response**: The forest plan revision interdisciplinary team members researched current science information and contacted other specialists working in their resource area to incorporate science and research information into development of the final revised plan and EIS and ensure compliance with the science findings. This is documented in methodologies, literature cited, and the project record.*

Comment: (Letter Number(s): 48, 561, 581, 627, 665, and 888) The final revised plan direction and EIS analysis should be guided by current science including analysis methodologies and scientific standards.

***Response**: The forest plan revision interdisciplinary team members researched current science information and contacted other specialists working in their resource area to incorporate science and research information into development of the final revised plan and EIS and ensure compliance with the science findings. This is documented in methodologies, literature cited, and the project record.*

Comment: (Letter Number 627) The Forest should identify the reliability of the Forest Service data used for modeling effects, and should disclose validity of the model and whether it is appropriate for the use the model is being utilized for.

***Response**: Numerous peer reviewed publications support using state and transition modeling for evaluating the potential outcomes of different vegetation management scenarios and for developing the historical range of variability (e.g. Blankenship et al. 2015, Costanza et al. 2015, Hemstrom et al.*

2001. See also http://www.syncrosim.com/index.php?title=Publications for a large list of publications). As discussed in Appendix B of the Vegetation Specialist Report, the use and refinement of the data that was used in the model took place over numerous workshops and meetings with the final result being what is shown and analyzed in the FEIS. Appendix B also discusses the source data used to populate the models and how modeling zones were developed and stratified.

Citations:

Jennifer K. Costanza, Robert C. Abt, Alexa J. McKerrow, Jaime A. Collazo. Linking state-and-transition simulation and timber supply models for forest biomass production scenarios. AIMS Environmental Science, 2015, 2(2): 180-202.

Miles A Hemstrom, Jerome J Korol, Wendel J Hann, Trends in terrestrial plant communities and landscape health indicate the effects of alternative management strategies in the interior Columbia River basin, Forest Ecology and Management, Volume 153, Issues 1–3, 1 October 2001, Pages 105-125.

Kori Blankenship, Leonardo Frid, James L. Smith. A state-and-transition simulation modeling approach for estimating the historical range of variability. AIMS Environmental Science, 2015, 2(2): 253-268.

List of Commenters

The table below contains the list of individuals who submitted a letter regarding this project. The list is organized alphabetically, by last name. Letters sent as anonymous, or sent with contact information that wasnt legible were not included. The letters are kept as part of the project record. The last column contains the letter number that was assigned to each individual.

Over 1,500 form postcards were received that had signatures with no addresses. Most of the names were not legible. Only the original was included in the table.

Table E-4. List of commenters

Last Name	First Name	Organization	Letter #
1234	Sami		59
1234	Anonymous		538
Abeid	Simon		809
Abelin	Doug	CTVA Action Committee	77
Abramovich	Abbie		649
Acheson	Anne		558
Acheson	David		601
Acord	Glen		182
Aegerter	Mary Jo		998
Albers	Eric		540
Alexandra	Kathryn		839
Altobelli	Rocco		173
Anderlik	Bob	Animal Advocates of the Inland NW	520
Anderlik	Christy		522
Anderson	Raymond		235
Anderson	Gwen		307
Anderson	Timothy		778
Anderson	Josh	Vaagen Bros. Lumber, Inc.	681
Andreoni/Brown	Michael/Valerie		823
Angione	Alison		148
Anon	Anon	Conservation NW, Kettle Range	992
Anon	Anon		275
Anthes	Russell		541
Arden	Greg		154
Armstrong	Michael		376
Asmussen	Jan		798
Atcheson	David		485
Austin	Megan		340
Axel	Sheri		791
Axel	Sheri		797
Bacon	Doris		614
Bacon	Edward		618
Baer	Robert		997

Last Name	First Name	Organization	Letter #
Baines	Andrea		280
Baker	Danial		396
Baker	Kaylynn		61
Baker	Kelly		508
Bakken	Luke		131
Bakken	Eric	Chewelah Peak Mountain Resort	505
Bakken	Luke	Spokane Mountaineers	566
Barney	Martin		295
Barreca	Joseph		530
Barrett	Eric		892
Barrows	Susan		389
Bartleson	Hugh		84
Beam	Rebecca		35
Beardslee	Larry		181
Beasley	John	Metaline Contact Mines	509
Bebbington III	Philip		418
Bechmann	Elisabeth		656
Beemer	Craig		1009
Behrens	Paul		299
Benami	S.		633
Bennett	Patrick		616
Bennett	Sylvia		621
Betti	Mark		439
Bidwell	Karen		869
Bigas	John And Angela		608
Bischoff	Carol		758
Black	Rachael		302
Black	Janice		452
Boeh	Bob		466
Bonin	Linda		303
Bounds	Tyler		712
Bournique	Bob		736
Bowers	Margaret		654
Bowers	Margaret		858
Bradeen	Phil		859
Brady	Dan		111
Brady	Frederick		937
Brady	Thomas		535
Breithaupt	Barbara		232
Bremer	John		819
Brewer	Anna		364
Brian Jokela	Mary		390

Last Name	First Name	Organization	Letter #
Bring	Sonja		417
Broome	Leeza		638
Brown	Eric	Whatcom Mountain Bike Coalition	583
Brown	Hannah		45
Brown	Mark	Teck Washington Incorporated	529
Brubeck	Donald		388
Brudnicki	Susan		907
Brumbaugh	Viola		289
Buck	Sherman		282
Buck	Jim		83
Buck	Stuart		974
Burgmeier	Julie		653
Burken	Bobby		733
Burr	Eric		269
Burton	Roger		534
Buslot	Chantal		517
Butt	Robert		140
Byrd	Barry		80
Byrd	Anne		81
Cadwell	Brandon		1
Cadwell	Amy		72
Cady	Francois		124
Cain	Clair John		961
Cain	Gayle		965
Call	Brian		259
Cappello	Cynthia		820
Carlson	Bryan		201
Carlson	Ben		484
Carr	Mary		469
Carroll	Carla		897
Carter	Terry		314
Cary	Rhonda	Pend Oreille County Board of Commissioners	13
Cary	Rhonda		691
Casile	Almer		178
Castle	Greg		143
Cates	Delane		22
Cates	Siriana		24
Cates	Deforest		68
Catt	Timothy		206
Cauchy	Mark		435
Cazenavette	Craig		97
Cederlind	Gregory		392

Last Name	First Name	Organization	Letter #
Ceorrigan	Timothy		102
Chabot	Angela		157
Chadwell	Mike		834
Chamberlin	Susan		36
Chamberlin	William		971
Chan	Danny		837
Chapple	Beth		237
Chesnut	Brian		8
Chi	Animae		782
Chiem	Frances		501
Christierson	Peter		252
Christman	Neil		902
Christoffersen	Eric		524
Clancy	Nyack		796
Clark	Judith		32
Cleave	Theodore		860
Clementson	Susan		128
Cleve	Janice		208
Cloutier	Clare		224
Codling	John		110
Coffey	Patricia		634
Coffey	Patricia		838
Cole	David		304
Coleman	Tim		98
Coleman	Tim	Northeast Washington Forestry Coalition	645
Coleman	Tim	Kettle Range Conservation Group	701
Coleman	Sue		1002
Collins	Lyle		380
Collins	Dennis		934
Colter	Carolee		391
Conger	Heather		594
Connelly	Cailyn		49
Connor Sr.	James		619
Conquergood	Robert		323
Cook	George		721
Cote	Olga		115
Covington	Laurel		925
Cowan	Keith		429
Crampton	Susan		751
Cramton	David		278
Crane	Adam		130
Cree	Anthony		725

Last Name	First Name	Organization	Letter #
Creech	Jeff		801
Cristie	Stan		58
Crockett	Sharon	Spokane Winter Knights Snowmobile Club	598
Croshaw	Wally		757
Crowley	Brian		735
Cruea	Rick		970
Cumming	Katie		677
Cunningham	Terry		27
Cunningham	Keith		593
Curtis	Colleen		918
Cutting	Anne		630
D	Sheila		777
D	Jamie		947
Dal Balcon	Kevin & Rhonda		592
Dallas	Evan		867
Daniel	Todd		516
Danner	Patricia		93
Dansel	Brian		108
Dare	Peggy		861
Darlymple	Thomas		198
David Wallesz	Barbara		936
Davis	Emily		322
Davis	John		528
Davis	Jean		898
Dawson	Catelyn		981
Dawson	Grant		982
Dawson	Kelsey		983
Dawson	Jeff		985
Dawson	John And Melva		986
Day	Jim		92
Delacy	John		270
Delancey	Kris		939
Delaney	Nancy		953
Delaurier	Mark		624
Dennis	Gudrun		337
Denton	Denise		799
Depaulo	Dana		734
Depuydt	Raymond		550
Deriso	Dawn		309
Derr	Brian		288
Dexheimer	Derek		412
Dexter	Barry		552

Last Name	First Name	Organization	Letter #
Dickinson	Dan		186
Dickson	Lance		7
Dickson	Shellie		19
Didonato	Tony		212
Dodson	Alan		118
Dolezel	Pavel		158
Dominguez	Mari		650
Donaldson	Jamie		445
Donovan	Patrick		800
Doucette	Wayne		312
Douggrumbach@Yahoo.Com	Anon		718
Dove	David		114
Drake	Mona		669
Drake	Tom		476
Dunn	Brianna		909
Dunton	Lee		562
Duprel	Renee		438
Durnell	Tim		472
Dyer	Dorian		329
Earhart	John		197
Eastlund	Karl		121
Edain	Marianne		381
Ediger	Patricia		682
Edwards	Mike	Southwest Idaho Mountain Biking Association	703
Ellen	James D.		73
Ellsworth	Matt	American Exploration and Mining Association	686
Engler	Pamela		263
Enzensperger	Joseph	Okanogan Chapter PCTA	69
Esler	Glenn		264
Eugene	Bob		79
Evans	Mark		324
Ewan	Nicole		864
Exner	Louis		339
Exner	Johnna		609
Falk	Sarah		458
Fanger	Margaret		542
Fay Alm	Eric		790
Fellows	Paul		814
Fetterman	Luba		273
Feuerborn	Laura		663
Feyk	Craig		720
Field	Jack	WCA, PLC, NCBA	580

Last Name	First Name	Organization	Letter #
Figg	Greg		91
Finnie	Scott		306
Fiscus	Eric		112
Florio-Kowitz	Evelyn		942
Fogle	Derek		822
Foll	Nancy		711
Foote	Joseph		604
Forsyth	Scott		174
Foster	Lorraine		675
Fountain	Steve And Trudi		690
Froschl	Doris		752
Fred	Marcum		784
Fredericks	Heather		240
Fritzen	Madeline		53
Fuchs	Susan		223
Funke	Carrie		743
Funke	Kyle		753
Gaffney-Brown	Mary		271
Gage	Jane		740
Ganje	Jeela		906
Gannon	Kate		1011
Gartner	Crystal		422
Gauf	Jason		467
George	Stephen		64
George	Bart	Washington State Chapter of Backcountry Hunters and Anglers	667
Gerak	Joshua		152
Gerber	Candice		951
Gevers	Will		160
Gibson	Lori		771
Giegel	Joseph		191
Gill	Raymond		899
Gillis	Robin		169
Gilman	Jena		824
Gogarty	Brian		33
Goldman	Linda		189
Goldsmith	Ken		847
Goodenough	Doug		625
Goodman	Kaelin		90
Gorbett	Andrew		843
Goss	Willard		705
Govan	Kevin		267

Last Name	First Name	Organization	Letter #
Gowan	Chance	Stevens County Cattleman's Association	637
Grace	Lise		371
Gragg	Sharron		25
Grass	Dean		67
Grass	Kathy		65
Grass	Chad And Stacie		16
Grass	Kathy		66
Gray	Scott		584
Grazier	Martha		203
Green	LD		646
Green	Clint		1016
Greer	Hank		808
Greeson	Derry		613
Greuel	Benjamin	The Wilderness Society	623
Griffen	Donna		662
Griffin	Dorothy Griffin		533
Griffin	Annie		815
Griffith	Greg	State Historic Preservation Office	960
Grossman	Garbo		342
Grudowski	Ted		345
Gunnell	Chase		199
Gustafson	Charles		776
Haber	Matt		912
Hallanger	Cynthia		478
Hamilton	Nathan		141
Hamilton	Julie		659
Hamilton	Ed		964
Hamilton	Jim		975
Hamm	Nicholas		600
Hance	Judith		416
Hanna Hanna	Lawrence		296
Hansen	James		246
Hansen	Aaron		827
Hanson	Donna		415
Hapke	Peter		404
Harper	Steven		493
Harrington	Sue		780
Harris	Rebecca		175
Harris	Frank		250
Harris	Ryan		153
Harris	Bronwyn		585
Harshman	Nancy		632

Last Name	First Name	Organization	Letter #
Hartley	Claudia		883
Harvey	Greg		599
Hasenjaeger	Bill		185
Haught	Lunell		525
Hayward	Casey		127
Heater	Morgan		129
Hedahl	Bj		378
Hedger	Lloyd		932
Hedrick	Dave		548
Hedrick	Justin		586
Hellfeldt	Renna		360
Helmeste	Michael		365
Henderson	Courtney		840
Hendrickson	Melissa		573
Hennessy	Bryan		486
Heron	Carrie		297
Hershberger	Terry		612
Hess	Carl		924
Heuvel	Ken		644
Heyneman	Amy		423
Hicks	Mark	Washington State Department of Ecology	74
Hildebrandt	Mingrey		207
Hildesheim	Marc		39
Hindman	Steve		166
Hines	Judy		343
Hinman	Craig		731
Hinman	Craig		748
Hirsch	Jack		913
Hirst	Eric		410
Hobbs	Jana		674
Hodges	Mark		42
Hoekema	Ken		123
Hogan	Leslie		747
Hogenson	Julie		885
Hollis	Rose		315
Holman	Dan	Flowery Trail Community Association	805
Holmer	Steve	American Bird Conservancy	689
Honeycutt	Linsey		358
Hope	Carolyn		193
Huber	Alex		553
Hudkins	Jim		177
Huhta	Mattias		239

Last Name	First Name	Organization	Letter #
Hunt	Vanessa		249
Hunt	Ina		694
Hurst	Susan		317
Huson	Jamie		930
Hutchens	Nathan		146
Hutton	David		147
Imes	Jason		865
Imler	Andrea	Washington Trails Association	929
Irish	Lurea		361
Israel	Miriam		832
Jaap	Jeff		704
Jablonski	Greg		308
Jackson	Evan		426
Jackson	Paul		446
Jacobs	Maya		492
Jacobson	James		190
Jaeger	Aleah		349
Jcandaux@Comcast.Net	Anon		744
Jeffcott	John		242
Jensen	Robert		375
Jensen	Jean		928
Jenson	Mark		17
Johnson	Sharon		320
Johnson	Stephen		366
Johnson	Emma		373
Johnson	Lee		397
Johnson	Shannon		425
Johnson	Matt		432
Johnson	Carool		462
Johnson	Richard		754
Johnson	Lonnie		40
Johnson	Don		62
Johnson	Silvermoon		722
Johnson	D		963
Johnson	Susan		967
Johnson	Lorna	Ferry County Planning Commission	976
Johnson	Lorna		977
Jones	Daniel		56
Jordan	Dorothy		370
Jourdan	Katherine		52
Juel	Jeff	Alliance For The Wild Rockies	627
Juel	Jeff		1014

Last Name	First Name	Organization	Letter #
Kabakov	Marsha		291
Kalmbach	Edward		171
Kaneshige	Cindi	American Forest Resource Council	696
Kaperick	Paul		660
Karacostas	Stacy		164
Karpack	Kyle		335
Kasper	Troy		575
Kastel	Diane		405
Kavanagh	Darren		830
Kay	Susan		835
Kazantsev	Andrey		908
Kenner	Kate		514
Kintner	Steven		6
Kinzler	Ardell		170
Kirner	Deborah		225
Kiss	Stephen		506
Kistler	Alex		210
Kiver	Eugene		394
Kjurp	Herta		402
Kliegman	David	Okanogan Highlands Alliance	536
Kolebaba	Mark		756
Koloini	Kyle		377
Koopman	William		395
Koslowski	Alan		292
Kovac	Timothy		172
Kowitz	Albert		927
Kraus	Yvonne		724
Kraus	Yvonne		785
Kraus	Yvonne	Evergreen Mountain Bike Alliance	795
Kraus	Yvonne	Evergreen Mountain Bike Alliance	1015
Krause	Erik		464
Kresse	Joel		209
Krumpelman	Doug	Evergreen MTB	473
Kuciej	Walter		326
Kulp	Laurie		881
Kuntz	John		116
Kuo-Harrison	Elena		336
Kurtz	Peggy		227
Kuttner	Patti		876
L	Jj		238
Ladoux	Nettie	Stevens County Commissioners	664
Lagergren	Henry		746

Last Name	First Name	Organization	Letter #
Lagergren	Henry		807
Lamanna	Stuart		183
Lamor	Kim		483
Lang	Trent		841
Lariviere	David		63
Larpenteur	Andy		274
Larrabee	Consuelo		919
Larry	Anon		760
Larry Helland	Carol Fugitt		991
Larsen	Matthew		670
Larson	Kyle		120
Larson	Brad		15
Lauraborders@Turboisp.Com	Anon		683
Layne	Carney		849
Leach	Jeanette		187
Lee	Nicholas		836
Lee	John		385
Leekwijck	Natalie		821
Lehner	Jude		728
Lehrhaupt	Leisel		806
Leighton	Shannon		944
Leung	Rebecca		214
Levy	Mire		789
Licata	Tyler		268
Lindsay	Cathy		234
Locke	Daniel		437
Locke	Paul		556
Locke	Margo		872
Loeb	Alexandra		900
Loh	Nicole		870
Lord	Alan		285
Loster	Patti		555
Lucianna	Mark		233
Ludolphi	Nicolette		648
Lundeen	Slim		590
Lundgen	Nate		1004
Lundgren	Don And Chris		43
Lyman	Teresa		383
Lyman	Michael		431
M	Hugh		611
M	Anonymous		60
Mack	Jeff		697

Last Name	First Name	Organization	Letter #
Macmillan	Brigitta		513
Magoteaux	John		954
Malchow	Tami		651
Mallon	C		1000
Mallory	James		139
Malotte	Sherry		692
Malstead	Kat		916
Mann	Edward		581
Manns	Timothy		408
Manus	Mike	Pend Oreille County Board of Commissioners	479
Manus	Mike	Pend Oreille County Board of Commissioners	980
Manus	Mike	Pend Oreille County Board of Commissioners	1008
Manwaring	Jean		284
Manz	Katelynn		444
Marc	Anon		666
March	Roy		78
March	Veronica		595
Marchand	Michael	Confederated Tribes of the Colville Reservation	933
Marek	Steve		434
Mariano	Anna		283
Marie	Lorraine		427
Marks	Chris		255
Marquardt	Carolyn		399
Marsh	Sarah		277
Martin	Jeff		266
Martin	Craig		470
Martin	Melodie		499
Martin	Christian		657
Martin	Joel		775
Martin-Harbick	Kelsey		874
Marvel	Joshua		527
Massey	Tim		658
Masters	Kerry		521
Mathias	Chuck		374
Mathias	Betsy		855
Matson	Lisa		629
Matthys	Joe		228
Mattice	Eleanor		103
Mattice	Eleanor		500
Mattice	Eleanor		507
Mauch	Michael		331
Mauch	Mike		607

Last Name	First Name	Organization	Letter #
Maycumber	Jacquelin		109
Mayer	Jaime		276
Mayo	Chris		510
Mazzola	Lisa		768
McCabe	Patrick		132
McCambridge	Nancy		1003
McClellan	Kevin		915
McClure	David		568
McCollum	Richard		161
McConaghy	Michael		265
McCord	Ryan		137
McCoy	John		222
McCready Petursson	Kathy And John		952
McGee	John		845
McGill	Kenneth		767
McKenzie	Nancy		786
McManus	Matt		487
McMurtrey	Roy		441
McNabb	Amanda		379
McShane	Lisa		887
Meade	Mike		636
Medved	Michael		248
Meehan	Deacon		355
Meek	Mary		905
Meg	Preston		889
Melzer	Steve		101
Menin	Andrea		220
Mergler	Jeffrey	Spokane Mountaineers	526
Meyer	David		489
Meyer	G.		761
Miedema	Cory		180
Milchak	Brian	Office of the Secretary	709
Miller	Pamela		589
Miller	Jeff		828
Millies	Susan		519
Minbashian	Jasmine		687
Mitchell	Danielle		424
Mohler	Loee		211
Mondich	Kathy		23
Monet	Leisha		188
Montez	Heidi		428
Moo	Stacey		490

Last Name	First Name	Organization	Letter #
Moore	Richard		591
Moritz	Martha		457
Morrison	Michael		411
Morsell	Andrew		133
Morton	Scott		605
Mottley	Danielle		661
Mrs. Hooknose	Mr.		678
Mrs. Richard Hershaw	Mr.		811
Muckler	Sara		356
Mugli	Ken		76
Mulcare	James		384
Mumm	Glen		94
Murphy	Dan		165
Murphy	Elise		247
Murphy	Jean		256
Murugan	Ebenezer		871
Myhre	Paul		382
Myjau	G.		610
Myron	Sarah		537
Nanninga	Derek		652
Naples	Jean		368
Narayana	Ramaswamy		260
Nash	Jim		617
Navajas	Marcia		504
Nelson	Rochelle		230
Nelson	Marla		729
Nenema	Glen	Kalispel Tribe of Indians	699
Neville	Kate		338
Neville	Linda		783
Newhall	Katie	Evergreen Mountain Bike Association	531
Newton	James		987
Nicki	Anon		641
Nielsen	Gary		639
Nielsen	Richard		642
Nielsen	Gary	Tri-County Motorized Recreation Association	695
Nielsen	Richard Scott		956
Niemeyer	Ryan		29
Ninebark	Anon		726
Norwil	Pat		588
Nutini	David		167
Obrien	Timothy		117
O'Connor	Lynn		576

Last Name	First Name	Organization	Letter #
O'Halloran	Ron		707
Orams	Andres		367
Ostrer	Allison		290
Ostrer	Allison		910
Ott	Merrill		559
Ott	Anne	OHV Ambassador Program	560
Owen	Mark		817
Pakootas	Joseph		723
Palon	Robert		156
Parker	Greg		134
Parker	Patricia		330
Parker	Corrina		511
Parker	Andrew		606
Parker	Katie		635
Parks	Don		737
Parsons	Jeff		213
Partin	Diana		891
Pat Montague	Dan		502
Patterson	Sarah		348
Paxson	M.		461
Pearson	Kim		433
Pease	Anon		738
Peiffer	Anthony		999
Pelkie	Renie		10
Peltonen	Michele		742
Pendergast	Betsy		854
Penn	Kristin		716
Perrin	Mimi		810
Peterman	Brian		311
Peterson	Russell		135
Peterson	Debbie		287
Peterson	Amy		321
Pettis	Wendy & Tim		11
Pflepsen	Joanne		400
Pharand	Donald	Grand Forks Watershed Coalition	544
Phelan	Christine		409
Pirelli	Joe		465
Playfair	Patty		105
Polen	Terrence		261
Pomrankey	Kyle		698
Popovic	Andrija		496
Porter	Katie		200

Last Name	First Name	Organization	Letter #
Potts	Guy		693
Poulsen	Josh		545
Powell	Alan		850
Powers	Leanna		561
Powers	Wayne		567
Pratt	Andrew		741
Prentice	Hannah		903
Prewitt	Gary		1013
Price	Jonathan		184
Priebe	Colin		668
Prince	Michael		829
Printz	Peggy		272
Privat	John		244
Prozber	Louis		615
Publee	Jean		34
Pulliam	Terry		357
Puritz	David		904
Putnam	Robin		354
Quinn	Cayenne		245
R	M		755
Radecki	Matthew		226
Radoslovich	Benjamin		113
Rae	Ian		655
Ragain	Kristen		706
Ramalho	Fred		318
Ramos	Miguel		334
Ramos	Kindra		202
Redman	Andrew		450
Reed	Ronald		468
Reeves	Jordan		258
Reichert	Andrew		498
Reigel	Scott		582
Renouard	Julia		626
Riccio	Erin	Gonzaga University Environmental Studies Parks, Forest, and Wildlife Class	51
Rich	Rob		414
Richard	Angela		163
Richards	Marianne		996
Riley	Joann		875
Rimbos	Peter		456
Rimmer	Jacqueline		515
Robbins	Trapper		403

Last Name	First Name	Organization	Letter #
Roberto	Michael		346
Roberts	Christian		126
Robinson	Collin		679
Robinson	David		826
Robson	Elisabeth		300
Rodriguez	Maryeli		673
Rohani	Michael		205
Rohrer	Erik		597
Romano	Craig		577
Rose	Matt		86
Rose	James		88
Rose	Tom And Melissa		543
Rose	Tom & Melissa		554
Rose	Melissa		812
Rosenkotter	Barbara		494
Ross	Tracy		136
Roth	Anna		750
Rowe	Hal		628
Rowe	Debbie		631
Rowell	Doug	Brothers Fire LLC	950
Rowton	Amanda	Ferry County Board of Commissioners	665
Rowton	Amanda	Ferry County Commissioners	949
Royder	Scott		1010
Rudolf	Matt		257
Ruiz	Marina		943
Ruprecht	Paul	Western Watersheds Project	569
Ryhajlo	Paul		846
Sahlberg	Tom		231
Salgado	Mark		792
Sallee	Deborah		440
Sammons	Julian		159
Santo	Anna		453
Sarabia	Joseph		229
Sauer	Samantha		327
Saura	Jose		305
Schackmuth	Keith		491
Schiltz	Kitty		419
Schliesman	Joe		602
Schmidt	Dennis		962
Schmidt	Margaret		966
Schubert	Steve		793
Schultz	Jule		680

Last Name	First Name	Organization	Letter #
Schwyn	Craig		125
Schwyn	Penelope		151
Scodeller	Wendy		341
Scollon	Suzanne		940
Scott	Carrie		488
Scott	Douglas		293
Sebastinelli	Kristen		50
Segretti	Fiona		301
Servia	Matt		596
Shank	Joel		984
Shank	Jeanne		988
Shannon	David		150
Shaver	Spencer		495
Shaw	VE		888
Sherrill	Peter		162
Shevlyagin	Sergei		477
Shiva	Adrian		880
Short	Shelly		100
Shostak	Elisa Oksner		959
Simon Banks	William		481
Simpson	Jennifer		362
Sisino	Brandon		155
Skelton	Laura		313
Skinner	Denise		532
Slagle	Richard		973
Slattery	Justin		647
Slayton	Charlene		401
Small	John		972
Smith	Javon		587
Smith	Greg		813
Smith	Sydni		882
Smith	Daniel		20
Smith	Brad		57
Smith	Bonnie J		75
Smith	David	Smith & Smith	547
Snow	Donna		497
Snyder	Jerrod		144
Soeldner	Walther		436
Sotak	Nicholas		549
Soucy	Adam		41
Spath	Marian		448
Speare	John		149

Last Name	First Name	Organization	Letter #
Speidell	Jay		603
Spencer	Jeremy		138
Sprankle	Lisa		47
Sprayberry	Shannon		640
Spring	John		878
Stafford	Janet		503
Stalp	Scotty		546
Stanton	Patrick		319
Stephens	Margaret		196
Stetner	Kyle		179
Stone	William	Evergreen Mountain Bike Alliance Eastern WA Chapter	194
Stover	Ed		253
Stuart	Nathan		393
Stuart	John		578
Studierd@Aol.Com	Anon		38
Swan	Nick		119
Swank	Alisa		369
Sweat	Larry		571
Swedberg	Adam		774
Sweeney	William		895
Sytsma	Cory		352
T	Mandi		781
Tacoma	Kelly		18
Tacoma	Kelly		95
Tacoma	Ivan		96
Taft	Douglas		106
Tampa	Robert		195
Tatum	Daniel		482
Taylor	Phillip		387
Taylor	Martha		766
Thomas	Karen		310
Thompson	Aleta		879
Thompson	Gaylen		99
Thompson	Pat		451
Thompson	Stan		804
Timberlake	Jane		46
Timmbrothers@Ncidata.Com	Anon		688
Timmreck	Ken		14
Timmreck	Ken		37
Tiscareno	Madeleine		48
Tol	Maud		749

Last Name	First Name	Organization	Letter #
Tol	Gerard		765
Traeger	John		142
Tryggeseth	Jackie		407
Tseng	Larry		475
Turcott	Bruce		218
Turner	Paul		676
Tyler	Eva		398
Uniack	Tom	Washington Wild	818
Updegrove	Chelesea		347
Updegrove	Chelesea		523
Vaagen	Russ	Vaagen Brothers Lumber.	715
Vaagen	Duane	Vaagen Brothers Lumber	989
Vaagen	Kurtis	Vaagen	990
Vail	Jacob		787
Valdes	Gillian		332
Van Dantzich	Maarten		471
Vandenheuvel	Ken		87
Vander Pol	Justin		565
Vergillo	Anthony		719
Vieira	Barbara		745
Vinton	Janine		1012
Vlasiadis	Andreas		759
Vogeli	Mary		430
Vonsauer	James		620
Voss	Krista		145
Voss	Christopher		911
W	Scott		969
Waite	Reed	Pacific Northwest Trail Association	572
Walker	Mary		216
Walker	Joan		732
Walseth	David		359
Wanderer	Ken		236
Ward	Gilbert		241
Ward	Ken		372
Warren	Greg	NSTrail	816
Waters	Susan		794
Waters	Brad		945
Waters	Rolland		570
Watkins	Katie		328
Watters	Heidi		221
Way	William		564
Way	Linda		978

Last Name	First Name	Organization	Letter #
Wear	Diane		968
Webb	Dean		363
Weeks	Denise		413
Weilep	Dawson		717
Weiler	Holly		684
Weir	Joyce		685
Weis	Gaythia		574
Weis	Gaythia		579
Weise	Daniel		920
West	Laura Jo		803
Westra	Mike		539
Wheeler	Jerry		442
Whittaker	Bob		406
Wieland	Kurt		702
Wilcox	Bob		251
Wilkerson	Lori		298
Willett	John		254
Williams	Sherl		279
Williams	Natalie		386
Williamson	Maurice	Williamson Consulting	727
Wilson	Helen		769
Wilson	Ted		85
Wilson	Dan		192
Wilson	Reid		557
Wines	Karen		788
Winner	Winifred		420
Wisener	Denise		825
Wishon	Debbie		89
Wishon	Ted		107
Wismer	Katharine		281
Witebsky	Ellen		894
Wolf	Heather		708
Wolfe	Edward		21
Wolkey	Robert		518
Wood	Gordon		350
Woodruff	James		421
Woodruff	Anita		923
Woods	Grace		459
Woodward	Sharon		294
Woolsey	Eric	Balance Lifestyle Company	551
Wright	Stanalee		893
Yake	Bill		286

Last Name	First Name	Organization	Letter #
Yelk	Paul		713
Young	Bill		931
Young	Kathy	Back Country Horsemen of Washington	474
Yount	Andrea		316
Zak	Justin		325
Zalenski	Eric		344
Zboya	Patrice		763
Zechlin	Jeff		454
Zelasko	Sandy		333
Zielinska	Sylwia		512
Zizza	Daniel		353
Zwanzig	Aaron		168

Letters from Elected Officials and Government Agencies

Washington Department of Fish and Wildlife
2315 North Discovery Place, Spokane Valley, Washington 99216-1566
Telephone (509) 892-1001 • Fax (509) 921-2440

January 29, 2016

Mr. Rodney Smolden
Forest Supervisor
Colville National Forest
765 South Main
Colville WA 99114

Re: Colville National Forest Land & Resource Management Plan

Dear ~~Supervisor~~ Smolden: Rodney

Thank you for the opportunity to review and comment on the draft Colville National Forest (CNF) Land and Resource Management Plan (Forest Plan). The Washington Department of Fish and Wildlife (WDFW) appreciates the hard work that the CNF has put into the Forest Plan revision process and the effort that you and your staff have taken to produce a quality draft document.

As you are well aware, the CNF covers 2.6% of Washington State and provides habitat for threatened, endangered and other priority species. The CNF also provides landscape-scale connectivity for fish and wildlife movement and dispersal and is a regional focal point for providing fish and wildlife related recreation. With these contributions, the CNF assists WDFW in fulfilling our mandate to ".... preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities". This contribution and the resulting partnership that it creates between our Agencies is very much appreciated.

Attached you will find our comments and recommendations on the draft Forest Plan. It is our intent that they help you improve upon an already solid document and that they assist the CNF in identifying increased opportunities to maintain ecological functions that are essential for wildlife and fish populations in northeast Washington.

Lastly, I value the close working relationship that WDFW has with you and the rest of the CNF and I look forward to this continued cooperative relationship. If you have questions please don't hesitate to contact me at (509) 892-7852. You may also contact Sandy Dotts, Area Habitat Biologist, at (509) 684-2362 (extension 10).

Figure E-2. Washington Department of Fish and Wildlife letter

Sincerely,

Steve Pozzanghera, Regional Director
Washington Department of Fish and Wildlife
Region 1

cc: Kevin Robinette, Regional Wildlife Program Manager
Chris Donley, Regional Fish Program Manager
Mark Grandstaff, Regional Habitat Program Manager

Note: *Comments are based on review of document titled "DRAFT Colville National Forest Land & Resource Management Plan – For Internal Review" dated October 20, 2015, as provided to WDFW on November 6, 2015.*

General Comments

The Forest Plan is well-organized and written in clear, concise language that is easy to read. This shows respect for readers who aren't familiar with specialized Forest Service terms.

Some highlights of the plan that we believe are especially important for supporting fish and wildlife populations and associated recreational opportunity across the Forest include:

- The Forest is resilient to natural disturbance processes, such as fire, insects and disease.
- Native species and native plant communities are the desired dominant vegetation across the Forest landscape.
- There will be no net increase in roads in key watersheds.
- Ecosystems are protected from the impacts of invasive plants and reliance on herbicides is reduced over time.
- The Kettle Crest will be managed as a Special Interest Area where natural ecological processes, such as planned and unplanned fire, contribute to conserving habitats for fish and wildlife.

WDFW is very supportive of the use of fire as a management tool and recognizes the importance of moving vegetation composition, structure, and fuels toward historic conditions. We are pleased to see the Forest aggressively address this issue as a majority of Forest lands are currently predisposed to loss of key ecosystem components due to varied degrees of departure from historic vegetative ranges.

Chapter 2: Forest-Wide Direction

Water Resources

Thank you for clearly explaining the difference between "key", "focus", and "priority" watersheds.

Specific management direction was not provided for bull trout habitat, but we believe that the desired future condition described for Water Resources will provide the habitat necessary to maintain and improve bull trout, and other native fish populations, where present on the Forest.

FW-OBJ-WR-01 Aquatic Invasive Species

Within the next 15 years, implement aquatic invasive species prevention measures at all developed recreation sites providing direct and/or indirect access to water bodies, such as boat ramps, campgrounds, and day use areas that provide portal zones for hand carried watercraft.

Implement aquatic invasive species prevention measures as part of all aquatic survey and inventory procedures and other management activities that pose high potential for invasion vectors to occur. For guidance on invasive riparian plants see Vegetation Desired Condition section.

> **Comment:** It is unclear if this objective is specific to plants. Control of invasive non-native fish and mussel species is a high-priority management goal for WDFW, especially in the Pend Oreille watershed where non-native fish species are impacting native fish populations. We recommend clarification of the objective.

FW-OBJ-WR-02 Aquatic Invasive and Non-Native Species
Within the next 15 years, implement aquatic invasive species control and eradication at 10 sites where such invasions have become established and prevent attainment of listed fish recovery plan goals and/or effects to social, economic, and ecological systems are determined to be unacceptable.

> **Comment:** Same as FW-OBJ-WR-01 above

FW-OBJ-WR-04 Fish Habitat Improvement
Within 15 years restore aquatic organism passage for all life stages of native species at 45 road/stream crossings and man-made instream structures such as water diversions and dams outside of key watersheds. Culverts and other passage improvements are to be designed to restore and maintain hydrologic and aquatic habitat function and stream channel resiliency to a range of flows through natural channel design and other acceptable treatment measures.

> **Comment:** WDFW recently completed inventory, analysis, and ranking of all fish passage barriers in the Pend Oreille watershed (WDFW 2015). We identified 161 culvert barriers on Colville National Forest land within the basin. Thirty-one of these barriers ranked within the top 100 (of 355 total identified basin-wide) for replacement based on the presence of priority fish species (i.e., bull trout, westslope cutthroat trout) and suitability/availability of habitat above the barriers. A number of fish passage barriers have already been replaced on Forest Service land within the Pend Oreille subbasin in recent years.
>
> It can be presumed that an equal or greater number of barriers are present on Forest Service land outside of the Pend Oreille subbasin, impacting other focal species such as Columbia inland redband trout. Also, there is impetus to restore anadromous fish populations above Grand Coulee Dam, with some level of pilot reintroduction occurring as soon as 2017.
>
> Consider increasing the quantity of barriers corrected under this Objective. We also recommend that the Forest undertake an inventory and prioritization of fish passage barriers outside of the Pend Oreille subbasin, consistent with WDFW guidelines (http://wdfw.wa.gov/publications/00061/).

FW-OBJ-WR-06 Key Watershed Road Treatments
Restore or maintain aquatic organism passage and improve hydrologic and aquatic habitat function at 50 road/stream crossings for all native aquatic species, seasons, flows, and life stages within 15 years of Forest plan implementation through culvert replacement or crossing improvement and natural channel design or other acceptable treatment measures that provide for natural stream channel function at all flows.

Comment: Same as FW-OBJ-WR-04 above

Wildlife Habitats

FW-OBJ-WL-06 Deer and Elk Habitat Restoration
Within 15 years of plan implementation, restore (i.e., application of prescribed fire, invasive plant management, etc.) habitat on 1,000 acres of deer and elk winter range.

Comment: WDFW has identified winter range areas based upon resource selection models developed by Henderson (2014) and Kallstrom (2009) to help the Forest Service prioritize areas to focus habitat restoration and enhancement work (Attachment 1). In addition to winter range improvements, we would like to see enhancement of habitat on deer and elk late-summer/fall ranges. We suggest creating and/or maintaining early seral stages in the forest landscape as a means to providing quality deer and elk foraging habitat. Mule deer may experience poor fawn survival or fail to become pregnant when forage quality in summer and autumn is especially poor (Tollefson et al. 2010). Also, Tollefson et al. (2010) found that diet quality had an effect on litter size for deer which affects overall herd productivity. In addition, lactating deer require 4-7 times more energy than non-lactating deer (Robbins 1994, Oftadel 1985). Therefore, improving quality of forage available in summer and fall may in turn increase production of deer populations, and would also be expected to improve the survivorship of calves and fawns. WDFW is currently working on a resource selection function that will identify areas of high use by deer during the summer and fall months and will share this information with the Forest Service upon completion. This work could help the Forest Service prioritize areas to focus enhancement work.

FW-STD-WL-01 Woodland Caribou and Snowmobiles
Restrict over-the-snow vehicle use to designated routes within the caribou recovery area.

Comment: We recommend that this Standard be changed to prohibit over-the-snow motorized use in caribou recovery areas. A key survival strategy of woodland caribou is to live in areas with few predators; their unique adaptations allow them to live in areas unsuitable for deer and elk, making these areas less attractive to predators. It is well documented that snowmobiles provide unnatural packed snow travel corridors which allow greater predator access to high-elevation caribou habitat.

FW-STD-WL-11 Large Snag Habitat
Because snags greater than 20 inches diameter at breast height are currently below the desired conditions, they shall be retained unless they pose a safety hazard. This standard does not apply in developed recreation sites, around recreation residences, in administrative sites, and within 200 feet of an open road designated for firewood harvest. An additional exception to this standard can occur in areas that have been identified through consultation with local biologists as candidates for tree faller training sites.

> **Comment:** We are supportive of this Standard, but would like to see snag retention expanded to include smaller snags when larger snags are not present. In eastern Washington, snags >12 in diameter at breast height are considered a priority habitat feature (WDFW 2008) because of their value to wildlife. The Standard should also include retention of live replacement trees in timber harvest, salvage, and prescribed burn areas. Emphasis should be placed on retaining the largest snags and live replacement trees, as well as species that tend to have high snag longevity (e.g., ponderosa pine, western larch), or less persistent snags with high wildlife value (e.g., cottonwood, aspen).

FW-GDL-WL-13 Mule Deer, White-tailed Deer and Elk Habitat – Human Activities
Human activities should be restricted to designated routes during the winter period of December 1 to March 31 in winter range. When human activities must occur (i.e., winter logging), adequate displacement areas should be provided for deer and elk to maintain the effectiveness of the wintering area.

> **Comment:** We recommend that this Guideline be a Standard. The negative impacts of human disturbance, especially from motorized access, in winter range is well documented (Freddy et al. 1986). Open road and motorized over-snow use may increase energy expenditures and stress level of deer and elk and may put ungulates at higher risk of reproductive failure.
>
> It is also important to maintain known deer migratory corridors from human disturbances during the migration period. We highly recommend that there should be no net increase in miles of designated over-the-snow routes and no off-trail over-the-snow motorized use within deer and/or elk migratory corridors from the period of December 1 to March 31.

FW-GDL-WL-14 Mule Deer, White-tailed Deer and Elk Forage
Production of browse and other forage should be stimulated within deer winter range. Minimize tree invasion into non-forested, brush-dominated areas to maintain browse condition. Consider treatment when browse species are out of reach or in need of rejuvenation or re-introduction.

Comment: We recommend the Guideline also include stimulation of browse and other forage on deer and elk late-summer/fall ranges. Elk and mule deer may experience poor calf and fawn survival or fail to become pregnant when forage quality in summer and autumn is especially poor (Cook et al. 2004, Tollefson et al. 2010). Also, Tollefson et al. (2010) found that diet quality had an effect on litter size for deer which affects overall herd productivity. In addition, lactating deer require 4-7 times more energy than non-lactating deer (Robbins 1994, Oftadel 1985). Therefore, improving quality of forage available in summer and fall may in turn increase production of deer populations, and would also be expected to improve the survivorship of calves and fawns.

Summer/fall forage areas should contain a variety of young successional stages with a large component of preferred shrubs, forbs, and conifers. Prescribed fire and timber harvest are beneficial tools to enhance deer and elk forage. Refer to the table below for suggested enhancements depending on the season and the selected forage of deer. WDFW is currently working on a resource selection function that will identify areas of high use by deer during the summer and fall months and will share this information with the Forest Service upon completion. This work could help the Forest Service prioritize areas to focus enhancement work.

Forage Utilization by Mule Deer in Northeast Washington (WDFW, unpublished data)

Spring:	% Grass	% Forbs	% Shrubs	% Conifer	% Sedge
Northern Rocky Mtns	*37.7*	*16.3*	*28.6*	*15.9*	*1.8*
North-central Okanogan Highlands	*49.2*	*19.7*	*4.8*	*25.3*	*0.6*
Northwest Okanogan Highlands	*34.9*	*7.9*	*8.3*	*48.3*	*1.1*
Summer	% Grass	% Forbs	% Shrubs	% Conifer	% Sedge
Northern Rocky Mtns	No data	No data	No data	No data	No data
North-central Okanogan Highlands	*7.4*	*65.8*	*23.1*	*3.7*	*0.0*
Northwest Okanogan Highlands	*10.4*	*5.0*	*24.0*	*57.6*	*2.8*
Fall	% Grass	% Forbs	% Shrubs	% Conifer	% Sedge
Northern Rocky Mtns	*0.0*	*11.2*	*88.7*	*0.1*	*0 .0*
North-central Okanogan Highlands	*7.9*	*33.7*	*47.9*	*8.8*	*1.2*
Northwest Okanogan Highlands	*2.9*	*5.8*	*65.5*	*10.9*	*14.9*
Winter	% Grass	% Forbs	% Shrubs	% Conifer	% Sedge
Northern Rocky Mtns	*27.9*	*16.8*	*38.8*	*13.1*	*2.0*
North-central Okanogan Highlands	*29.3*	*7.4*	*12.8*	*49.5*	*0.6*
Northwest Okanogan Highlands	*21.6*	*5.0*	*35.0*	*25.5*	*13.0*

Note: Northern Rocky Mtns = Pend Oreille County; North-central Okanogan Highlands = Ferry County east of the Kettle Crest and Stevens County; Northwest Okanogan Highlands = Ferry County west of the Kettle Crest

Comment: Add Standard for grizzly bear management

Consider adding a Standard to address disturbances associated with the transportation network, such as:

> "Restrict vehicle access behind roads closed for protection of grizzly bears."

WDFW understands that select roads are currently gated and designated as closed for protection of grizzly bears, but we would like to see it specifically addressed in the Forest Plan to ensure these protections continue where appropriate. A periodic review of the transportation network as it relates to grizzly bears and roads that are open and/or closed to vehicle access should be conducted.

Comment: Add Objective for disturbance of ungulates on late-summer/fall ranges

Deer and elk are more likely to utilize early seral plant communities (i.e., harvest units; Irwin and Peek 1983) if human disturbance is limited (Rost and Bailey 1979, Lyon 1983, Myers, Lyndaker, and Consentino 1999). We recommend adding a Forest Guideline to limit human-caused disturbance to deer and elk utilizing these areas for fawning and foraging. Such as:

> "When management activities such as timber harvest and/or prescribed fire are used to stimulate early seral plant communities, temporarily (for 5-10 years post-harvest) reduce road density to ≤1.5 mi/square mile to decrease impacts from road-related disturbance to ungulates."

The Selkirk Elk Herd Plan (WDFW 2014) has this statement as Objective 6: "Promote road management to limit open road density in GMUs 111, 113 and 117 (areas with substantial public land ownership) to not exceed 2.5 miles per mile^2 (1.6 km/km2) in areas zoned as open-land and forest-land, and no more than 1.5 miles per mile^2 (0.9 km/km2) in known elk range."

National Forest Access System

FW-OBJ-AS-01 Motorized Mixed Use Roads

Within 15 years of plan implementation, designate 45 miles of motorized mixed use roads across the Forest that would connect with existing motorized mixed use roads identified on the Motor Vehicle Use Map to create loop riding opportunities, connect camping areas, or connect communities with the Forest.

Comment: WDFW recommends allowing ORV use on all roads currently open to passenger vehicles. Providing increased opportunity for ORVs would help reduce user-created trails and off-trail uses which have the potential to damage sensitive habitat types. New state laws and county ordinances in NE Washington allow local entities to open their jurisdictional boundaries to legally registered units. These rural areas are adjacent to Forest system lands in most cases. Increasing the "legal" travel areas within the Forest boundaries would likely result in a decrease in resource damage due to unauthorized use.

Livestock Grazing

FW-DC-LG-03 Deer and Elk Forage on Grazing Allotments

Adequate browse and forage occurs on deer and elk summer and winter ranges within domestic grazing allotments during the critical winter period of 15 December to 1 April.

Comment: This Desired Condition statement does not seem to be quantifiable in that it refers to "adequate" browse/forage without defining what that is. Providing adequate forage in winter is very important, but the "critical winter period" is usually associated with restrictions of human activities that disturb deer/elk on winter range (which is already addressed under FW-GDL-WL-13). Consider restructuring the statement, such as: "Livestock grazing is managed to protect key deer and elk summer and winter forage areas from overutilization".

FW-GDL-LG-02 Lynx Habitat in Riparian Areas in Grazing Allotments

Livestock grazing within riparian areas in lynx habitat should be managed to maintain conditions that support snowshoe hares.

Comment: We are pleased to see a Forest Guideline that will strive to maintain habitat for snowshoe hares/lynx, but recommend that the Guideline be expanded. Riparian areas cover a relatively small area of the landscape yet support a higher diversity and abundance of fish and wildlife than any other habitat. These areas provide important fish and wildlife breeding habitat, seasonal ranges (especially important for wild ungulates), and movement corridors. Riparian areas are highly vulnerable to alteration from livestock over-utilization. WDFW is concerned that the health of riparian corridors is being compromised in some areas by livestock access, especially in late summer when cattle often shift their diet to shrubs after grasses have cured.

Chapter 3 – MANAGEMENT AREA DIRECTION

Backcountry and Backcountry Motorized

MA-SU-BCM-01 Suitable Uses (Table 19) – Motorized recreational use, winter, trails or cross-country

> **Comment:** WDFW does not support motorized over-snow travel in deer/elk winter range. The negative impact to ungulates from disturbance in winter range is well documented (Freddy et al. 1986). Disturbances, such as motorized over-snow travel, in winter range put ungulates at higher risk of reproductive failure. We recommend that where Backcountry management areas overlap winter range with high probability of ungulate use, no over-snow motorized travel is authorized from December 1 to March 31.

Focused Restoration

> **Comment: Management Area designation of the "Wedge"**
> We recommend that the Wedge be managed as "Focused Restoration". The Wedge provides an important east-west and north-south corridor for rare carnivores, such as lynx, grizzly bear and wolverine. Reduced road densities provided under "Focused Restoration" will be beneficial for recovery of these species.

Riparian Management Areas

MA-DC-RMA-03 Livestock Grazing

Livestock grazing of riparian vegetation retains sufficient plant cover, rooting depth and vegetative vigor to protect stream bank and floodplain integrity against accelerated erosional processes, and allows for appropriate deposition of overbank sediment.

> **Comment:** See comment under FW-GDL-LG-02 above. We support a Desired Condition where Riparian Management Areas (RMA) are maintained, not only for streambank and floodplain integrity, but also to support other critical habitat values that RMAs provide for fish and wildlife.

MA-STD-RMA-10 Recreational and Permitted Grazing Management – Livestock Handling, Management, and Water Facilities

Locate new livestock handling, management, or watering facilities outside of riparian management areas, except for those that inherently must be located in a riparian management area and those that are needed for resource protection.

Comment: We understand the livestock watering facilities, such as hardened crossings, will inherently be located in RMAs, but believe that no circumstance exists where a livestock handling facility must be located in a RMA. These facilities create a concentrated area of resource damage and may impact Washington State water-quality standards. We recommend that existing livestock handling facilities within RMAs be relocated or closed.

MA-STD-RMA-13 Wildland Fire and Fuels Management – Portable Pumps
Portable pump set-ups shall include containment provisions for fuel spills, and fuel containers shall have appropriate containment provisions. Park vehicles in locations that do not allow entry of spilled fuel into streams.

Comment: Under the 2012 MOU between the Forest Service Pacific NW Region and WDFW (Page 21 of Appendices), the Forest Service agreed to screen all pump intakes to prevent harm to fish when pumping from fish-bearing waters. Please amend this Standard to ensure that pumps are screened to prevent entrainment of fish and aquatic organisms during pumping.

MA-GDL-RMA-08 Fish Passage Barriers
Consider retaining fish passage barriers where they serve to restrict access by undesirable non-native species and are consistent with restoration of habitat for native species.

Comment: WDFW does not generally support the use of culverts as fish management tools. We support the concept behind this Guideline, but our interpretation of WDFW policy is that human-made fish passage barriers (e.g., culverts, minor dams) should not be used as long-term fish management tools, unless specifically designed and constructed for that purpose and all human-made fish passage barriers should be removed when the opportunity to do so arises. However, manmade structures that currently function to protect native species from introgression could stay in place when included in an approved plan for overall stream recovery. The plan should account for correcting or removing the barrier within a specific time period. This could or could not include replacing it with a constructed fish management structure. The overall plan should be associated with an agreement (e.g. MOU/A) that spells out clearly the circumstances under which this barrier is allowed to stay in place and when it will be removed. This MOU/A should include impacted Federal and State Fish Managers, Tribes and landowners as signatories. It is recommended that USFS work collaboratively with USFWS, WDFW and local tribes when the use of fish barriers is considered for the conservation or recovery of native fish species on federal land. Without an overall plan and associated mutual agreement, WDFW would oppose the use of manmade fish passage barriers being used as a fish management tool.

Special Interest Area

FW-OBJ-SIA-02 Trail Management

Within 15 years of plan implementation, design and construct at least one motorized loop trail opportunity within the Backcountry Motorized Management Area associated with the Twin Sisters Inventoried Roadless Area and at least one non-motorized loop trail opportunity within the Backcountry Management Area associated with the Profanity Inventoried Roadless Area.

Comment: It is unclear how "motorized" trails could be constructed in Inventoried Roadless Areas. Clarity is needed on this issue and could be gained if an explanation was provided describing the difference between trails and roads and how motorized uses can be authorized in roadless areas.

Wilderness – Recommended

Comment: Considerations for Wilderness recommendations

The Bald-Snow, Abercromie-Hooknose, and Salmo Adjacent roadless areas are recommended as Preliminary Administratively Recommended Wilderness (PARW). WDFW asks the Forest to consider the following before finalizing these decisions:

Large carnivore management

WDFW understands that livestock grazing may be authorized in Wilderness areas if the use existed prior to formal Congressional designation. If the PARWs are designated as Wilderness and if livestock grazing continues under that designation, WDFW is concerned that our ability to quickly and effectively resolve future livestock conflicts, should they arise, may be limited. Several management tools (e.g., lethal removal, carcass disposal) require the use of mechanized vehicles, including low flying helicopters. Currently, known wolf packs occupy all of the PARWs.

Large carnivore monitoring

We rely on regular helicopter access to capture and collar wolves as part of general statewide wolf population monitoring. As wolves continue to recolonize northeast Washington, we are concerned that our ability to capture, collar and monitor existing and new wolf packs may be hindered by future Wilderness designations.

Other wildlife monitoring

WDFW regularly uses low-flying aircraft to monitor wildlife population, including moose and raptors. We are concerned that the non-mechanized restrictions of a Wilderness designation could significantly hinder our monitoring efforts.

Fish management

WDFW, through the FERC license agreement for Boundary Dam, is planning non-native fish removal projects in some streams within the Abercrombie-Hooknose and Salmo Adjacent PARWs. We are concerned that a Wilderness designation in these areas may make authorization of piscicide use extremely onerous, restricting WDFWs ability to effectively implement these projects in a timely and financially-viable manner.

Attachment 1.

WINTER RANGE AREAS

White-tailed deer winter range areas were identified using results from Charlie Henderson's Master's thesis (Henderson 2014) in which he calculated the probability of use for different cover types during the winter months for migratory and resident (non-migratory) white-tailed deer. For resident deer, pasture and riparian had the highest probability of use in the winter, and for migrant deer, riparian had the highest probability of use. Closed-canopy forest (70-100% canopy cover) was avoided by both resident and migratory white-tailed deer. In addition, WDFW took it one step further and created two elevational cutoffs based on 75% (811 m/ 2660 ft) and 50% (696 m/ 2282 ft) of winter locations and associated elevations from non-migratory radio collared white-tailed deer [N = 42,954 individual locations; elevation range 394 m (1293 ft) to 1373 m (4505 ft)]. Elevation was highly correlated with cover type in Charlie's habitat selection models, however, WDFW felt for recreational and forest management purposes, an elevational cutoff would be appropriate; indeed some deer use elevations above this cutoff, but the majority of deer do not [99.8% of the winter locations were below 1219 m (4000 ft)] or use it so infrequently that high elevation areas are considered marginal habitat. In addition, snow depth and winter severity play a role in how high deer stay in the winter months and this is why we provided two different elevational cutoffs.

Mule deer winter range areas were identified using results from Corey Kallstrom's Master's Thesis (Kallstrom 2009) where upon Corey estimated probability of use for different cover types during the winter season for migratory and resident mule deer in north-central Washington and southern British Columbia. Shrub, grass-forb, Ponderosa pine, and Douglas fir cover types occurring on southeastern to southwestern aspects between 30 to 75 degrees of slope (areas receiving mid to high levels of solar radiation) had the highest probability of use by mule deer during the winter months. Mule deer monitored during the winter in Ferry and Stevens Counties ranged between 790 m (2590 ft) and 1082 m (3550 ft) in elevation (100% of locations).

Winter range areas represent cover types with the highest probability of use for white-tailed deer and mule deer and are based on a sample of radio collared deer. It is important to note that other area are used by wintering deer. There are certainly other cover types that are used by deer, but are not selected by deer, meaning they are used in proportion to their availability on the landscape. Therefore, the identified areas are most appropriately used for prioritizing management of deer winter range. As more data become available and as statistical methods advance, the identified areas could change.

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Pend Oreille County

Board of Commissioners

Karen Skoog District #1 | *Mike Manus* District #2 | *Stephen Kiss* District # 3

Rhonda Cary
Clerk of the Board

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March 7, 2016

Amy Dillon
Plan Revision Team Leader
Colville National Forest
765 South Main St.
Colville, WA 99114

Dear Ms. Dillon:

The Pend Oreille County Board of Commissioners respectfully request a 2-month extension to the comment period for the Colville National Forest Plan Revision.

Due to the complexity of the document, we feel it necessary to have additional time to adequately review the proposed revisions in order to identify any issues pertinent to Pend Oreille County.

We appreciate your consideration of this request to extend the comment period an additional 2 months to July 19, 2016.

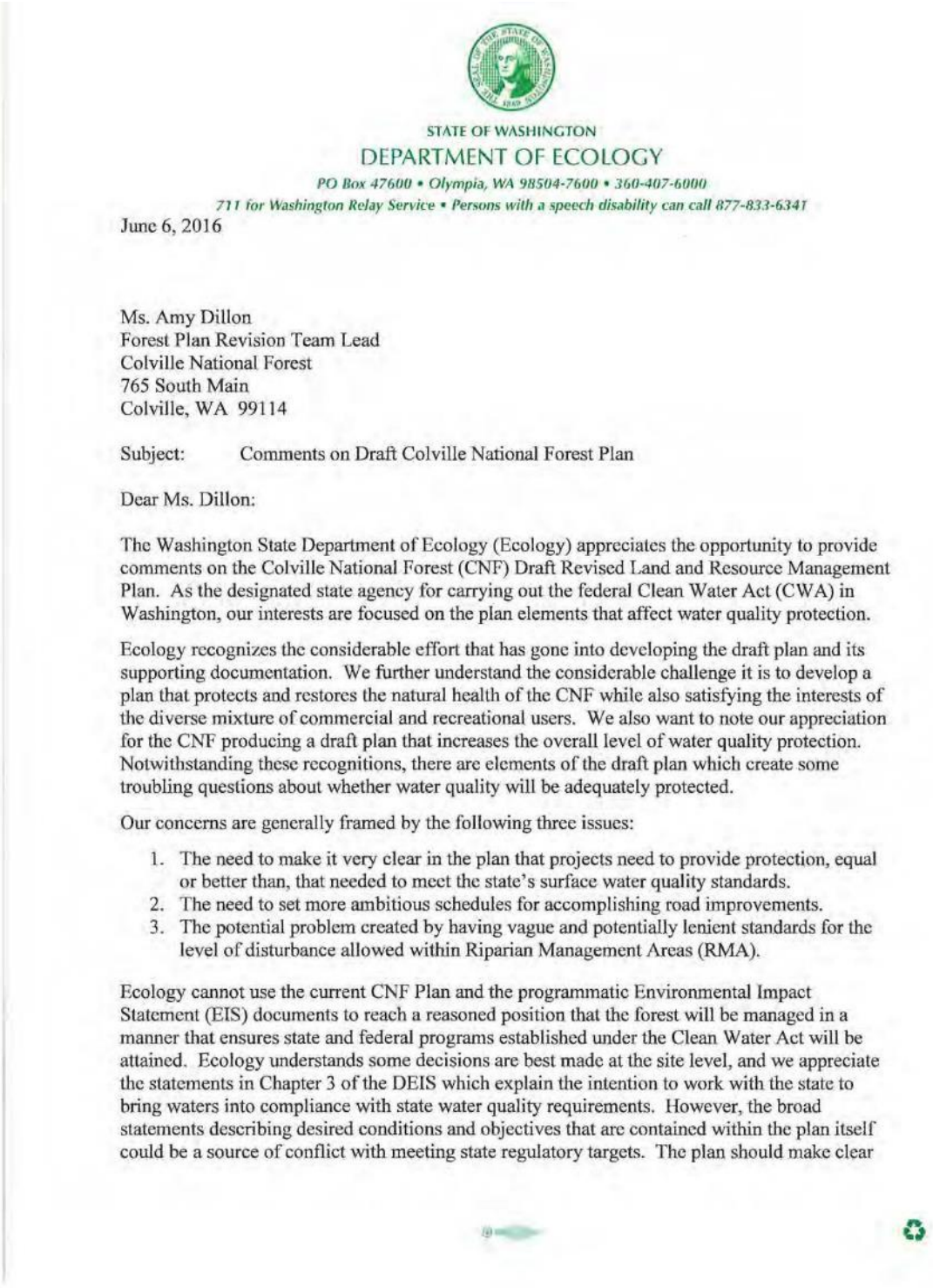
PEND OREILLE COUNTY
BOARD OF COMMISSIONERS

Mike Manus, Chair

Karen Skoog, Vice-Chair

Stephen Kiss, Member

Figure E-3. Pend Oreille County Commissioners letter (letter #13)



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June 6, 2016

Ms. Amy Dillon
Forest Plan Revision Team Lead
Colville National Forest
765 South Main
Colville, WA 99114

Subject: Comments on Draft Colville National Forest Plan

Dear Ms. Dillon:

The Washington State Department of Ecology (Ecology) appreciates the opportunity to provide comments on the Colville National Forest (CNF) Draft Revised Land and Resource Management Plan. As the designated state agency for carrying out the federal Clean Water Act (CWA) in Washington, our interests are focused on the plan elements that affect water quality protection.

Ecology recognizes the considerable effort that has gone into developing the draft plan and its supporting documentation. We further understand the considerable challenge it is to develop a plan that protects and restores the natural health of the CNF while also satisfying the interests of the diverse mixture of commercial and recreational users. We also want to note our appreciation for the CNF producing a draft plan that increases the overall level of water quality protection. Notwithstanding these recognitions, there are elements of the draft plan which create some troubling questions about whether water quality will be adequately protected.

Our concerns are generally framed by the following three issues:

1. The need to make it very clear in the plan that projects need to provide protection, equal or better than, that needed to meet the state's surface water quality standards.
2. The need to set more ambitious schedules for accomplishing road improvements.
3. The potential problem created by having vague and potentially lenient standards for the level of disturbance allowed within Riparian Management Areas (RMA).

Ecology cannot use the current CNF Plan and the programmatic Environmental Impact Statement (EIS) documents to reach a reasoned position that the forest will be managed in a manner that ensures state and federal programs established under the Clean Water Act will be attained. Ecology understands some decisions are best made at the site level, and we appreciate the statements in Chapter 3 of the DEIS which explain the intention to work with the state to bring waters into compliance with state water quality requirements. However, the broad statements describing desired conditions and objectives that are contained within the plan itself could be a source of conflict with meeting state regulatory targets. The plan should make clear

Figure E-4. Washington Department of Ecology letter (letter #74)

that objectives are to be implemented at the project level in a manner consistent with meeting the state surface water quality standards (WAC 173-201A), and the programs established under the federal Clean Water Act to apply those standards. This includes meeting the water quality improvement targets established in the Total Maximum Daily Loads (TMDLs) and associated implementation plans for temperature and fecal coliform established for the Colville National Forest. This could be accomplished by strengthening the language in the project level direction statement to make it clear that state water quality standards would need to be complied with at the project level.

Determining the sufficiency of the plan to protect water quality and aquatic resources is complicated by the lack of site level requirements and the reliance on broad goals and objectives as the foundational guidance for implementing the preferred alternative. The plan contains desired condition targets that are problematically vague; (e.g. "maintained to prevent accelerated erosion", "in the range that maintains . . . integrity", "within the natural range of variation"). These are not meaningful targets. Because natural systems vary from healthy to unhealthy, these forms of general targets provide no practical directive. The plan sometimes pairs these targets with guidelines that seem to allow for broad choices in impact levels; (e.g. for sediment erosion the level of sediment disturbance is shown to go from low to very high erosion class - 30-75% loss of ground cover). Not only are these desired conditions vague, they are described in the plan as being only aspirations and not commitments to implement these goals and objectives at the project level. So again, they are not really useful targets to guide management, or to understand what level of management the CNF is proposing.

It is of note that where the state water quality standards are identified in the DEIS, they are not complete or accurate. The table summarizing water quality criteria in the DEIS leaves out important criteria and the state's CWA-mandated antidegradation rules. One example is the table lists only the 16°C temperature criteria while some of the streams on the forest (mostly in the Pend Oreille watershed- WRIA 62) are now covered by a 12°C char spawning and rearing criteria. If the information in the DEIS is not accurate, it raises the question of what the CNF staff have been and will be using to determine site level objectives in implementing the plan.

Where the CNF Plan is explicit, it includes some potentially damaging standards for management. Based on the DEIS, it is clear the CNF managers understand that grazing contributes to an existing problem with providing healthy water quality and stream habitat/structure. As noted in the DEIS, Ecology and the CNF have been working to implement a CWA based Total Maximum Daily Load (TMDL) for temperature and fecal coliform pollution affecting streams on the CNF. It is surprising therefore that no significant changes are noted for grazing intensity in these riparian areas, and no desired conditions are included that relate to increasing shade or reducing fecal pollution. Rather than develop a plan towards reducing the water quality problems associated with grazing riparian areas, the plan allows grazing at an intensity that would damage 25% of the stream banks and remove much of the brush along the stream. This infers a rather frequent presence of cattle in and along the streams, and is counter to the increase in shade producing riparian vegetation requirement in the temperature TMDL. Based on the information provided it appears that infrastructure improvements to help reduce

livestock related pollution may cover only a very small fraction of the RMAs over the life of this plan. These factors appear inconsistent with the goal of minimizing livestock effects to hydrologic function, and raises concerns about fecal coliform and sediment in streams, and about meeting the requirements of the CNF TMDL.

The objectives for accomplishing road and habitat improvements appear insufficient to address runoff of sediment into CNF streams and wetlands. The CNF is 1.1 million acres, with 5,221 miles of roads. According to the DEIS: most subwatersheds are rated impaired for road indicators, road densities are high enough to put most subwatersheds in the "fair" to "poor" categories and higher in riparian areas than across the forest in general, and 862 miles of roads are hydraulically connected to streams with 54% of stream crossings at high risk of sediment delivery. These statistics describe a road system in significant need of attention. Yet, the draft plan targets only 108 miles of road for treatment in the next 15 years. At this planned rate it appears it may take well over 100 years to disconnect the roads from the stream hydrologic network. The draft plan additionally sets a goal of having only 28% of the road densities at a level considered functional (<1 mi/mi^2), and having 45% of the forest at road densities considered functioning at risk (1 – 2.4 mi/mi^2). Setting aside the issue of having a goal of almost half of the road system targeting an at risk condition, the rate of road treatment in the plan does not seem capable of reaching even these modest targets. Careful targeting of the road improvement projects may result in greater overall gains in protection, but the plan and its supporting documents provide no clear basis for assuming this would be the case.

The draft plan includes an objective to manage the forests within the RMAs. Ecology understands the importance of managing stands that are in unhealthy conditions, and we are not advocating a hands off policy for the RMAs. However, we are concerned the CNF is applying its limited financial resources to thin riparian stands that provide shade to streams, rather than using those resources to extinguish sources of water quality degradation and correct stream crossing problems. We are additionally concerned with the lack of specific standards to guide this management. Ecology would be less concerned with the direct effects of managing the RMAs if the plan included some minimum standards designed to avoid causing or contributing to a violation of the state water quality standards at the project level (or at least a clear statement that this is a goal for site level management).

The above discussion is intended to illustrate why Ecology is concerned the draft CNF plan does not appear to adequately improve and protect water quality. In summary, Ecology recommends the final CNF plan:

- Provide more ambitious targets for disconnecting roads from the hydraulic network and for fixing inadequate water crossings.
- Set more protective standards to prevent grazing impacts to the water quality of streams and wetlands.
- Clearly acknowledge the need to meet state surface water quality standards at the project level.

Thank you again for the opportunity to provide comments to your process. The Department of Ecology remains committed to working with the USFS to develop an increasingly effective partnership for addressing water quality protection on the federal lands within Washington State. If you have any questions or would like to set up a meeting to discuss our concerns, please contact me at: mark.hicks@ecy.wa.gov or (360) 407-6477.

Mark Hicks

Forest Practices Lead
Washington Department of Ecology

Pend Oreille County

Board of Commissioners

Karen Skoog
District #1

Mike Manus
District #2

Stephen Kiss
District # 3

Rhonda Cary
Clerk of the Board

Phone: 509-447-4119
FAX: 509 447-0595
E-mail: commissioners@pendoreille.org

PO Box 5025
Newport, WA 99156-5025

June 16, 2016

Amy Dillon, Forest Plan Revision Team
Colville National Forest
Colville Supervisor's Office
765 South Main
Colville, WA 99114

RE: Request to extend comment period an additional 45 days

Ms. Dillon:

The Board of County Commissioners respectfully request an additional 45 days to provide comments on the Proposed Revised Land Management Plan for the Colville National Forest.

Given the considerable impact of the proposed regulations and the degree of information involved, we feel it necessary to have additional time to adequately review the proposed alternatives in order to identify any issues pertinent to Pend Oreille County.

We appreciate your consideration of this request to extend the comment period an additional 45 days to August 15, 2016.

PEND OREILLE COUNTY
BOARD OF COMMISSIONERS

Mike Manus, Chair

Karen Skoog, Vice-Chair

Stephen Kiss, Member

Figure E-5. Pend Oreille County Commissioners letter (letter #479)

CATHY McMORRIS RODGERS
5TH DISTRICT, WASHINGTON

REPUBLICAN CONFERENCE
CHAIR

DEPUTY WHIP

COMMITTEE:
ENERGY AND COMMERCE
SUBCOMMITTEE ON HEALTH

Congress of the United States
House of Representatives

COUNTIES:
ASOTIN
COLUMBIA
FERRY
GARFIELD
LINCOLN
PEND OREILLE
SPOKANE
STEVENS
WALLA WALLA
WHITMAN

June 29, 2016

Mr. Jim Peña
Pacific Northwest Regional Forester
1220 SW 3rd Avenue
Portland, Oregon 97204

Dear Regional Forester Jim Peña:

I am writing to request that the United States Forest Service (USFS) provide an additional 45 days for public comment on the Colville National Forest Draft Forest Plan.

As you know, the Colville National Forest (CNF) is a multiuse forest that supports a broad range of recreational activities while providing an abundance of natural resources, which supports thousands of jobs throughout the region. To protect these interests, the Northeast Washington Forestry Coalition (NEWFC) was formed in 2002 to "demonstrate the full potential of restoration forestry to enhance forest health, public safety and community economic vitality." Since the formation of NEWFC, the CNF has been one of the most productive National Forests in the United States.

The Colville National Forest Draft Forest Plan is a multi-year effort dating back to 2011. Since the February release of the draft plan and draft environmental impact statement, I have been encouraged by the USFS public outreach. As deliberations on this plan move forward, I hope the USFS continues to encourage public participation and incorporate as much input into the plan as possible from that public engagement. In that regard, NEWFC has been meeting with a diverse set of stakeholders as well as commissioners in several of the counties in my congressional district on the draft forest plan. NEWFC is excited by their previous meetings and have been asked to facilitate meetings between all affected counties and specific interest groups on enhanced forest collaboration. These meetings will necessitate an additional period of public comment.

In accordance with the National Forest Management Act of 1976, the law that governs forest plans in our National Forests, "…providing for public participation in the planning for and management of the National Forest System, the Secretary, pursuant to the Federal Advisory Committee Act and other applicable law, shall establish and consult such advisory boards as he deems necessary to secure full information and advice on the execution of his responsibilities." Providing an additional 45 days for collaborative meetings will build consensus and bring our communities together, resulting in a plan broadly supported by relevant stakeholders. I appreciate the Forest Service's diligence in crafting the Colville National Forest Draft Forest Plan and I appreciate consideration of this request for an extension.

Please contact Andrew Neill in my Washington D.C. office at (202) 225-2006 or at Andrew.Neill@mail.house.gov if you or your staff has any questions about this matter.

Sincerely,

Cathy McMorris Rodgers
Member of Congress

203 CANNON HOUSE OFFICE BUILDING
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FAX: (202) 225-3392

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www.mcmorrisrodgers.house.gov
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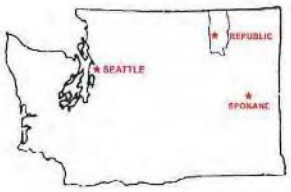
Figure E-6. Letter from Congresswoman Cathy McMorris Rodgers



FERRY COUNTY
BOARD OF COMMISSIONERS

290 EAST TESSIE AVENUE
REPUBLIC, WASHINGTON 99166
TELEPHONE (509) 775-5225 ext. 2508 · FAX (509) 775-5230

BRAD L. MILLER, Curlew, District 1
NATHAN DAVIS, Republic, District 2
MIKE BLANKENSHIP, Boyds-District 3

Amanda Rowton, Clerk of the Board
commissioners@co.ferry.wa.us

July 1st, 2016

Amy Dillon
Colville National Forest
765 South Main Street
Colville, WA 99114

Dear Ms. Dillon,

On February 11th, 2015 we received the original copies of the Draft Forest Plan Revision. At the June 30th meeting at the Tri County Economic Development Office an Economic Analysis of Outdoor Recreation in Washington State and the R6 Sustainable Recreation Strategy Summary was discussed that would impact our statement regarding the Forest Plan Revision. That Economic Analysis of Outdoor Recreation in Washington State and the R6 Sustainable Recreation Strategy Summary was received the morning of the 30th of June by the Ferry County Commissioners Office. The Ferry County Commissioners feel that more time is needed to go over the additional information and make a proper statement.

We are formally requesting an extension of the comment period of 45 days to begin after the request for an extension is approved. That would give us the time to adequately review the draft Forest Plan Revision with the proper materials which include the Economic Analysis of Outdoor Recreation in Washington State and R6 Sustainable Recreation Strategy Summary.

Thank you for your attention to this issue. We look forward to working with you on this project.

Please Note: A signed hard copy will be mailed following the email.

Sincerely,

The Ferry County Board of Commissioners

Nathan Davis, Chairman

CC: James Pena, Rodney Smolden, Mike Herrin & Josh White

Figure E-7. Ferry County Commissioners letter (letter #665)

Pend Oreille County

Board of Commissioners

Karen Skoog
District #1

Mike Manus
District #2

Stephen Kiss
District # 3

Rhonda Cary
Clerk of the Board

Phone: 509-447-4119
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PO Box 5025
Newport, WA 99156-5025

E-mail: commissioners@pendoreille.org

July 1, 2016

Amy Dillon, Forest Plan Revision Team
Colville National Forest
Colville Supervisor's Office
765 South Main
Colville, WA 99114

RE: Request to extend comment period an additional 45 days

Ms. Dillon:

As a Commissioner of Pend Oreille County, I am writing to request an additional 45 days to the comment period on the Proposed Revised Land Management Plan for the Colville National Forest. The Board of Commissioners recently sent this request on June 16. It is my understanding there was a collaborative meeting held yesterday relating to the Forest Plan Revision between people with diverse interests.

With the latest information received relating to the Forest Plan Revision, additional time is needed to complete comments. The Board must review the RCO Economic Impact of Outdoor Recreation in Washington State Study and the R6 Sustainable Recreation Strategy Summary.

This plan is too important not to fully address every facet. I appreciate your consideration of the request to extend the comment period an additional 45 days.

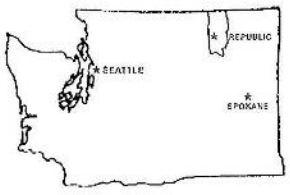
Sincerely,

BOARD OF COUNTY COMMISSIONERS

Mike Manus, Chair

c: Representative Shelly Short
Representative Cathy McMorris-Rodgers.
Senator Maria Cantwell
Gayne Sears
Rodney Smoldon
Jim Pena
Mike Poulson
Stevens County Commissioners
Ferry County Commissioners

Figure E-8. Pend Oreille County Commissioners letter (letter #980)



FERRY COUNTY
BOARD OF COMMISSIONERS

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NATHAN DAVIS, Republic, District 2
MIKE BLANKENSHIP, Boyds-District 3

Amanda Rowton, Clerk of the Board
commissioners@co.ferry.wa.us

July 5, 2016

Colville Forest Plan Revision Team

765 South Main St.

Colville, WA 99114

Re: Forest Plan Revision

The Ferry County Board of County Commissioners (BOCC) submit the following comments to the Colville National Forest Service (CNF) for the draft Forest Plan Revision (FPR).

The BOCC has participated in the current planning process from the beginning in 2003. Throughout this process our constituents and the BOCC have been very clear and consistent regarding local needs. The thirteen year long process has not changed the resolve of the BOCC nor has the citizens of Ferry County. The FPR and map alternative presented with approximately 50,000 acres of wilderness recommendation is a disappointment to the BOCC. Wilderness recommendation for the sole purpose of appeasement of the professional environmentalists is not science based forest management. The wilderness recommendation is not responsible management and certainly not beneficial to local area.

Wilderness has a place in forest management however that said, Wilderness is only of value if in fact it actually has quality characteristics as originally defined in the Wilderness Act of 1964. The CNF has experienced numerous reviews for wilderness existence and each time the lands within Ferry County did not qualify. Federal Wilderness Act of 1964 and subsequent reviews; 1972 Roadless Area Review&

CC: Rodney Smolden, James Pena, Mike Herrin & Josh White

Figure E-9. Ferry County Commissioners letter (letter #949)

Evaluation (RARE #1), 1979 Roadless Area Review & Evaluation (RARE #2) and the 1984 Washington State Wilderness Act did not identify any wilderness in Ferry County.

- The forest plan revisions alternatives fail to meet Ferry County's economic needs
- Fails to meet local management needs
- Reduces recreational opportunities
- Increased trail maintenance costs
- Increases grazing costs
- Limits access for fire fighters and emergency responders
- Eliminates forest health management strategies
- Prevents habitat enhancement for wild life and endangered species

The BOCC has questioned the Inventoried Roadless Review (IRA) process from 1990's to the present time. Members of the current BOCC participated in a Colville National Forest public meeting at the college in Colville, Washington August of 2005. The CNF presented information at that time indicating several changes within the Ferry County portion of the CNF IRAs. The CNF changes were to recommend dropping two IRAs (failed to meet criteria) and adjusting the boundaries of others (to meet criteria) for a net loss of acres. This presentation was given after the CNF's review of the IRAs. The Ferry County BOCC never had an opportunity to participate in any renewed analysis of the IRAs.

The addition of Potential Wilderness Areas (PWA) added to the plan after 2005 IRA reviews, apply policy in a very broad scope. Many of the PWA additions have been proven to contain roads, key trails and even some with logging evidence. The BOCC and our citizens believe there have been decisions made regarding IRAs and PWAs that were made as conciliatory actions. Once again the BOCC believes those actions are not scientific nor in the best interest of the local region. The application of the policy or guidelines defining these PWAs fail to consider local Economics, Customs, Culture and Heritage and would be in conflict with Public Law 96-354 "Regulatory Flexibility Act" and the intent of the act. The BOCC asks that the new PWAs be removed from the plan and be managed for the local area benefit. Access to the PWAs has been part of the Custom, Culture and Heritage of Ferry County aiding in the livelihood of many citizens.

Regarding the possible Wilderness Designation on approximately 50,000 acres of the CNF within Ferry County. Ferry County citizens that have for many decades (maybe a Century) used the area in question. Users have reported to the BOCC a number of reasons the Kettle Crest does not qualify as a candidate for wilderness designation. First it has all the evidence of man's presence from the start to end of the constructed and reconstructed trail. Repairs to the trail have been completed with chain saws, trail reconstruction with excavators and other common management tools. There is a warming hut (cabin) so in demand you need reservations to use it. There is nothing wrong with anything we have listed but a trail this well constructed removes any notion this is wilderness. The CNF acknowledges the lack of Wilderness quality in their own review of the PWAs and IRAs. The CNF acknowledges the loss of opportunities that Wilderness designation will bring with PWAs and IRAs review statements; *"The Profanity and nearby Bald Snow PWAs provide one of the best opportunities for wilderness-oriented recreation on the Colville National Forest, but at the expense of displacing other well-established and emerging uses"*, *"however, use of this area has been gaining in popularity by mountain bikers with much*

CC: Rodney Smolden, James Pena, Mike Herrin & Josh White

of the use originating from British Columbia. These users would be displaced with Wilderness designation" these comments taken from the CNF assessment of the Profanity PWA document.

The Kettle Crest is truly a back country experience yet the sound from state highway and the lights visible from the communities east and west of the trail, remove that sensation of solitude. Profanity PWA/IRA does not meet the original criteria of 1964 Wilderness Act and to recommend it for wilderness is not required by law, even current policies do not require Wilderness designation.

The BOCC is cognizant of special areas within our County that do not meet the criteria for wilderness designation but need a management designations to protect current back country conditions from changing. The BOCC believes a Special Interest Area with recreational emphasis would be the best management tool for the Kettle Crest.

The fact that there were numerous different maps (alternatives) with significant differences would indicate the proposed forest plan is not based on science or specific law. The FPR clearly is not based on science, the testimony of the Ferry County citizens, or the input of the local governments in which the CNF resides.

The BOCC agrees with input by the local user groups as a need for more access, more recreation and more commercial timber harvest at the many community meetings for FPR. The testimony has never wavered from 2003 through 2016 more access as the leader, more recreational opportunities and more jobs from timber production. A former CNF Supervisor, Rick Brazel conducted an exercise call "Proof of Concept" a process to prioritize fund expenditures. The needs that topped the proof of concept list were access, recreation and timber harvest. The FPR clearly provides for the opposite direction, recommending fewer roads and limited timber harvest. The plan places more emphasis on restoration without addressing long term timber production. The BOCC's concern here is the failure of the CNF to recognize the negative economic impact this action would have on the local economy.

Wilderness designation would eliminate mountain bikes from a trail purported as a premiere mountain bike experience, reducing economic activities in Ferry County. Wilderness Designation reduces the recreational opportunities and blocks many effective management tools from being utilized in those areas. Revenues for forest management is insufficient to properly manage the CNF currently, so why would creating areas that require more effort and funding be desirable? Wilderness designation is the exact opposite direction the BOCC expects the FPR to take our County in the future.

The FPR is a document that does not meet the needs of forest health, riparian recharge, endangered species, and wildlife habitat, much less the Customs, Culture and Heritage of Ferry County. The FPR reads as if it were created to validate and continue the current management of the CNF as we all know to be less than acceptable. Harvest goals within the FPR are far below the forest growth rates and do not compensate for the failed harvest goals (back log of harvest) of the 1988 plan. The DBH of 21" is not suited for site specific management of the Colville National Forest. The 21" DBH has prevented forest restoration. This size limitation should be removed and local management should be allowed to determine the needs for forest management. Some of these needs are:

CC: Rodney Smolden, James Pena, Mike Herrin & Josh White

- 1988 Harvest levels where not achieved
- For forest health, at least 80 million board feet annual harvest
- Over inventory has resulted in
  - Water quantity reductions
  - Loss of wildlife habitat
  - Increased pest and disease
  - Loss of economics

Grazing is a part of our Agricultural Lands of Long Term Commercial Significance in the Ferry County Comprehensive Plan. Grazing allotments are essential to the stability of the local ranches. Management of the Grazing Allotments should include the economic viability in addition to environmental concerns.

Road Density recommendations should be all inclusive and formulated through the travel management plan with consideration for local needs:

- Recreational needs
  - Motorized
  - Non-motorized
  - Hunting and fishing
  - Camping
- Harvest needs
  - Berry pickers
  - Wood cutting
  - Logging
- Emergency response
  - Law enforcement
  - Fire response
  - Search and rescue

The Ferry County Board of Commissioners would like to see the following changes to the Forest Plan Revisions:

- Forest health improvement
  - Pest control
  - Disease control
- Increased harvest
  - Public wood cutting
  - Preplan for fire/wind salvage
  - Commercial logging
- No new wilderness
- Removal of all PWAs
- Protect critical infrastructure as outlined in the Ferry County Fire Protection Plan
- Inventoried Roadless Area (IRA) review revisited
- No loss of grazing opportunities
- Local Economic strategy addressed

CC: Rodney Smolden, James Pena, Mike Herrin & Josh White

- Water quantity and quality increased
- More recreation access
- Kettle Crest Trail area designated as a Special Interest Area for recreation

The Colville National forest covers over 500,000 acres and has a significant impact on the county. The Ferry County Board of Commissioners asks that you take our comments into consideration for the economic, health, safety and welfare of the Ferry County residents.

Very Respectfully,

Nathan Davis, Chairman

Brad Miller, Vice Chair

Mike Blankenship, Member

CC: Rodney Smolden, James Pena, Mike Herrin & Josh White

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL REVIEW
AND ASSESSMENT

July 5, 2016

Mr. Jim Peña, Regional Forester
USDA Forest Service, Pacific Northwest Region
1220 SW 3rd Avenue
Portland, Oregon 97208

Dear Mr. Peña:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Proposed Revised Land Management Plan for the Colville National Forest in Stevens, Ferry, and Pend Orielle Counties of Washington State (EPA Project 11-4113-AFS). Our review was conducted in accordance with the EPA's responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act.

The DEIS documents the analysis of six alternatives (no action, proposed action, and alternatives P, R, B, and O). The Action Alternatives address the following six needs: (1) maintain or restore ecological conditions that contribute to the recovery and viability of terrestrial plant and wildlife species; (2) manage forest vegetation conditions to be more resilient to disturbances; (3) address climate change implications and vulnerabilities; (4) address changed social and economic conditions and preferences in light of ecosystem capacity; (5) accelerate improvement in watershed condition across the forest; and (6) integrate watershed and aquatic strategies across the forest.

Alternative P has been identified as the preferred alternative. Notable features of Alternative P include the application of landscape ecology/ecological forestry concepts to vegetation management; the adoption of a modified (expanded) aquatic riparian conservations strategy (ARCS-modified); the creation of the Kettle Crest Special Interest Area; and the recommendation that 68,300 acres be designated as wilderness. Relative to the other action alternatives, Alternative P would provide expanded riparian protections while pursuing a more dynamic approach to preserving late successional habitats and a more active approach to forest restoration.

The EPA is supportive of the overarching direction of Alternative P. We support the guidance provided within the 2014 revision of the Interior Columbia Basin Strategy and Aquatic Framework (ICB Strategy)[1]. Our review of the DEIS finds Alternative P (and the ARCS-modified) to be largely consistent with this strategy. Our review does not focus on the other action alternatives, however we would like to establish that the EPA is less supportive of the aquatic strategy under the other action alternatives (ARCS and INFISH), and we are unsupportive of the vegetation management strategies proposed under Alternatives R, B and O. We find these alternatives to be inconsistent with the broad body of science that has emerged in recent years around the restoration of dry and moist-mixed conifer sites[2].

[1] http://www.icbemp.gov/html/ICBEMP_Frameworkmemorandum-and-strategy_2014.pdf
[2] http://www.fs.fed.us/pnw/publications/MMC_Synthesis_21Nov13.pdf

Figure E-10. United States Environmental Protection Agency letter

In the comments that follow, we identify areas where we believe additional information, detail and/or standards and guidelines would improve the document and ensure consistency with the principles established and agreed to by the Interior Columbia Basin Deputies within the ICB Strategy. Our comments focus on the need for clarity regarding active management within riparian zones; the identification and management of landslide prone sites; the proposed dynamic reserve approach; grazing management; and the role of best management practices at the Forest level.

Based on our review, we are rating the DEIS as EC-2 (Environmental Concerns – Insufficient Information). An explanation of this rating is enclosed. We support the collaborative, science-based approach taken by the Colville National Forest Planning Team and we encourage you to continue to continue to engage with your collaborators as you finalize this EIS and Forest Plan.

We appreciate the opportunity to review and comment on the DEIS, and we welcome the opportunity to engage with the planning team as you move forward. If you have any questions about our review, please contact me at (206) 553-1601, or by electronic mail at littleton.christine@epa.gov. Or you may contact Teresa Kubo of my staff at (503) 326-2859, or by electronic mail at kubo.teresa@epa.gov .

Sincerely,

Christine B. Littleton

Christine B. Littleton, Manager
Environmental Review and Sediment Management Unit

Enclosure:
1. EPA Detailed Comments on the Draft Environmental Impact Statement and Proposed Revised Land Management Plans for the Colville National Forest

EPA Detailed Comments on the
Draft Environmental Impact Statement and Proposed Revised Land Management Plan
For the Colville National Forest
July 5, 2016

Riparian Restoration/Shade
It is noted within the DEIS (page 130) that much of the Colville National Forest has some degree of departure from historic conditions. This is true of both upland and riparian communities. It is also noted that Alternative P would provide for greater emphasis on active restoration using landscape ecology concepts (page 49). It would be helpful to have some additional specificity within the EIS and Forest Plan about what kinds of harvest treatments would be pursued in riparian zones. We recognize that, consistent with the ARCS-modified, any treatments would be site specific and designed to "move vegetation in the riparian management area toward historic range of variability, which maintains, restores, or enhances conditions needed to support aquatic and riparian dependent resources." However, a range of residual densities and canopy closures by site type would add to the reviewers' understanding of the action alternatives.

Of particular interest to the EPA is the potential for management to influence solar loading (positively or negatively) in the riparian zone, as well as expected recovery periods when initial treatment may reduce shade. Page 290 of the DEIS notes that there are 42 stream reaches on the Forest that do not meet water quality standards, and that temperature is one of the leading causes of impairment. While Total Maximum Daily Loads (TMDLs) in Washington identify multiple sources of temperature impairment, it is recognized that stream shade provided by riparian vegetation has the most widespread achievable effect on reducing stream temperatures by reducing direct solar radiation. In order to protect water quality and support TMDL implementation, the EPA supports management that emphasizes the protection and restoration of shade as well as healthy communities of riparian vegetation.

Recommendation:

- We recommend that the FEIS and Forest Plan include additional specificity about the types of harvest treatments that would be pursued in riparian zones. We recommend that this discussion include a range of residual densities and canopy closures by site type and anticipated timeframes for shade recovery.

Aquatic Riparian Conservation Strategy
The DEIS considers three different riparian management strategies (INFISH, ARCS, and ARCS-modified). The EPA is strongly supportive of the ARCS-modified approach. In particular, we support the additional standards and guidelines related to grazing management (discussed in detail below). We also note, however, that work is ongoing at the Regional level (Forest Service Region 6) to update the 2008 ARCS. We encourage the Forest to work with regional planners to ensure that the final riparian management strategy is maximally consistent with revised regional direction.

We also note that the above referenced riparian strategies are not available within the EIS (or as an appendix to the EIS). They are available as an appendix to the Hydrologist's report on the planning website, however this is not sufficient access to provide reviewers with a full understanding of the alternatives within the EIS. We recommend incorporating Appendix B from the Hydrology Report into the Final EIS.

Recommendations

- Confer with regional planners on the status of the revised Region 6 ARCS, and seek to maximize consistency between the Colville ARCS and the Regional ARCS.
- Incorporate Appendix B from the Hydrology Report (Aquatic Direction Comparison Table for the Colville NF) into the FEIS.

Landslides

Landslides are recognized within the DEIS as a key disturbance that can influence watershed function. Pages 361-362 of the DEIS disclose that while very little of the Forest is categorized as high risk for landslides, a significant portion of the forest is at moderate risk (36% of the Forest is at moderate risk of deep seated landslides and 43% of the Forest is at moderate risk of shallow landslides). The Draft Forest Plan includes site stability within desired conditions, but does not include a discussion of landslides or landslide prone areas more broadly (within Forest Plan objectives, standards and guidelines). Given the potential for landslides to alter landscapes and affect infrastructure, water quality, and fish and wildlife habitat (particularly after fire), we recommend the Final Plan give additional consideration to the identification and management of landslide prone areas.

Recommendation: We recommend the FEIS and Forest Plan incorporate additional direction related to landslide prone areas. We also offer the following Standards as examples for Forest Service consideration:

- Site-specific analysis or field verification of broad-scale landslide-prone models shall be conducted in representative areas that are identified as landslide prone during site/project-scale analysis involving proposed management actions that may alter soil-hydrologic processes. Based on the analysis findings, design management actions to avoid the potential for triggering landslides (Standard).
- Field-verified high-risk landslide-prone sites are identified as not suited for timber production. Wood products harvested from high-risk landslide-prone sites will not contribute to the Available Sale Quantity (ASQ) (Standard).

Dynamic Reserve Approach

The management of dry and moist-mixed forest types presents a significant challenge due to increasing fuel loads, increasing fire frequency, concerns over wildlife habitat, and the management of water resources, particularly given the likely changes in climate projected over the next 50 to 100 years. Current landscape condition reflects 20th century forest management, and differs from the historical condition. To restore the functions of dry and moist-mixed forest, it will be necessary to learn from the past and adapt to anticipated changes of the future.

For these reasons, we support the "dynamic reserve" concept behind Alternative P. We believe this concept supports moving toward ecosystem restoration and forest health as a management goal. However, our review finds that the DEIS does not adequately explain the dynamic landscape approach. Page 50 of the DEIS refers to the dynamic landscape approach and references figure 4. Figure 4 is a map of proposed key watersheds. It is not clear what the relationship is between key watersheds and the dynamic reserve approach.

Page 46 states that the DEIS will explore the dynamic reserve approach in detail in Chapter 3. Chapter 3 does discuss the approach within the alternatives where the concept applies (proposed action and Alternative P), however it is not clear from the DEIS how the dynamic reserve approach will be applied.

As the EIS is finalized, we encourage the Forest to provide additional detail about the dynamic reserve strategy, including a discussion of how habitat connectivity will be preserved and/or enhanced, and the types of treatments that would be expected within the general and focused restoration areas. This discussion should be informed in part by recent literature exploring silvicultural practices informed by natural disturbance and stand development processes.

Recommendations

- Provide additional detail about the dynamic reserve strategy, including a discussion of how habitat connectivity will be preserved and/or enhanced, and the types of treatments that would be expected within the general and focused restoration areas. That discussion should include detail about harvest retention levels and gap size (size of group selection openings). We recommend that tree retention be based on a target proportion of pre-harvest basal area.
- Consider recent literature. We offer the following references in support developing silvicultural practices that are based on an understanding of natural disturbance and stand development processes:
  - Churchill, D.J., A.J. Larson, S.M.A., M.C. Dalhgreen, and J.F. Franklin. 2013. The ICO approach to quantifying and restoring forest spatial pattern: Implementation guide. Version 2.0. Stewardship Forestry, Vashon, Washington, USA
  - Churchill, D.J., A.J. Larson, M.C. Dalhgreen, J.F. Franklin, Hessburg, P.F., and James A. Lutz. Restoring forest resilience: From reference spatial patterns to silviculural prescriptions and monitoring. Forest Ecology and Management 291 (2013) 442-457
  - USDA General Technical Report NRS-19 "Natural Disturbance and Stand Development Principles for Ecological Forestry" http://www.fs.fed.us/nrs/pubs/gtr/gtr_nrs19.pdf
  - Larson, A.J., Churchill, D. 2012. Tree spatial patterns in fire-frequent forests of western North America, including mechanisms of pattern formation and implications for designing fuel reduction and restoration treatments. Forest Ecology and Management, 267 (2012) pp 74-92
  - Franklin, J.F., K.N. Johnson, D.J. Churchill, K. Hagmann, D. Johnson, and J. Johnston. 2013. Restoration of dry forests in eastern Oregon: a field guide. The Nature Conservancy, Portland, OR. 202 p.

Eastside Screens

The preferred alternative (Alternative P) and the proposed alternative would eliminate the Eastside Screens, thereby allowing for the removal of trees greater than 21 inches Diameter Breast Height (DBH). In general, the view of the EPA is that while the eastside screening of trees over 21 inches has served to build trust among stakeholders and protect important remnant medium and large trees, a broad body of science now supports a more ecologically-based approach.[3] We believe, however, that any harvest of trees over 21 inches should take into account geographic context, tree size, tree age, tree species, spatial distribution, relative abundance, the historical (and future) range of variability and other considerations such as forest health. The potential of an area to grow large trees should also be considered. An approach that does not allow for the consideration of these factors impedes ecologically based landscape-level management.

[3] http://www.fs.fed.us/pnw/publications/MMC_Synthesis_21Nov13.pdf

- We recommend that the Forest Plan provide additional guidance regarding how old growth trees would be identified in the absence of a diameter limit (i.e. using the 2008 Van Pelt guidelines[4] or some other method).
- We recommend the development of BMPs around the potential removal of trees over 21 inches DBH. The Forest may benefit from considering the marking criteria developed by the Ochoco Forest Restoration Collaborative[5] or other similar efforts.

Grazing

The Hydrology Report (page 30) notes that degraded riparian conditions on the forest are influenced in part by livestock grazing. Stream and riparian damage resulting from livestock grazing can include alterations in watershed hydrology, changes to stream channel morphology, soil compaction and erosion, riparian vegetation destruction, and water quality impairments.[6] The ARCS-modified includes expanded Standards and Guidelines to address the effects of grazing. We strongly support the inclusion of those expanded Standards and Guidelines in the final selected alternative.

We appreciate that the ARCS-mod has been incorporated into the preferred alternative. We also note, however, that the effects analysis identifies some potential issues with the ARCS-mod. We have some concern with this analysis. Page 536 discusses how "Standard 21" of the ARCS-mod could result in the improper siting of off-site watering facilities. In our review of the ARCS-mod in the Hydrology Report, we do not find a "Standard 21." There is a Standard 10, which states that "During allotment management planning, negative impacts to water quality and aquatic and riparian function from existing livestock handling or management facilities located within riparian management areas shall be minimized to allow conditions to move towards the desired condition or eliminated." We do not view this language as overly prescriptive. There is also a "Guideline 10," which states that, "Livestock trailing, bedding, loading, and other handling activities should be avoided in riparian management areas, except for those that inherently must occur in a riparian management area." Again, we do not find this language to be overly prescriptive. There is a degree of flexibility built into the Guideline that recognizes there may be instances where facilities within a riparian management area may be preferable from a resource protection standpoint. Furthermore, there is an important distinction between Standards and Guidelines. As noted on page 227 of DEIS, a guideline is a constraint on project and activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met. Guideline 10 does not create a blanket requirement that livestock watering or other facilities be sited 300 feet from streams and should not be characterized in that way.

Page 537 discusses how "Standard 23" of the ARCS-mod could compromise a permittees ability to successfully gather livestock from the allotment and potentially result in extended livestock use in riparian areas.

In our review of the ARCS-mod in the Hydrology Report, we do not find a "Standard 23." There is a "Standard 9" which calls for locating "new livestock handling, management, or watering facilities outside of riparian management areas, except for those that inherently must be located in a riparian

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[4] http://www.dnr.wa.gov/Publications/lm_hcp_west_oldgrowth_guide_full_lowres.pdf

[5] Appendix G: Criteria to guide decision-making on the removal/retention of grand fir and douglas-fir in 384 acres within the Wolf Project: http://a123.g.akamai.net/7/123/11558/abc123/forestservic.download.akamai.com/11558/www/nepa/95968_FSPLT3_1604122.pdf

[6] Belsky, A.J., A. Matzke, and S. Uselman, 1999. Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States. J. Soil and Water Conserv. 54(1):419-431.

management area and those that are needed for resource protection." Because this Standard applies to new facilities, and because there is a degree of flexibility built into the standard that recognizes there may be instances where facilities within a riparian management area may be preferable from a resource protection standpoint, we do not find this standard to pose a resource risk.

Page 537 also cites a paper by Clary and Leininger (2000) and states that Guideline 22 under the ARCS-mod would "constrain grazing beyond what has been identified as optimal to protect stream and riparian values in most areas." We do not find this to be a well-supported conclusion. The Clary and Leininger paper does recommend a 10 cm residual stubble height as a starting point for improved riparian grazing management. The paper goes on, however, to note that in some areas, 15-20 cm of stubble height may be required to reduce browsing or willows or to limit trampling impact to vulnerable streambanks. Furthermore, there are limits to the extent which it is appropriate to extrapolate the results of the Clary and Leininger paper given the duration, season, elevation, stream size, paddock size and geographic location of the study site. Given the limitations of the Clary and Leininger paper, we do not believe it is appropriate to rely on this one source to determine what constitutes an "optimal" stubble height for the Colville National Forest.

Recommendations

- We recommend the FEIS reassess the potential impacts of the ARCS-mod on the grazing program (utilizing the full and correct standards and guidelines as proposed).
- We recommend FEIS consider other science as it relates to stubble height. We encourage the Forest to consult with Dr. Brett Roper, Fisheries Biologist with the National Stream and Aquatic Ecology Center for the Forest Service - Washington Office as the FEIS is completed.

BMPs

The importance of Best Management Practices (BMPs) and BMP monitoring is recognized and discussed throughout the document. However, the DEIS and Forest Plan do not appear to provide Forest-level guidance related to the development of site-specific BMPs. Rather they appear to refer back to the National Core BMPs[7]. We note that the National Core BMP document includes the following direction related to Forest-specific planning:

"The National Core BMPs in this technical guide are deliberately general and nonprescriptive. Because this document is national in scope, it cannot address all possible practices or practices specific to local or regional soils, climate, vegetation types, or State-specific requirements. The National Core BMPs require the development of site-specific BMP prescriptions based on local site conditions and requirements to achieve compliance with established State, tribal, or national water quality goals. It is expected that State requirements and BMP programs, Forest Service regional guidance, and the land management plan will provide the criteria for site-specific BMP prescriptions. The National Core BMPs provide direction on 'what to do' and the local direction will provide direction on 'how to do it.' Forest Service regions may supplement the National Core BMPs with additional practices or practices that are more specific to meet regional needs."

The Forest Planning process provides an opportunity to revisit existing Forest-level BMP direction, and to provide direction for project-level planning and implementation.

[7] National Best Management Practices for Water Quality Management on National Forest System Lands Volume 1: National Core BMP Technical Guide:
http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf

Recommendation

- We recommend the Forest Plan and EIS expand upon the discussion of BMPs to include an assessment and revisions of existing Forest-level BMP guidance and BMPs. We further recommend the Forest Level BMPs be included as an appendix to the Forest Plan.

Roads

As noted on page 34 of the Hydrology Report roads are affecting hydrologic function across most of the Forest, with most subwatersheds rated as impaired for road indicators. Alternative P would reduce suitability for roads to 75 percent of the forest (compared to 83 percent in the no-action alternative). It would also include desired conditions for total road densities to address terrestrial wildlife (e.g., grizzly bear), hydrologic function, and aquatic species (e.g., bull trout) habitat needs while continuing to maintain an access system of authorized roads. In alternative P, the road density desired conditions would vary from no greater than 1.0 mile per square mile in the Focused Restoration management area to no greater than 2.0 miles per square mile in the General Restoration management area (both averaged at the 5th field watershed).

We strongly support addressing road density. Given limited resources, we also encourage the Forest to incorporate a system of prioritization focused on those roads where hydrologic connectivity needs to be addressed (roads that are contributing the most sediment to the aquatic and riparian system). The EPA supports mid-scale or watershed analysis as a tool for identifying these restoration opportunities. We also support the use of tools such as the Geomorphic Road Analysis and Inventory Package (GRAIP). We encourage the use of GRAIP (or GRAIP Lite) in those watersheds known to be experiencing extensive road-related runoff. We believe GRAIP is one of the most effective tools currently available for analyzing the impacts of road systems on erosion and sediment delivery to streams.

Recommendation:

- We recommend the Forest focus on hydrologic connectivity in addition to road density in the prioritization of road treatments. We further recommend utilizing all best available tools (such as GRAIP-lite) in the assessment and prioritization of restoration treatments.

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
620 SW Main Street, Suite 201
Portland, Oregon 97205-3026

IN REPLY REFER TO:
9043.1
ER16/0112

July 5, 2016

Attn: Amy Dillon
Colville National Forest Plan Revision Team
765 South Main Street
Colville, WA 99114

Dear Ms. Dillon:

The Department of the Interior has reviewed the Draft Environmental Impact Statement for the U.S. Forest Service's Colville National Forest Plan Revision at Colville National Forest in Stevens, Ferry, and Pend Oreille Counties, Washington. The Department has no comments on the document at this time.

We appreciate the opportunity to comment.

Sincerely,

Allison O'Brien

Allison O'Brien
Regional Environmental Officer

Figure E-11. United States Department of the Interior letter (letter #709)

Pend Oreille County

Board of Commissioners

Karen Skoog	*Mike Manus*	*Stephen Kiss*
District #1	District #2	District #3

Rhonda Cary
Clerk of the Board

Phone: 509-447-4119
FAX: 509 447-0595
Email: commissioners@pendoreille.org

PO Box 5025
Newport, WA 99156-5025

Colville National Forest Plan Revision Substantive Comments

In 1963, the Selkirk School District, which serves the towns of Metaline Falls, Metaline, and Ione, was the closest to the Salmo-Priest Wilderness and had an enrollment of 750. In 1984, the enrollment was 437. Today the enrollment is 230.

Metaline Falls is 5 miles from the current Wilderness area and 2 miles from the Proposed Wilderness Area. In 1967, Metaline Falls had 3 gas stations, 2 grocery stores, a clothing store, a hardware store, a dentist, a hospital with a resident Doctor, an auto parts store, a drug store, a barber shop, 2 taverns, 2 auto repair shops, a movie theater, a café and daily rail service. Today there is 1 grocery story, 1 café, 1 tavern and a seasonal movie theater that survive. Similar statistics are true of Metaline and Ione.

Resource based industries have been the mainstay of northern Pend Oreille County for well over 100 years. They have come and gone for various reasons. Clearly the touted benefits of wilderness and tourism have not replaced the previous economy.

The Pend Oreille County Board of Commissioners has a duty and obligation to the people we serve to protect the local tax base and the value of private property, promote economic stability, advance the customs, culture and heritage of the county, and provide for future generations. Under NEPA law, the Forest Service must consider the objectives of local plans and how they should deal with the general requirements a county has of the surrounding public lands in order to meet the responsibilities counties have for the socioeconomic wellbeing, safety, and culture of its citizens.

Below are the required changes needed to meet these obligations.

Wilderness:
Towns in northern Pend Oreille County are identified as "urban wildland interface communities within the vicinity of Federal lands that are at high risk from wildfire". The position that "fire is a tool" puts human life and property at risk. Prevailing winds from the west are a fire hazard to the private property and the power lines in the Abercrombie-Hooknose area. This is very concerning to us and our goal is to reduce this risk to protect our industry, infrastructure, friends, family and neighbors.

The Wilderness areas are a fire hazard because they are not managed and fires are left to burn. According to this plan, wilderness is currently underutilized (less than 1% of visits to the forest are to designated wilderness) and does not meet the criteria of need for more wilderness. There is no crowding in the wilderness that warrants an increase. PWA will encompass the municipal surface water source (North Fork Sullivan Creek) of Metaline Falls and subject that area to less

Figure E-12. Pend Oreille County Commissioners letter (letter #1008)

aggressive wildfire management or preventive vegetative management thus leading to the possible contamination of the town's only water source in the case of a wildfire. There are several areas where PWA will abut private land or a paved, year round county road (Sullivan Lake Rd) in the plan. Current mining claims exist in areas west of Salmo-Priest. There is a proven mineral deposit in this area.

We value tourism, but wilderness has not increased tourism in this county. Most of the additional increase in proposed wilderness is in Pend Oreille County with 74% of total proposed and currently designated out of the whole CNF. This amounts to a 135% increase of proposed wilderness to this county. The Board of County Commissioners' main focus is the health, safety, economic vitality, and jobs for our citizens. There has been very little economic increase to the county with the addition of wilderness. Much of the tourism relates to the Pend Oreille River. Currently, there is no destination lodging relating to forest service tourism and wilderness. PWAs that become wilderness instead of roadless will result in a degradation of existing trails when only hand tools may be used for maintenance and will be an adverse condition for tourism.

Therefore, we require these changes to meet our obligations:

- No additional potential wilderness to the west side of the Salmo-Priest wilderness.
- No potential wilderness abutting private property or year round roads.
- There is no acceptable potential wilderness area on the west side of the Pend Oreille River Valley.
- We object to the Forest Service purchasing additional land that removes land from the tax rolls.
- We object to any Wilderness surrounding private land as it makes it landlocked.

Road Density and Access:
An aging population and ability to access the CNF by motorized means is critical for local tourism. Reduction of road density will cause more problems in the future when responding to management needed to prevent fire or to respond to fire. A road open to a 100,000 pound loaded 70-foot-long truck should be open to a 200-1500 7-10-foot-long ORV/WATV. Some roads are closed for endangered species protection for a specific time period but do not require permanent closure. Traditional uses of our forest roads allow for recreation, forest harvest, mining, grazing, gathering, and fire suppression. All are very important aspects of multiple use. The economically disadvantaged (poverty rate is 18.3% in Pend Oreille county) also need inexpensive recreational opportunities as well as access to resources to gather and sell. We support wise financial use of the People's tax money. Why spend forest dollars to remove a road that was built with forest dollars only to possibly reconstruct the road for a future need with even more forest dollars?

Therefore, we require these changes to meet our obligations:

- No net loss of existing roads.
- Mothballing of roads for future use is preferable and more affordable to obliteration.
- Make all roads that are open to highway legal vehicles open to ORV/WATVs.

Forest Health – Vegetative Management

The Board of County Commissioners supports a more aggressive approach to reach forest health. The proposed action is inadequate to reach the goals needed to accomplish a healthy forest. Counties often fall behind on road maintenance. At some point it is almost impossible to catch up and the roads begin to fail. Your own data suggests a systematic failure will occur if a specific and accurate goal is not established. This problem is a budget problem, and we can relate. However, a plan that fails is a poor plan.

According to this plan, 60% of the forest is suitable for fiber removal. With aggressive sustainable healthy forest goals this still leaves 500,000 acres that will not be managed tor timber production and is left available for other values. With timber jobs being 9 times the wages of a recreation job and 2.5 jobs per each tourism job, more management is crucial to the health, safety and welfare of our county.

A projected timber sale quantity of 48 million board feet per year, while the long term sustained yield capacity is twice that amount, is not an appropriate goal.

Timber is a renewable resource. We support resilient forests and a resilient community. We can do that through dedicated management.

Therefore, we require these changes to meet our obligations:

- The plan must have a correct management projection based on desired forest health not based on current budget levels or blanket standards.
- We expect more open and clear language and consistency with industry standards by using million board feet instead of 100 cubic board feet.
- Timber sales must be the same as long term sustainable yield capacity.
- Unharvested wildfire areas should be salvaged to protect from future fires.
- Overstocked forests must be prevented to restore a balance of water quantity and water quality.

Grazing:

The narrow Pend Oreille River Valley naturally limits agriculture land to only about 3%. Cattle producers depend upon a summer range to graze cattle on the 59% of Federal lands so that haying can be done on the river valley pastures where the cattle return to in the winter. This information is supported by Land Ownership information in the Pend Oreille County Comp Plan figure 2.1 and table 2.5.

Grazing is an effective fire management tool. Grazing creates more foliage and stimulates improved topsoil.

The stated 10 to 50 percent reduction in AUMs as a result of shortened grazing seasons that would be required to attain the specified minimum stubble height values is unacceptable. A more reasonable plan is to take a holistic approach of overall watershed health and functionality rather than focusing on specific indicators that will result in failure of the producer.
The following conclusions that additional standards would result in a reduction of productivity and business viability is reason enough to reject these standards as stated.

"More constraining plan standards, and increased riparian area widths may increase time, labor and capital expenditures by the permittee to manage allotments."
"Riparian exclusion fencing is one way to accomplish this standard and this method could make pasture moves more difficult if trailing routes are compromised as a result of additional fencing."
"…these constraints applied across the entire Forest could dampen economic contributions to local economies if standards or guidelines are at risk of being exceeded and livestock have to be removed sooner than authorized."

Therefore, we require these changes to meet our obligations:

- 6- to 8-inch stubble height should not be a consideration of riparian health and should not be required.
- Riparian area standards are too restrictive and must be revised.
- Reliable grazing in PWA is highly unlikely and we do not approve of additional wilderness.

Recreation:
Recreation is not covered well under this plan revision.

The Pend Oreille County Board of Commissioners support continued collaboration on establishing Special Interest Areas within Pend Oreille County with a focus on proposed Calispell Special Interest Area. There are Potential SIAs in two areas that will provide both recreation, mining, grazing and timber sales in a broader area.

The economy of Pend Oreille County is stagnant and could greatly benefit by increased access and facilities for all types of recreation on the Colville National Forest. Approximately 59% of POC is owned by the Federal Government, the majority of it under the USFS's jurisdiction. Proposals for motorized and non-motorized loop trails, trailheads and signage move forward slowly, if at all. A Calispell Special Interest Area, with a recreation focus, could provide opportunities for communities to work together and enhance recreation in a popular area of the Colville National Forest. The Calispell SIA would enhance recreation and not impact existing recreation routes across the Forest and not conflict with efforts to promote more routes elsewhere.

The Batey Bould Motorcycle Park has been sorely neglected and needs to be re-engineered and rebuilt to meet current standards. The CNF currently has plans to close this area or parts of the trail system due to perceived safety reasons. This is one more example of the CNF closing areas to the public with no regard to economic impact to the communities it surrounds. This SIA could help keep Batey Bould Recreation alive and well by bringing in outside resources for reconstruction of a trail system as well as utilizing the trailhead for other motorized and non-motorized purposes.

The boundaries of the Calispell Recreation Special Interest Area, as well as proposed recreation developments are shown on the attached map, Figure 1.

Other areas of the Colville National Forest need to be included in the forest plan regarding recreation. There are only a couple of loop trail opportunities for motorized recreation within the CNF. A loop route for OHV's including opening Pass Creek Road to Priest Lake needs to be

established. The USFS roads in the Panhandle National Forest are all open to OHV travel!! This creates a destination recreation area and would enhance the struggling economy of the north end of Pend Oreille County.

Currently, Pend Oreille County is the only county within the CNF with Wilderness lands. This has been a drain on our economy as the trail system is not maintained or even completed due to the encumbrances on the wilderness designation for trail maintenance and construction. It is far too expensive to build and maintain trails when the use of mechanical resources is not allowed. To add more wilderness to our county would cripple the north end of the county even more than currently exists. We get very little out of the wilderness designation in regards to tourism dollars. Backpackers spend very little money in our communities. Bicycles are not allowed in wilderness and this further cripples the economy as this is a fast growing tourism resource.

The USFS/CNF lands are a recreation paradise in Pend Oreille County that is closed to most recreationists. Our aging population in POC is finding it more and more difficult to use the public lands in our area. If you are young and fit, you can venture into the nations forest, but most in our area do not fit this category of recreationist. Many are not able to walk even a mile on a flat trail, let alone try to navigate through a wilderness that is overgrown with deadfalls and diseased timber.

The Board recently obtained new information to study relating to recreation that we have not been able to review. We have requested more time to review these studies.

The RCO Economic Impact of Outdoor Recreation in WA State study. This study shows how many jobs and how much economic activity in WA State are dependent on access to public lands. http://www.rco.wa.gov/documents/ORTF/EconomicAnalysisOutdoorRec.pdf

Region 6 Sustainable Recreation Strategy: This is the Forest Service's own document about how to improve recreation.

Therefore, we require these changes to meet our obligations:

- Additional time to review the economic studies relating to Washington State recreation and Region 6 and recreation.
- Continued collaboration on Special Interest Areas.
- Recreation that protects valid existing rights of mining and grazing as well as timber sales.
- Developments such as stock tanks, corrals and fences are part of the historic and cultural expectation for the forest, even in a SIA.
- The continuation and enhancement of Batey Bould.
- Loop trails for motorized travel.
- Access for aged and disabled.

We are working on a map on an Eastside Recreation Area (Baldy's SIA).

Minerals & Mining:
Mining claims will be impacted with an increase of wilderness which will impact the economy of Pend Oreille County. Teck Cominco is one of the last private industry high paying jobs in Pend Oreille County.

Therefore, we require these changes to meet our obligations:

- The significant proven mineral deposits that would be swallowed up by potential wilderness must be prevented.

Approved for submittal by the Pend Oreille County Board of Commissioners July 5, 2016.

Mike Manus, Chair

Karen Skoog, Vice-Chair

Absent
Stephen Kiss, Member

Wes McCart
District No. 1

Don Dashiell
District No. 2

Steve Parker
District No. 3

Polly Coleman
Clerk of the Board

Nettie LaDoux
Assistant Clerk

Lois Haag
Assistant Clerk

Stevens County Commissioners
Mailing Address: 215 South Oak Street; Colville, WA 99114-2861
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Phone: 509-684-3751 Fax 509-684-8310 TTY: 800-833-6388
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July 5, 2016

Amy Dillon, Forest Environmental Coordinator
& Plan Revision Team Leader
Attn: Forest Plan Revision Team
Colville National Forest
765 South Main Street, Colville, WA 99114

Dear Ms. Dillon:

Please accept these comments on behalf of the 44,000 residents of Stevens County in regards to the Colville National Forest's Draft Revised Land Management Plan (Forest Plan Revision).

Introduction

Stevens County **opposes** the proposed plan revision (Preferred Alternative P) and firmly believe the only believe the responsible decision is to select the No Action Alternative. While we appreciate the renewed efforts of the Colville staff to finish the proposed plan revision the past 3 years, we believe that the faulty start and excessively long time frame of this planning process has yielded a product that is deeply flawed and could be damaging to the surrounding community. This would be inconsistent with National Forest Objectives.

Stevens County does not make this statement lightly or with capricious or malicious reasoning. Our true desire is to see a plan developed that addresses the true key issues currently extant in the Colville National Forest and we believe that when this planning process was initiated – 12 years ago – those key issues were not yet emergent. We believe it would be negligent for all involved to adopt a forest-wide direction document that does not adequately address the key issues of overstocked, beetle and disease infested landscapes. We will support a plan that contains robust strategies to achieve healthy, resilient landscapes across the forest boundaries that reflect not just good stewardship policies, but also good neighbor policies consistent with protecting county customs, culture and economic stability.

Stevens County takes seriously its responsibility to guard the customs, culture, economic viability and public safety of the residents of this county. To that end we have invested literally hundreds of hours of time with forest staff, the plan itself and the people of the county. We

Figure E-13. Stevens County Commissioners letter (letter #664)

strive to carry the larger interest of all the people and we believe we have done the background work to do that well.

We have worked to express our perspective through the Congressionally- mandated forum of coordination – a process that we believe is yet to be finished. We believe the Forest Service has an obligation to protect our economy to the maximum extent allowable by law, and that the alternatives as presented fail to meet that mandate.
Stevens County is committed to fight for the long term sustainability and quality of life of our residents for future generations. We will take the necessary steps, the necessary time and actions needed to remain a committed productive partner for a truly successful outcome.

Proposed Wilderness

Abercrombie Hooknose
Stevens County is **opposed** to the addition of wilderness in the Abercrombie/Hooknose region. The proposed addition does not conform to the intent of the Wilderness Act of 1964 in several ways and is a potential threat to public safety for the residents of Stevens and Pend Oreille counties.

Private inholdings exist within the confines of the proposed addition, with public access roads 'cherry stemmed' into the area to provide ingress/egress. The long term consequence of a Wilderness designation poses an unacceptable risk to private property and safety due to the unrealistic management rules associated with this designation.

Grazing allotments are currently active within the proposed expansion and the inefficiencies associated with restricted management will increase costs to the producer and over time will make those allotments economically unfeasible thereby negatively impacting the economy of Stevens County. Your response to Coordination request #61 indicates that restrictions on grazing management will be a hardship to the grazing permit holders and potentially eliminate grazing in the long term.

We have documented evidence of prior commercial activity of several types that is **easily** recognizable to **anyone** who cares to investigate for themselves.

The Stevens County Community Wildfire Protection Plan of 2015 indicates that this proposed expansion to existing Wilderness encroaches on sensitive areas of the Wildland Urban Interface and would pose a fire threat to several communities adjacent to the proposed expansion. The towns of Metaline and Metaline Falls would be caught in a 'pincer' with wilderness on two sides and already limited roads for egress due to the geography of the area. Highly valued infrastructure exists in this area and could become at risk because of no management of the forest structure. The entire 'Proposed Wilderness Area" is under the Wildland Urban Interface overlay which lead us to believe that is noncompliant for wilderness designation, done in violation to law and inconsistent with local fire protection plans.

For these reasons Stevens County will not support a Proposed Wilderness designation and respectfully requests a designation proposal that will allow timber harvest as a tool so that future challenges to forest health can be addressed.

Salmo-Priest Adjacent

Stevens County is **opposed** to the Proposed Wilderness designation for the Salmo-Priest area. Public safety for the towns of Metaline and Metaline Falls must be protected for long term viability and revitalization efforts in norther Pend Oreille County.
Encroachments into the Wildland Urban Interface can increase the risk of fire danger to those communities.

Perhaps the most serious issue is the potential for economic damage to future mining interests in this region. Stevens County has not seen an inventory and analysis done for existing mining claims and especially we see no reference that would indicate the Forest Service has collaborated with the existing operation of Tech mining in Metaline Falls. Any negative impacts to the economy of northern Pend Oreille County will directly impact Stevens County. For these reasons Stevens County will not support a Proposed Wilderness designation and respectfully suggest a designation allowing future timber harvest to occur in this region..

Quartzite

Although a Quartzite wilderness is not part of Alternative P (preferred alternative), the mere chance that the Regional Forester could pick and choose from various alternatives, poses a large threat to a master planned resort chosen and developed considering the managed risk potential. Right now, that forest is severely overstocked; ripe for disease, infestations and a catastrophic level fire with no chance of containment within its borders. The Flowery Trail Homeowners Association is a "Firewise, at-risk community". Property owners are committed to actively managing their properties by thinning, removing underbrush and unhealthy forest conditions to reduce their risk. If the Quartzite proposal for wilderness designation makes it into the final plan, these homeowners face even greater risk, since firefighting efforts within a wilderness designation is like trying to extinguish a house fire with a squirt gun.

This proposal for wilderness barely meets the minimum size requirement for consideration as an expansion. The shape of the area necessary to encompass 5000 acres is tortuous, contorted and unacceptable. It lies adjacent to Flowery Trail Road, 49 Degrees North Ski Area and an abundance of private land, all of which will be at risk due to no management for the foreseeable future. For this reason Stevens County also opposes changing the management designation from MA 7 to Backcountry. This area must be actively managed in order to ensure public safety, forest health and provide economic benefit to the region.

Kettle Crest

Stevens County is opposed to any Proposed Wilderness designation to the Kettle Crest area.

This area does not have a shape profile to adequately provide a wilderness setting as outlined in the Wilderness Act of 1964.

Further, under the current use designation, it provides excellent experiences for back country use by both motorized and non-motorized recreationists as well as allowing for several successful grazing allotments to operate. The continued grazing on the public lands is necessary for forest health, fuel reduction, economic vitality for the county and it brings income back to the Forest Service.

Even the Kettle Crest Conservation Group states on their website that the Kettle Crest "...feels more like a wilderness that many crowded wilderness areas in the Cascades!" That would support the current designation that exists on the Kettle Crest.

Wilderness Summary

Stevens County will oppose **any** expansion of wilderness on the Colville Forest for several and various necessary reasons.

Historically, the Colville has been considered a production forest and the addition of wilderness acres will not add to the enjoyable use, health, public safety, customs, culture and economic stability of Stevens County residents in particular or the populace in general.

When first enacted, wilderness designation was afforded to 9.1 million acres with another 5.5 million acres of "potential wilderness" to be reviewed and decided by the Secretary of Agriculture within fifteen years (by 1991). Today, wilderness designation exceeds **109** million acres nationwide; 3.6 million acres, or 7% of all land in Washington State. With Northeast Washington residents already suffering the major impact of nonproductive land, loss of tax base and increased risk to public safety, it hardly seems fair to further tailor a once healthy, productive forest to the "wilderness-experience seeking people". The current wilderness acreage contained in Salmo-Priest is adequate for current and future 'local needs'. Statistics do not show any substantial need for wilderness expansion and the risks associated with this designation are emergent and unacceptable.

The current Salmo-Priest Wilderness is under-utilized and does not enhance our local economy. Stevens County does not support the addition of more land that is forever taken out of management and will become a greater hazard to public safety.

Access/Road Densities

Stevens County is **opposed** to the inclusion of specific road density prescriptions as a desired condition of the proposed plan revision. While we recognize that the road network within current forest boundaries is an important focus, it is also very complex, interrelated and controversial. An arbitrary number for road density is not acceptable.

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The benefits of a robust road system that functions properly should be considered desirable and valuable for public safety, fire suppression, wildlife corridors, firewood and other gathering activities and customary uses. We believe roads and forest access can be properly addressed at a project level unconstrained by artificial blanket statements of desired densities. Prescriptive densities have no specific benefit to forest health, public safety or the customs, culture and economic stability of Stevens County and its 44,000 residents.

Given the restrictions on road construction in Wilderness, Backcountry Non-motorized and Backcountry Motorized designations a prescribed density of 1 mile per square mile in Focused Restoration and 2 miles per square mile in General Restoration areas, would require the elimination of many miles of roads and would occur primarily in the management areas most suitable to the economy, culture and customs of Stevens County residents. This is prohibitively restrictive and absolutely damaging to the long term viability of Stevens County.

Please delete all references to prescribed road densities in the plan document and leave road prescriptions to be accomplished in site-specific applications when determined by actual existing conditions.

Production Targets

Stevens County **opposes** a production target level of 61 million board feet. We support setting production goals for the overall health of the forest, the economy and the customs and culture of Stevens County. As scientific data emerges about the twenty-year drop in timber harvest, the direct connection between diminished harvest levels and unhealthy, fire susceptible forests is proven. Proper production goals must not be set by budget constraints in a forest-wide plan; budgets can change dramatically from shifts in administration policy and should not be constrained during a 15-20 year life span of a forest plan.

An appropriate production goal would more accurately reflect annual forest growth, currently estimated at more than 100 million board feet. For this planned production to be beneficial to forest health and to the economy, culture and customs of Stevens County we deem it necessary to set production goals well above that minimum limit for the life of this plan. This would allow accelerated projects that would clear up problems of overstocking, infestation and disease that have put our forested areas at risk, including state and private ground adjacent to forest boundaries and help address the problem of water quantity in the Colville Basin. Washington State currently utilizes the sustainable harvest concept for state trust lands and USFS should look at adopting this process.

The law of trajectory dictates that in order to hit a distant target you must aim high.

Grazing Considerations

The Draft Resource Management Plan and the Draft EIS contain numerous alternatives and guidelines that, if misapplied, could seriously impact the FS grazing specialists and permittees

ability to manage allotments. Even if the references are not included in the final version, their presence in the draft is distressing enough to require comment at this time. The following are only a sample of those which make one wonder about the future attitude toward grazing from the Forest Service perspective.

- Line 97 We have identified wildfire exclusion, historic grazing practices, and historic timber harvesting as the principal factors resulting in increased live tree stocking levels, increased levels of mid and late seral species, and homogenization of spatial patterns. Hessburg 1994 (line 24873) is the literature cited. How does grazing increase tree stocking levels that would lead to insect and disease problems? How will that be applied at the allotment level?
- Line 2855 Notwithstanding that the footnote related to this section repeatedly refers to guidelines, inserting standards concerning stubble height, utilization and streambank alteration removes a manager's ability to achieve allotment goals. The literature cited (Clary 2000, line 24554) appears to be misapplied in this instance because it also commits the FS to monitor conditions that it has no ability to supply manpower for. It is also too specific to be in a resource plan and is more appropriate to be considered in an allotment plan or project level planning. We would like this section removed.
- Line 17979 On a positive note, the range report points out the flaws and potential impacts to grazing by including the ARCS-mod as guidance for permittees. The report also underscores the importance of grazing to the economy of area. Please consider the importance of this information. This is a FS Grazing Specialist report so should carry credibility with the Regional Forester in his decision making process.

Coordination

There are several responses to coordination items that were/are **not** included in the draft plan. Specifically, #28, #34, #36, #45, #46, #47 and #54 are changes that are referenced to be made between the "public" version of the forest plan and the "final" plan. This denies the public the opportunity to comment on known changes, thereby denying due process of the public for adequate input. This also denies the County adequate opportunity to correct any misstatements. (Reference Follow-up List received via email from Janet Thrasher, Executive Assistant to the Forest Supervisor/CNF concerning Coordination meetings with County Commissioners – September 2015.)

Water Quantity

The Forest Service acknowledges this is a difficult subject, but fails to adequately address the issue. The Colville River Watershed suffers from low flows and a basin closure for new water and/or water for existing rights. This is due in large part to a lack of watershed management. It is unacceptable to simply state this is a "hard issue" and say it will be okay "if" we manage other things. This is **not** consistent with watershed management and watershed science. The Forest Service does not include the subject in the draft EIS and is lacking in the Plan. Please add

to the EIS and add a section in Plan, adequately addressing water quantity and send them back out for public comment.

Specific Comments

Please include these specific comments for your record:

- P4 line 97, places some responsibility on grazing practices for insect and disease conditions. Without science to support this claim please delete grazing. We would like to include reference to reduced commercial harvest levels, increased time, complexity and expense of NEPA and litigation avoidance strategies as main contributors to overstocked, infested forest conditions.
- P5 line 131, need to add a sentence acknowledging that any suggested expansion of wilderness area will exacerbate existing concerns over WUI fluctuations. Your last sentence makes no sense.
- P25 line 640, please add a sentence addressing the need for increased active management as a tool to reduce the impacts of unplanned fire on air quality.
- P35 line 892, references 40 acre opening limits w/o public notice. If USFS regulation allows a larger opening, please reference the largest allowed opening and rational for the limitation.
- P48 line 1257, we disagree that a 'no net increase' in road density conforms to good science or site specific, common sense treatment of key watershed protection. A better statement for forest-wide standard would reference road analysis as the determining factor for decision making and allow for professionals to do a proper job.
- P62 line 1665, this section references mixed-use roads and we suggest that all system roads open to any motorized traffic be opened for motorized recreational use as those roads are not closed for hiking, horses, bicycles or any other form of conveyance.
- P99 line 2762, this section should include treatment of insect and disease damaged trees and fuel reduction treatment to protect proper functioning of RMA's. The recent damage to riparian areas from fire in Eastern Washington forests makes this clear.

Economics and Social Systems

The economic impact analysis is flawed. It fails to give a clear picture of potential impacts to the local areas because it applies metrics at a county-wide scale. Economic analysis is a crucial part of any forest proposal and must be focused at the industry level and be precise. Please provide an analysis of the economic effects to the timber industry.
Analysis of effects for every alternative is filtered through a faulty lens and there is ample evidence of a predisposed bias because of this faulty lens. When the lens being used focuses on plant or animal species, and air and water quality, the impacts analysis for each alternative is

evaluated by the degrading factors and will predominately be roads, harvest, grazing and recreation.

But what will occur if the lens is shifted and we analyzed the forest through the lens of fire danger due to overstocked, bug damaged and diseased forest stands? Would not roads, harvest, grazing and recreation activities be selected as benefitting factors? If economic benefit to surrounding communities were to become a primary evaluation tool, would this change the impact analysis significantly? Those of us living here think so.

We already know that current science and modern harvest techniques are being utilized daily by state and private land managers to create a wide variety of landscapes that are conducive to proper ecological functions and to economic benefit. Federal bureaucracy has become leviathan in its scope and Leviathan does not belong in the forests of America.

The Forest Service fails to include a small business impact statement. The planned revision must, to the maximum extent allowable by law, consider the local customs, culture and economic stability. The proposed revision fails to consider the impacts this plan will have on local infrastructure and the ability to manage the forest properly over the life of the proposed plan. We ask that that study become available for our consideration.

Respectfully submitted,
BOARD OF COUNTY COMMISSIONERS
OF STEVENS COUNTY, WASHINGTON

Chairman Don Dashiell

Commissioner Wes McCart

Commissioner Steve Parker

BOCC:lld

Cc: Representative Shelly Short
Pend Orielle County Commissioners
Ferry County Commissioners

Enclosure(s): Colville NF Plan Revision - Follow-up List from County Commissioners Meetings September 2015 – How the Comments and Suggestions were Addressed in the Revised Forest Plan

Nettie LaDoux

From: Wes L. McCart
Sent: Tuesday, July 05, 2016 9:27 AM
To: Nettie LaDoux
Subject: FW:
Attachments: 2015Dec17-CoCommissionerComments.docx

FYI

From: Thrasher, Janet - FS [mailto:janetthrasher@fs.fed.us]
Sent: Friday, April 29, 2016 1:46 PM
To: skiss@pendoreille.org; Wes L. McCart <wmccart@co.stevens.wa.us>; mblankenship@co.ferry.wa.us; 6jment@gmail.com; Commissioners <Commissioners@co.stevens.wa.us>
Cc: Dillon, Amy L -FS <adillon@fs.fed.us>
Subject:

Colville NF Plan Revision

Follow-up List from County Commissioner Meetings September 2015

Janet Bach Thrasher
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Caring for the land and serving people

7/5/2016

Colville NF Plan Revision

Follow-up List from County Commissioner Meetings September 2015

How Comments and Suggestions were Addressed in the Revised Forest Plan

During meetings with Ferry, Stevens, and Pend Oreille County Commissioners on September 10, 11 & 17 of 2015 the following items were determined to need further discussion and possible changes to the current version of the revised forest plan. The ID team discussed the comments and suggested changes and the following list displays how the requests were addressed or why they were not addressed.

Typos and grammatical errors identified by the commissioners have been addressed, but those individual items are not listed here.

1-Request: Chapter 1 Introduction – add AUMs across allotments for the entire forest. ***Response:*** *Introduction pg. 3 – "Over the most recent 10-year period, the Forest has supported an average of 29,500 animal unit months of forage for cattle grazing."*
2-Request: Chapter 1 - Ecosystem sustainability: Add verbiage about balance between two competing things (lines 82-88). ***Response:*** *Introduction pg. 4 - this was reworded related to balance between county & Forest Service (FS) goals. "There is a need to find balance between demand for social and/or economic use and maintaining functioning aquatic and terrestrial resource habitats over the long-term."*
3-Request: Chapter 1 – Timber production: Add "historic" to timber harvest for clarification. ***Response:*** *Introduction pg. 4 – "historic" added for clarification.*
4-Request: Chapter 1 – Timber production: add a clarifying statement to distinguish between mill generating jobs and the other ancillary part, to help paint the picture. ***Response:*** *Introduction, pg. 3 – added for clarification "Approximately 10% of the annual volume sold by the Forest is non-commercial material such as firewood or biomass."*
5-Request: Chapter 1 – Timber production: include timber offered for sale, but not sold. ***Response:*** *This information won't be included in the draft plan. Volumes sold and harvested by fiscal year is available, but volume offered is not available in the FS records*
6-Request: Chapter 1 – Timber production: be clear about the suitability and the reasoning behind choices made for land management allocations (how it ties to constraints). ***Response:*** *This is currently in the vegetation report, DEIS and project record. This may need wording change between draft & final.*
7-Request: Chapter 1 – Fire Management: would like the plan to incorporate the benefits of fire ***Response:*** *Introduction, pg. 4 – "fire plays an important role...." paragraph added*

Changes made to Revised Forest Plan Based on Comments from County Commissioners
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8-Request: Chapter 1 – Overlapping management direction - consider changing the wording in the plan, to provide more clarity on what that actually means ***Response:*** *Forest-Wide Direction – Introduction, pg. 23, MA Desired Conditions - added statement "Utilizing the most restrictive plan direction provides guidance and protection for resource-based or socially sensitive functions provided by National Forest system lands."*
9-Request: Chapter 1 – Plan Structure (pg. 13) – include something about maps being a plan component. Should be stated that maps are part of the plan. ***Response:*** *Plan Structure, pg. 14 – "maps" was added as part of the Plan Set of Documents*
10-Request: Chapter 1 – Roles & Contributions/International Level - Hydro power production section (pg. 19) - Grand Coulee is not a Columbia River treaty dam, make sure treaty language is accurate. Need clarification to make sure Grand Coulee is not part of the treaty ***Response:*** *Roles & Contributions/International Level, pg. 19 – statement regarding the Columbia River Treaty removed from paragraph.*
11-Request: Chapter 1 – Roles & Contributions/State & Local Level - Diversity of wildlife species (pg. 21) – need reference for statement about "home to 65% of WAs white tailed deer population." ***Response:*** *Roles & Contributions/State & Local Level, pg. 21 – reworded for clarification "Northeast Washington harbors the largest White-tailed deer populations in Washington. White-tailed deer provide an important recreational, economic, ecological resource, contributing to local economies by attracting hunters to the area. The Washington Department of Fish and Wildlife identifies two areas that are managed for white-tailed deer that include portions of the Colville National Forest. The Okanogan Highlands is comprised of 25% national forest land and the Selkirks is 26% national forest land."*

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12-Request: Chapter 1 – Roles & Contributions/State & Local Level The state fish and wildlife plan states that elk are nonnative, that the state introduced.

Response: *Forest Service will follow up with WDFW to make sure WDFW elk plan wording and the FS wording in the revised plan reflect same information. Based on further review, statements in the draft plan are correct, since elk have historically occupied areas within northeast Washington. The following is wording from the 2014 Elk Plan.*

Archeological evidence indicates that elk were once widely distributed in eastern Washington. By the late 1800's year-round subsistence and commercial hunting eliminated Rocky Mountain elk in Washington, except for possibly some remnant animals in the Blue Mountains.

The Selkirk elk herd is primarily a reintroduced elk population, with reintroductions originating from Montana in 1915 and subsequent augmentations in 1932, 1969, 1970, and 2000. The Spokane Tribe of Indians and the Confederated Tribes of the Colville Indian Reservation have also translocated elk to their respective reservations within the last 25 years. (B.J. Kieffer, Spokane Tribe of Indians, personal communication; S. Judd, Colville Confederated Tribes, personal communication). Several translocations in British Columbia have reestablished elk north of the international border. These combined efforts have contributed to a general range expansion of elk in northeastern Washington.

The elk population prior to the 1970's was primarily confined to northern Pend Oreille County. During the 1970's and 1980's elk expanded into northern Spokane and Stevens Counties. Beginning in the 1990's significant expansion of elk numbers and distribution took place within Ferry, Lincoln, Whitman, and southern Spokane Counties. (Washington Department of Fish and Wildlife. 2014. Selkirk Elk Herd Plan. Wildlife Program. Washington Department of Fish and Wildlife, Olympia. 59pp).

13-Request: Chapter 2 – Forest-wide direction (pg. 22) - confusion about forest-wide and what that means

Response: *Current wording: Forest-wide desired conditions apply only to National Forest System lands and are measured at a forest-wide scale unless otherwise stated.*

This can be clarified in final revised plan to state desired conditions apply only to ***Colville*** *National Forest system lands.*

14-Request: Chapter 2 – Forest-wide direction (Bottom of section, design criteria) – confusion about overlapping direction.

Response: *Forest-Wide Direction – Introduction, pg. 23, MA Desired Conditions - added statement "Utilizing the most restrictive plan direction provides guidance and protection for resource-based or socially sensitive functions provided by National Forest system lands."*

Changes made to Revised Forest Plan Based on Comments from County Commissioners
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15-Request: Chapter 2 – Air Section Introduction (pg. 26) - protect from adverse effects of air pollution, how? What does it mean?

Response: *Air introduction, pg. 26 – added the following for clarification "The U.S. Forest Service is responsible for protecting national forests and surrounding areas from the adverse effects of air pollution that are sourced from Forest Service land. This is predominantly accomplished by working with Washington State Department of Natural Resources Smoke Management to plan prescribed burning when weather conditions would prevent smoke impacts from exceeding established air quality standards."*

16-Request: Chapter 2 – Air Section - How do you protect the forest from our (county) nonattainment status?

Response: *Air introduction, pg. 26 - same as previous request.*

17-Request: Chapter 2 – Air Section - Need to include Tri County Health in public notifications of prescribed burning. Include that as a standard practice in burn plans.

Response: *This is not addressed at the Forest Plan level. This ties to project-specific operational activities, not specific to what is listed in the Forest Plan. District and forest fuels specialists are now submitting email notifications of burn plans to Matt Schanz, Environmental Coordinator – Tri County Health, mschanz@netchd.org, 509-684-2262*

The following responses to soil comments/questions (#18-24) are summary of discussion held Oct. 23, 2015, between Jason Jimenez and Commissioner McCart.

18-Request: Chapter 2 – Soil Section – want to see the directions detailed or referenced for coverage of soil recovery/restoration post-fire and other issues with soil standards and productivity.

Response: *This is not addressed at the Forest Plan level. These issues are dealt with through BAER, Regional, and Washington Office Direction.*

19-Request: Chapter 2 – Soil Section Discussed the inclusion of water quantity evaluations and determinations of managing the landscape for water quantity

Response: *the science was not clear with regards to land management and water quantity. It is very difficult, time expansive, and the models are not very good for those determinations. The Forest Plan directs for restoration of landscapes and that management makes sense moving forward.*

20-Request: Chapter 2 – Soil Section - The commissioner had several description and reference issues with the soil document, due to writers being soil scientist and not being completely detailed, he said he would forward those issues to Amy.

Response*: These questions/comments are listed as request #21, 22, 23, and 24*

21-Request: Chapter 2 – Soil Section Page 27, table 1: in the section addressing water absorption & storage, clarify that the indicator references 'volcanic' ash cap so there is no misunderstanding that this relates to ash resulting from prescribed fire or wildfire

Response: *FW-DC-SOIL-01. Soil Productivity and Function, Table 1 pg. 27 – added "Volcanic" Ash Cap.*

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22-Request: Chapter 2 – Soil Section Page 28, table 1: in the section addressing nutrient availability, clarify that the desired condition for "normal range of characteristics for the site" is based on the information found in the County soil surveys.

Response: *FW-DC-SOIL-01. Soil Productivity and Function, Table 1 pg. 28 – footnote added "Soil characteristics are defined by Natural Resources Conservation Service SSUGRO (Soil Survey Geographic Database) soil data layer."*

23-Request: Chapter 2 – Soil Section Page 29, FW-GDL-SOIL-01. Total Soil Resource Commitment - There is maximum level of 5% of the forest listed in this guideline. Where are we now?

Response: *This number has not been determined yet. Should have answer by end of May.*

24-Request: Chapter 2 – Soil Section (general) – per discussion with Jason Jimenez, Commissioner McCart understands that a lot of the direction in the draft plan is based on Forest Service regional standards. He would like them referenced and included in the information available to the public so they can be used in conjunction with the draft plan for providing input/ comment.

Response: *A copy of the Region 6 Soil Quality Standards and Guidelines is included in the project record as an appendix to the soil report.*

25-Request: Chapter 2 – Vegetation introduction, Vegetation within WUI section - there is a footnote #3 for (NWCC 2012) - is missing and needs to be added.

Response: *Vegetation introduction, Vegetation within WUI section, pg. 31 - footnote added "National Wildfire Coordinating Group."*

26-Request: Chapter 2 – Vegetation FW-GDL-VEG-01 – some confusion about the 100-ft vs 50-ft buffers, doesn't make sense.

Response: *FW-GDL-VEG-01. Threatened, Endangered and Sensitive Plant Species – Disturbance in Occupied Habitat, pg. 38 – after follow-up with Forest Botanist, changed all buffers to 100-foot.*

27-Request: Chapter 2 – Vegetation FW-DC-VEG-02 - wording seems off - May need to define what the characteristic role is, provide more clarity to language

Response: *FW-DC-VEG-02. Insects and Diseases, pg. 32 – reworded for clarity, changed "characteristic" to "natural (endemic)" role.*

28-Request: Chapter 2 – Vegetation FW-DC-VEG-03. Human Disturbance – in last sentence consider acknowledging DCs may sometimes be impaired but will mitigate.

Response: *Not changed. IDT needs to discuss this since the desired condition may not be the place for this. Discussion of effects would be in the EIS. IDT will look at this between draft & final documents.*

29-Request: Chapter 2 – Vegetation FW-DC-VEG-03. Human Disturbance - if fire can move us to the DCs it can play a role. Need more clarity here.

Response: *Unclear exactly what the Commissioners were looking for. The referenced desired condition currently includes wildland fire use as one of the human activities.*

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30-Request: Chapter 2 – Vegetation FW-STD-VEG-04. Timber Production - make it clear what the components are, need to clarify and define this better for general public. What are suitable lands vs other areas.

Response: *Suitability is defined in the glossary (EIS page 765)*

31-Request: Need clarity on what regulated timber harvest is.

Response: *FW-STD-VEG-04. Timber Production, pg. 37 - footnote added with definition "Regulated timber harvest means scheduled, periodic commercial harvests."*

32-Request: Chapter 2 – Vegetation FW-STD-VEG-09. Harvest Systems – need some clarity here, sounds like there is nothing on the forest that is not feasible to log

Response: *Not changed. This is standard wording from regulation. Suitability is defined in the glossary (EIS page 765). How suitability is determined is in the vegetation specialist report.*

33-Request: Chapter 2 – Vegetation FW-OBJ-RFP-01. Planned Sale Quantity – commissioners would like the LTSY added to this

Response: *The discussion related to long-term sustained yield (LTSY) is located in chapter 3 of the DEIS and in the vegetation specialist report. LTSY assumes that lands suitable for timber production are in the desired future condition. We would not be meeting the 1982 rule for a non-declining flow of timber if we harvested at the LTSY level, since the forest is not within the desired condition yet. This objective does not prohibit the forest from offering timber volume greater than the number listed in this objective.*

34-Request: Chapter 2 – Water Resources - Water quantity. Discussed a canopy density study and having a DC to meet a target (60%) for canopy density. Desire a water quantity DC in the revised plan.

Response: *Kate met with Commissioner McCart on 10/6/2015.*

- *Kate will work on language to better integrate water quantity into specific forest plan components—working with the RO and IDT on this--potentially a desired condition for canopy cover for final EIS and plan.*
- *Kate received spatial aquifer data from Stevens County. She will include an analysis of aquifers overlain with management areas in the hydro analysis for the FEIS.*
- *Mr. McCart will continue to search for Colville-specific reference which gives a canopy cover % (60%) to maximize water yield.*
- *Mr. McCart will look at how the Colville River Water Resource Management Board plans addresses potential limiting factors to water quantity*

35-Request: Chapter 2 – Water Resources - FW-DC-WR-12 – concern that DCs are not just for fish

Response: *FW-DC-WR-12. Aquatic Threatened, Endangered, and Sensitive Species, pg. 46 – added "and/or" other key life history requirements, for clarity.*

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36-Request: Chapter 2 – Water Resources - FW-OBJ-WR-02. Aquatic Invasive and Non-Native Species. This is in regards to aquatic weeds, all of which are unacceptable

Response: *This needs additional work to determine if there is better way to focus the objective for treatment of aquatic invasive species. This wording does not preclude doing more than what is listed.*

37-Request: Chapter 2 – Water Resources - FW-OBJ-WR-03 – concern about wording here. For clarification, consider adding trails, maybe move livestock into a different sentence, change illegal to unauthorized

Response: *FW-OBJ-WR-03. General Watershed Function and Restoration, pg. 48 – added "trails" to statement and changed "illegal" to "unauthorized" off-highway vehicle use.*

38-Request: Chapter 2 – Water Resources - FW-OBJ-WR-07 – discussion of 250 acres in regards to streams is confusing, add clarification since streams are linear

Response: *FW-OBJ-WR-07. Key Watershed Range Infrastructure Improvements, pg. 48 - changed to "over 250 acres" for clarification.*

39-Request: Chapter 2 – Wildlife - FW-DC-WL-13 – calculates the zone of influence of human activities

Response: *FW-DC-WL-13. Deer and Elk Habitat—Human Activities, pg. 54 – reworded for clarity "Winter ranges for deer and elk provide a high level of habitat effectiveness by having less than 30 percent of the winter range within a zone of influence of an open road or motorized travel route. Summer ranges provide a moderate level of habitat effectiveness by having less than 50 percent of the summer range within a zone of influence of an open road or motorized trail."*

40-Request: Chapter 2 – Wildlife - FW-GDL-WL-07 (pg. 57) – regarding expansion of recreation and administrative facilities (campgrounds, trailheads) – wording needs some clarification

Response: *FW-GDL-WL-07. Canada Lynx—Recreation and Administrative Facilities within Identified Lynx Habitat, pg. 58 – for clarity, added "Expansion or new construction of recreation* ***facilities*** *and administrative facilities..."*

41-Request: Chapter 2 – Wildlife - FW-GDL-WL-14 (pg. 58) – references DCs in Veg section, add table number here (table 5, pg. 32)

Response: *FW-GDL-WL-15. Fire-Dependent Surrogate Wildlife Species, pg. 59 – added "Table 5" for reference.*

42-Request: Chapter 2 – Access System - Kate – there are roughly 3 mi/mile^2 on average currently on the forest. (per phone call between Commissioner McCart & Amy Dillon [9/29/15]: Commissioners remember hearing a different number during meeting. Please double-check with Kate as to correct number that should be here.)

Response: *Average road density across the forest is 2.5-3 miles of NFS road/square mile of NFS lands*

43-Request: Chapter 2 – Access System - FW-DC-AS-01 – desired conditions for the access system – will look at beefing up the safety aspect.

Response: *Not changed. Safety is already part of Forest Service policy, so we are trying not to repeat existing direction in the plan.*

Changes made to Revised Forest Plan Based on Comments from County Commissioners
January 2016

44-Request: Chapter 3 – National Scenic Trails - There may be a holdover in the revised plan from the Pacific Crest Trail when we were still combined with the Okanogan-Wenatchee. If so, we could move mineral entry to the "may authorize" section in the table.

Response: *Per Becky Blanchard (RO PNT PMF), the PNT corridor has not been withdrawn from mineral entry. When the plan is signed the corridor should be shown as "May" be Suitable for mineral leasable, locatable, and surface occupancy. This means that in the FEIS/final plan, the trail corridor will show the three mineral suitability rows as "may authorize".*

45-Request: Chapter 3 – Backcountry & Backcountry Motorized - The backcountry feeling is semi primitive – so may be able to highlight the DC in terms of what one can expect, maybe the signing piece

Response: *Amy missed getting this clarification into the version that went out for public comment. Additional wording will be added to the final revised plan.*

46-Request: Chapter 3 – Backcountry & Backcountry Motorized - beef up the backcountry motorized DC, even though the rest is in there, just need to drill down through the plan to find all the places

Response: *Amy missed getting this clarification into the version that went out for public comment. Additional wording will be added to the final revised plan.*

47-Request: Chapter 3 – Backcountry & Backcountry Motorized - Will try to make this clearer in the plan, do a better job of distinguishing between BC & BCM so it is less confusing.

Response: *Amy missed getting this clarification into the version that went out for public comment. Additional wording will be added to the final revised plan.*

48-Request: Chapter 3 – Riparian Management Area - MA-DC-RMA-01 – update wording from natural to functional. A riparian ecosystem that is functional.

Response: *MA-DC-RMA-01. Composition, pg. 94 – changed wording to "Riparian management areas consist of native flora and fauna in a functional system and a distribution of physical, chemical, and biological conditions appropriate to natural disturbance regimes affecting the area."*

49-Request: Chapter 3 – Riparian Management Area - MA-STD-RMA-01 – in footnote 6 – consider water quantity in this issue, maybe not here but ties to properly functioning condition

Response: *This is now footnote 8. Water quantity addressed in response to request #21, 22, 23, and 24.*

50-Request: Chapter 3 – Riparian Management Area - MA-STD-RMA-09 - need to allow for point crossings for watering facilities to harmonize those, seems to be in conflict with this standard

Response: *Not changed. Plan revision team could not find a way to reword this standard to include specific wording for point crossings and still maintain original intent. Rewording of these standards beyond their original intent needs to be coordinated with the Regional Office.*

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51-Request: Chapter 3 – Riparian Management Area - Wildland Fire - Pg. 97 RMA standards - consider adding fire access and future suppression needs for human health and safety

Response: *MA-STD-RMA-12 and MA-STD-RMA-13, pg. 96 – Not changed. Plan revision team could not find a way to reword this standard to include specific wording for point crossings and still maintain original intent. Rewording of these standards beyond their original intent needs to be coordinated with the Regional Office.*

52-Request: Chapter 3 – Riparian Management Area - MA-GDL-RMA-09. Permitted Grazing Management - Greenline Vegetation Areas The commissioners would feel better if there was no stubble height number in the plan

Response: *MA-GDL-RMA-09. Permitted Grazing Management - Greenline Vegetation Areas, pg. 98 – not fully addressed at this time since this is based on region-forest discussions. We expect to update grazing plan components between draft and final based on coordination with FS regional office. However, footnote #10 was added to explain the site-specific analysis tied to this guideline.*

53-Request: Chapter 3 – Riparian Management Area - MA-GDL-RMA-19 – confusion as to when water bar/sediment control work on fire lines would occur –during or after a fire? Need to add clarifying language

Response: *MA-GDL-RMA-19. Wildland Fire and Fuels Management - Fire Line Construction, pg. 100 – added "Water bars **on** fire lines..." for clarification.*

54-Request: Chapter 3 – Riparian Management Area - MA-GDL-RMA-20 – add 'non-emergency' for wildfire (related to state hydraulic project approval).

Response: *Not changed. This change was missed before publishing the draft revised plan. Will be reworded for final revised plan.*

55-Request: Chapter 3 – Recommended Wilderness – Would there be any options to protect the watershed if there was a massive insect infestation, whether it was roadless or wilderness? Would any management activity occur?

Response: *Direction related to this concern/question is located in the Forest Service Manual. Any treatment in wilderness would need to be designed to preserve the wilderness character and would be approved at the RO/WO level. The use of pheromones (like verbenone for mtn. pine beetle) is one potential option.*

For an IRA, the same process we used during the fires this summer could be used to request permission to implement treatment in an IRA to help protect a watershed. We wouldn't have to worry about wilderness character, but we do have the no new roads and no commercial timber removal components of the 2001 Roadless Rule. Again, an RO/WO decision.

For recommended wilderness (that does not overlay an IRA) the decision can be made at the Forest/RO level. The forest plan would require us to protect the wilderness characteristics of the recommended wilderness, so the management options would be limited to those that might be acceptable in designated wilderness. There would also be the option to amend the forest plan and change the recommended wilderness boundary prior to it being designated as wilderness by Congress. This would allow other management options in the portions of the recommended wilderness that was not in an IRA.

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56-Request: Plan Appendices – Draft Plan Appendix B – Table on pages 4 and 5 – salvage is not checked, need to add explanation of why table is there

Response: *Table B-2 – Modelled Vegetation Treatments by Management Area and Vegetation Type, pg. 5 – added explanation before the table "shows what treatments were proposed and included by management area for modelling vegetation changes related to the revised land management plan."*

57-Request: Plan Appendices – Draft Plan Appendix B – Request to add local government coordination to Appendix B.

Response: *Appendix B Social and Economic Systems, pg. 9 – added bullet "Coordinate management plans and activities with state, local, and Tribal governments."*

58-Request: Plan Appendices – Draft Plan Appendix B – Hydrologic function – ground water in that category, hard to quantify.

Response: *Appendix B Aquatic and Riparian Ecosystems, pg. 6 – added "ground and surface" hydrologic function.*

59-Request: Plan Appendices – Appendix E Scenic Integrity Objectives – the map is small and needs explanation.

Response: *Appendix D Scenic Integrity Objectives, pg. 1-3 – narrative added, and table D-1 Scenic Integrity Objective Definitions added.*

60-Request: Other – Special Interest Area (SIA): change the recommended wilderness on the Kettle Crest in Alternative P to a special interest area.

Response: *Revised Forest Plan and DEIS Alternative P – now include the 82,800 acre Kettle Crest Recreation Special Interest Area.*

61-Request: Other – Wilderness Recommended: the commissioners would like more detail/clarification on how designation as wilderness could affect management of cattle allotments

Response: *Direction related to permitted grazing in designated wilderness is located in the 1964 Wilderness Act and Congressional nationwide guidelines and specific statements of legislative policy. There are a couple of areas where there could be a change in the current management of cattle allotments. The first is that access for minor salt placement, fence repairs or checking on fence lines or other range improvements would likely change from motorized (if that is how they are currently done) to non-motorized. Second, while maintenance of range improvements is permissible, motorized equipment for maintenance activities would only be allowed where practical alternatives do not exist. This statement could affect the use of chainsaws to clear fences since the only examples given in the Guidelines are for backhoes, trucks and specialized equipment. Finally, new improvements would be limited to those needed for resource protection and not to accommodate increased numbers of stock.*

62-Request: Other – Emergency Situations are outside the realm of the plan. Add a simple disclaimer in the plan to address that, address up front

Response: *Not changed. Any wording added related to emergency situations needs to be consistent with regional and national direction.*

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63-Request: Other – Anywhere "managing human activities" is mentioned in the plan is a red flag for Commissioner McCart. Consider rewording the locations where this terminology shows up. ***Response:*** *Chapter 2, Forestwide direction, Wildlife Habitats, Surrogate species, pg. 51 - removed "primarily managing human activities"; FW-DC-WL-13. Deer and Elk Habitat—Human Activities, pg. 54 – removed "human activities" from narrative.*
64-Request: Other – Commissioner Blankenship discussed the 2006 Ferry County Travel Management Plan given to the FS and would like to see it recognized in the new plan. ***Response:*** *Documents were received by Eric McQuay and are included in the project record.*
65-Request: Other – Send the glossary to Polly Coleman (Stevens County Clerk of the Board) for distribution. ***Response:*** *Terms discussed during meetings with County Commissioners in September were added to the Glossary. Amy Dillon emailed the Glossary to Polly Coleman on 9/12/2015 for distribution to the commissioners.*
66-Request: Other – Amy will send the CER to all commissioners ***Response:*** *Amy Dillon emailed the Draft Analysis of the Management Situation document to the three county commissioners on 10/8/2015.*

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
Eastern Washington Field Office
11103 East Montgomery Drive
Spokane Valley, Washington 99206

AUG 15 2016

Amy Dillon, Forest Plan Revision Team
Colville National Forest
Colville Supervisor's Office
765 South Main
Colville, Washington 99114

Dear Ms. Dillon:

Subject: USFWS Comments on Draft Colville National Forest Plan and Draft Environmental Impact Statement

This letter provides the Eastern Washington Field Office of the U.S. Fish and Wildlife Service (USFWS) comments on the January 2015 version Draft Colville National Forest Proposed Revised Land and Resource Management Plan (Draft Plan), and the January 2016 Draft Programmatic Environmental Impact Statement (DEIS). The USFWS appreciates the opportunity to comment on the Draft Plan and DEIS. The following comments provide general comments on the Draft Plan, and general and specific comments on the DEIS. Specific comments on the Draft Plan are provided as electronic "sticky note" comments in the document itself. We will provide this in an electronic format via email. The USFWS comments are provided in accordance with the provisions of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.), as amended; the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661 et seq.), as amended; and the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.).

General Comments on both the Draft Plan and DEIS

In general, the USFWS supports most aspects of the Draft Plan and Alternative P in the DEIS. The USFWS supports managing the Colville National Forest (Forest) towards the historic range of variability. In the selected alternative, within bull trout critical habitat, the USFWS recommends strengthening the grazing management and clarifying and strengthening road management expectations. Given the high number of roads on the Forest, we should strive for a reduction in road miles, especially in key watersheds and/or in bull trout critical habitat. More detail is provided below.

For both the Draft Plan, and the DEIS alternatives, the USFWS recommends that the Forest evaluate the effects on wolverine (*Gulo gulo*), a proposed listed species; and

Figure E-14. United States Department of the Interior Fish and Wildlife Service letter

yellow billed cuckoo (*Coccyzus americanus*), a threatened species. During the section 7 consultation process, the Forest may wish to conference on wolverine.

The USFWS is currently conducting a status review for the western bumblebee (*Bombus occidentalis*; FR 81(51):14058, 14071). While the results of the status review are not yet known, the USFWS recommends conserving bumblebees and other native pollinators. The USFWS recommends that the Forest evaluate the effects of all alternatives on native pollinators, and or provide objectives, standards and guidelines to ensure conservation of pollinators consistent with the June 20, 2014 Presidential Memorandum – "creating a federal strategy to promote the health of honey bees and other pollinators" and "Pollinator-friendly best management practices for federal lands" (http://www.fs.fed.us/wildflowers/pollinators/BMPs/documents/PollinatorFriendlyBMPsFederalLandsDRAFT05152015.pdf).

Specific comments on the draft Forest Plan are provided in "sticky notes" in the draft Forest Plan pdf, provided via email.

General Comments on DEIS

In the effects discussion sections for listed species, the USFWS recommends retaining discussion that focuses on the degree to which the alternative contributes to recovery, and why. The Forest Service also includes a potential effect determination for each listed species and each alternative. The USFWS believes this is not necessary for a NEPA document, since effect determinations are more typically required in a biological assessment as part of the ESA section 7 consultation on the selected alternative. Below, in the specific comments, we describe some situations where we might not agree with the described effect determinations. In general, we recommend changing the discussions to either not include effect determinations, or simply say that the alternative "May Affect" the species, and leave the degree of effect for the later biological assessment and section 7 consultation process.

Specific Comments on the DEIS

Volume 1 DEIS

Page 35, line 1350. After the word "documents" insert: "and/or future section 7 consultation documents as appropriate from the USFWS".

This change is recommended because the amended biological opinion is based on the old forest plan, and the USFWS expects to provide a new section 7 consultation or biological opinion on the new forest plan.

Page 53, line 1782. It is unclear what "reduce suitability for roads" means. Please clarify.

Page 53, line 1787. Is the "miles per square mile" open road density? Or total road density? Clarify how this is calculated.

Page 65, line 2063. No change necessary here, but note that this is why the USFWS's biological opinion will be a framework biological opinion that expects additional site specific consultations on management actions in the future.

Page 68, line 2186. Add: and the Forest will consult with the USFWS pursuant to section 7 of the ESA.

Page 105, line 3252. Will there be an "integrated invasive plant management program", or an integrated pest management program (IPM), which includes a strategy for invasive plants? If not, the USFWS recommends it. It is a benefit to pollinators and their habitat to have a diversity of flowering plants; therefore invasive plant species should be controlled.

Page 106, line 3304. Whitebark pine is a federal candidate species; it is warranted for listing but precluded by other higher priority listing actions. For more information see: https://www.fws.gov/mountain-prairie/es/whitebarkPine.php. This is explained on the next page of the DEIS (p.107); consider moving the explanation upfront, or referring to that later explanation.

Page 107, line 3338. Here you use "*Pinus albicaulis*", where previously you used "whitebark pine". Define first use of genus species, or be consistent in name.

Page 155 line 4947. The term "index value" needs more explanation to clarify that higher index value numbers mean more likelihood of invasive plants.

Page 221, lines 7342-7351. The existing road densities on the CNF are generally within the realm of not functioning and functioning at risk and well above 2 miles/square mile, and would continue to be impaired. The Service recommends selecting an alternative that manages for road densities in the 1-2 mile/square mile range, especially in key watersheds and/or bull trout critical habitats as expected in Alternative R and P.

Page 211, lines 7005- 7007 state that the no-action alternative, and Alternative O do not include desired conditions for road densities, although they do cap the road system at 4,000 miles. However, for aquatic species, objectives (in the Draft Plan p.48, FW-STD-WR-03) indicate that road densities will not be reduced. It is unclear if significant progress towards improving connectivity for aquatic species and aquatic habitat will be made during the life of the Forest Plan, given that no reduction to road densities is proposed in the objectives.

Page 239, line 7955. Key watershed objectives in the DEIS do not fully match any of the objectives in the Draft Plan. Some key watershed objectives listed in the Draft Plan differ from those described for Alternatives R and P in the DEIS, although our understanding is that Alternative P is the same as the draft plan. For example, in the DEIS (page 239, line 7955), there are 44 restored crossings, 240 acres watershed range infrastructure improvements, and 600-1200 acres of upland vegetation moved toward

HRV (historic range of variability); while the Draft Plan lists 50 road/stream crossings (FW-OBJ-WR-06 p.47), 250 acres watershed range infrastructure improvements (FW-OBJ-WR-07 p.47), and 1200 acres of upland vegetation moved toward HRV (FW-OBJ-WR-08 p.47). Are the key watershed objectives in the Draft Plan the proposed or preferred alternative objectives and why are they different than any of the Alternatives? Please clarify.

Page 241 shows different standards for grazing in Alternative R, while page 257, line 8609, states that the grazing program stays the same through all alternatives. Page 300, line 10118, notes that grazing standards and guidelines differ by alternative. Please clarify.

Page 327, line 10887, Table 123. Alternative R is listed as having the same grazing plan components as Alternative P. Is this correct? Previous paragraph states that alternative R has stricter guidelines. Page332 line 11008 says the same. Address the inconsistencies described here and in previous comment, or clarify.

Page 327, line 10879-10889. The USFWS recommends that the higher stubble height (6 to 8 inches) guideline within greenline vegetation area be included for grazing allotments within bull trout critical habitat in the selected alternative. This is based on discussion of literature on page 231, lines 7692-7703.

Volume II DEIS

Page 377, line 12507, Federally Listed Wildlife Species. This section should also include discussion of wolverine (currently proposed threatened) and yellow billed cuckoo (threatened). Wolverine is listed in Table 151 (page 380, line 12622) as a surrogate species, however it is not analyzed in detail.

Page 377, line 12528. Note that the woodland caribou (*Rangifer tarandus caribou*), Selkirk Mountain populations has been proposed for downlisting to a threatened species. For more information see: http://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=A088.

Page378, line 12552. Add to end of sentence after "applied": "but most areas will be management situation 1". Line 12554, add: Grizzly bears (*Ursus arctos horribilis*) may occur outside of the Selkirk Recovery Area, and there may be instances where the Forest consults with the USFWS for effects on grizzly bears for actions outside of the Selkirk Recovery Area.

Page 378, line 12558. It is unclear if "a species of greatest conservation need" is a Forest Service or State term; please clarify. Consider replacing or adding to first sentence: "The State of Washington lists the lynx as a threatened species, and is considering uplisting them to endangered" (Lewis, J. C. 2016. Draft periodic status review for the Lynx in Washington. Washington Department of Fish and Wildlife, Olympia, Washington. 10 + iii pp.).

Page 391, line 12849-12855; and later grizzly bear summary discussions for each alternative. The Forest Service determined that implementation of this, and the action alternatives, will make a high contribution to grizzly bear recovery and result in a determination of "*May Affect, Not Likely to Adversely Affect*," based on ongoing management direction. The USFWS agrees that since the grizzly bear standards are the same for all alternatives and they follow the expectations of the IGBC (Interagency Grizzly Bear Committee) and the recovery plan, all alternatives are likely to result in a high contribution to recovery. However, it is less clear that all future projects consistent with the final forest plan would have discountable or insignificant effect to the grizzly bear and result in "*May Affect, Not Likely to Adversely Affect*" determinations. Management specifically for grizzly bears is expected only within the grizzly bear recovery zone, and grizzly bears do not always stay in recovery zones. Inside and outside of recovery zones, grizzly bears can be adversely affected by high road densities, helicopter use, poor sanitation, and other activities that make them more vulnerable to human interactions, or more habituated to humans, resulting in a higher likelihood of being killed or relocated. This would be especially likely where grizzly bears establish regular use areas outside of recovery zones. Even within recovery zones, there may be activities that are planned to be consistent with the standards, yet still may rise to the level of adverse effects. This may occur if climate change results in seasonal shifts in grizzly bear habitat use that is different from what is currently typical.

The Draft Colville NF Proposed Land and Resource Management Plan includes a guideline to schedule management activities outside the grizzly bear den emergence period of April 1 to June 15 (FW-GDL-WL-11). With earlier and warmer springs, bears may emerge earlier and be affected by those management activities. Also, core areas with in recovery zones may shift over time, consistent with FW-STD-WL-07 (p.55 of draft plan). It will take time for a grizzly bear to adjust to the change in location of roads and core areas, and until an individual learns the new core area locations, they may be vulnerable to human activities on roads. These are only two examples of actions with potential for adverse effects; there may be other examples that should be considered during the consultation process. Based on this concern for potential future adverse effects to the grizzly bear, the USFWS recommends that the DEIS state that each alternative will result in a high contribution to grizzly bear recovery, and result in a "May Affect" determination. During the interagency consultation process we can evaluate potential effects in more detail.

Page 410, lines13642-13654. For Canada lynx (*Lynx canadensis*), we recommend you revise the first part of the summary to read (new language in bold):
"The proposed action alternative would make a relatively high contribution to the recovery of the Canada lynx in both the short (less than 20 years) and long (less than 50 years) term. **Most future actions consistent with this alternative may result in effects to Canada lynx that are either insignificant or discountable, in part due to the conservation measures implemented and also due to the low numbers of lynx on the CNF. Lynx distribution and population numbers can vary over time. Potential effects to lynx will be addressed in more detail during future consultations on the selected alternative with USFWS."**

Similar to the discussion above for the grizzly bear, the USFWS agrees that since the Forest is following the expectations of the Lynx Conservation Assessment and Strategy (ILBT 2013), that the proposed action alternative would make a relatively high contribution to recovery for Canada lynx. The USFWS expects that most future actions would result in insignificant effects to the lynx, however, even with implementation of standards for lynx, there may still be some adverse effects. For example, FW-STD-WL-04 ensures that groomed or designated over-the-snow routes will have no net increase, except for areas within ski area boundaries, winter logging, trails that are rerouted for public safety, or to access private in-holdings. The USFWS agrees that those exceptions are reasonable, however depending on the details of site-specific activities, there may be future adverse effects. During the interagency consultation process the Service expects to evaluate potential effects in more detail.

Page 412, lines 13726 through 13735. The USFWS agrees that this alternative would make a relatively high contribution to the recovery of woodland caribou.

Page 412, Line 13732. This sentence states that the alternative would formally adopt the winter recreation strategy for caribou habitat that was a Term and Condition of the 2001 biological opinion. The USFWS supports this, however it is unclear where this recreation strategy is described or displayed in the DEIS or the Draft Plan. During the section 7 consultation process this information should be provided in order to revisit and understand the adequacy of the recreation strategy for woodland caribou.

Thank you for the opportunity to comment on the Draft Plan and DEIS. We look forward to continued interagency cooperation as the Colville National Forest proceeds with their alternative selection, development of the Record of Decision, and ESA section 7 consultation. Please contact Michelle Eames at 509-893-8010, or Heather Fuller at 509-893-8017, for questions regarding these comments, or for coordination on the section 7 consultation.

Sincerely,

Michelle Eames

for Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office

Literature Cited

Interagency Lynx Biology Team. 2013. Canada lynx conservation assessment and strategy. 3rd edition. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. 128 pp.

Appendix F. Wilderness Evaluations

Introduction

The 1982 Planning Procedures state that "roadless areas within the NFS shall be evaluated and considered for recommendation as potential wilderness areas during the forest planning process." This appendix describes the analysis used in evaluating individual roadless areas on the Colville National Forest (CNF). It includes a summary of each area's evaluation of suitability for recommended wilderness.

Background

In the 1970s, the Forest Service studied all roadless and undeveloped areas in the National Forest System (NFS) for the purpose of prioritizing areas with strong wilderness characteristics for further study. These studies were known as Roadless Area Review and Evaluation I and II (RARE I and RARE II).

In the 1980s, the Colville NF began development of a land and resource management plan, which included an evaluation of roadless areas. The 1988 CNF Plan Environmental Impact Statement Appendix C included 18 inventoried roadless areas (IRAs) totaling 179,637 acres.

Few updates were provided for the 2000 Roadless Area Conservation Environmental Impact Statement from roadless area information that was in Appendix C of the 1988 forest plan. When the revision process started in 2003, the Colville NF began the process of updating its inventory of roadless areas and acres on the Forest. There had been changes in some of the roadless areas from management activities that had occurred where 1988 forest plan management area allocations had allowed development and vegetation management while other areas on the Forest that did not contain NFS roads or harvest units were identified as being eligible to be added to the Forest's roadless area inventory. Two 1988 forest plan roadless areas (Bangs Mountain and Dry Canyon Breaks) were not carried forward into this wilderness evaluation process as they did not contain the minimum number of acres required to be considered as a potential wilderness area. Roadless acreages were updated by the forest plan revision team in 2007 to reflect these additions and removals, and as a result of refinements made to the roadless area boundaries and the use of new technology (GIS) to determine the acreages of these areas. The Forest's current inventory totals approximately 235,600 acres on 23 areas (approximately 226,900 acres and 21 areas if you exclude Bangs and Dry Canyon Breaks) (Figure F-1 and Table F-1). In addition, the three roadless areas (Salmo-Priest A, B, and C) listed in Appendix C of the 1988 CNF Plan associated with the Salmo-Priest roadless area were combined into one, the Salmo-Priest Adjacent roadless area.

Maps

Figure F-1 and the accompanying table of figures and map numbers (Table F-1) show the roadless areas forestwide. Figures 2 through 24 show more detailed maps of the individual roadless areas. The official set of maps is maintained at the national headquarters office of the Forest Service. A roadless area map layer is also retained in the Colville National Forest GIS library.

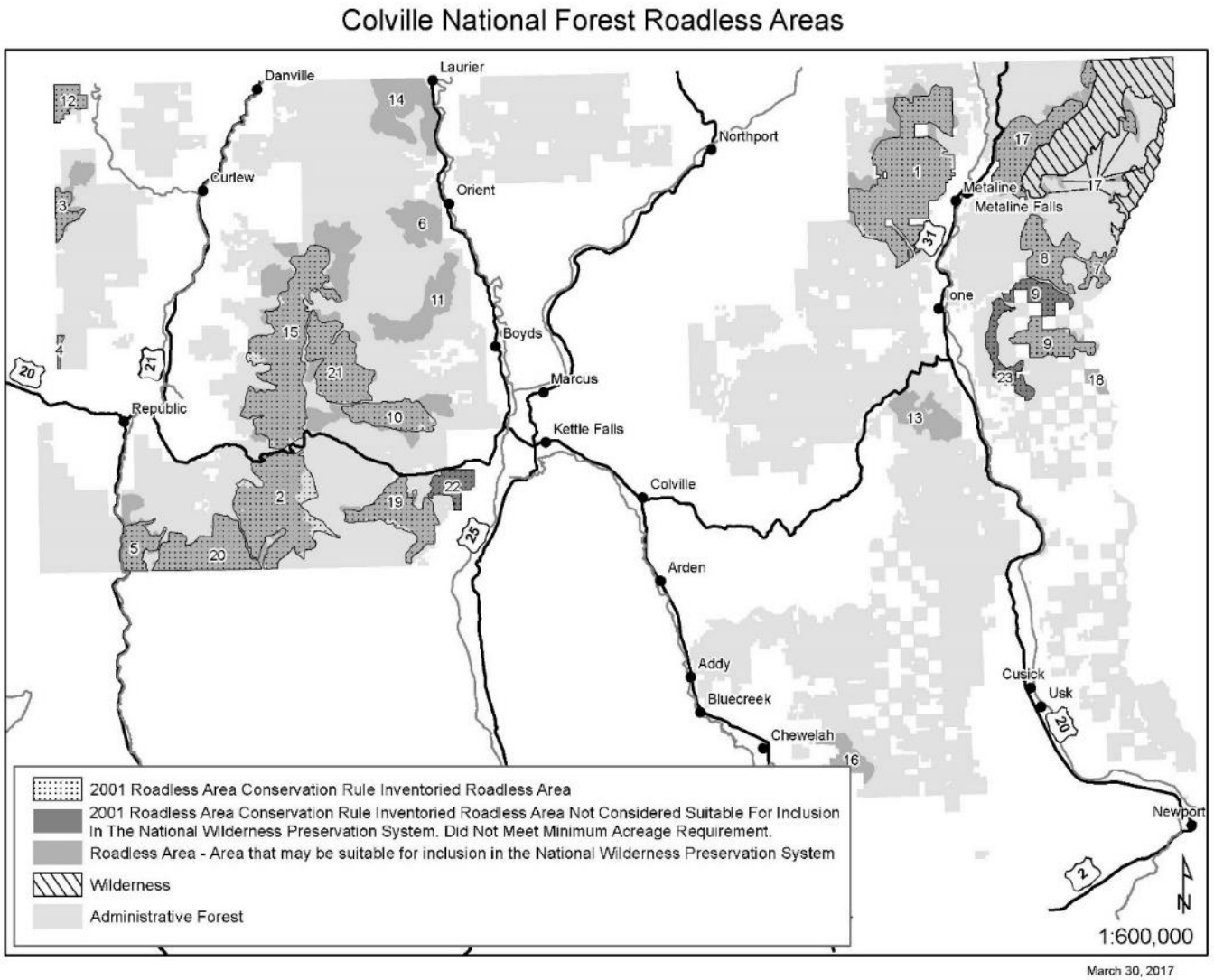


Figure F-1. Colville National Forest roadless area index map

Table F-1. Colville National Forest roadless area map reference list

Map Identification	Roadless Area Name	Acres
1	Abercrombie - Hooknose	37,600
2	Bald Snow	19,900
3	Bodie Mountain	4,500
4	Clackamas Mountain	400
5	Cougar Mountain	6,100
6	Deer Creek	5,800
7	Grassy Top	2,200
8	Hall Mountain	7,900
9	Harvey Creek	5,700
10	Hoodoo	11,700
11	Jackknife	8,900
12	Jackson Creek	3,000
13	Lost Creek	6,600
14	Owl Mountain	11,100
15	Profanity	37,600
16	Quartzite	5,400
17	Salmo-Priest Adjacent	16,000
18	South Fork Mountain	1,200
19	South Huckleberry	9,900
20	Thirteenmile	10,900
21	Twin Sisters	14,500
22	Bangs	3,800
23	Dry Canyon Breaks	4,900

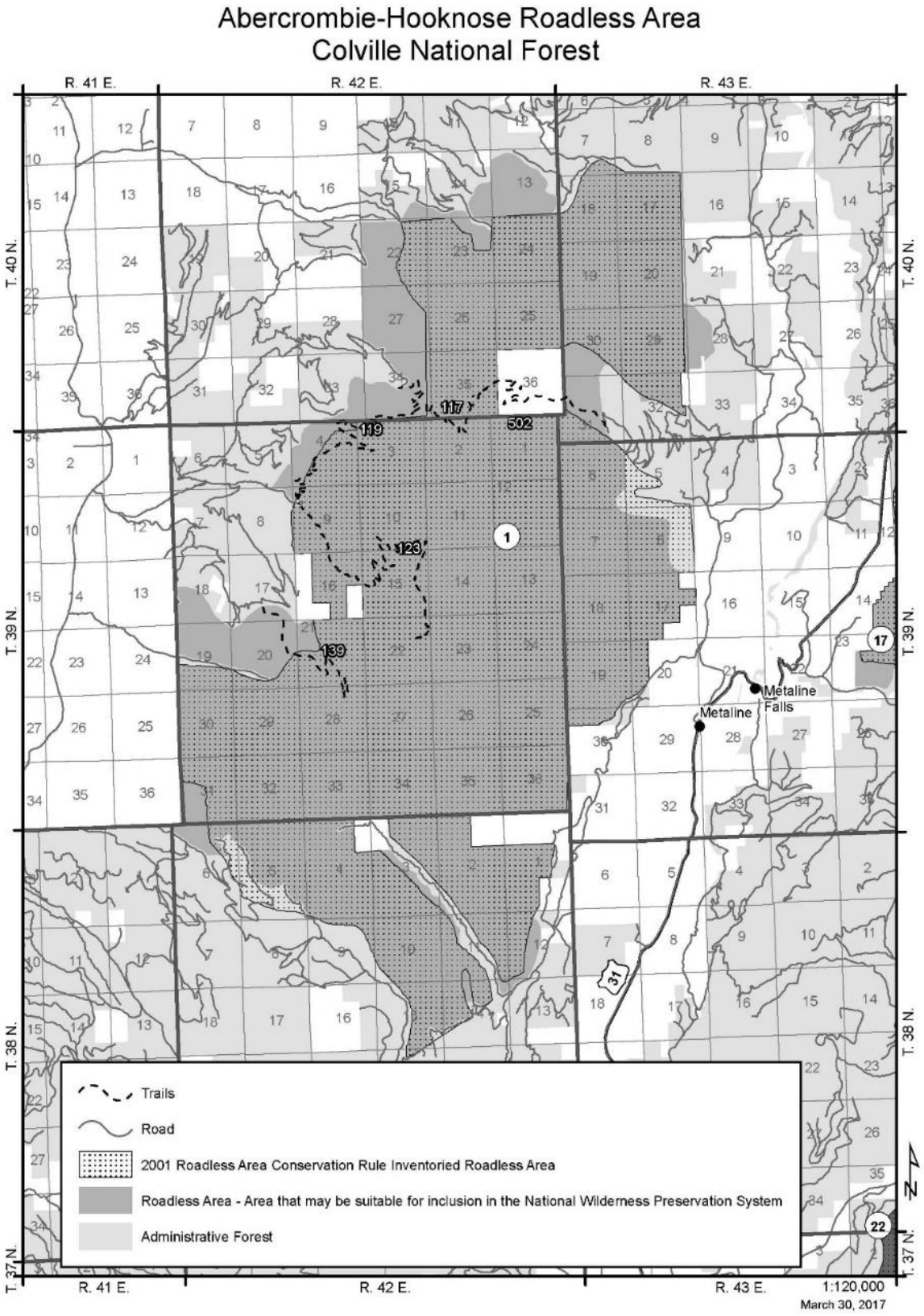


Figure F-2. Abercrombie-Hooknose Roadless Area

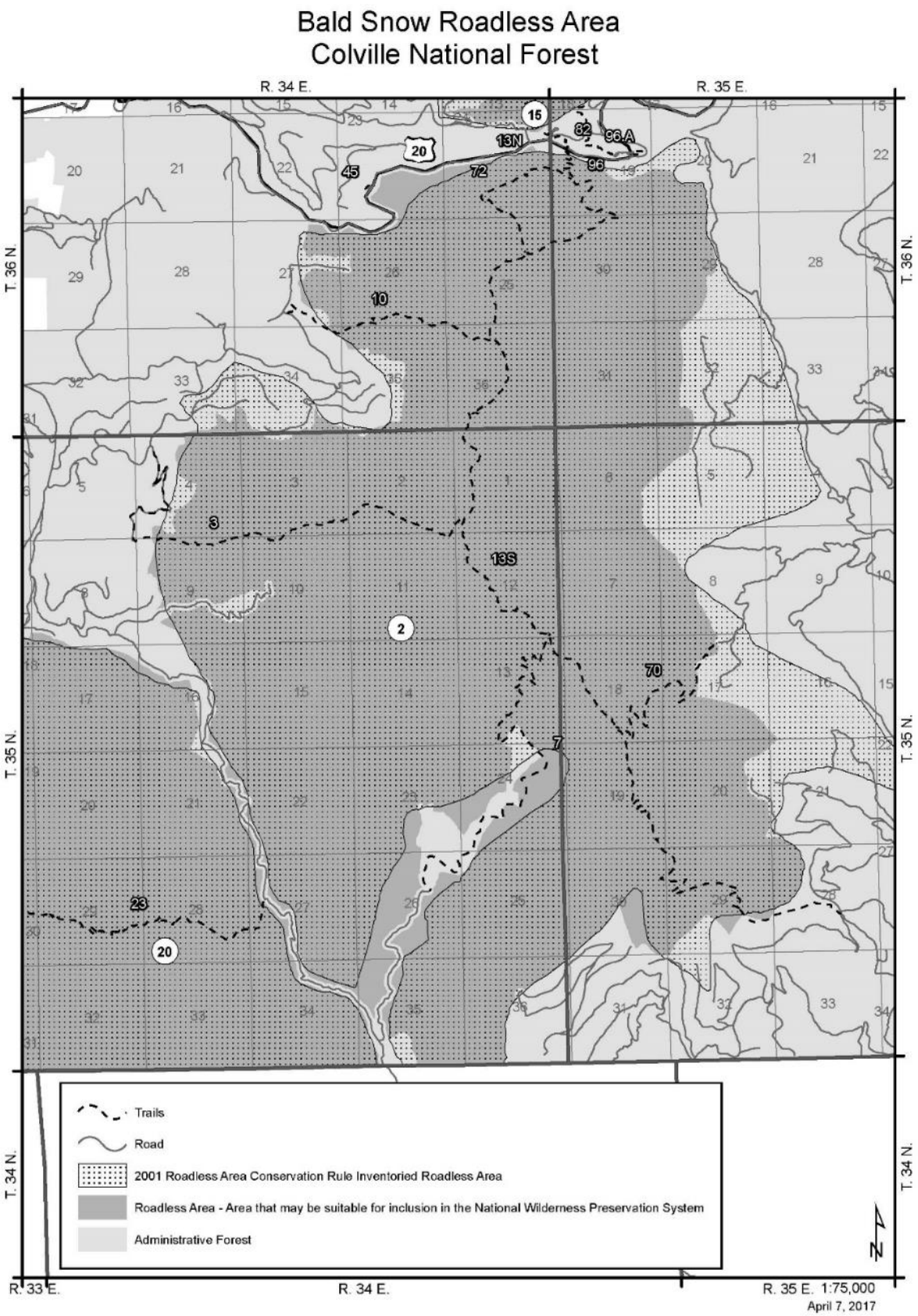


Figure F-3. Bald Snow Roadless Area

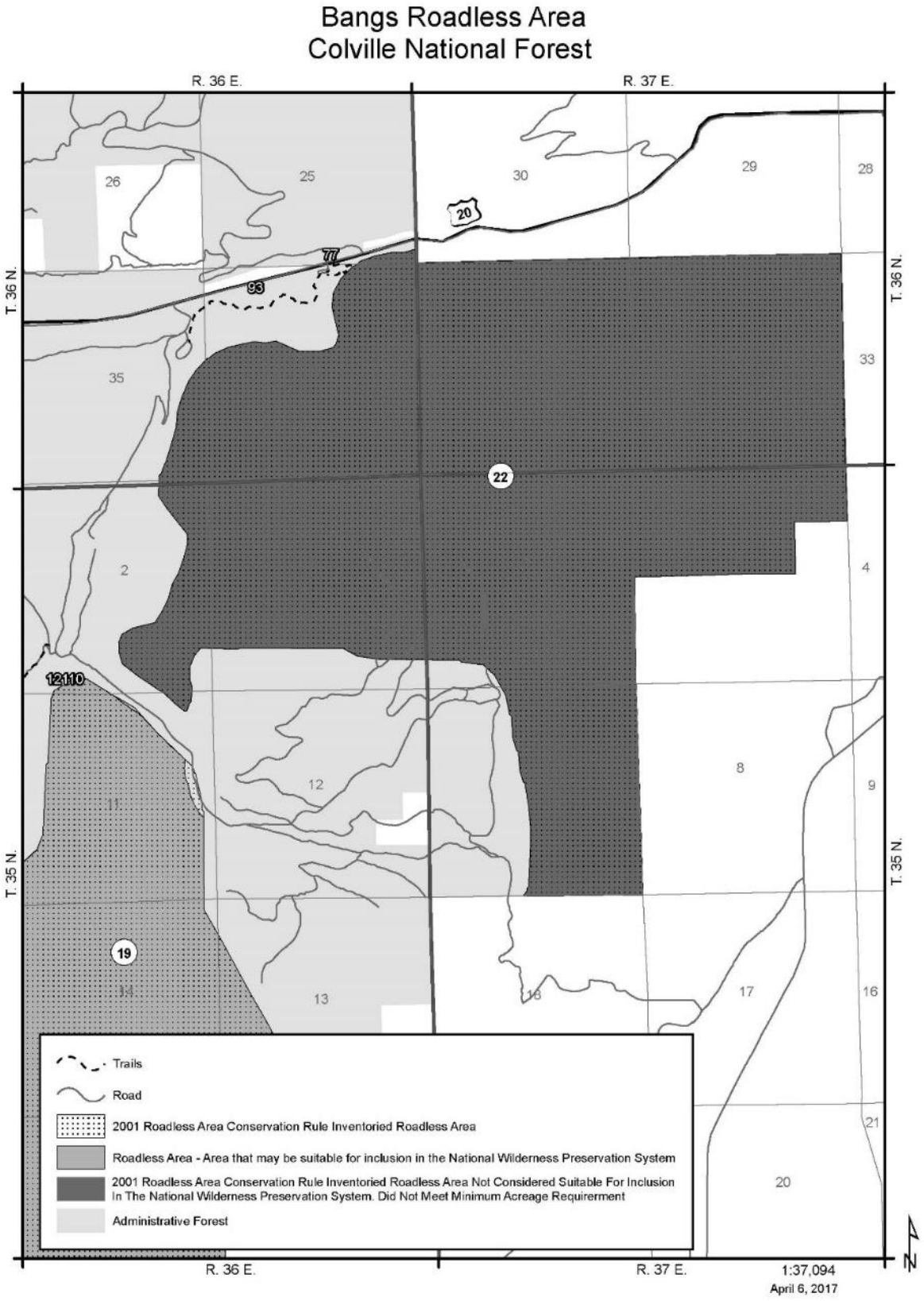


Figure F-4. Bangs Roadless Area

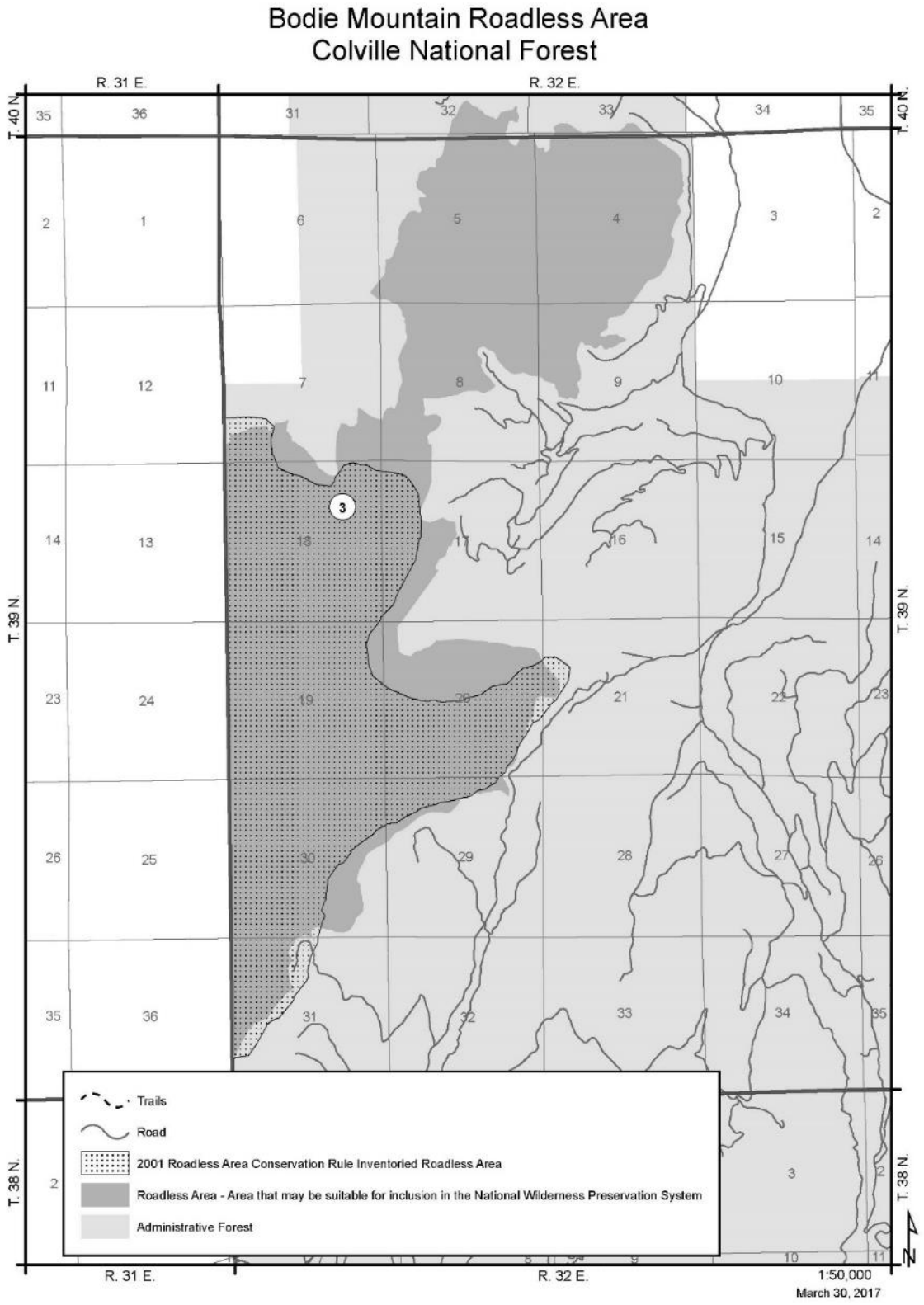


Figure F-5. Bodie Mountain Roadless Area

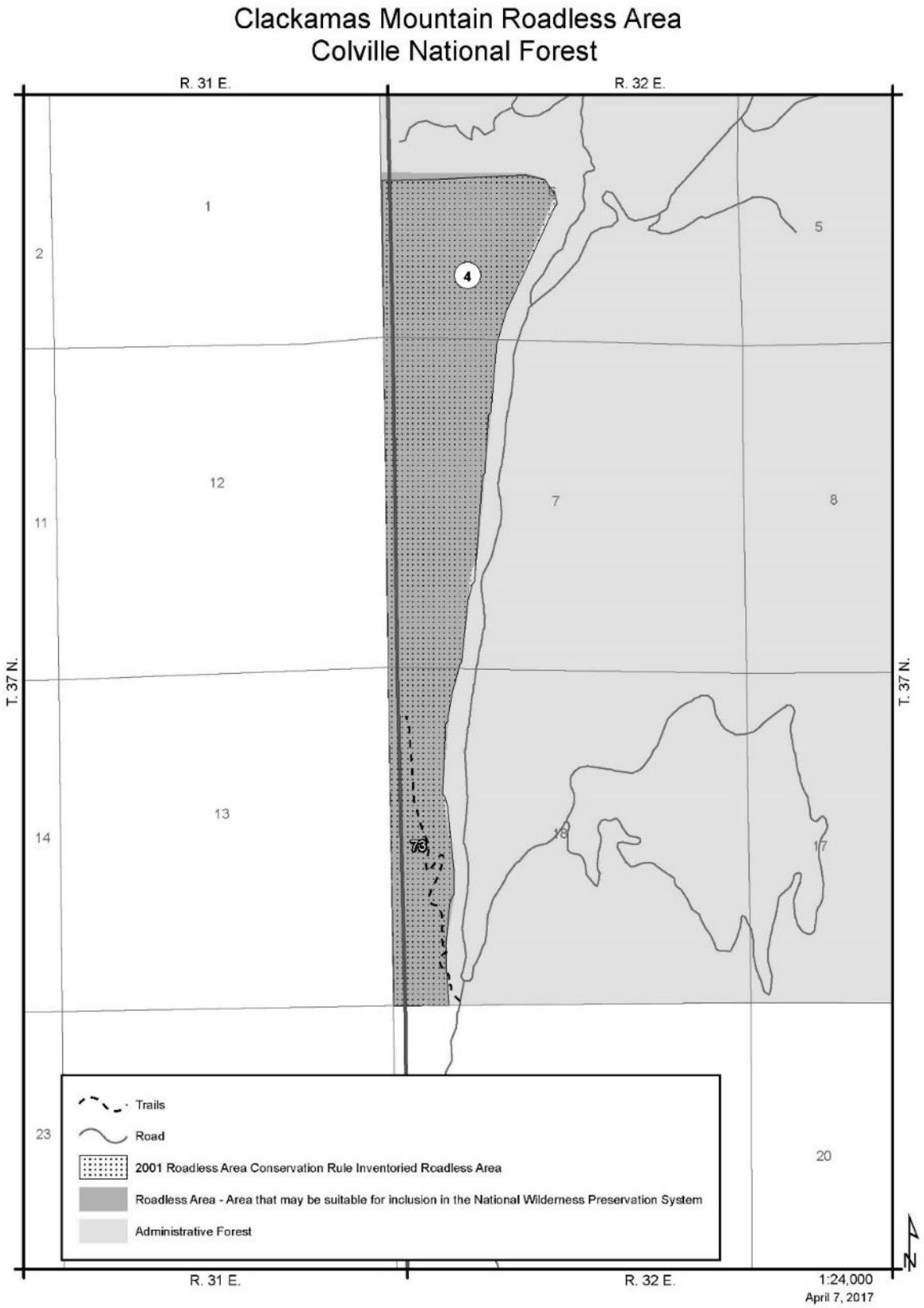


Figure F-6. Clackamas Mountain Roadless Area

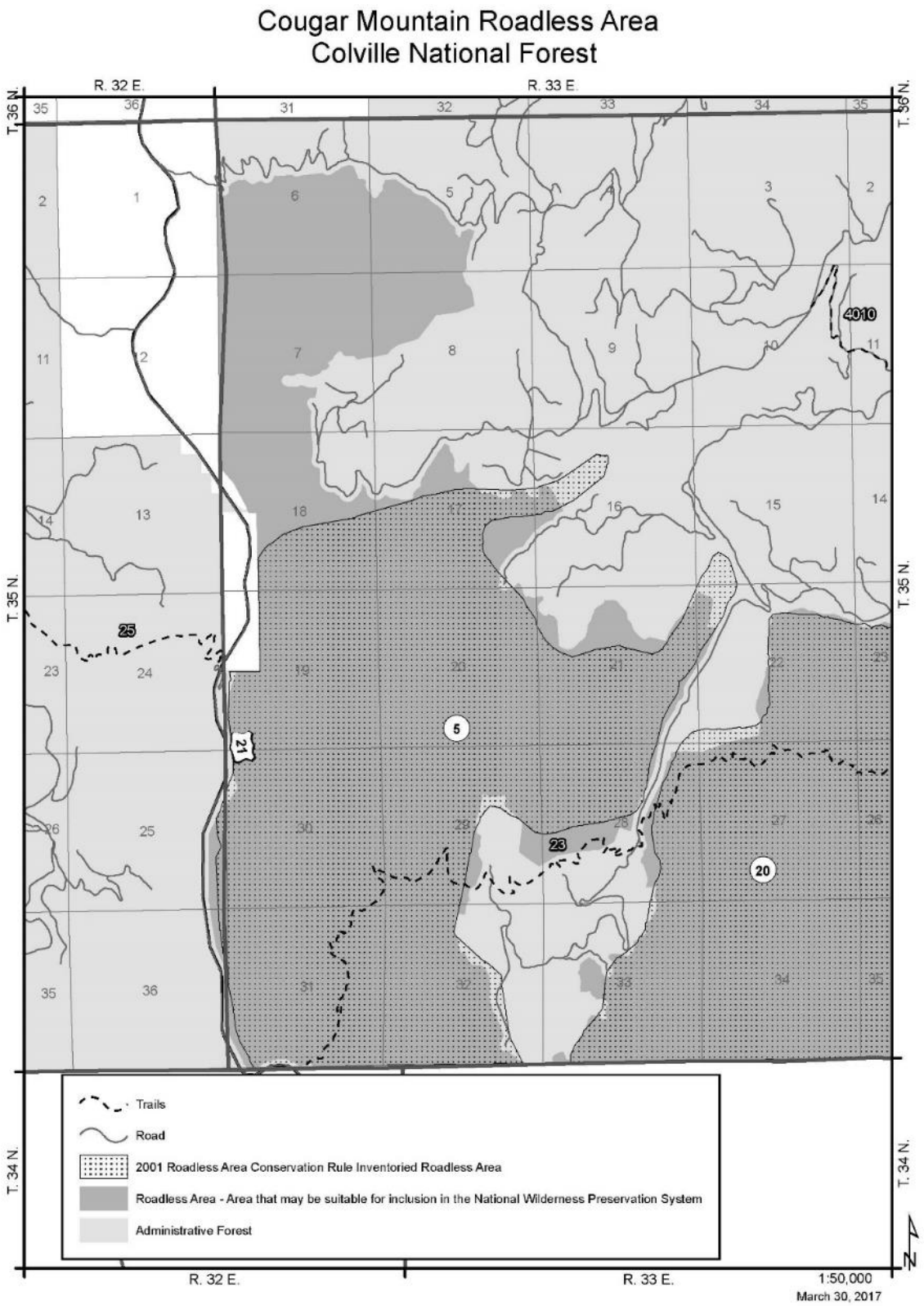


Figure F-7. Cougar Mountain Roadless Area

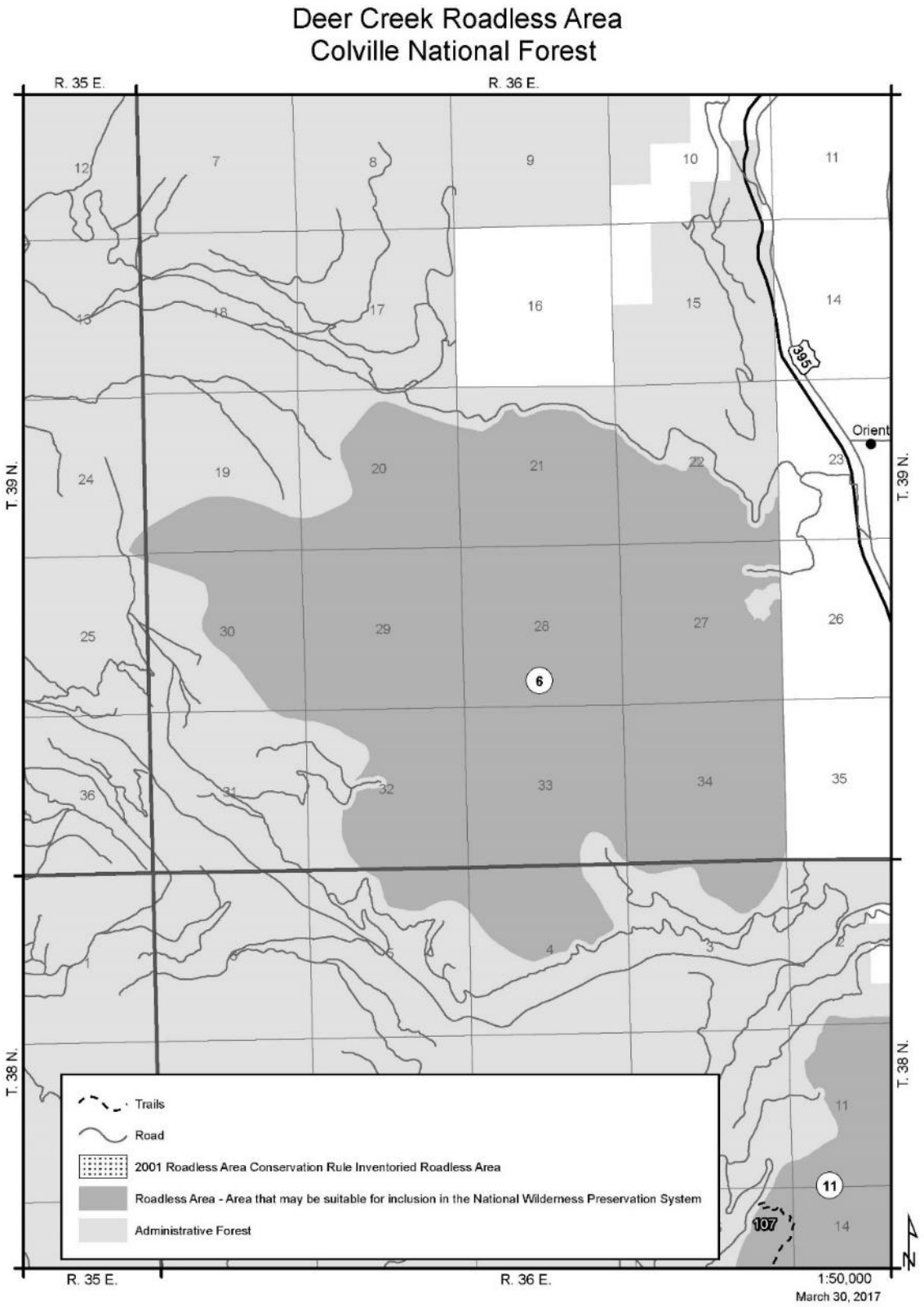


Figure F-8. Deer Creek Roadless Area

Figure F-9. Dry Canyon Breaks Roadless Area

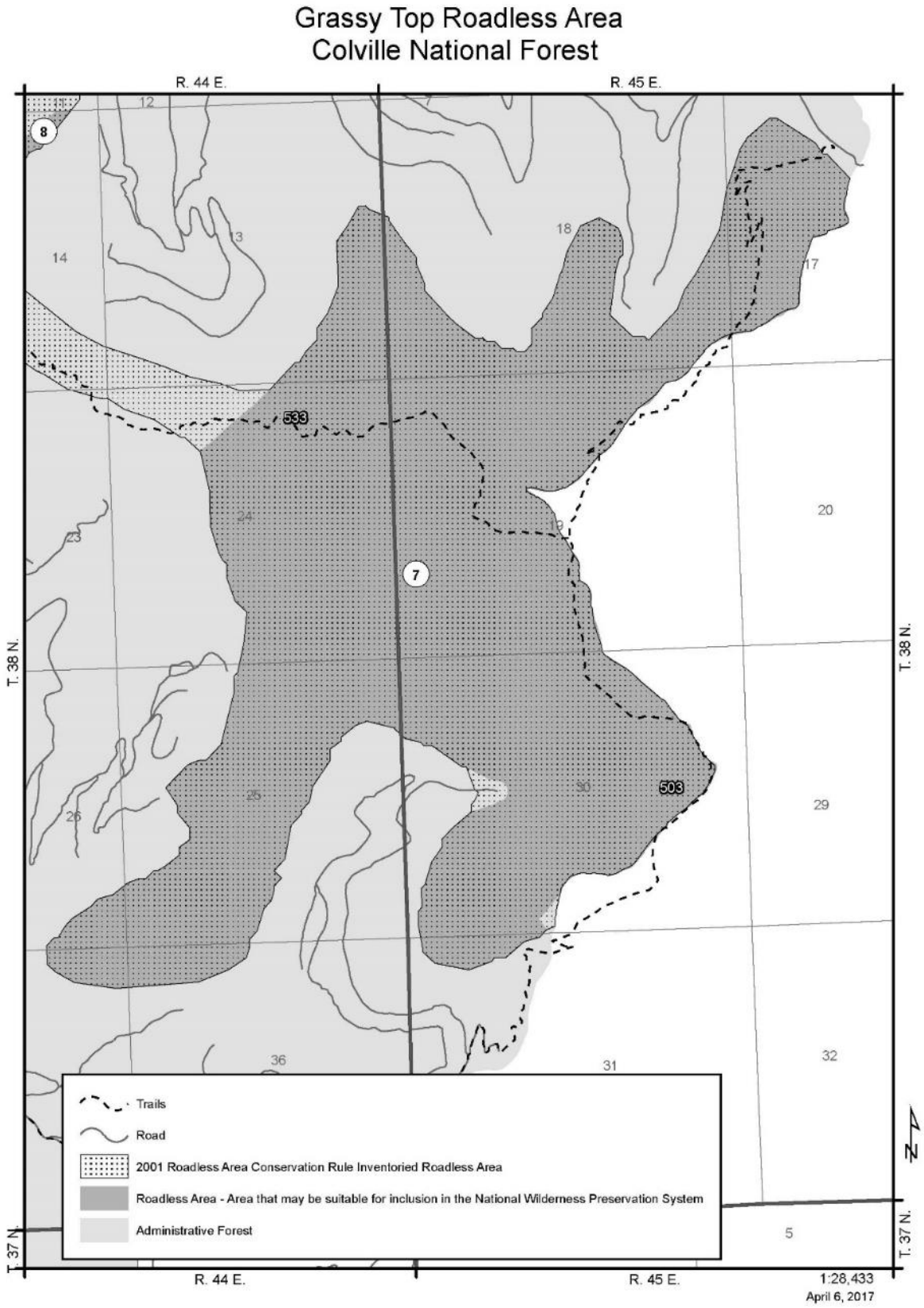


Figure F-10. Grassy Top Roadless Area

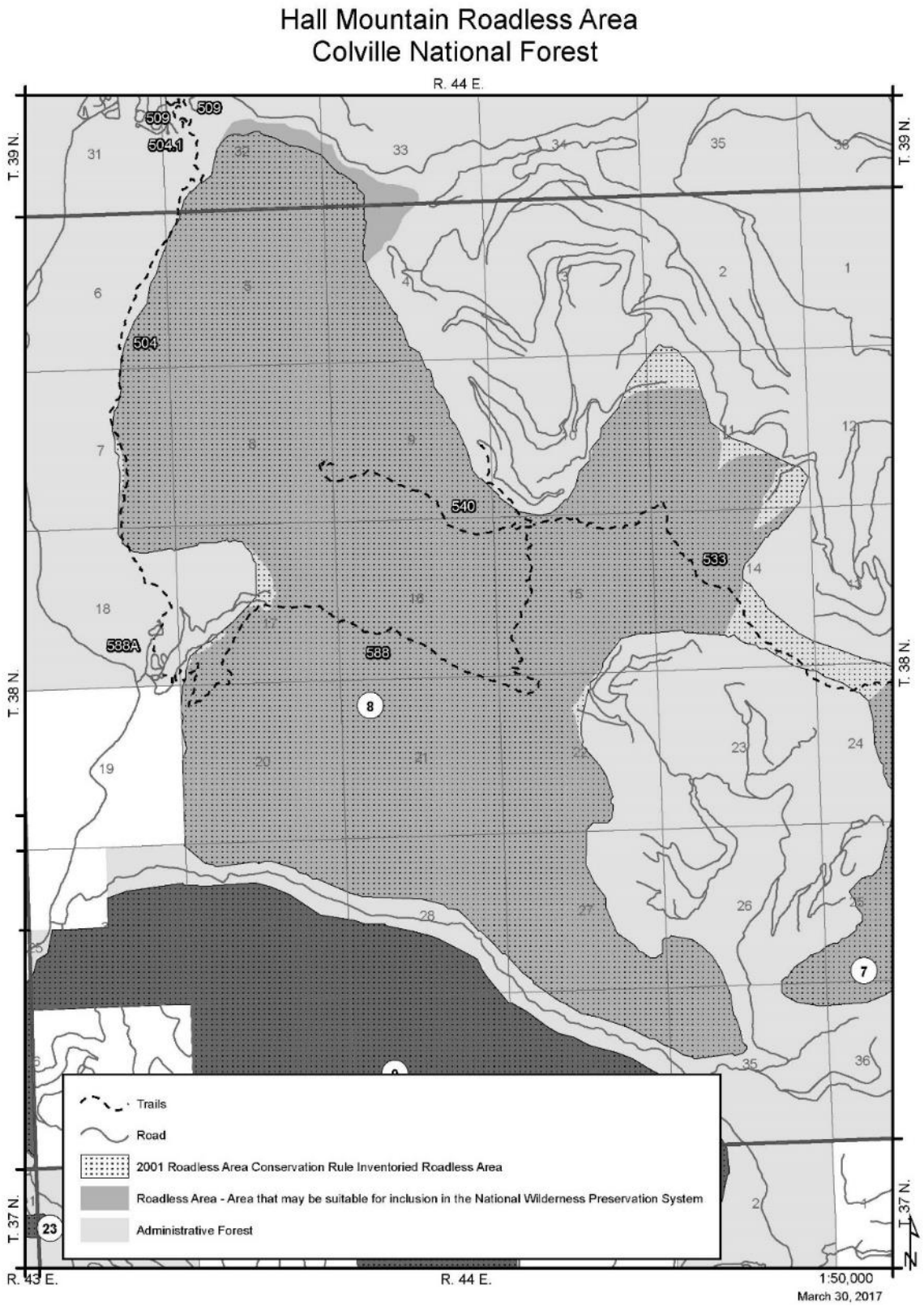


Figure F-11. Hall Mountain Roadless Area

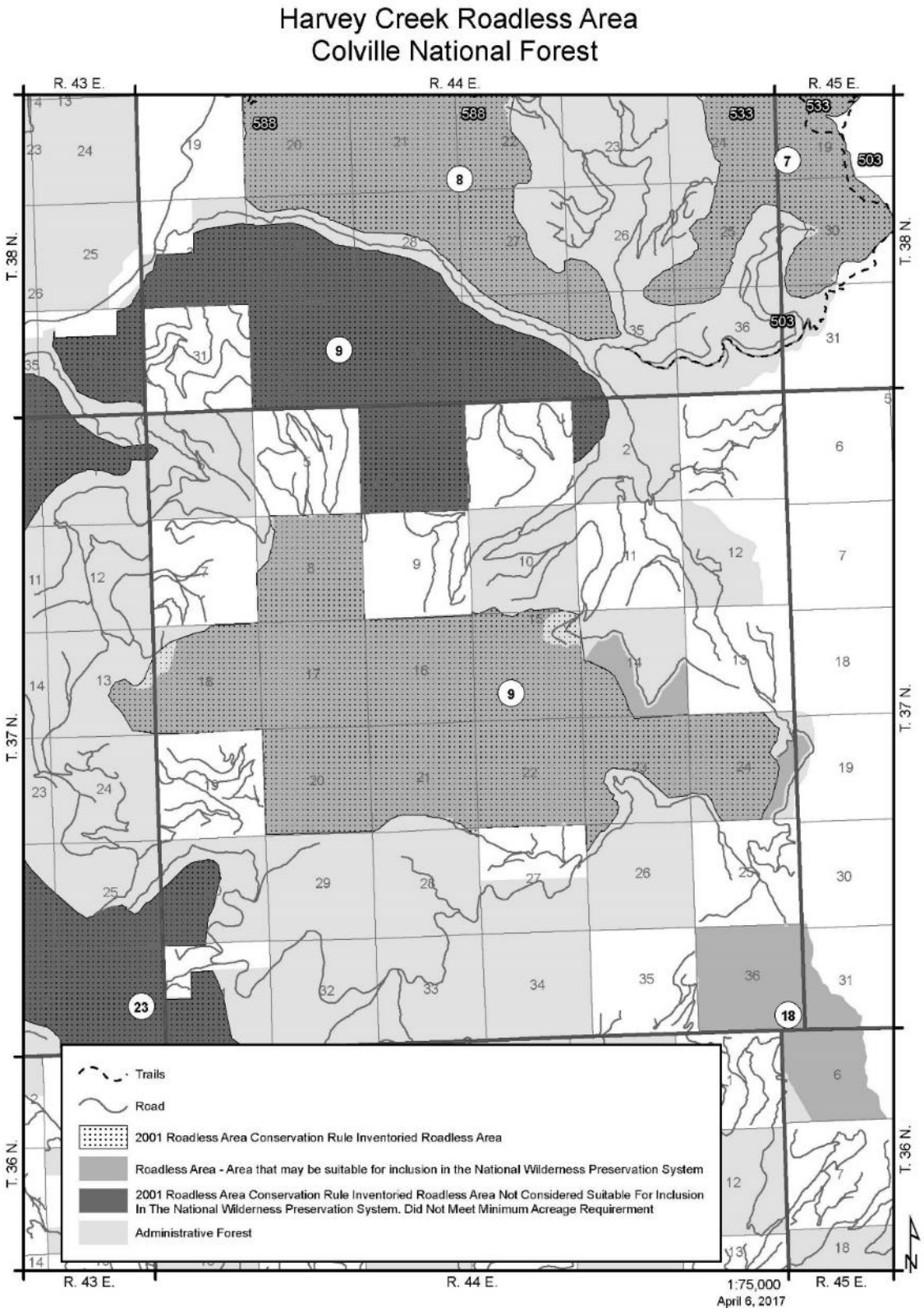


Figure F-12. Harvey Creek Roadless Area

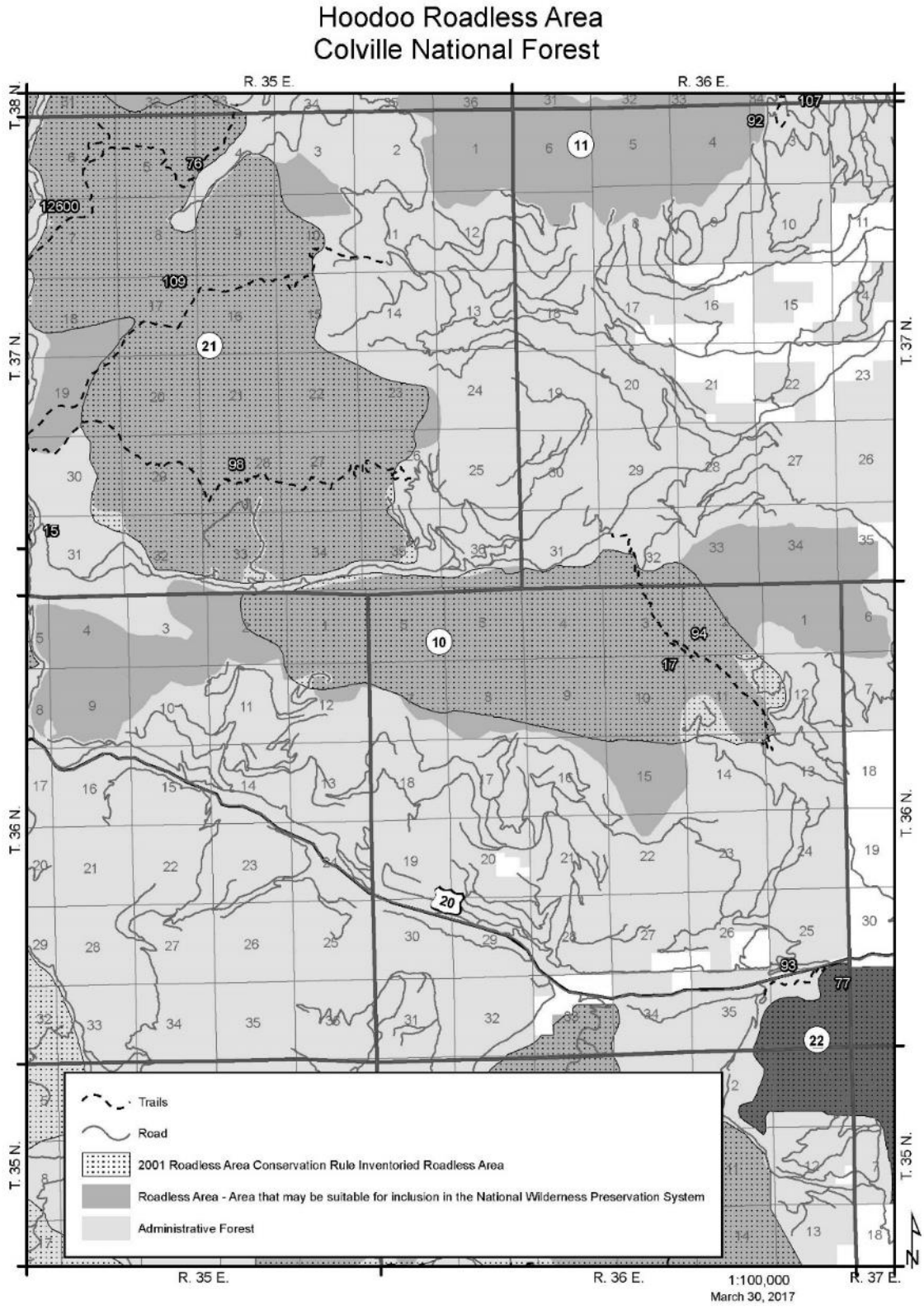


Figure F-13. Hoodoo Roadless Area

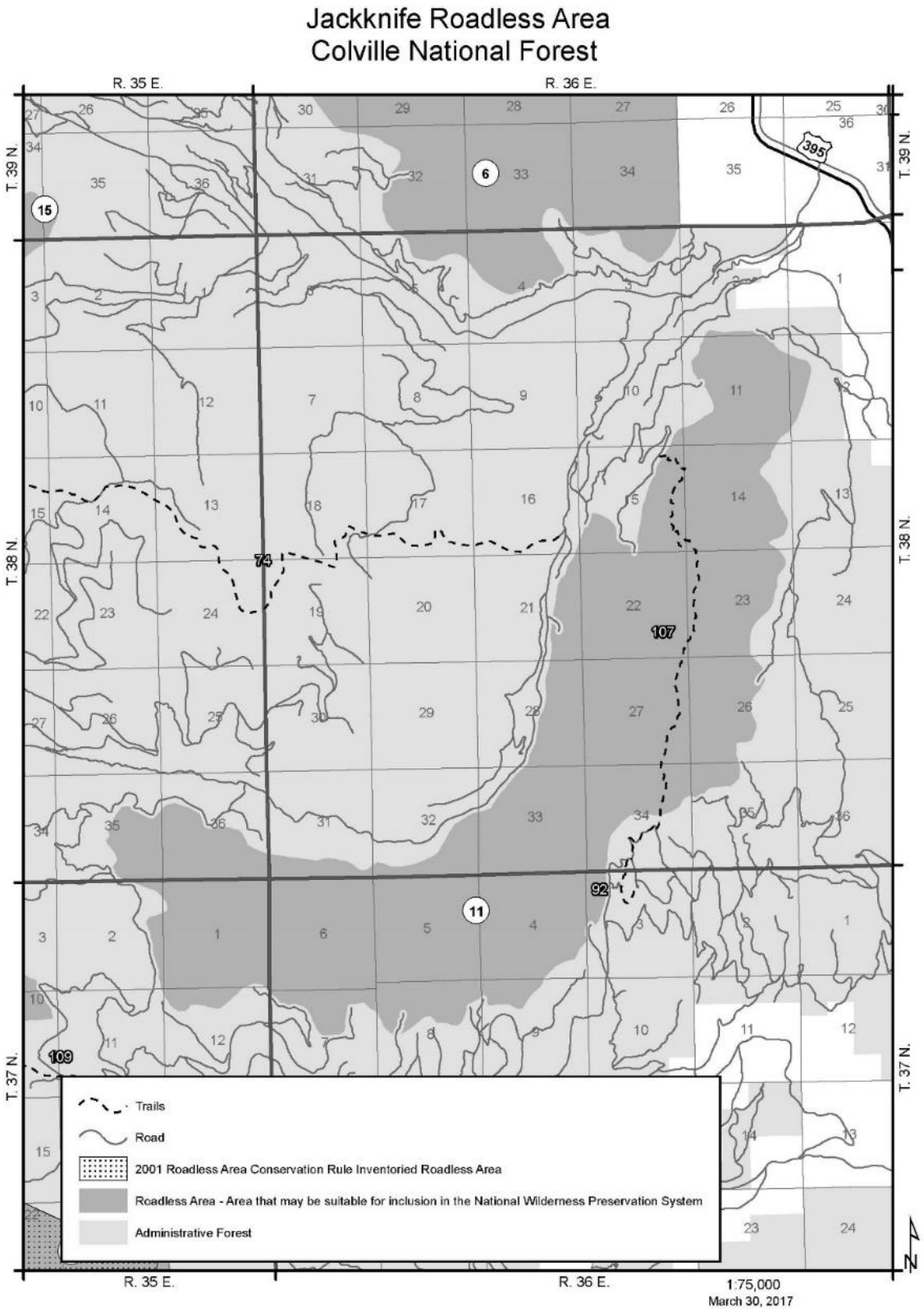


Figure F-14. Jackknife Roadless Area

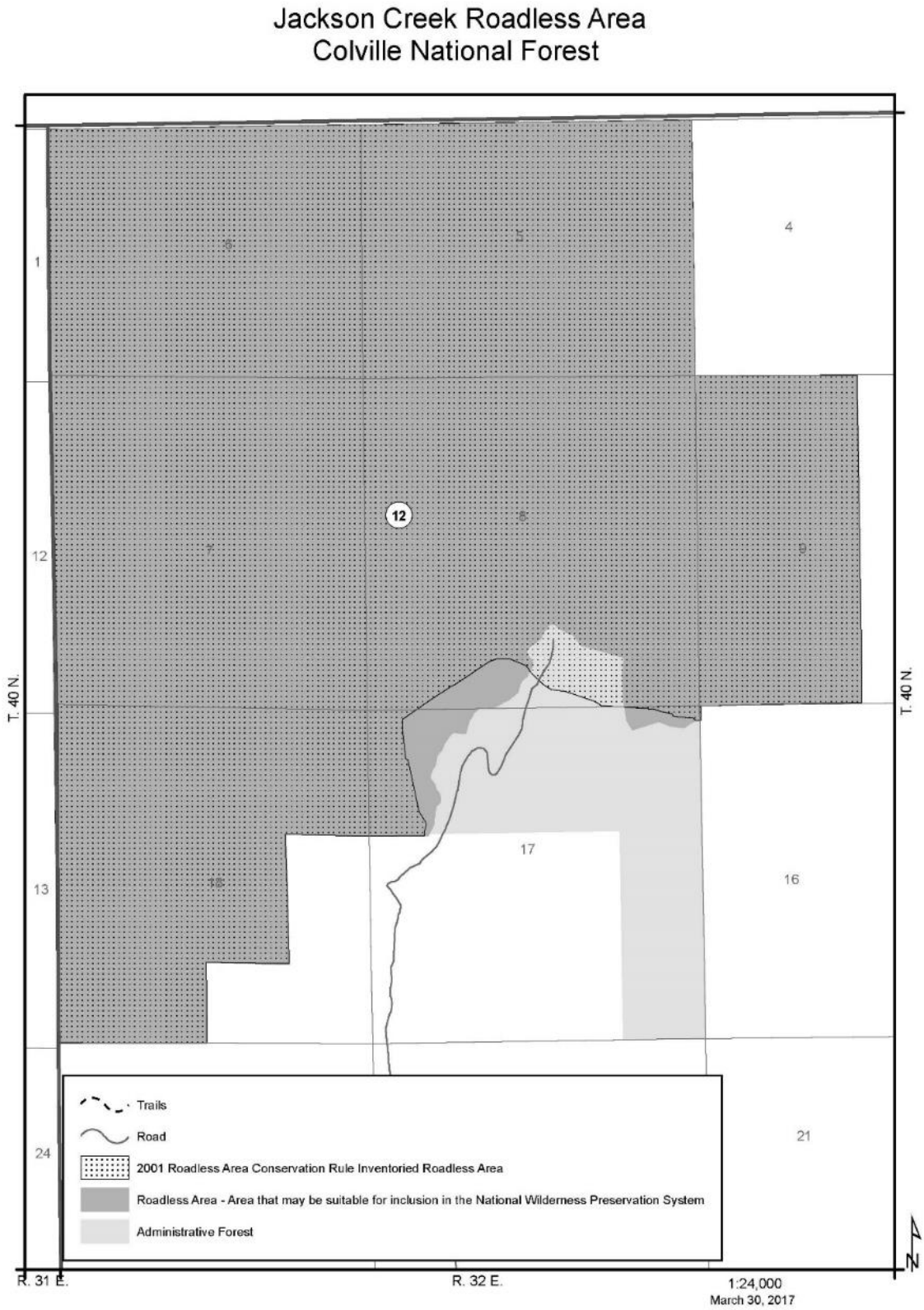


Figure F-15. Jackson Creek Roadless Area

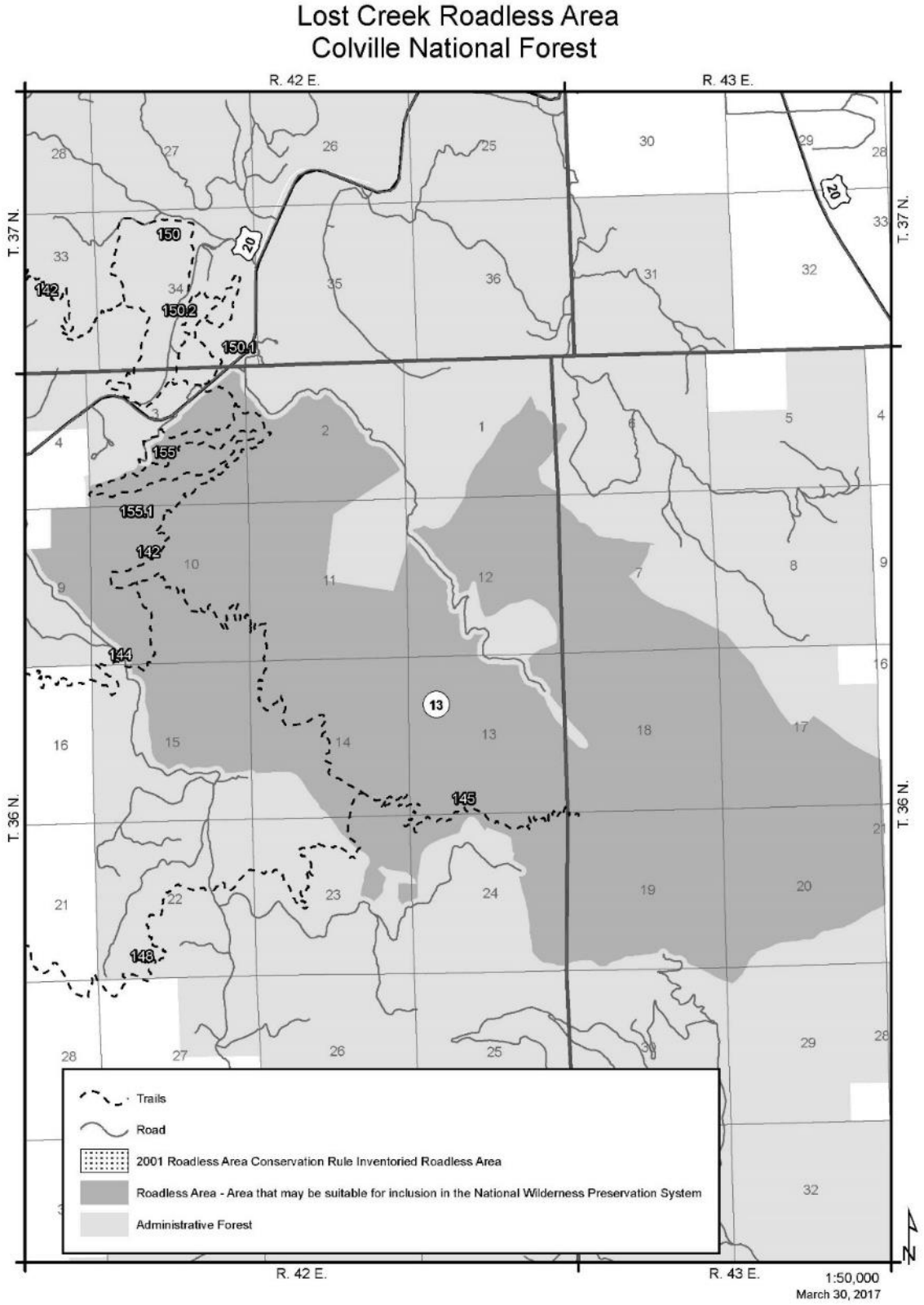


Figure F-16. Lost Creek Roadless Area

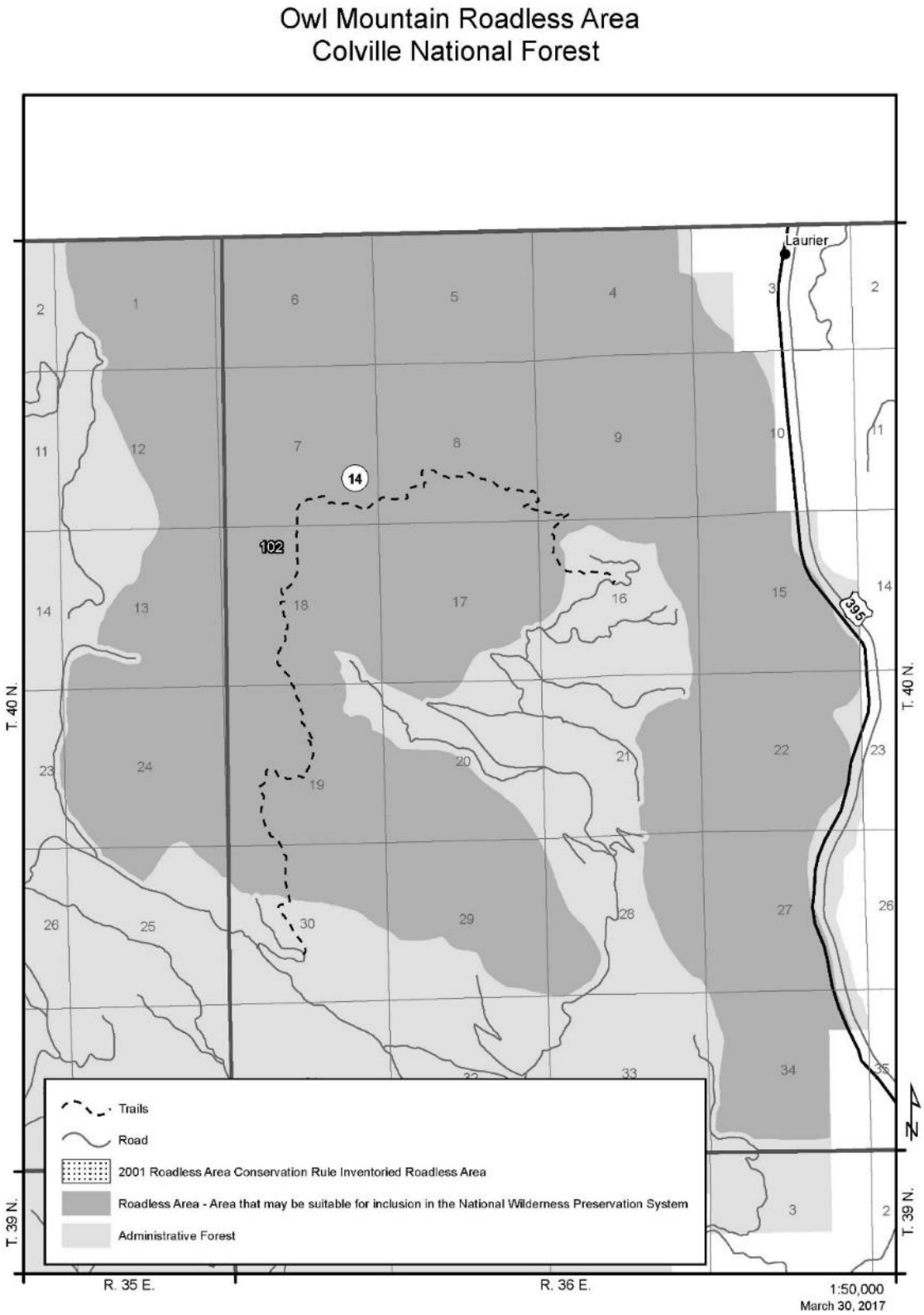


Figure F-17. Owl Mountain Roadless Area

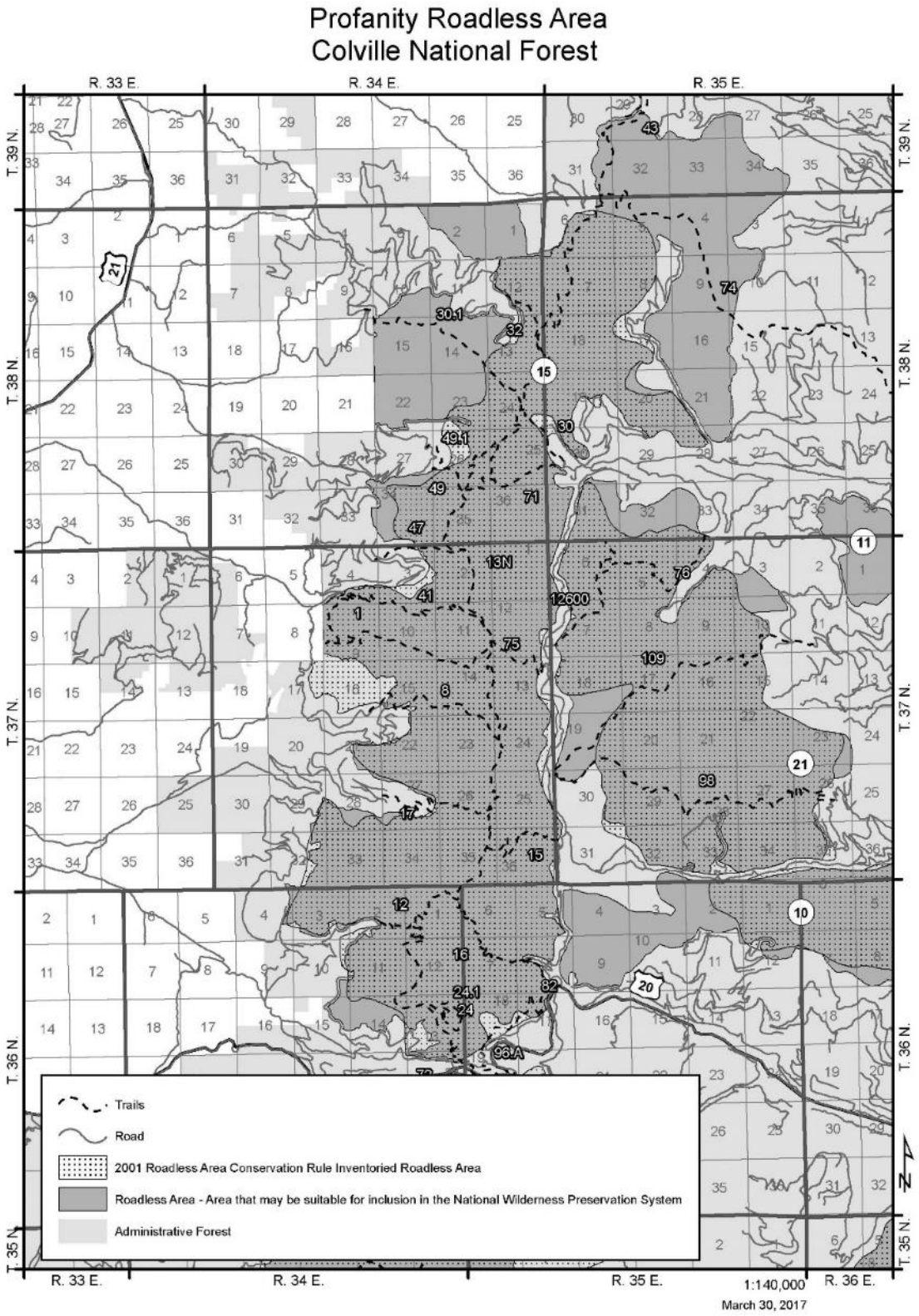


Figure F-18. Profanity Roadless Area

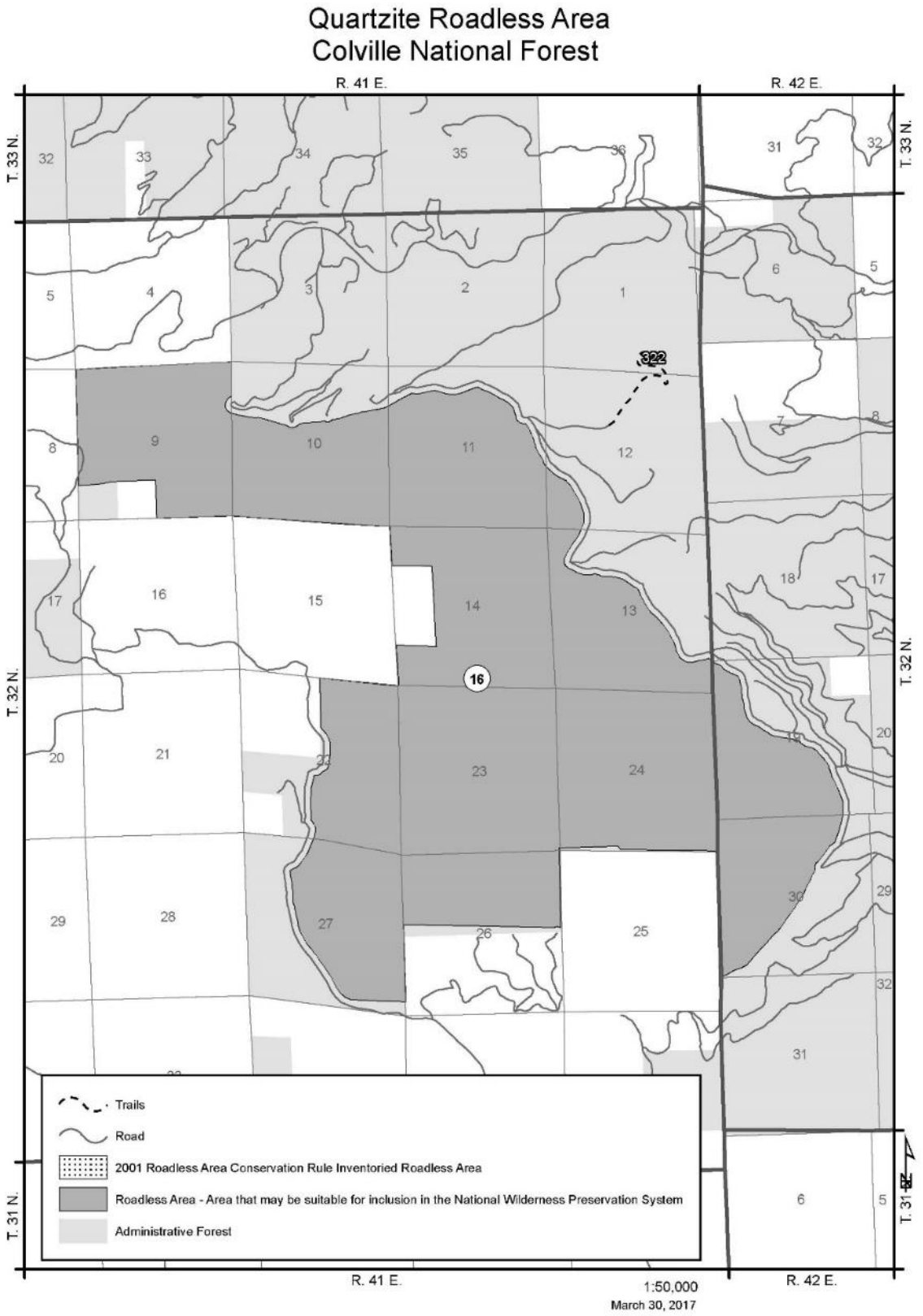


Figure F-19. Quartzite Roadless Area

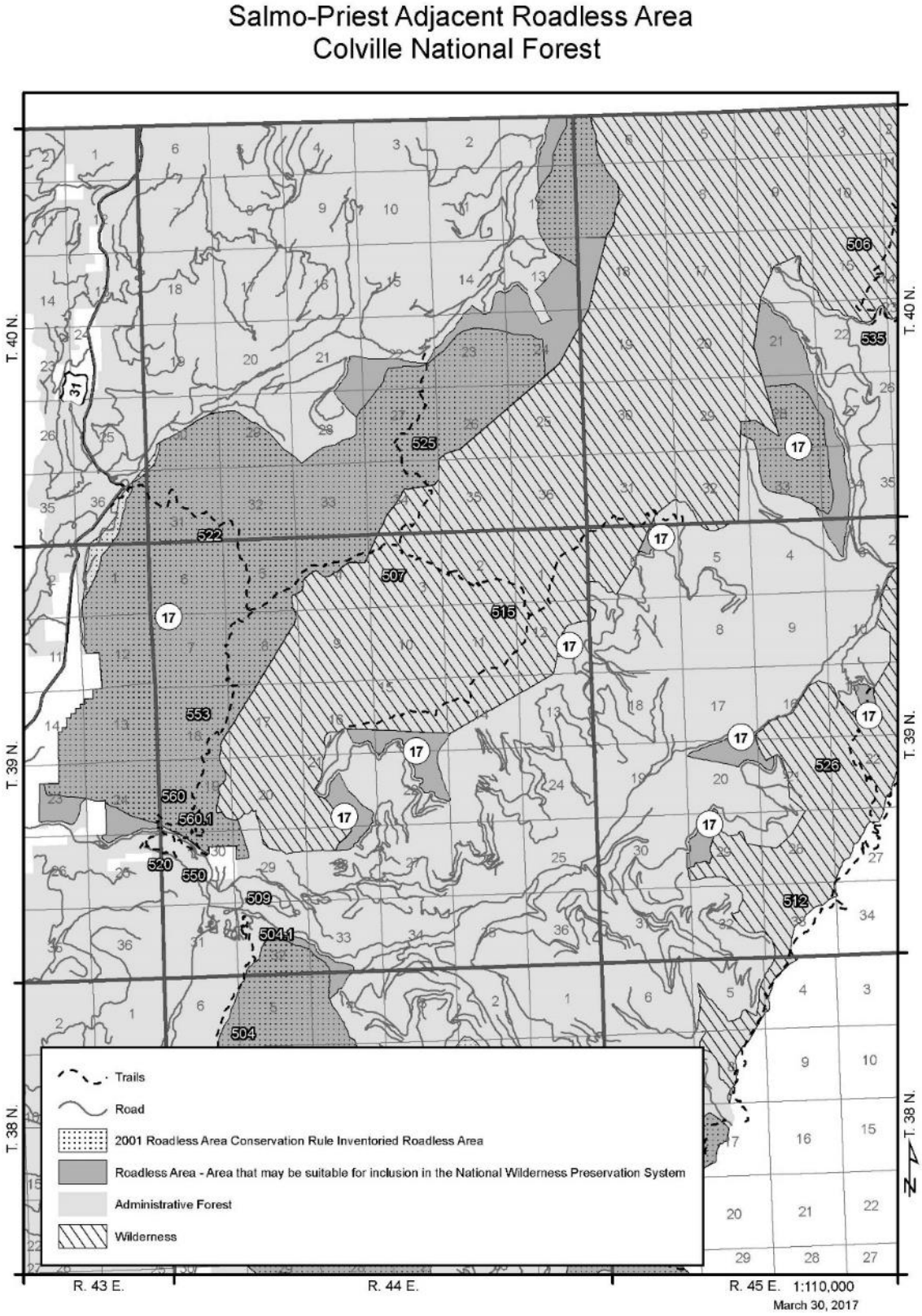


Figure F-20. Salmo-Priest Adjacent Roadless Area

Figure F-21. South Fork Mountain Roadless Area

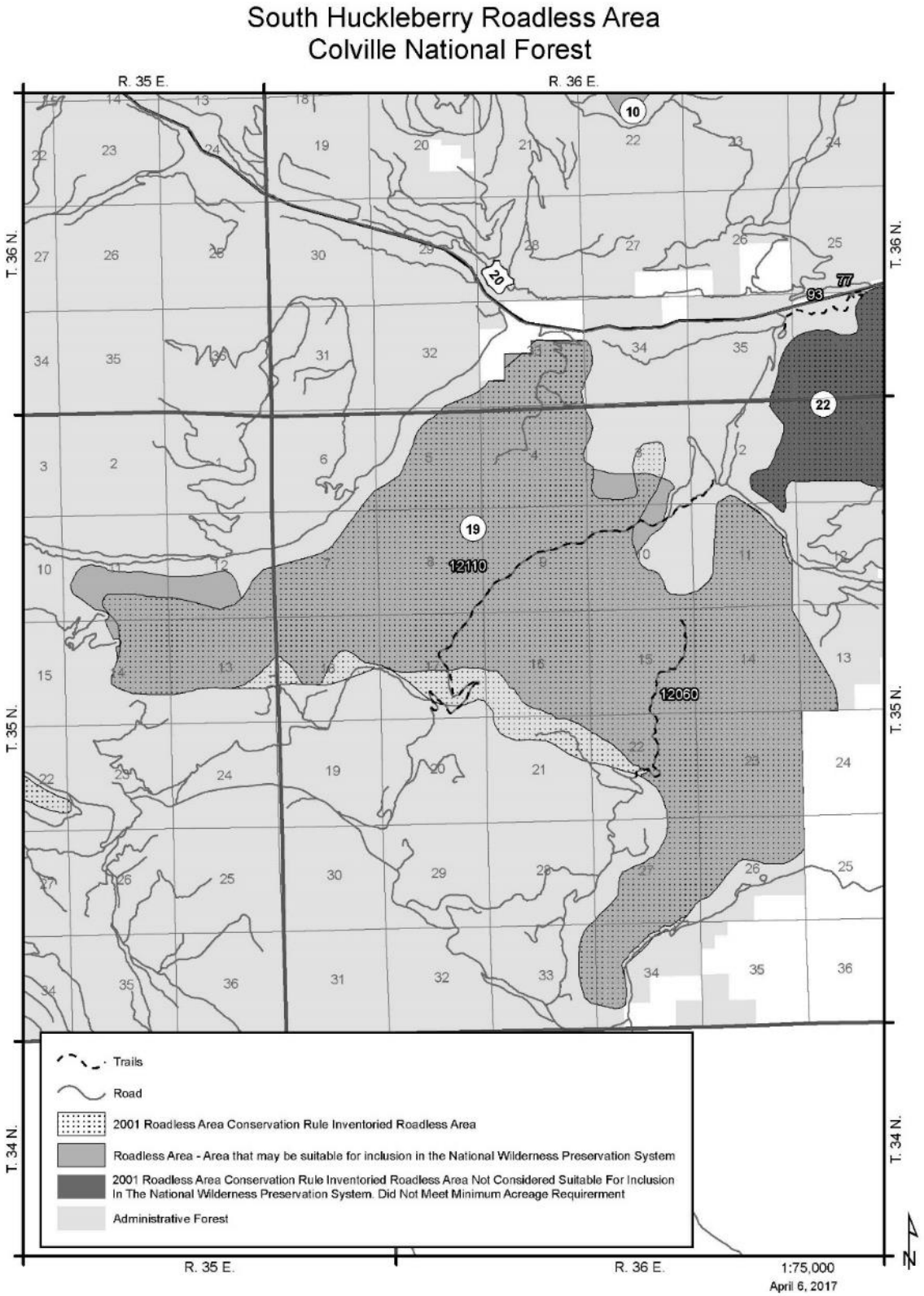


Figure F-22. South Huckleberry Roadless Area

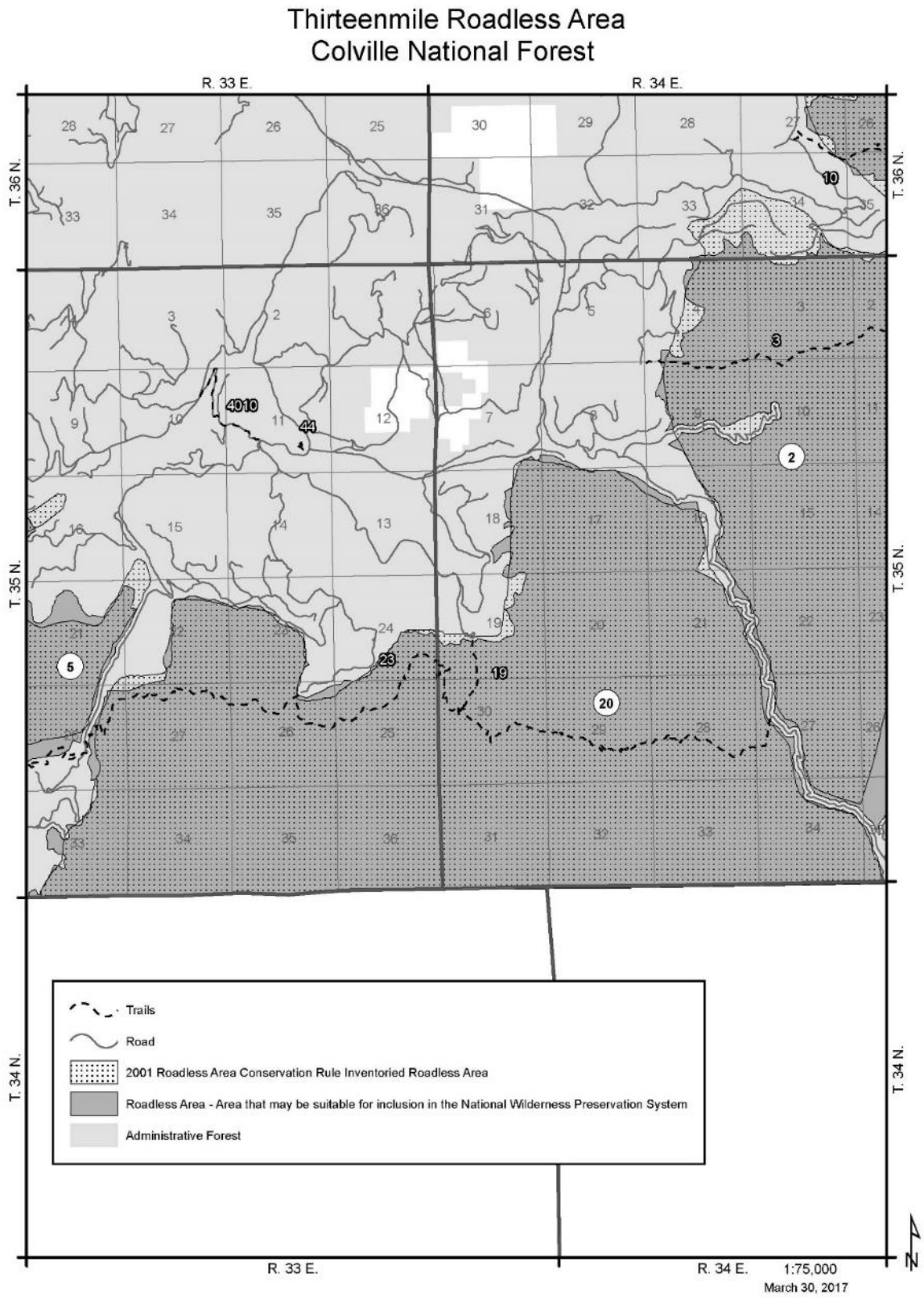


Figure F-23. Thirteenmile Roadless Area

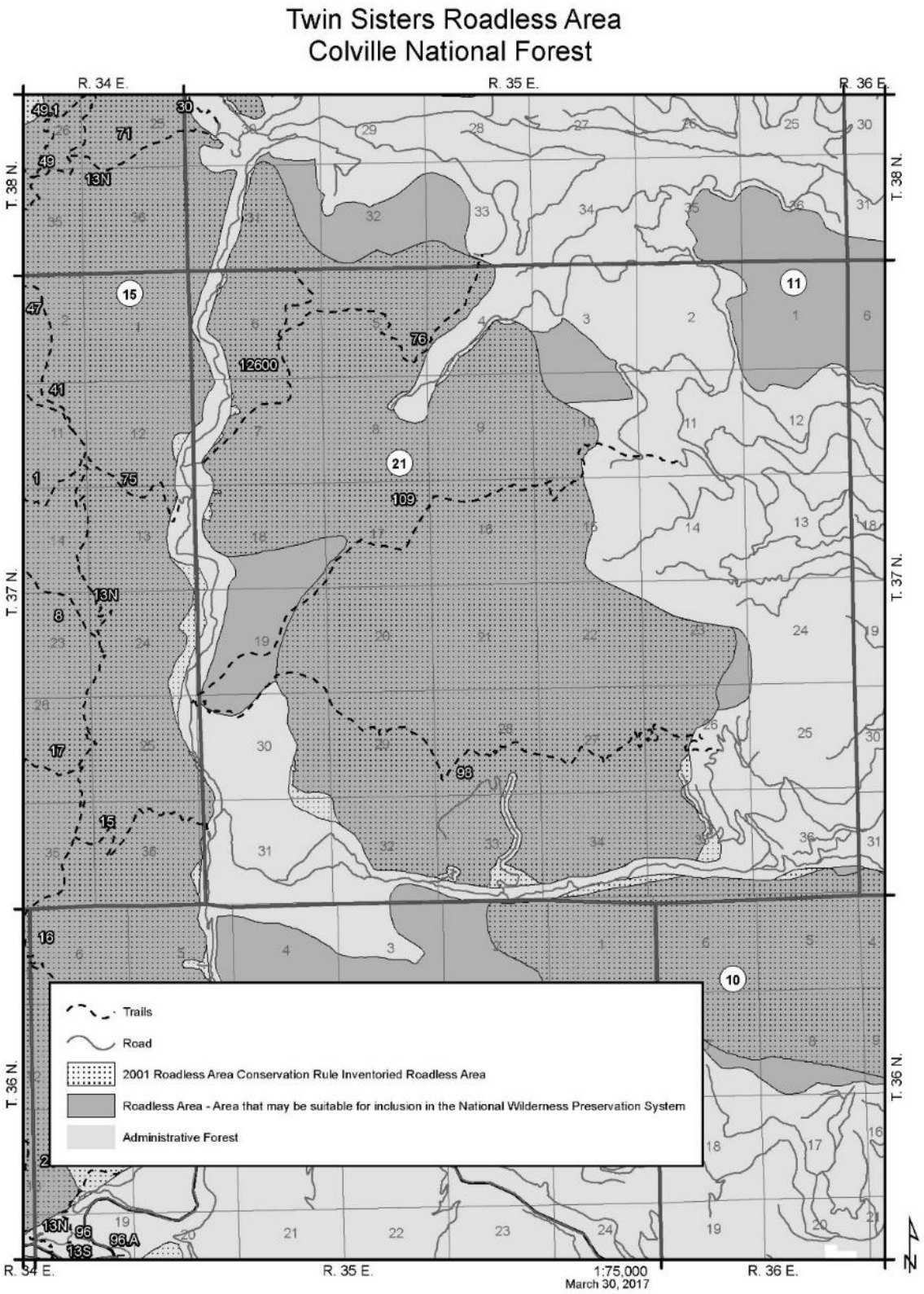


Figure F-24. Twin Sisters Roadless Area

Evaluation

The following pages describe the process followed in evaluating roadless areas for capability, availability and need and the results of these analyses. The process for the final determination of wilderness recommendations is included.

When revising forest plans, national forests are required to evaluate unroaded areas, consider their wilderness characteristics, and to make recommendations to Congress regarding areas suitable for inclusion into the National Wilderness Preservation System. The Forest Service can only recommend potential wilderness allocations to Congress via forest plans, and only Congress can designate wilderness through the legislative process.

Criteria for determining whether an area of NFS land qualifies as an area that may be suitable for inclusion in the national wilderness preservation system are provided in Forest Service handbook 1909.12, chapter 70 (January 2007 version), which states: "Areas qualify for placement on the potential wilderness inventory if they meet the statutory definition of wilderness. Include areas that meet either criteria 1 and 3, or criteria 2 and 3 below."

1. Areas contain 5,000 acres or more;
2. Areas contain less than 5,000 acres, but can meet one or more of the following criteria:
    - Areas can be preserved due to physical terrain and natural conditions;
    - Areas are self-contained ecosystems, such as an island, that can be effectively managed as a separate unit of the National Wilderness Preservation System; and
    - Areas are contiguous to existing wilderness, primitive areas, administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.
3. Areas do not contain forest roads (36 CFR 212.1) or other permanently authorized roads, except as permitted in areas east of the 100th meridian (sec. 71.12).

The Colville National Forest coverage submitted for the Roadless Area Conservation Rule, because of the short response time, did not show where all NEPA projects since 1988 had reduced roadless area acreages. Some portions of that coverage accurately depicted the current situation while other portions did not. The inventory of Colville National Forest roadless areas was updated as mentioned above prior to the evaluation process for potential recommended wilderness. Inventoried Roadless Areas served as a basis for identifying lands that might be suitable for wilderness recommendation, and they will remain IRAs under the Roadless Area Conservation Rule regardless of the wilderness evaluation. Areas evaluated for wilderness potential are not limited to those identified as IRAs by the Roadless Rule.

This evaluation of potential wilderness identified and inventoried all areas within NFS lands that satisfy the definition of wilderness found in section 2(c) of the 1964 Wilderness Act (FSH 1909.12, chapter 70 – January 2007 version). The areas identified through this evaluation process are called areas that may be suitable for inclusion in the National Wilderness Preservation System. The 2007-updated inventory resulted in 21 IRAs totaling 230,800 acres, an increase of 51,200 acres from the 1988 Colville National Forest Plan. As part of the forest plan revision process, these inventories were again reviewed in 2008 and 2016. The current inventory of areas that may be suitable for inclusion in the National Wilderness Preservation System includes 21 areas.

Inventoried roadless areas on the Colville National Forest, including those that overlap onto the Idaho Panhandle National Forests or the Okanogan-Wenatchee National Forest are identified in inventoried roadless area maps contained in the Forest Service Roadless Area Conservation, Final Environmental

Impact Statement, Volume 2, dated November 2000, which is held at the National Headquarters of the Forest Service.

Inventoried roadless areas may contain improvements such as motorized trails, unauthorized and user-created roads, fences, outfitter camps, and evidence of historic logging activities. Inventoried roadless areas are valued for many resource benefits including their undeveloped fisheries and wildlife habitat, biodiversity, and various undeveloped recreation settings. The same areas are also valued for their development potential, including wood products and mineral resources.

Roadless Acres Analyzed for Capability, Availability, and Need

The next step in the evaluation of potential wilderness areas (PWA) as potential additions to the National Wilderness Preservation system is to determine the mix of land and resource uses that best meet public needs. An area recommended as suitable for wilderness must meet the tests of capability, availability, and need. In addition to the inherent wilderness quality it possesses, an area must provide opportunities and experiences that are dependent upon and enhanced by a wilderness environment. The area must also be able to be managed as wilderness.

The Colville National Forest evaluation process (capability, availability, and need) and the suitability evaluation of the areas for potential wilderness are outlined below; these evaluations indicate the inherent wilderness quality of each area that may be suitable for inclusion in the National Wilderness Preservation System.

The areas were evaluated for suitability for potential wilderness with the test of capability, availability, and need as follows:

- Capability – The capability of a potential wilderness is the degree to which that area contains the basic characteristics that make it suitable for wilderness recommendation without regard to its availability for or need as wilderness. This includes environmental as well as manageability considerations.
- Availability – The determination of availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources. Other resource demands and uses were evaluated. Constraints and encumbrances were also reviewed to determine the degree of Forest Service control over the surface and subsurface area.
- Need – This is an analysis of the degree to which the potential wilderness area would contribute to the overall National Wilderness Preservation System. This evaluation was conducted at the regional level.

Methodology Used for Evaluating Capability, Availability, and Need

Undeveloped areas on the Colville National Forest were evaluated for wilderness recommendation. The three tests of capability, availability, and need were used as set forth in FSH 1909.12, chapter 70 (January 2007 version). In addition to the inherent wilderness quality an undeveloped area might possess, the area should provide opportunities and experiences one would expect to find in a wilderness environment.

Capability

The five basic characteristics identified in FSH 1909.12, chapter 70 (January 2007 version) to evaluate the capability of an area are: natural, undeveloped, outstanding opportunities for solitude or primitive and unconfined recreation, special features and values, and manageability.

The environment provides the person the opportunity to feel or experience solitude and serenity, a spirit of adventure and awareness, and a sense of self-reliance. The area should appear natural and free from disturbance, and where the normal activities and life cycles of biotic species take place. A range of geological, biological, and ecological variability exists and is identified. Any scientific, educational, or historical values are identified and considered. Social and economic factors must blend with the environment and natural features to make the area desirable and manageable as wilderness.

Outdoor recreation opportunities as defined in FSH 1909.12, chapter 70 (January 2007 version) that are primitive and unconfined include hiking, backpacking, stock riding, hunting, fishing, skiing, snowshoeing, and rafting. These may or may not currently exist within an individual area. Other outdoor recreational activities may currently exist, but are not compatible with a wilderness setting or other wilderness characteristics.

Special features recognize scientific, educational, historical, and scenic values found in the area. The abundance and variety of wildlife and fish, including threatened and endangered species, will be considered. Other special features that are unique or are outstanding will be identified.

Manageability considers the ability to manage the area as wilderness as required by the 1964 Wilderness Act. Such factors as size, shape, and juxtaposition to external situations are considered. Boundary location and the ability to easily identify the boundary on the ground are critical in meeting this characteristic.

The combinations of basic natural characteristics are of infinite variety. No two areas possess any of these characteristics in the same measure. The process, then, is to analyze the quality and quantity of these characteristics and determine if they can be provided by establishing management, protective, mitigation, or enhancement measures.

To evaluate the five basic characteristics of Capability, they were broken down into the following elements, activities, and features:

1. Natural
    - Non-native species – identification through GIS corporate data of known noxious weed infestations, insect and disease data based on annual aerial inventory work, identification of known non-native fish and animal species, presence of livestock;
    - Free-flowing streams – identification of developments that would degrade free-flowing nature;
    - Light Pollution – comparison of impact on night sky using the Bortle Scale;
    - Pollutants – analysis of Washington State Department of Ecology water quality data;
    - Health of Ecosystems – addressed qualitatively in the availability and need sections.
2. Undeveloped
    - Identification of known developments;
    - Presence of highway noise;
3. Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation
    - Opportunity for solitude;
    - Assessment of the scale of vastness associated with the area that may be suitable for inclusion in the national wilderness preservation system;

- Principle Attractions;
- Opportunities for self-reliance;
- Impacts of existing use.

4. Special Features and Values
   - Known cultural resources;
   - Presence of Research Natural Areas;
   - Unique landforms;
   - Presence of habitat for Threatened, Endangered or Sensitive plants, wildlife, and fish species.
5. Manageability
   - Assessment of the complexity of management based on the identified boundary of each area.

These characteristics were analyzed by a combination of forest plan team specialists, District specialists, and Pacific Northwest Research Station scientists. Specialists were required to consider existing as well as future conditions both inside and adjacent to each area. For areas that crossed forest boundaries, only the portion of the area that lies within the Colville NF boundary was analyzed. Final evaluation of these areas will not be completed until coordination with the adjoining forest can be made. In several cases, the specialists gained additional insight through site-specific information provided by community members during public meetings. The Capability analysis, based on the above five characteristics, are documented in each potential wilderness area's wilderness evaluation.

Availability

Availability of an area for wilderness management must be evaluated against other resource needs, demands, and uses of the area. To be available for wilderness, the wilderness value, both tangible and intangible, should offset the value of the other resources. The predominant value does not necessarily reflect the use or combination of uses that would yield the greatest dollar return or the greatest unit output. In evaluating other resources, current uses, trends, and potential future uses and outputs need to be considered.

Constraints and encumbrances on lands may also govern the availability of lands for wilderness. Forest Service control over the surface and subsurface of the area is a consideration regarding availability. The Forest Service should have sufficient control to prevent development of irresolvable, incompatible uses that would negatively affect wilderness character and potential.

Other resources evaluated are determined from resource specialists' knowledge of the areas and public comments. Once the other resources were identified, a team of forest, district, and regional specialists described the current uses, trends, and potential future uses and outputs using the following criteria:

1. Recreation
   - Types of existing recreation and trends in use;
   - Presence of existing trail system;
   - Recreation opportunities displaced;
2. Wildlife
   - Acres of Threatened, Endangered or Sensitive habitat;

- Presence of species;
- Effects to species habitat;
- Water and Fish
- Presence of Threatened, Endangered or Sensitive species;
- Assessment of water source protection area;
- Effects to ecological functioning of tributaries;
- Effects to native fish populations;

3. Range
   - Suitability and number of current allotments affected
4. Vegetation and Ecology
   - Presence of unique plant communities
5. Timber
   - Suitability
   - Effect of restoration efforts associated with wildland urban interface (WUI)
6. Fire
   - Description of fire history and potential
7. Insect and Disease
   - Assessment of the existing condition and the potential effects to restoration activities resulting from insect and disease if an area is designated as wilderness.
8. Threatened, Endangered or Sensitive Plants
   - Presence of and list of species.
9. Noxious Weeds
   - Identification of know noxious weeds.
10. Minerals and Soils
    - Description of soil types
    - Potential for locatable and leasable minerals and geothermal resources
11. Cultural and Heritage Resources
    - Number and description of know resources
12. Land Uses and Special Uses
    - Description of existing uses
13. Private Lands
    - Description of concerns associated with neighboring private lands.

The Availability analysis, based on the above 14 criteria, are documented in each potential wilderness area's wilderness evaluation.

Need

Evaluation of need determines the degree to which an area can contribute to the overall National Wilderness Preservation System. There should be evidence of current or future public need for additional designated wilderness in the general vicinity of the area being considered. The Need analysis was completed by revised forest plan interdisciplinary team specialists (recreation, ecology, fish, and wildlife) and the Pacific Northwest Regional Silviculturist using the following six factors:

1. The location, size, and type of other wildernesses in the general vicinity and their distance from the proposed area. Consider accessibility of areas to population centers and user groups. Public demand for wilderness may increase with proximity to growing population centers.
    - Data were obtained from www.wilderness.net. Driving times from population centers was determined using www.randmcnalley.com. Population data and forecasts were obtained from the U.S. Census Bureau.
2. Present visitor pressure on other wildernesses, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.
    - Pressure on other wildernesses was obtained by using National Visitor Use Monitoring data, obtaining use data from other agencies managing wilderness, and discussing pressures with managers.
    - Trends in use was obtained primarily from U.S. Forest Service researcher Ken Cordell's work as well as other researchers, state SCORP[1] data, industry sources, and others. All these are referenced in the needs assessment document.
    - Population expansion factors were addressed using census projections (cited in needs assessment).
    - Trends and changes in transportation was compiled across the planning area by looking at the availability (past and present) of public transportation. And making some speculations about what could happen in the future as petroleum becomes less available.
3. The extent to which nonwilderness lands on the NFS unit or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.
    - The analysis approach was to do an in-depth analysis of the important venues across our market zones for activities that are appropriate in wilderness. See the prior discussion about the recreation availability analysis.
4. The need to provide a refuge for those species that have demonstrated an inability to survive in less than primitive surroundings or the need for a protected area for other unique scientific values or phenomena.
    - Several surrogate species were selected that require large unmodified areas as habitat. These were ranked for each area that may be suitable for inclusion in the national wilderness preservation system on the amount of habitat available.
    - Areas that may be suitable for inclusion in the national wilderness preservation system were ranked on their ability to provide high quality fish habitat.
    - The limitation of this analysis is that areas that may be suitable for inclusion in the national wilderness preservation system are largely unsurveyed for rare plants. The approach included

[1] State Comprehensive Outdoor Recreation Plan

developing a ranking based on the presence of rare plants, endemism, the degree of rarity, and the potential for populations of addition plants based on potential habitat.

5. Within social and biological limits, management may increase the capacity of established wildernesses to support human use without unacceptable depreciation of the wilderness resource.
6. An area's ability to provide for preservation of identifiable landform types and ecosystems. Consideration of this factor may include utilization of Edwin A. Hammond's subdivision of landform types and the Bailey-Kuchler ecosystem classification. This approach is helpful from the standpoint of rounding out the National Wilderness Preservation System and may be further subdivided to suit local, subregional, and regional needs.
    - The Edwin A. Hammond subdivision of landform types was applied using GIS. This is discussed further in the needs assessment.
    - Continuous Vegetation Survey (CVS) plot data was used to prepare a regional analysis of which vegetation types are underrepresented or overrepresented in wilderness relative to the ratio of national forest lands outside wilderness. The types identified as underrepresented where then further analyzed for each PWA using a GIS analysis. Table F-2 shows how the CVS vegetation types correlate to the vegetation layer developed for the forest plan revision. To get more specific information on the riparian and deciduous species we queried each ranger district to determine the presence and abundance of red alder, cottonwood, and quaking aspen.

Table F-2. CVS vegetation types and Forest Plan Revision vegetation layer comparison

Veg types underrepresented in wilderness from regional analysis of CVS plot data	Corollary Cover Type Class developed for revision veg analysis
western red cedar	western red cedar
juniper	*Not in our planning area at a measurable scale*
ponderosa pine	ponderosa pine
red alder	riparian and deciduous
cottonwood	riparian and deciduous
Oregon white oak	white oak
quaking aspen	riparian and deciduous
forb land (all types)	*shrub steppe*
Meadow (non-alpine)	*montane herbaceous opening* *low elevation grassland*
Meadow (alpine)	high elevation herbaceous and shrub opening

The Need analysis, based on the above six criteria, are documented in each potential wilderness area's wilderness evaluation.

Evaluation Findings

Potential wilderness is based on the inherent wilderness quality determined in the capability, availability, and need assessment. In addition to the inherent wilderness quality an area might possess, the area should provide opportunities and experiences one would expect to find in a wilderness environment. Potential wilderness management considers establishing boundaries that are easy to define and locate on the ground. Forest Land Managers reviewed the evaluation and determined which areas to recommend for wilderness designation.

Potential wilderness boundaries and mapping was completed following the guidelines in FSH 1909.12, chapter 70 (January 2007 version) for each area recommended for wilderness designation. Boundaries should be easy to define, locatable on the ground, and be manageable. Determination of a recommended wilderness boundary uses the following guidelines (in descending order of desirability).

1. Use natural features locatable on both a map and on the ground, such as a ridge top, mountain peak, or lake shore;
2. Use semi-permanent human-made features such as roads and power lines. The boundary may be set back a given distance from these features;
3. Use previously surveyed lines or legally determined lines such as section and township lines, property lines, or state boundaries;
4. Use a straight line from one locatable, visible point to another, such as between two mountain peaks; and
5. Use a series of bearings and distances between locatable points that are not visible.

Evaluation of the 21 areas for potential wilderness and recommendation was based on the methodology established above. Areas that crossed the Colville National Forest boundaries that overlap onto the Idaho Panhandle National Forests or Okanogan-Wenatchee National Forest are evaluated for those portions that are within the Colville National Forest boundaries.

Table F-3 displays each area's ability to satisfy the need for additional wilderness on the Colville National Forest based on seven primary evaluation criteria.

Table F-4 displays the factors that influenced the Capability and Availability determination for each PWA on the Colville National Forest based on seven primary evaluation criteria.

Table F-3. Colville National Forest – PWAs with the highest potential to satisfy need

	Wilderness Recreation Setting	Wildlife Refugia	Fish Refugia	Rare Plant Refugia	Acres under-represented vegetation	Percent under-represented vegetation	Contribution by vegetation type
Abercrombie Hooknose	X	X	X		X	X	Western red-cedar Quaking aspen
Bald-Snow	X	X		X	X	X	Cottonwood Quaking aspen Forb land Alpine meadow Ponderosa pine
Bodie Mountain						X	
Clackamas Mountain	X						
Cougar Mountain	X					X	Forb land Ponderosa pine
Deer Creek							
Grassy Top	X		X				
Hall Mountain	X		X			X	Western red-cedar Quaking aspen
Harvey Creek			X	X			
Hoodoo	X						Cottonwood Quaking aspen
Jackknife				X			
Lost Creek	X			X		X	Western red-cedar
Owl Mountain						X	Forb land
Profanity	X	X		X	X		Cottonwood Quaking aspen Forb land Alpine meadow
Quartzite	X					X	Western red-cedar
Salmo-Priest Adjacent	X	X	X		X	X	Western red-cedar
South Fork Mountain			X				
South Huckleberry						X	Cottonwood Quaking aspen
Thirteenmile	X					X	Forb land
Twin Sisters							Cottonwood Quaking aspen

(All satisfy need for Okanogan Highlands landform.)

Table F-4. Colville National Forest - Capability or availability factors influencing recommendation process

	Boundary Management	Motorized or Mechanized Recreation	Non-motorized alternative to wilderness	WUI	Mineral Claims with Plan of Operations	Manipulation needed for ecosystem maintenance	Defer to Adjacent Forest
Abercrombie Hooknose					X		
Bald-Snow		X	X				
Bodie Mountain	X			X	X		
Cougar Mountain						X	
Clackamas Mountain				X			X
Deer Creek							
Grassy Top							X
Hall Mountain			X				
Harvey Creek							
Hoodoo				X			
Jackknife		X					
Lost Creek	X	X					
Owl Mountain		X					
Profanity		X		X			
Quartzite				X			
Salmo-Priest Adjacent	X				X		
South Fork Mountain							X
South Huckleberry		X					
Thirteenmile						X	
Twin Sisters		X					

Determination of Suitability as Recommended Wilderness

FSH 1909.12, chapter 70 (January 2007 version) outlines the process for determining which areas are recommended as wilderness during the forest plan revision process.

Each individual area was rated based on the presence of seven influencing factors that affected each areas Capability and Availability determination. In addition, each individual area was rated based on seven criteria to determine those areas with the highest potential to satisfy Need.

The three ratings of capability, availability, and need provide detailed information for determining whether to recommend an area as wilderness. Generally, to be considered for recommended wilderness, capability, availability and need should all rate relatively high. Factors such as size and shape, wilderness opportunities, the value of and need for other resources including existing constraints and encumbrances, and the ability to manage the area as wilderness were then considered by the forest supervisor, district rangers, forest staff officers, and the recreation lead for the forest plan revision. Recommendations also consider effects to and effects from adjacent lands. For areas determined to be recommended as wilderness, boundaries were then identified, corrected (where necessary to accommodate new information

regarding WUI, community water sources, existing mining claims, and existing roads and vegetation management activities that had been identified between 2008 and 2016) and mapped.

Areas not recommended for wilderness are considered for other management area allocations.

Parameters for mapping recommended wilderness are (in order of priority):

1. Boundaries must be identifiable on the ground. Major ridges and roads provide the best topography or human development features that can identify a boundary. Minor or broad ridges are often hard to identify on the ground and should not be used. Major creeks or rivers are suitable for boundaries but small creeks should typically not be used. Contour lines are difficult to locate even with the proper equipment and generally will not be used except for short distances. Meandering lines are not used.

   Points and connecting straight lines using GPS may provide adequate boundary identification in the near future. Small handheld GPS units can locate boundaries to within a few feet. This method is used when other boundary location methods are not adequate.

2. Some boundaries are adjusted for wildfire protection by providing a buffer near private property, along state and federal highways and county roads and along major utility corridors. In some cases, recommended wilderness boundaries are inside a WUI boundary.

3. Boundaries generally accommodate maintenance of existing roads. Boundaries are set 200 feet (horizontal distance) on either side of the road centerline to provide adequate width to maintain clearing limits, provide fuel breaks, handle slumps and slides, maintain water drainage structures, and allow for improvements necessary for safe travel.

Public comment was considered when determining which areas should be recommended as wilderness for each alternative. Areas recommended for wilderness are described in the “Recreation” section of chapter 3 under the sub-heading of “Recommended Wilderness” for each alternative and are mapped as Recommended Wilderness on the alternative maps.

Appendix G. Description of the Analysis Process and Supporting Information

Introduction

The basic analytical framework for the revision of the Colville National Forest Plan is prescribed in the NEPA process. A set of alternative scenarios, representing different approaches to the identified needs for change and issues, was simulated over time to provide information to compare and contrast those alternatives in terms of their ability to achieve the desired conditions in cost-effective and least-risk ways. Analyzing the effects of the alternatives included development of the historical range of variability; identification of lands suitable for timber production; evaluation of movement toward vegetation desired condition and timber harvest levels; rangeland capability and suitability; and social and economic analysis. This appendix documents the methods used for vegetation analysis and rangeland suitability.

Part I – Vegetation Types, Plant Associations, and Landfire Biophysical Settings Crosswalk

Vegetation composition for the planning area is classified based on plant association groups (PAGs), which are groups of plant associations with similar moisture and temperature regimes. The PAG data was produced in 2012 and covers the entire Colville National Forest (Henderson 2012). Forested PAGs are assigned to a Landfire biophysical setting (BpS), and a common name vegetation type. Table G-1 below shows the crosswalk between plant association, PAG, Landfire BpS, and vegetation type. Table G-2 and Table G-3 show the common names for the PAGs and plant associations. Landfire biophysical settings represent vegetation that may have been dominant on the land before European settlement and are based on an approximation of the historical disturbance regime (LANDFIRE 2007). These biophysical settings provide a good description of general vegetation characteristics, along with historical disturbance regimes, successional pathways, and basic spatial information. They also provide a link between the vegetation analysis and the fire/fuels analysis.

Table G-1. Crosswalk of plant association, code, plant association group (PAG), PAG code, Landfire biophysical setting number, and vegetation type (model). See tables G-2 and G-3 below for common names of plant associations and plant association groups.

Plant Association	Code	Plant Association Group (PAG)	PAG Code	Landfire BpS	Vegetation Type (Model)
ABLA2/CARU	CEG311	PIAL/VASC-LUHI-CARU	2501	1010451	Subalpine Fir/Lodgepole pine
ABLA2/CLUN	CEF421	SAF/VASC-VACA-VAME-LIBOL	2503	1010452	Subalpine Fir/Lodgepole pine
ABLA2/COCA	CEF423	SAF/TRCA3-ATFI-GYDR-STAM-riparian	2507	1010560 (90%) / 1011610 (10%)	Spruce/Subalpine fir
ABLA2/LIBOL	CEF211	SAF/VASC-VACA-VAME-LIBOL	2503	1010452	Subalpine Fir/Lodgepole pine
ABLA2/RHAL	CES211	SAF/RHAL-XETE-ARLA-POPU	2505	1010452	Subalpine Fir/Lodgepole pine
ABLA2/RHAL-XETE	CES210	SAF/RHAL-XETE-ARLA-POPU	2505	1010452	Subalpine Fir/Lodgepole pine
ABLA2/TRCA3	CEF422	SAF/TRCA3-ATFI-GYDR-STAM-riparian	2507	1010560 (90%) / 1011610 (10%)	Spruce/Subalpine fir

Plant Association	Code	Plant Association Group (PAG)	PAG Code	Landfire BpS	Vegetation Type (Model)
ABLA2/VACA	CES422	SAF/VASC-VACA-VAME-LIBOL	2503	1010452	Subalpine Fir/Lodgepole pine
ABLA2/VAME	CES313	SAF/VASC-VACA-VAME-LIBOL	2503	1010452	Subalpine Fir/Lodgepole pine
ABLA2/VASC	CES412	SAF/CARU-PAMY	2502	1010452	Subalpine Fir/Lodgepole pine
ABLA2/XETE	CEF111	SAF/RHAL-XETE-ARLA-POPU	2505	1010452	Subalpine Fir/Lodgepole pine
PIEN/EQUIS	CEM211	SAF/TRCA3-ATFI-GYDR-STAM-riparian	2507	1010560 (90%) / 1011610 (10%)	Spruce/Subalpine fir
PIPO-PSME/AGIN	-	PP/AGSP-PUTR dry shrub-grass	1001	1010451	Douglas-fir dry
PIPO-PSME/AGSP	CDG311	PP/AGSP-PUTR dry shrub-grass	1001	1010451	Douglas-fir dry
PSME/CARU	CDG131	DF/CARU-SPBE-PAMY-ARUV-SYOR	1403	1010451	Douglas-fir dry
PSME/PHMA	CDS715	DF/SYAL-PHMA	1404	1010451	Douglas-fir dry
PSME/PHMA-LIBOL	CDS716	DF/SYAL-PHMA	1404	1010451	Douglas-fir dry
PSME/SYAL	CDS633	DF/SYAL-PHMA	1404	1010451	Douglas-fir dry
PSME/SYOR	CDS632	DF-PP/AGSP-PUTR-FEID-ARUV	1401	1010451	Douglas-fir dry
PSME/VACA	CDS813	DF/VACA-VAME-VAMY	1405	1010451	Douglas-fir dry
PSME/VAME	CDS814	DF/VACA-VAME-VAMY	1405	1010451	Douglas-fir dry
THPL/ARNU3	CCF222	WH/POMU-TIUN-OXOR-ARNU3	1907	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock
THPL/CLUN	CCF221	WH/GASH-XETE-VAME-HODI-ARNE	1901	1010471	Northern Rocky Mountain Mixed conifer
THPL/OPHO	CCS211	WH/POMU-TIUN-OXOR-ARNU3	1907	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock
THPL/VAME	CCS311	WH/GASH-XETE-VAME-HODI-ARNE	1901	1010471	Northern Rocky Mountain Mixed conifer
TSHE/ARNU3	CHF312	WH/POMU-TIUN-OXOR-ARNU3	1907	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock
TSHE/CLUN	CHF311	WH/GASH-XETE-VAME-HODI-ARNE	1901	1010471	Northern Rocky Mountain Mixed conifer
TSHE/GYDR	CHF422	WH/POMU-TIUN-OXOR-ARNU3	1907	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock
TSHE/MEFE	CHS711	WH/MEFE-XETE-RUPE	1912	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock
TSHE/RUPE	CHS411	WH/POMU-TIUN-OXOR-ARNU3	1907	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock
TSHE/XETE	CHF521	WH/MEFE-XETE-RUPE	1912	1010472 (5%) / 1010471 (95%)	Western red cedar/western hemlock

Table G-2. Plant association group codes and common names

Plant Association Group Code	Description
PIAL/VASC-LUHI-CARU	whitebark pine / grouse huckleberry-smooth woodrush-pinegrass
SAF/CARU-PAMY	subalpine fir / pinegrass-pachistima
SAF/VASC-VACA-VAME-LIBOL	subalpine fir / grouse huckleberry-dwarf huckleberry-big huckleberry-twinflower
SAF/RHAL-XETE-ARLA-POPU	subalpine fir / Cascade azalea-beargrass-broadleaf arnica
SAF/TRCA3-ATFI-GYDR-STAM-riparian	subalpine fir / false bugbane-ladyfern-oak fern-claspleaf twisted stalk
PP/AGSP-PUTR dry shrub-grass	ponderosa pine / bluebunch wheatgrass-bitterbrush
DF-PP/AGSP-PUTR-FEID-ARUV	Douglas-fir-ponderosa pine / bluebunch wheatgrass-bitterbrush-Idaho fescue-bearberry
DF/CARU-SPBE-PAMY-ARUV-SYOR	Douglas-fir / pinegrass-shiny leaf spirea-pachistima-bearberry-mountain snowberry
DF/SYAL-PHMA	Douglas-fir / common snowberry-ninebark
DF/VACA-VAME-VAMY	Douglas-fir / dwarf huckleberry-big huckleberry-low huckleberry
WH/GASH-XETE-VAME-HODI-ARNE	western hemlock / salal-beargrass-big huckleberry-ocean spray-pinemat manzanita
WH/GASH-BENE-RHMA-PAMY-CLUN	western hemlock / salal-Oregon grape-Pacific rhododendron-pachistima-queencup beadlily
WH/ACCI-GASH-BENE-ACTR-POMU	western hemlock / vine maple-salal-Oregon grape-sweet after death-swordfern
WH/POMU-TIUN-OXOR-ARNU3	western hemlock / swordfern-foamflower-oxalis-glossyleaf manzanita
WH/OPHO-ATFI-LYAM	western hemlock / devil's club-ladyfern-skunkcabbage
WH/MEFE-XETE-RUPE	western hemlock / rusty menzeisia-beargrass-five leaved ramble

Table G-3. Plant association codes and common names

Plant Association	Common Name
ABLA2/CARU	Subalpine fir / pinegrass
ABLA2/CLUN	Subalpine fir / queencup beadlily
ABLA2/COCA	Subalpine fir / bunchberry dogwood
ABLA2/LIBOL	Subalpine fir / twinflower
ABLA2/RHAL	Subalpine fir / Cascades azalea
ABLA2/RHAL-XETE	Subalpine fir / Cascades azalea – beargrass
ABLA2/TRCA3	Subalpine fir / false bugbane
ABLA2/VACA	Subalpine fir / dwarf huckleberry
ABLA2/VAME	Subalpine fir / big huckleberry
ABLA2/VASC	Subalpine fir / grouse huckleberry
ABLA2/XETE	Subalpine fir / beargrass
PIEN/EQUIS	Engelmann spruce / horsetail
PIPO-PSME/AGIN	Ponderosa pine – Douglas-fir / beardless bluebunch wheatgrass
PIPO-PSME/AGSP	Ponderosa pine – Douglas-fir / bluebunch wheatgrass
PSME/CARU	Douglas-fir / pinegrass
PSME/PHMA	Douglas-fir / ninebark
PSME/PHMA-LIBOL	Douglas-fir / ninebark – twinflower
PSME/SYAL	Douglas-fir / snowberry
PSME/SYOR	Douglas-fir / mountain snowberry
PSME/VACA	Douglas-fir / dwarf huckleberry
PSME/VAME	Douglas-fir / big huckleberry
THPL/ARNU3	Western red cedar / wild sarsaparilla
THPL/CLUN	Western red cedar / queencup beadlily
THPL/OPHO	Western red cedar / devil’s club
THPL/VAME	Western red cedar / big huckleberry
TSHE/ARNU3	Western hemlock / wild sarsaparilla
TSHE/CLUN	Western hemlock / queencup beadlily
TSHE/GYDR	Western hemlock / oak fern
TSHE/MEFE	Western hemlock / rusty menziesia
TSHE/RUPE	Western hemlock / five-leaved bramble
TSHE/XETE	Western hemlock / beargrass

Part II – Vegetation Modeling Assumptions

Background

The following documentation represents model parameters and assumptions used in the modeling of forest plan alternatives in the Colville National Forest plan revision effort. This document specifically refers to the model runs and results provided to Colville interdisciplinary team (IDT) members in February 2015.

Software

State and transition simulation modeling was conducted using the St-Sim module of SyncroSim, version 2.3.8. For a full description of St-Sim, the reader is referred to ApexRMS and online documentation at http://www.apexrms.com/.

Model Origins

The models used in this effort were adapted from models received from Mark Loewen (NE Washington Zone Vegetation Specialist, now retired). These base models were evaluated for potential flaws (with fixes applied as necessary) and reworked through a workshop process. Model workshops were conducted in Wenatchee, WA with key specialists' involvement in July 2014. Further refinement of the models was done based on feedback received from Colville National Forest specialists in August 2014. Final modifications were made in consultation with Jonathan Day, Colville Plan Revision Vegetation Specialist between August and November 2014.

Stratifications

The model space is stratified by two primary components: (1) Potential Vegetation Type, and (2) Modeling Zone.

Model Types

The Potential Vegetation Type is derived from plant association group (PAG) crosswalks combining like PAGs into functional groupings based on similar vegetation potential and disturbance response.

Table G-4. Model types

Model Type	Code	Total Modeled Acres
Douglas-Fir Dry	FDD	395,250
Northern Rocky Mountain Mixed Conifer	FCM	309,500
Spruce/Subalpine Fir	FCD_LPWL	23,506
Subalpine Fir/Lodgepole pine	FCD_DFmx	189,794
Western Red cedar/Western Hemlock	FRN	99,200

Geospatial representation of the PAGs comes from the 2012 Henderson PAG layer. Table G-1 includes a crosswalk between PAGs and Model Types.

Model Zones

The second strata applied to this modeling effort are "Model Zones." Four primary model zones were created to capture different management emphasis on lands with different designations under each

alternative.[2] These model zones allow a certain number of model "cells" to receive different transitions and probabilities than other model cells of the same state. In this way, model cells that reflect designated Wilderness, for example, can be programmed to receive fire transitions but not mechanical treatments. In the St-Sim database, these areas are referred to as "Planning Zones." A list of the model zones is contained in Table G-5.

Table G-5. Model zones

Planning Zone	ST-Sim Description
Reserve	Reserve lands
Restoration	Whole Landscape Approach and Restoration Zones
TimbProd	Active Timber Production Zones
WildOther	Wilderness, PARW and other

Model zones are based on and tier to categories developed by Jon Day, Planning Team Vegetation Specialist as part of the timber suitability analysis.

Parameters

Alternatives

Individual model runs were completed for each vegetation/model type,[3] and for each alternative. Transitions for each alternative were developed and refined through a workshop process and based on local expertise and the interdisciplinary team's understanding of the alternatives. A full description of the model assumptions for each alternative can be found in the section Model Assumptions by Alternative.

Non-Spatial

All models are run as non-spatial models. However, existing (initial) conditions are populated based on spatial analysis of model state distribution across modeling zones. See the Modeling Zoned and Existing Conditions sections for a detailed description of the spatial data that feeds the initial conditions in these model runs.

Existing Conditions

Source

Existing conditions were calculated using the following data sources:

- 2012 Gradient Nearest Neighbor (GNN) Structure Data produced by the Landscape Ecology, Modeling, Mapping and Analysis group (LEMMA). GNN structure data can be obtained from the following link: *http://lemma.forestry.oregonstate.edu/data/structure-maps*
- 2012 Plant Association Group (PAG) map developed and updated by Jan Henderson. A description of this product can be found in the document: "FINAL REPORT for CONTRACT AG-05H7-P-10-

[2] While the models themselves are not run spatially (the outcome in a given model cell is not informed by the outcomes of "adjacent" cells), model initial conditions are set based on acres of each model state in each model zone based on GIS queries.
[3] The one exception to this was the FCD model, which was run as one model, but represents two different model types (Spruce/Subalpine Fir & Subalpine Fir/Lodgepole Pine). However, there are no transition pathways between the two model types contained in this model, therefore they essentially function as separate models run concurrently. This was done to expedite modeling as the base models contained linkages between these two model types that were removed as a result of model workshops based on local understanding of the ecology inherent to these systems.

0029 - Revise and update the PAG map and model for the Okanogan, Wenatchee and Colville National Forests.

- Model Zones (discussed above)

To develop datasets for imputation into the St-Sim modeling database, both datasets were classified into model groupings. The PAG data were classified and cross-walked into model vegetation types as displayed in Table G-4. GNN data were classified into structural groupings based on canopy cover, size class and storiedness. These structural groupings represent the structural components of the model states[4] in each state and transition simulation model. Full existing condition values by model state and model zone are included in the St-SIM database and available in the project record.

Attributes

Two types of attributes were developed and tracked into the St-Sim model database. State Attributes are used to link model states with a given attribute and track relative abundance over time. State attributes are used in this effort to track wildlife habitat and structure groups. Transition Attributes are used to track values associated with given model transitions, and are used in this effort to track timber volume removed through mechanical treatments.

Wildlife Habitat

Attribute tables were developed and loaded into the St-Sim model database containing crosswalks between model states and wildlife habitat for specific species. This facilitates the tracking of trend in attributes such as wildlife habitat through a model run. For wildlife attributes, the unit of measure that is tracked is acreage.

[4] The model states are not synonymous with the Colville Structure Groupings used for final reporting in the Vegetation Specialist's Report. These structural groupings represent a finer delineation of structural characteristics (e.g. storiedness) than the Colville Structural Groupings. A crosswalk between modeled structure states and the Colville Structure Groupings can be found below.

Model Type	Model State	Primary Black Backed Woodpecker	Secondary Black Backed Woodpecker	Goshawk	Primary Lewis's Woodpecker	Secondary Lewis's Woodpecker	American Marten	Pileated Woodpecker	White-headed Woodpecker
Douglas-fir dry	DF:G1p		X						
	DF:GFp	X			X				
	DF:Gm1			X				X	
	DF:Gm2			X				X	
	DF:Go1					X			X
	DF:L1p		X						
	DF:Lm1		X	X					
	DF:Lm2		X	X				X	
	DF:Lo1					X			X
	DF:M1p		X						
	DF:Mm1		X	X					
	DF:Mm2		X	X					
Northern Rocky Mountain Mixed Conifer	DFmx:G1p		X						
	DFmx:Gc2		X	X			X	X	
	DFmx:GFp	X							
	DFmx:Gm1		X	X			X	X	
	DFmx:Gm2		X	X			X	X	
	DFmx:L1p		X						
	DFmx:Lc2		X	X			X	X	
	DFmx:Lm1		X	X			X	X	
	DFmx:Lm2		X	X			X	X	
	DFmx:M1p		X						
	DFmx:Mc2		X	X			X		
	DFmx:Mm1		X	X					
	DFmx:Mm2		X	X					

Model Type	Model State	Primary Black Backed Woodpecker	Secondary Black Backed Woodpecker	Goshawk	Primary Lewis's Woodpecker	Secondary Lewis's Woodpecker	American Marten	Pileated Woodpecker	White-headed Woodpecker
Spruce/ Subalpine fir	DFmx:GFp	X							
	DFmx:L1p		X						
	DFmx:Lc1		X	X			X	X	
	DFmx:M1p		X						
	DFmx:Mc1		X	X			X		
Subalpine Fir/Lodgepole pine	LPWL:GFp	X							
	LPWL:L1p		X						
	LPWL:Lc1		X	X			X	X	
	LPWL:Lm1		X	X			X	X	
	LPWL:M1p		X						
	LPWL:Mc1		X	X			X		
	LPWL:Mm1		X	X					
Western red cedar/western hemlock	DFRC:G1p		X						
	DFRC:Gc2		X	X			X	X	
	DFRC:Gm2		X	X			X	X	
	DFRC:L1p		X						
	DFRC:Lc2		X	X			X	X	
	DFRC:LcP		X						
	DFRC:Lm2		X	X					
	DFRC:Mc2		X	X					
	DFRC:Mm2		X						

Timber Volumes

Timber volumes are tracked in the modeling process based on transition attributes. For each transition type pertaining to mechanical harvest, a harvest volume coefficient is developed based on the model state that the harvest occurs in. To develop harvest coefficients it was first necessary to designate standing timber for each model state. Initial standing volume values were developed based on Zhou and Hemstrom 2010[5] and were inherited with the original models developed for the NE Washington Zone co-planning effort. As part of the Colville model development process, some model states did not have standing volume estimates. In these cases, the most similar ancillary model state for which data was available was chosen to approximate standing volume. However, if the most similar ancillary model state was determined to not be a close approximation for the missing value, proportional values were assigned using proportional calculations tied to relative canopy closure and associated states for which data were available.

Volume removals were calculated by determining the difference in standing volume for a given state before a transition and after a transition. Some modeled transitions (e.g. Variable Density Thinning) have multiple destination states; in these cases, volume removals were calculated using proportional coefficients identical to those applied in the model destination probabilities. In this way, one volume removal value is assigned for each starting model state / harvest type for a given volume attribute.

The volume estimates are provided below and represent volume removals *per acre*.

Model Type	Treatment Code	Model State	cfsawvol	bfvsaw
Douglas-fir dry	VDT	DF:Gm1	319	1,065
	VDT_2	DF:Gm1	319	1,065
	VDT	DF:Gm2	1,041	5,975
	VDT_2	DF:Gm2	1,041	5,975
	VDT	DF:Lm1	2,764	17,438
	VDT	DF:Lm2	2,346	12,555
	NAharv	DF:Mm1	1,760	9,032
	RegHar	DF:Mm1	4,351	22,071
	VDT	DF:Mm1	3,293	16,859
	NAharv	DF:Mm2	838	4,129
	RegHar	DF:Mm2	2,507	12,265
	VDT	DF:Mm2	1,634	8,034
	RegHar	DF:Mo1	830	4,005
	PH.poles	DF:Pm1	499	2,440
	PH.poles	DF:Pm2	249	1,220
	NAharv	DF:Sm1	555	2,369
	VDT	DF:Sm1	1,154	5,064
	NAharv	DF:Sm2	272	1,159
	VDT	DF:Sm2	645	2,885

[5] Zhou, Xiaoping; Hemstrom, Miles A. 2010. Gen. Tech. Rep. PNW-GTR-819. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 31 p
Available online at: http://www.fs.fed.us/pnw/pubs/pnw_gtr819.pdf

Model Type	Treatment Code	Model State	cfsawvol	bfvsaw
Northern Rocky Mountain Mixed Conifer	VDT	DFmx:Gc2	1,004	5,887
	VDT_2	DFmx:Gc2	1,004	5,887
	VDT	DFmx:Lc2	1,167	5,689
	VDT_2	DFmx:Lc2	1,167	5,689
	NAharv	DFmx:Mc2	1,141	5,296
	VDT	DFmx:Mc2	2,415	11,860
	NAharv	DFmx:Mm2	4,810	23,621
	NAharv	DFmx:Sc2	1,141	5,296
	RegHar	DFmx:Sc2	3,381	15,628
	VDT	DFmx:Sc2	2,355	10,909
	RegHar	DFmx:Sm1	2,240	10,332
	NAharv	DFmx:Sm2	1,098	5,035
	RegHar	DFmx:Sm2	1,098	5,035
	RegHar	DFmx:So1	551	2,527
Western red cedar/western hemlock	RegHar	DFRC:Mc2	2,933	15,610
	RegHar	DFRC:Mm2	2,933	15,610
	VDT	DFRC:Sc2	721	3,442
Subalpine Fir/Lodgepole pine	RegHar	LPWL:Mc1	3,606	17,346
	RegHar2	LPWL:Mc1	3,426	16,476
	RegHar	LPWL:Mm1	3,606	17,346
	RegHar	LPWL:Sc1	2,809	13,087
	RegHar2	LPWL:Sc1	2,668	12,431
	RegHar	LPWL:Sm1	2,809	13,087

Modeled Alternatives

Model Coefficients Common to All Alternatives

While management prescriptions vary from one alternative to another, natural growth rates, wildfire probability and insect and disease probabilities generally do not.

Wildfire

Wildfire coefficients were developed based on fire history for the Colville National Forest. Fire history polygons were intersected with the PAG derived model types layer to calculate acres burned by model type by year. To assign burn severity, the ILAP derived burn severity (based on MTBS data) were queried to determine percentage of burned are by severity class for each model type. These model type specific proportions were then applied to total burned acres to determine area burned by burn severity. The period of 1985-2012 was used to reflect the contemporary period for fire occurrence on the Colville and develop wildfire probability coefficients.

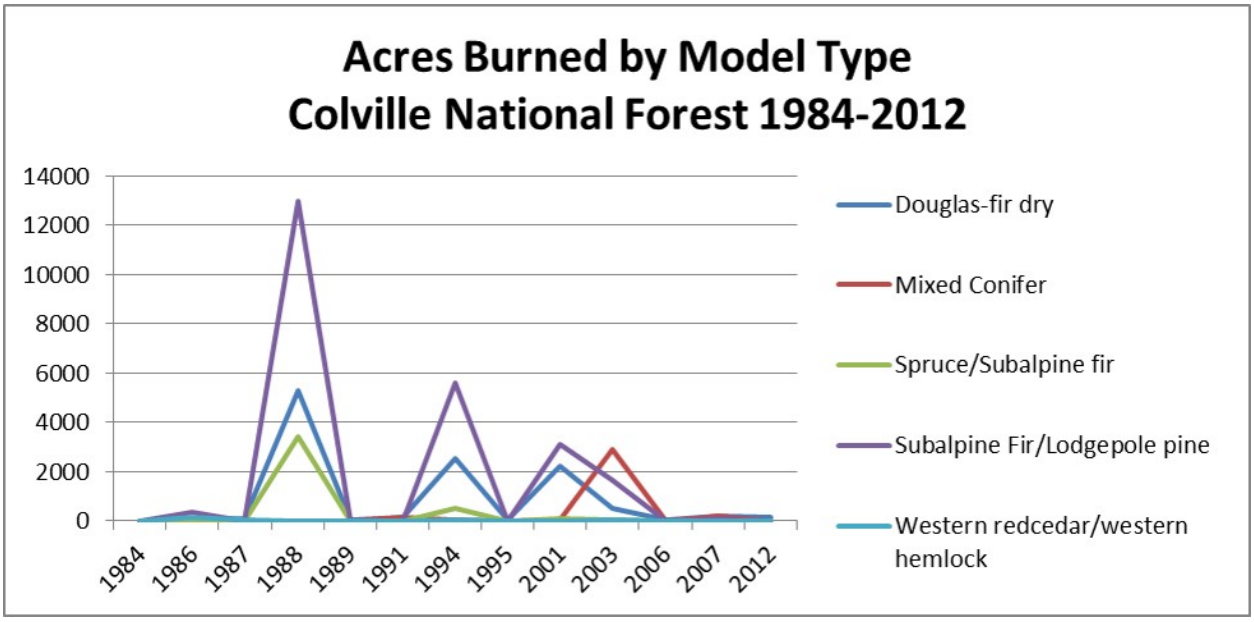


Figure G-1. Acres burned by model type – Colville National Forest 1984-2012

The following table displays the annual wildfire probability coefficients applied to each model type by burn severity.

Table G-6. Annual wildfire probability coefficients

	Douglas-fir dry	Mixed Conifer	Spruce/ Subalpine fir	Subalpine Fir/Lodgepole pine	Western red cedar/ western hemlock
1985-2012 avg. annual acres burned	408	122	147	851	11
Total Acres / PAG	616,503	394,482	21,040	183,765	125,207
Calc Total Fire Prob:	0.0007	0.0003	0.0070	0.0046	0.0001
Calc Total MFRI (in years)	1,513	3,235	143	216	11,222
Annual Probability (Non Lethal - WFNL)	0.000351	0.000128	0.002214	0.001466	0.000037
Annual Probability (Mixed Severity - WFMS)	0.000173	0.000070	0.001521	0.001007	0.000020
Annual Probability (Stand Replacing - WFSR)	0.000137	0.000110	0.003260	0.002159	0.000032

Insect and Disease

Insect and disease coefficients were developed by intersecting Aerial Detection Survey GIS with PAG / Model Types. For polygons with multiple agents in the same year, only the primary agent was used to calculate a coefficient. Aerial detection data from 1985-2012 was used to develop contemporary I&D rates and coefficients. These resulting summary values are contained in Table G-7. Full data used to create the values, as well as aerial detection survey values going back to 1970 are included in the project spreadsheet 1970_2012_InD_Colville_Coeffifient.xlsx.

Table G-7. Modeled insect and disease values

Model Type	Transition Type	Probability Coefficient	Equal Return Interval (yrs)
Subalpine Fir / Lodgepole	MPB	0.0250	40
Spruce / Subalpine Fir	SAFMort	0.0002	4,043
Spruce / Subalpine Fir	SPB	0.0004	2,561
Northern Rocky Mountain Mixed Conifer	DFB	0.0053	189
Northern Rocky Mountain Mixed Conifer	FE	0.0076	131
Northern Rocky Mountain Mixed Conifer	RDBT	0.0100	100
Northern Rocky Mountain Mixed Conifer	SBWobk	0.0022	451
Northern Rocky Mountain Mixed Conifer	SPB	0.0001	12,194
Douglas-Fir Dry	DFB	0.0060	167
Douglas-Fir Dry	FE	0.0061	163
Douglas-Fir Dry	MPB	0.0091	109
Douglas-Fir Dry	RDBT	0.0100	100
Douglas-Fir Dry	SBW	0.0225	45
Western Red cedar/Western Hemlock	DFB	0.0048	210
Western Red cedar/Western Hemlock	RDBT	0.0200	50

Stochastic Variation

Transition multipliers (in the form of Monte Carlo Multipliers or MCMs) are used in the model to create stochasticity. The MCMs vary the probability of certain natural transitions (fire and other natural mortality) to better reflect the variance in these disturbance agents. In this way, some model "years" have higher probability of stand replacing fire than other years for example. All MCM values are contained in the ST-Sim database. Figure G-2 displays the probability multipliers for stand-replacing fire for years 1 to 300 of the model run.

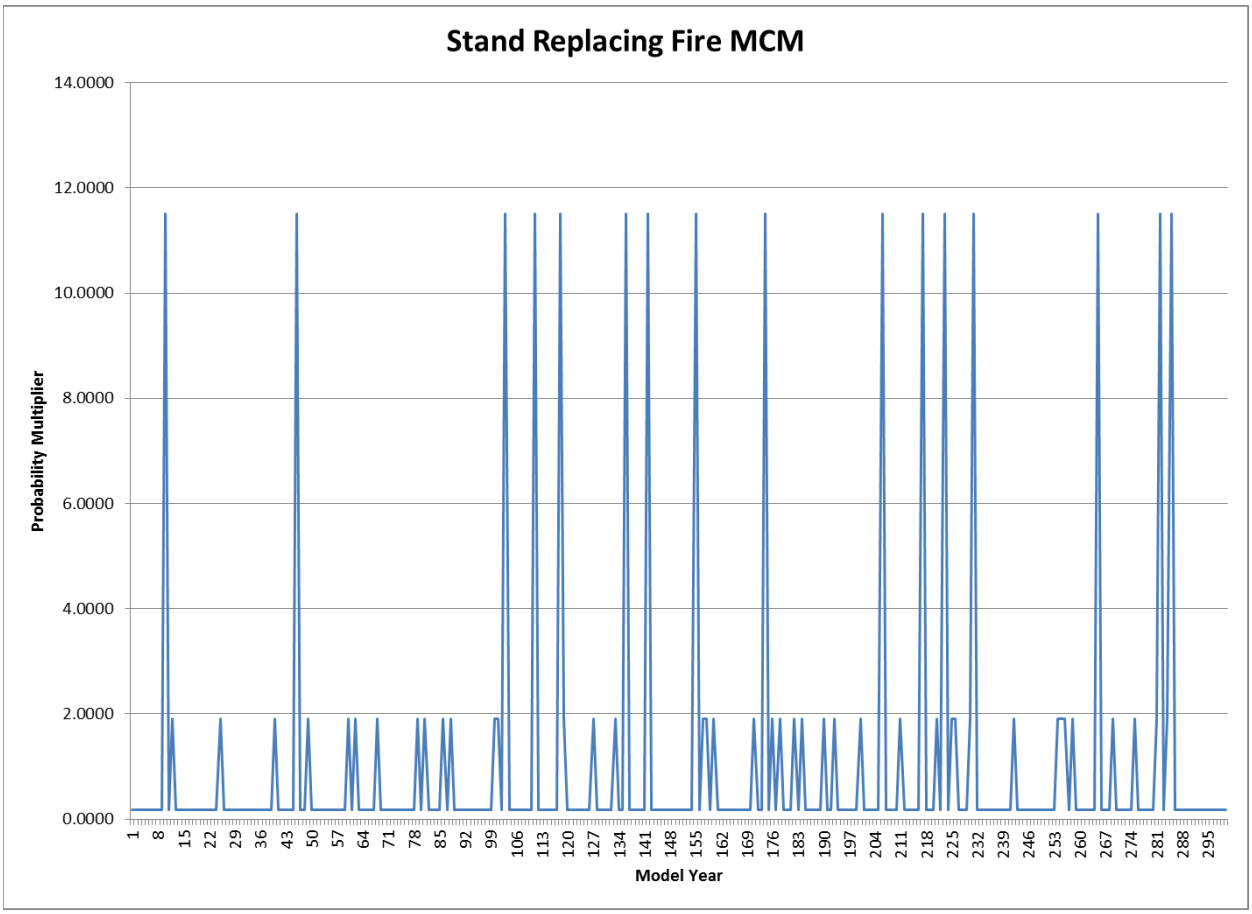


Figure G-2. Stochastic Variation Example: MCM values for Stand-Replacing Fire

Model Assumptions by Alternative

			Fire			Stand Improvement					Final Harvest			
	Model Zone	Vegetation Type	Prescribed Fire (Light)	Prescribed Fire (Mixed)	Prescribed Fire (Severe)	PCT	Thinning Small and Medium	Partial Harvest Poles	Partial Harvest Small	Partial Harvest Medium	Variable Density Thinning	Shelterwood w/ Reserves	Regeneration Small and Medium	Salvage
No Action	Harvest (Restoration)	Douglas-fir dry												
		Northern Rocky Mountain mixed conifer		X										
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine											X	
		Spruce / Subalpine fir												
	Timber Production Zone	Douglas-fir dry	X			X			X	X				
		Northern Rocky Mountain mixed conifer		X			X						X	
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine											X	
		Spruce / Subalpine fir												
	Wilderness / Other	Douglas-fir dry												
		Northern Rocky Mountain mixed conifer												
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine												
		Spruce / Subalpine fir												
Proposed Action, P	Restoration Zone	Douglas-fir dry	X			X		X		X	X			
		Northern Rocky Mountain mixed conifer		X							X			
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine			X							X		
		Spruce / Subalpine fir												
	Wilderness / Other	Douglas-fir dry	X											

			Fire			Stand Improvement					Final Harvest			
	Model Zone	Vegetation Type	Prescribed Fire (Light)	Prescribed Fire (Mixed)	Prescribed Fire (Severe)	PCT	Thinning Small and Medium	Partial Harvest Poles	Partial Harvest Small	Partial Harvest Medium	Variable Density Thinning	Shelterwood w/ Reserves	Regeneration Small and Medium	Salvage
		Northern Rocky Mountain mixed conifer												
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine			X									
		Spruce / Subalpine fir												
R	Reserve Zone	Douglas-fir dry	X			X		X	X	X				
		Northern Rocky Mountain mixed conifer		X										
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine			X									
		Spruce / Subalpine fir												
	Restoration Zone	Douglas-fir dry	X			X		X			X			
		Northern Rocky Mountain mixed conifer		X							X			
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine			X							X		
		Spruce / Subalpine fir												
	Timber Production Zone	Douglas-fir dry				X		X				X		X
		Northern Rocky Mountain mixed conifer		X							X			
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine			X							X		
		Spruce / Subalpine fir												
	Wilderness / Other	Douglas-fir dry	X											
		Northern Rocky Mountain mixed conifer												
		Western red cedar / Western hemlock												

			Fire			Stand Improvement					Final Harvest			
	Model Zone	Vegetation Type	Prescribed Fire (Light)	Prescribed Fire (Mixed)	Prescribed Fire (Severe)	PCT	Thinning Small and Medium	Partial Harvest Poles	Partial Harvest Small	Partial Harvest Medium	Variable Density Thinning	Shelterwood w/ Reserves	Regeneration Small and Medium	Salvage
		Subalpine fir / Lodgepole pine			X									
		Spruce / Subalpine fir												
B	Timber Production Zone	Douglas-fir dry				X		X				X		X
		Northern Rocky Mountain mixed conifer				X						X		
		Western red cedar / Western hemlock							X			X		
		Subalpine fir / Lodgepole pine										X		
		Spruce / Subalpine fir												
	Restoration Zone	Douglas-fir dry	X			X		X			X			
		Northern Rocky Mountain mixed conifer		X							X			
		Western red cedar / Western hemlock									X			
		Subalpine fir / Lodgepole pine										X		
		Spruce / Subalpine fir												
	Wilderness / Other	Douglas-fir dry	X											
		Northern Rocky Mountain mixed conifer												
		Western red cedar / Western hemlock												
		Subalpine fir / Lodgepole pine			X									
		Spruce / Subalpine fir												
O	Timber Production Zone	Douglas-fir dry				X		X				X		X
		Northern Rocky Mountain mixed conifer				X						X		
		Western red cedar / Western hemlock							X			X		
		Subalpine fir / Lodgepole pine										X		
		Spruce / Subalpine fir												

		Fire			Stand Improvement					Final Harvest			
Model Zone	**Vegetation Type**	**Prescribed Fire (Light)**	**Prescribed Fire (Mixed)**	**Prescribed Fire (Severe)**	**PCT**	**Thinning Small and Medium**	**Partial Harvest Poles**	**Partial Harvest Small**	**Partial Harvest Medium**	**Variable Density Thinning**	**Shelterwood w/ Reserves**	**Regeneration Small and Medium**	**Salvage**
Restoration Zone	Douglas-fir dry	X			X		X			X			
	Northern Rocky Mountain mixed conifer		X							X			
	Western red cedar / Western hemlock									X			
	Subalpine fir / Lodgepole pine										X		
	Spruce / Subalpine fir												
Wilderness / Other	Douglas-fir dry	X											
	Northern Rocky Mountain mixed conifer												
	Western red cedar / Western hemlock												
	Subalpine fir / Lodgepole pine			X									
	Spruce / Subalpine fir												

Alternative P and Proposed Action (PA)

Note: the following descriptions for modeled assumptions are combined for the P and PA alternatives. This is *not* intended to imply that the two are identical. Rather, the *types* of prescriptions applied in the models are identical for the P and PA alternatives. However, the *locations* of treatments vary between the two alternatives based on suited land designations.

Douglas-Fir Dry

Restoration Zone[6]

Variable Density Thinning (VDT) is prescribed in Small, Medium, and Large model states with closed canopies (>40 percent CC). Once desired conditions are attained (~60 years), VDT is applied in Giant states. Variable density thinning results in proportional transitions to destination states as follows:

- 75 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class with an increased model age of 5 years (to account for increased overall age of unharvested trees)
- 10 percent remains in the closed canopy state and does not transition to another state
- 15 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes and open canopied classes of all sizes.

- PCT results in transitions to or maintains states with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Northern Rocky Mountain Mixed Conifer

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small & Medium model states with closed canopies (>60 percent CC). Once desired conditions are attained (~60 years), VDT is applied in Large & Giant

[6] The "restoration zone" in the P and PA alternatives include both Suitable and Non-Suitable timber lands. To account for treatment and harvest volumes on suitable lands separately, the model is programmed to include a "timber production" zone. However, this timber production zone simply represents the suitable timber lands, and receives the exact same treatments and probabilities as the unsuitable restoration zone lands *that are outside the wilderness/other category.* As a result, raw model outputs for the P and PA alternatives show values for timber production zones, which is not to imply that there is a primary timber emphasis for these areas or that they would receive different treatments.

states. Variable density thinning results in proportional transitions to destination states that mimic the effects of mixed severity fire[7] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Prescribed Fire is applied to mimic natural mixed severity fire occurring in closed canopied (>60 percent CC) states with multiple stories that are small-giant in size. Prescribed mixed severity fire results in proportional transitions to destination states that mimic the effects of mixed severity fire[8] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone[9].

Spruce/Subalpine Fir

No activity is modeled in this vegetation type. Wildfire and insect/disease agents; all alternatives are the same for all model zones.

Subalpine Fir/Lodgepole pine

Restoration Zone

Shelterwood harvest [RegHar] is prescribed in small and medium sized states with closed canopies (>60 percent CC) beginning at 80 years of age. Resulting transitions are proportional as follows:

- 90 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover
- 10 percent transitions to an open canopied state of the same size class

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel

[7] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.
[8] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.
[9] This is not to imply that natural fire is excluded from this model zone, but Rx fire is not included for this model zone.

loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Western Red cedar/Western Hemlock

Reserve Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Restoration Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Timber Production Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Alternative R

Douglas-Fir Dry

Reserve Zone

Pre-Commercial Thinning (PCT) is prescribed in Seed/Sap (>40 percent CC) states maintaining the state class.

Partial Harvest of Poles (PH.Poles) is prescribed in Pole size states with closed canopies (>40 percent CC) with transitions to open canopied pole states (10-40 percent CC).

Partial Harvest of small closed canopied states (>40 percent CC) with transitions similar to those prescribed for partial harvest in the No Action alternative[10]:

[10] Because the referenced transition mechanics are identical here to the No Action harvest in this type, the model database uses the nomenclature (NAharv) to represent this transition.

- 30 percent transitions to an open canopied state of the same size class
- 20 percent transitions to an open canopied state of medium size class (to reflect retention of larger trees)
- 50 percent maintains closed canopy of the same state class (>40 percent)

Partial Harvest of medium closed canopied states (>40 percent CC) with transitions similar to those prescribed for partial harvest in the No Action alternative[11]:

- 50 percent transitions to an open canopied state of the same size class
- 50 percent maintains closed canopy of the same state class (>40 percent)

Prescribed Fire (non-lethal) is applied to open canopied model states of Seed/Sap, Pole, and Small size classes to maintain open canopies and prevent canopy infill (GROWCAN).

Restoration Zone

(The following are the same as the restoration zone assumptions for the PA and P alternatives)

Variable Density Thinning (VDT) is prescribed in Small and Medium model states with closed canopies (>40 percent CC). Variable density thinning results in proportional transitions to destination states as follows:

- 75 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class with an increased model age of 5 years (to account for increased overall age of unharvested trees)
- 10 percent remains in the closed canopy state and does not transition to another state
- 15 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Timber Production Zone

Shelterwood Harvest is prescribed at 120 years of age (modeled as regeneration harvest [RegHar]) medium size class only[12]. Retention of ~15 trees per acre is assumed to transition to the Grass/Forb state with <10 percent residual tree cover.

[11] Because the referenced transition mechanics are identical here to the No Action harvest in this type, the model database uses the nomenclature (NAharv) to represent this transition.
[12] Previous modeling included RegHar for the R alternative in the Timber Production Zone for states larger than medium. This was changed to reflect IDT wishes communicated on 1/30/2015.

Salvage is prescribed for states burned with stand replacing fire, transitioning from Grass/Forb with standing dead to Grass/Forb state

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

No Prescribed Fire is not applied in this model zone.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Northern Rocky Mountain Mixed Conifer

Reserve Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Fire is applied to mimic natural mixed severity fire occurring in closed canopied (>60 percent CC) states with multiple stories that are small-giant in size. Prescribed mixed severity fire results in proportional transitions to destination states that mimic the effects of mixed severity fire[13] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small & Medium model states with closed canopies (>60 percent CC). Variable density thinning results in proportional transitions to destination states that mimic the effects of mixed severity fire[14] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class

[13] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.

- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Prescribed Fire is applied to mimic natural mixed severity fire occurring in closed canopied (>60 percent CC) states with multiple stories that are small-giant in size. Prescribed mixed severity fire results in proportional transitions to destination states that mimic the effects of mixed severity fire as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Timber Production Zone

Variable Density Thinning (VDT) is prescribed in Small & Medium model states with closed canopies (>60 percent CC). Variable density thinning results in proportional transitions to destination states that mimic the effects of mixed severity fire as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Prescribed Fire is applied to mimic natural mixed severity fire occurring in closed canopied (>60 percent CC) states with multiple stories that are small-giant in size. Prescribed mixed severity fire results in proportional transitions to destination states that mimic the effects of mixed severity fire as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Spruce/Subalpine Fir

No activity is modeled in this vegetation type. Wildfire and insect/disease agents; all alternatives are the same for all model zones.

Subalpine Fir/Lodgepole pine

Reserve Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Restoration Zone

Shelterwood harvest is prescribed in small and medium sized states with closed canopies (>60 percent CC) beginning at 80 years of age. Resulting transitions are proportional as follows:

- 90 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover
- 10 percent transitions to an open canopied state of the same size class

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Timber Production Zone

Shelterwood harvest is prescribed in small and medium sized states with closed canopies (>60 percent CC) beginning at 80 years of age. Resulting transitions are proportional as follows:

- 90 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover
- 10 percent transitions to an open canopied state of the same size class

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Western Red cedar/Western Hemlock

Reserve Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Restoration Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Timber Production Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Alternative B

Douglas-Fir Dry

Timber Production Zone

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

Shelterwood Harvest is prescribed at ~120 years of age (modeled as regeneration harvest [RegHar]) medium size class only15). Retention of ~15 trees per acre is assumed to transition to the Grass/Forb state with <10 percent residual tree cover.

Salvage is prescribed for states burned with stand replacing fire, transitioning from Grass/Forb with standing dead to Grass/Forb state

No Prescribed Fire is not applied in this model zone

[15] This reflects models as re-run and delivered in February 2015. This change was made after the November 2014 model runs to deal with constraints in this alternative relative to "Eastside Screens".

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small and Medium[16] model states with closed canopies (>40 percent CC). Variable density thinning results in proportional transitions to destination states as follows:

- 75 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class with an increased model age of 5 years (to account for increased overall age of unharvested trees)
- 10 percent remains in the closed canopy state and does not transition to another state
- 15 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Northern Rocky Mountain Mixed Conifer

Timber Production Zone

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Regeneration Harvest with Reserves [RegHar] is prescribed at ~80 years (small size class) with transition to the Grass/Forb state (<10 percent tree CC).

No Prescribed Fire is not applied in this model zone

[16] VDT in the large state was removed to reflect *no mechanical* harvest in large or giant dominated stands to deal with constraints in this alternative relative to "Eastside Screens".

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small & Medium model states with closed canopies (>60 percent CC). Variable density thinning results in proportional transitions to destination states that mimic the effects of mixed severity fire[17] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Prescribed Fire is applied to mimic natural mixed severity fire occurring in closed canopied (>60 percent CC) states with multiple stories that are small-giant in size. Prescribed mixed severity fire results in proportional transitions to destination states that mimic the effects of mixed severity fire[18] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is applied in this model zone

Spruce/Subalpine Fir

No activity is modeled in this vegetation type. Wildfire and insect/disease agents; all alternatives are the same for all model zones.

Subalpine Fir/Lodgepole pine

Timber Production Zone

Regeneration Harvest with Reserves is prescribed at 80-120 years (small & medium size class) with transition to the Grass/Forb state (<10 percent tree CC).

No Prescribed Fire is applied in this model zone

[17] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.
[18] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.

Restoration Zone

Shelterwood harvest is prescribed in small and medium sized states with closed canopies (>60 percent CC) beginning at 80 years of age. Resulting transitions are proportional as follows:

- 90 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover
- 10 percent transitions to an open canopied state of the same size class

No Prescribed Fire is applied in this model zone

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Western Red Cedar/Western Hemlock

Timber Production Zone

Partial Harvest (PH.small) is prescribed in small states with mid-canopy closure (40-60 percent CC) maintaining the state class and preventing canopy infill (GROWCAN).

Regeneration Harvest with Reserves is prescribed at ~80 years (medium size class) with transition to the Grass/Forb state (<10 percent tree CC).

No Prescribed Fire is not applied in this model zone.

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small model states with closed canopies (>60 percent CC). Variable density thinning results in proportional transitions to destination states as follows:

- 72 percent transitions to a mid-canopied state
- 14 percent remains in a closed canopied state
- 14 percent reverts to a grass/forb state

No Prescribed Fire is not applied in this model zone

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Reserve Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone

Alternative O

Douglas-Fir Dry

Timber Production Zone

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

Shelterwood Harvest is prescribed at ~120 years of age (modeled as regeneration harvest [RegHar]) medium size class only[19]). Retention of ~15 trees per acre is assumed to transition to the Grass/Forb state with <10 percent residual tree cover.

Salvage is prescribed for states burned with stand replacing fire, transitioning from Grass/Forb with standing dead to Grass/Forb state

No Prescribed Fire is not applied in this model zone

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small and Medium[20] model states with closed canopies (>40 percent CC). Variable density thinning results in proportional transitions to destination states as follows:

- 75 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class with an increased model age of 5 years (to account for increased overall age of unharvested trees)
- 10 percent remains in the closed canopy state and does not transition to another state
- 15 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Partial Harvest of Poles (PH.Poles) is prescribed in pole states with canopy cover >40 percent.

- Partial Harvest of Poles results in transitions to pole stands with open canopies (10-39 percent canopy cover)

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

[19] This reflects models as re-run and delivered in February 2015. This change was made after the November 2014 model runs to deal with constraints in this alternative relative to "Eastside Screens".
[20] VDT in the large state was removed to reflect *no mechanical* harvest in large or giant dominated stands to deal with constraints in this alternative relative to "Eastside Screens".

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Northern Rocky Mountain Mixed Conifer

Timber Production Zone

Pre-commercial thinning (PCT) is prescribed for Seed/Sap (<5" DBH) classes with canopy cover > 40 percent.

- PCT results in transitions to Seed/Sap stands with open canopies (10-39 percent canopy cover)

Regeneration Harvest with Reserves is prescribed at ~80 years (small size class) with transition to the Grass/Forb state (<10 percent tree CC).

No Prescribed Fire is not applied in this model zone

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small & Medium model states with closed canopies (>60 percent CC). Variable density thinning results in proportional transitions to destination states that mimic the effects of mixed severity fire[21] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

Prescribed Fire is applied to mimic natural mixed severity fire occurring in closed canopied (>60 percent CC) states with multiple stories that are small-giant in size. Prescribed mixed severity fire results in proportional transitions to destination states that mimic the effects of mixed severity fire[22] as follows:

- 58 percent transitions to an open canopied (10-39 percent canopy cover) system of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) multi-storied state of the same size class
- 21 percent transitions to a mid-canopied (40-60 percent canopy cover) single-storied state of the same size class
- 6 percent remains in the closed canopied state and does not transition to another state

[21] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.
[22] Fire transition proportions were derived from equal probability cover-severity tables. Cover-Severity proportions are provided below.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is applied in this model zone

Spruce/Subalpine Fir

No activity is modeled in this vegetation type. Wildfire and insect/disease agents; all alternatives are the same for all model zones.

Subalpine Fir/Lodgepole pine

Timber Production Zone

Regeneration Harvest with Reserves is prescribed at 80-120 years (small & medium size class) with transition to the Grass/Forb state (<10 percent tree CC).

No Prescribed Fire is applied in this model zone

Restoration Zone

Shelterwood harvest is prescribed in small and medium sized states with closed canopies (>60 percent CC) beginning at 80 years of age. Resulting transitions are proportional as follows:

- 90 percent reverts to the Grass/Forb state with less than 10 percent total tree canopy cover
- 10 percent transitions to an open canopied state of the same size class

No Prescribed Fire is applied in this model zone

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

Prescribed Stand Replacing Fire is applied at 80-100 years of age in small size class and larger states with a transition to a Grass/Forb state with less than 10 percent canopy cover retaining residual fuel loading. It is also applied to Seed/Sap and Pole states (only those with residual fuels from previous burns) and transitions to a Grass/Forb state with less than 10 percent canopy cover from trees.

Western Red Cedar/Western Hemlock

Timber Production Zone

Partial Harvest (PH.small) is prescribed in small states with mid-canopy closure (40-60 percent CC) maintaining the state class and preventing canopy infill (GROWCAN).

Regeneration Harvest with Reserves is prescribed at ~80 years (medium size class) with transition to the Grass/Forb state (<10 percent tree CC).

No Prescribed Fire is not applied in this model zone.

Restoration Zone

Variable Density Thinning (VDT) is prescribed in Small model states with closed canopies (>60 percent CC). Variable density thinning results in proportional transitions to destination states as follows:

- 72 percent transitions to a mid-canopied state

- 14 percent remains in a closed canopied state
- 14 percent reverts to a grass/forb state

No Prescribed Fire is not applied in this model zone

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

No Action Alternative

Douglas-Fir Dry

Restoration Zone[23]

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Timber Production Zone

Pre-Commercial Thinning (PCT) is prescribed in Seed/Sap (>40 percent CC) states maintaining the state class.

Partial Harvest of small closed canopied states (>40 percent CC) with transitions similar to those prescribed for partial harvest in the No Action alternative:

- 30 percent transitions to an open canopied state of the same size class
- 20 percent transitions to an open canopied state of medium size class (to reflect retention of larger trees)
- 50 percent maintains closed canopy of the same state class (>40 percent)

Partial Harvest of medium closed canopied states (>40 percent CC) with transitions similar to those prescribed for partial harvest in the No Action alternative:

- 50 percent transitions to an open canopied state of the same size class
- 50 percent maintains closed canopy of the same state class (>40 percent)

Prescribed Fire is applied to open canopied states only (10-39 percent canopy cover). Rx fire maintains open canopied states and prevents canopy infill (GROWCAN) transitions to closed states.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

[23] While the term restoration zone is used here, this term is not used in the no action (1988 plan). This represents acres in the "harvest" category of the suitability analysis for the NA alternative. The terminology of Restoration Zone is used here only because it corresponds to the terminology used in the model database.

Northern Rocky Mountain Mixed Conifer

Restoration Zone[24]

No Mechanical prescriptions are modeled in this model zone.

Prescribed Fire is applied to small, medium, and large sized states with closed canopies. Resulting transitions are proportional as follows:

- 75 percent transitions to mid-closed canopy states with multiple-storied structure of the same size class.
- 25 percent transitions to mid-closed canopy states with single storied structure of the same size class.

Timber Production Zone

Thinning Harvest [NaHarv] is prescribed in small and medium sized, closed canopied systems with transitions to mid-canopied states of the same size class.

Regeneration Harvest [RegHar] is prescribed in small and medium sized, mid-canopied systems with transitions to the Grass/Forb state.

Prescribed Fire is applied to small, medium, and large sized states with closed canopies. Resulting transitions are proportional as follows:

- 75 percent transitions to mid-closed canopy states with multiple-storied structure of the same size class.
- 25 percent transitions to mid-closed canopy states with single storied structure of the same size class.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Spruce/Subalpine Fir

No activity is modeled in this vegetation type. Wildfire and insect/disease agents; all alternatives are the same for all model zones.

Subalpine Fir/Lodgepole pine

Restoration Zone[25]

Regeneration Harvest is prescribed in small and medium sized states with closed canopies with transitions to the Grass/Forb state.

[24] While the term restoration zone is used here, this term is not used in the no action (1988 plan). This represents acres in the "harvest" category of the suitability analysis for the NA alternative. The terminology of Restoration Zone is used here only because it corresponds to the terminology used in the model database.
[25] While the term restoration zone is used here, this term is not used in the no action (1988 plan). This represents acres in the "harvest" category of the suitability analysis for the NA alternative. The terminology of Restoration Zone is used here only because it corresponds to the terminology used in the model database.

No Prescribed Fire is not applied in this model zone.

Timber Production Zone

Regeneration Harvest is prescribed in small and medium sized states with closed canopies with transitions to the Grass/Forb state.

No Prescribed Fire is not applied in this model zone.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Western Red cedar/Western Hemlock

Restoration Zone[26]

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Timber Production Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Wild / Other Zone

No Mechanical prescriptions are modeled in this model zone.

No Prescribed Fire is not applied in this model zone.

Constrained Model Runs

To better represent expected landscape trajectories, a set of model runs were developed using constraints based on budget assumptions. The assumed budget is based on existing performance reflecting recent budgets on the Colville National Forest. While it is recognized that budgets can and do fluctuate, this is intended to give a good approximation of what could be accomplished under current budgets. Further, it is acknowledged that particularly in the realm of prescribed fire, budget is not the only constraint; rather it is on equal footing with regulatory limitations and forest capacity. In other words, it is possible that an increased budget alone might not lead to an increase in prescribed fire treatments if regulatory constraints and forest capacity remain unchanged. Budget assumptions are translated into the model as acres of treatment per year. Cost per acre of treatment, by treatment type is not factored into this analysis.

Budget Assumptions

The original budget constrained runs used the following acre targets by model type. These values are based on an assumed 5,000 acre of total treatment per year for each of the three categories (Timber Management, Prescribed Fire, and Mechanical Fuels Treatment. The specific acres applied generally

[26] While the term restoration zone is used here, this term is not used in the no action (1988 plan). This represents acres in the "harvest" category of the suitability analysis for the NA alternative. The terminology of Restoration Zone is used here only because it corresponds to the terminology used in the model database.

represent the approximate proportion of the landscape represented by each model type with some adjustments for resource objectives.

Budget constrained treatment acres for the each alternative are displayed in Table G-8. For the B, O, R, and NA alternatives, the modeled values for constrained runs reflect further constraints associated with Non-Declining Flow for timber management transitions. See the section of this document on Timber Scheduling for a full description of the Allowable Sale Quantity, Long Term Sustained Yield, and Non-Declining Flow calculation process.

Table G-8. Budget constrained treatment values

Model Type	Transition Group	Alt P/PA Target Area (Acres)	Alt B/O Target Area (Acres)	Alt NA Target Area (Acres)	Alt R Target Area (Acres)
	5kFuelsMech	0	0	0	0
Subalpine Fir/Lodgepole pine	5kRxFire	1,040	1,040	1,040	1,040
	5kTimber	950	475	1,900	475
	5kFuelsMech	1,925	963	481	0
Northern Rocky Mountain	5kRxFire	1,686	1,686	1,686	1,686
Mixed Conifer	5kTimber	1,550	775	388	0
	5kFuelsMech	3,074	1,229	615	615
Douglas-fir dry	5kRxFire	2,153	2,153	2,153	2,153
	5kTimber	2,500	1,000	500	500
Western red cedar/western	5kFuelsMech	0	309	0	0
hemlock	5kRxFire	0	0	0	0

For those alternatives where non-declining flow restricted number of acres treated for timber management below the 5,000 acre current values, transition targets were reduced/increased (within the 5,000 ac cap).

Acres and Probabilities

To approximate the above discussed budget constraints, model transitions were grouped into three categories: 1) Timber Management, 2) Prescribed Fire, and 3) Fuels Mechanical. Transition area targets where then assigned to each model type and transition group based on the values provided in Table G-8 above. The model then adjusts probabilities on the fly to approximate the entered amount of treatment by treatment group in a given year.

Unconstrained

The original model runs produced in November 2014 included unconstrained model runs. These model runs allowed for much higher amounts of treatment acres in an attempt to see what an unlimited management budget could achieve under the management prescriptions for each alternative. However, these model runs were not consistent with the concept of non-declining flow for timber volume, and did not meet Long Term Sustained Yield (LTSY) objectives. Therefore, they are not currently included in the modeling package. Instead, the LTSY and Allowable Sale Quantity (ASQ) runs now approximate the maximum harvest levels of an unlimited budget and associated resource impacts. See the Timber Scheduling section of this document for a description of the process used to model LTSY and ASQ.

Timber Scheduling

To meet NFMA and 1982 planning rule requirements, model runs were completed to calculate Long Term Sustained Yield, Allowable Sale Quantity, and planned sale quantities reported as Planned Wood Sale Quantity & Planned Timber Sale Quantity. Model runs were developed to be consistent with R6 Timber Calculations Guidance.[27]

Calculation of Long-Term Sustained Yield

The calculation of Long Term Sustained Yield (LTSY) assumes that the forest has already achieved desired conditions on the landscape, and computes the maximum volume that can be sustained in perpetuity while maintaining those desired conditions. To facilitate these runs, the model was first populated with initial conditions that reflect desired conditions. Because the stated desired conditions are based on the simplified Colville Structural Groupings,[28] and not model states, values for initial conditions by model states were derived using outputs from the Natural Range of Variation model runs.

With initial conditions set, model runs were conducted with successively higher (and lower) transition targets (acres) for mechanical treatments (timber and fuels). Models were run with existing intensity (1x) as well as ¼, ½, ¾, 2x, 2.5x, 3x, 4x, 8x, 16x, and 32x management intensities. The outputs from each run were then compared to determine the maximum intensity of management possible for each model type that both conformed to the principle of non-declining flow and best approximated the maintenance of desired conditions.

Table G-9 displays the selected LTSY intensity for each model type by alternative. As evidenced by this table, LTSY could not be calculated for alternatives B, O, R, or NA. This is because no intensity of management under the prescriptions developed for these alternatives led to a non-declining flow of timber or maintained desired conditions.

Table G-9. LTSY management intensities relative to current management intensity by alternative

Vegetation Type:	PA	P	B	O	R	NA
FDD	3x	3x	*	*	*	*
FCM	2.5x	2.5x	*	*	*	*
FCD	1x	1x	*	*	*	*
FRN	0x	0x	*	*	*	*

The selected LTSY management intensities resulted in the LTSY volumes presented in Table G-11.

Calculation of the Allowable Sale Quantity

The calculation of Allowable Sale Quantity (ASQ) follows the same general process as the LTSY calculation with the key distinction that model runs use initial conditions reflecting current conditions on the forest (see the Existing Conditions section of this document for a full description of how these values were calculated). ASQ model runs were conducted with successively higher (and lower) transition targets (acres) for mechanical treatments (timber and fuels). Models were run with existing intensity (1x) as well as ¼, ½, ¾, 2x, 2.5x, 3x, 4x, 8x, 16x, and 32x management intensities. The outputs from each run were

[27] The March 2011 document, "Determining Lands Suitable for Timber Production, and Long-Term Sustained Yield, Allowable Sale Quantity and Harvest Volume Estimates for Forest Plan Revisions Under Provisions of the 1982 Rule – Pacific Northwest Region" contains a full description of regional guidance on preforming timber calculations.
[28] See below for a crosswalk between Colville Structural Groupings and Model States.

then compared to determine the maximum intensity of management possible for each model type that conformed to the principle of non-declining flow while moving toward desired conditions.

Calculation of Non-Declining Flow

A true ASQ value could not be calculated for the B, O, R or NA alternative because no intensity of management under the prescriptions developed for these alternatives led to desired conditions. However, non-declining flow rates were developed for these alternatives and are reported in Table G-10.

Table G-10. Non-declining flow management intensities relative to current management intensity

Vegetation Type:	Alternative					
	PA	P	B	O	R	NA
Douglas-fir dry	2x	2x	1/2*	1/2*	<1/4*	<1/4*
Northern Rocky Mountain Mixed Conifer	2x	2x	1/2*	1/2*	0x	<1/4*
Subalpine Fir/Lodgepole pine	1x	1x	1/2*	1/2*	1/2x	2x
Western red cedar/western hemlock	0x	0x	1/2*	1/2*	0x	0x

Calculation of the Planned Sale Quantities

Planned sale quantities were developed using the budget constrained transition targets for mechanical treatments. Modeled volumes for both Planned Wood Sale Quantity (PWSQ) and Planned Timber Sale Quantity (PTSQ) are included in Table G-11.

Table G-11. Modeled timber volumes by alternative

Value		Alternative					
		PA	P	B	O	R	NA
LTSY	*MMBF*	97.5	97.4	*	*	*	*
	CCF	191,094	186,418	*	*	*	*
ASQ	*MMBF*	67.6	67	*	*	*	*
	CCF	139,416	138,041	*	*	*	*
NDF	*MMBF*	67.6	67	13.9	12.2	7.5	18.3
	CCF	139,416	138,041	29,132	26,525	15,576	38,397
PWSQ	*MMBF*	*62.07*	*61.77*	*37.37*	*37.47*	*14.26*	*40.57*
	CCF	*125,866*	*125,379*	*75,843*	*77,067*	*28,849*	*82,758*
PTSQ	*MMBF*	40.8	41.2	13.9	12.2	7.5	18.3
	CCF	83,992	84,902	29,132	26,525	15,576	38,397

* LTSY and ASQ cannot be calculated for these alternatives as the associated management prescriptions do not represent non-declining flow nor do they move toward or sustain the stated desired conditions.

Cover Severity Tables

Non-Lethal in OPEN

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	48	6.4
2 (open; 10-39.9% tree cover)	702	93.6
3 (closed; 40%+)	0	0.0

Stand-replacing in OPEN

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	780	1.0
2 (open; 10-39.9% tree cover)	0	0.0
3 (mid-closed; 40-60%)	0	0.0

Non-Lethal in mid-canopy

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	0	0.0
2 (open; 10-39.9% tree cover)	157	31.4
3 (closed; 40%+)	343	68.6

Stand-replacing in mid-canopy

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	418	80.4
2 (open; 10-29.9% tree cover)	102	19.6
3 (mid-closed; 40-60%)	0	0.0

Mixed Severity in OPEN

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	610	40.7
2 (open; 10-39.9% tree cover)	890	59.3
3 (closed; 40%+)	0	0.0

Stand-replacing in closed canopy (>60%)

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	544	51.0
2 (open; 10-29.9% tree cover)	522	49.0
3 (mid-closed; 40-60%)	0	0.0

Mixed Severity in mid-canopy

POST-FIRE CONDITION

CANOPY COVER CLASS	COUNT	%
1 (non-forested; <10% tree cover)	418	80.4
2 (open; 10-39.9% tree cover)	102	19.6
3 (mid-closed; 40-60%)	0	0.0

Colville Structure Groupings Crosswalk

Model Type	Model State Code	Size Class	Cover Class	Storiedness	Colville Grouping
Douglas-fir dry	DF:Yo	seed/sap <5"	Open 10-40%		A - Early
	DF:Po1	pole 5-10"	Open 10-40%	Single	
	DF:Ym	seed/sap <5"	Mid CC 40-60%		
	DF:Pm2	pole 5-10"	Mid CC 40-60%	Multi	
	DF:Pm1	pole 5-10"	Mid CC 40-60%	Single	
	DF:G1p	GFB (w/ snags)	<10%		
	DF:L1p	GFB (w/ snags)	<10%		
	DF:M1p	GFB (w/ snags)	<10%		
	DF:P1p	GFB (w/ snags)	<10%		
	DF:S1p	GFB (w/ snags)	<10%		
	DF:Yop	GFB (w/ snags)	<10%		
	DF:GF	GFB	<10%		
	DF:So1	small 10-15"	Open 10-40%	Single	B - Mid Open
	DF:Mo1	medium 15-20"	Open 10-40%	Single	
	DF:Sm2	small 10-15"	Mid CC 40-60%	Multi	C - Mid Closed
	DF:Sm1	small 10-15"	Mid CC 40-60%	Single	
	DF:Mm2	medium 15-20"	Mid CC 40-60%	Multi	
	DF:Mm1	medium 15-20"	Mid CC 40-60%	Single	
	DF:Lo1	large 20-30"	Open 10-40%	Single	D - Late Open
	DF:Go1	giant >30"	Open 10-40%	Single	
	DF:Lm2	large 20-30"	Mid CC 40-60%	Multi	E - Late Closed
	DF:Lm1	large 20-30"	Mid CC 40-60%	Single	
	DF:Gm2	giant >30"	Mid CC 40-60%	Multi	
	DF:Gm1	giant >30"	Mid CC 40-60%	Single	

Model Type	Model State Code	Size Class	Cover Class	Storiedness	Colville Grouping
Northern Rocky Mountain Mixed Conifer	DFmx:Yo	seed/sap <5"	Open 10-40%		A - Early
	DFmx:Pm1	pole 5-10"	Mid CC 40-60%	Single	
	DFmx:Pc2	pole 5-10"	Closed >60%	Multi	
	DFmx:S1p	GFB (w/ snags)	<10%		
	DFmx:M1p	GFB (w/ snags)	<10%		
	DFmx:L1p	GFB (w/ snags)	<10%		
	DFmx:G1p	GFB (w/ snags)	<10%		
	DFmx:So1	small 10-15”	Open 10-40%	Single	B - Mid Open
	DFmx:Mo1	medium 15-20"	Open 10-40%	Single	
	DFmx:Sm2	small 10-15”	Mid CC 40-60%	Multi	C - Mid Closed
	DFmx:Sm1	small 10-15”	Mid CC 40-60%	Single	
	DFmx:Mm2	medium 15-20"	Mid CC 40-60%	Multi	
	DFmx:Mm1	medium 15-20"	Mid CC 40-60%	Single	
	DFmx:Sc2	small 10-15”	Closed >60%	Multi	
	DFmx:Mc2	medium 15-20"	Closed >60%	Multi	
	DFmx:Lo1	large 20-30"	Open 10-40%	Single	D - Late Open
	DFmx:Go1	giant >30"	Open 10-40%	Single	
	DFmx:Lm2	large 20-30"	Mid CC 40-60%	Multi	E - Late Closed
	DFmx:Lm1	large 20-30"	Mid CC 40-60%	Single	
	DFmx:Gm2	giant >30"	Mid CC 40-60%	Multi	
	DFmx:Gm1	giant >30"	Mid CC 40-60%	Single	
	DFmx:Lc2	large 20-30"	Closed >60%	Multi	
	DFmx:Gc2	giant >30"	Closed >60%	Multi	

Model Type	Model State Code	Size Class	Cover Class	Storiedness	Colville Grouping
Spruce/ Subalpine fir	DFmx:GFp	seed/sap <5"	Open 10-40%		A - Early
	DFmx:Ym	seed/sap <5"	Mid CC 40-60%		
	DFmx:Pc1	pole 5-10"	Closed >60%		
	DFmx:Yop	GFB (w/ snags)	<10%		
	DFmx:P1p	GFB (w/ snags)	<10%		
	DFmx:S1p	GFB (w/ snags)	<10%		
	DFmx:M1p	GFB (w/ snags)	<10%		
	DFmx:L1p	GFB (w/ snags)	<10%		
	DFmx:Sc1	small 10-15”	Closed >60%		C - Mid Closed
	DFmx:Mc1	medium 15-20"	Closed >60%		
	DFmx:Lc1	large 20-30"	Closed >60%		E - Late Closed
Subalpine Fir/ Lodgepole pine	LPWL:Yo	seed/sap <5"	Open 10-40%		A - Early
	LPWL:GFp	seed/sap <5"	Open 10-40%		
	LPWL:Ym	seed/sap <5"	Mid CC 40-60%		
	LPWL:Pc1	pole 5-10"	Closed >60%		
	LPWL:Yop	GFB (w/ snags)	<10%		
	LPWL:P1p	GFB (w/ snags)	<10%		
	LPWL:S1p	GFB (w/ snags)	<10%		
	LPWL:M1p	GFB (w/ snags)	<10%		
	LPWL:L1p	GFB (w/ snags)	<10%		
	LPWL:Sm1	small 10-15”	Mid CC 40-60%		C - Mid Closed
	LPWL:Sc1	small 10-15”	Closed >60%		
	LPWL:Mc1	medium 15-20"	Closed >60%		
	LPWL:Lc1	large 20-30"	Closed >60%		E - Late Closed

Model Type	Model State Code	Size Class	Cover Class	Storiedness	Colville Grouping
Western red cedar/western hemlock	DFRC:Yo	seed/sap <5"	Open 10-40%		A - Early
	DFRC:LcP	seed/sap <5"	Open 10-40%		
	DFRC:GcP	seed/sap <5"	Open 10-40%		
	DFRC:Pm1	pole 5-10"	Mid CC 40-60%	Single	
	DFRC:G1p	GFB (w/ snags)	<10%		
	DFRC:L1p	GFB (w/ snags)	<10%		
	DFRC:GF	GFB	<10%		
Western red cedar/western Hemlock (cont.)	DFRC:Sm2	small 10-15”	Mid CC 40-60%	Multi	C - Mid Closed
	DFRC:Mm2	medium 15-20"	Mid CC 40-60%	Multi	
	DFRC:Sc2	small 10-15”	Closed >60%	Multi	
	DFRC:Mc2	medium 15-20"	Closed >60%	Multi	
	DFRC:Lm2	large 20-30"	Mid CC 40-60%	Multi	E - Late Closed
	DFRC:Gm2	giant >30"	Mid CC 40-60%	Multi	
	DFRC:Lc2	large 20-30"	Closed >60%	Multi	
	DFRC:Gc2	giant >30"	Closed >60%	Multi	

Part III – Timber Suitability Calculations

Table G-12. Modeling categories and management areas

Modeling Category	Management Area	Alternative(s)
Wilderness/Other	Wilderness	All
	Research Natural Areas	All
	PARW	PA, P, R, B, O
	Non-forest	All
	Irreversible Resource Damage	All
	Reforestation Difficulties	All
	Soils: Timber Harvest unsuitable	All
Harvest	Backcountry Motorized	PA, P, R, B, O
	Backcountry Non-motorized	PA, P, R, B, O
	Caribou Habitat	No Action
	Downhill skiing	No Action
	Old growth management area	No Action
	Potential Wilderness Area	PA, P, R, B, O
	Recreation	No Action
	Recreation/Wildlife	No Action
	Old Forest Emphasis	R
	Restoration Area	B, O
	Scenic Byways	PA, P, R, B, O
	Scenic/winter range	No Action
	Semi-Primitive Non-motorized	No Action
	Semi-Primitive Motorized	No Action
	Winter range	No Action
Production	Focused and General Restoration	PA, P, R
	Responsible Management	O
	Active Management	B
	Wood/forage	No Action
	Scenic/Timber	No Action

The soil survey geographic data (SSURGO) dataset was used to derive acres for non-forest, irreversible resource damage, reforestation difficulties, and unsuitable soils for harvest.

- Lithic soils (depth <50 cm) and hydric soils (approximately 75 percent of map unit) determined areas unsuitable due to reforestation difficulties.
- Slopes greater than 80 percent determined unsuitable due to irreversible resource damage.
- Mollisols (grassland soils) determined unsuitable, and correspond to non-forest areas.

The acres for each category are:

Unsuitable Factor	Acres
Lithic Soils	184,659
Hydric Soils	5,236
Slopes > 80%	0
Mollisol Soils	64,416
Total	254,311

Note that lands may be unsuitable due to more than one factor and thus, total unsuitable lands shown in Table G-13 will not be the sum of the above table.

Table G-13. Suitability determination by alternative (acres)

Lead #	Description	No Action	Proposed Action	B	O	P	R
1	Nonforest Land	64,416	64,416	64,416	64,416	64,416	64,416
2	Forest land	1,037,943	1,037,943	1,037,943	1,037,943	1,037,943	1,037,943
3	Lands Withdrawn	36,157	36,157	36,157	36,157	36,157	36,157
4	Lands not capable of producing industrial wood	12,979	12,979	12,979	12,979	12,979	12,979
5A	Lands physically unsuited (irreversible resource damage)	0	0	0	0	0	0
5B	Lands physically unsuited (restocking difficulty)	130,057	130,057	130,057	130,057	130,057	130,057
6	Forest land inadequate information	0	0	0	0	0	0
7	***Tentatively Suitable Timber Lands***	858,750	858,750	858,750	858,750	858,750	858,750
All items above are common to all alternatives.							
All items below are specific to each alternative.							
8A	Minimum management requirements	0	0	0	0	0	0
8B	Multiple Use Objectives	323,025	205,508	474,265	511,215	202,122	729,330
8C	Cost efficiency	0	0	0	0	0	0
9	Unsuitable Forest Land (lines 3+4+5+6+8)	502,218	384,701	653,458	690,408	381,315	908,523
10	***Total Suitable Forest Land (line 2 - line 9)***	***535,725***	***653,242***	***384,485***	***347,535***	***656,628***	***129,420***

Part IV - Harvest Volumes, LTSY, ASQ, PWSQ, and PTSQ Calculations

The 1982 planning rule requires calculation of the long term sustained yield and allowable sale quantity. Table G-14 (MMBF) and Table G-15 (CCF) show these calculated values for each alternative.

The long term sustained yield (LTSY) is the highest uniform wood yield that may be sustained given multiple-use objectives on lands managed for timber production. LTSY assumes that all suitable land for timber production is within the desired condition. Note that for the NA, R, B, and O alternatives, the LTSY could not be calculated and the number shown in Table G-14 below is the highest possible yield while maintaining a non-declining flow. See the section below titled "Calculation of LTSY and ASQ for the NA, R, B, and O Alternatives" for complete details.

The allowable sale quantity (ASQ) reflects the maximum theoretical annual timber yield for the life of the plan, which in this case was modeled as 20 years. It takes into account harvest from lands that are not yet within the desired condition, and therefore is slightly lower than the LTSY. Note that for the NA, R, B, and O alternatives, the ASQ could not be calculated and the number shown in Table G-14 below is the highest possible yield while maintaining a non-declining flow. See the section below titled "Calculation of LTSY and ASQ for the NA, R, B, and O Alternatives" for complete details.

The projected wood sale quantity (PWSQ) is the estimated quantity of timber and all other wood products that is expected to be sold from the plan area for the plan period. The PWSQ consists of the projected timber sale quantity as well as other woody material such as fuelwood, firewood, or biomass that is also expected to be available for sale. The PWSQ includes volume from timber harvest for any purpose based on expected harvests that would be consistent with the plan components. The PWSQ is also based on the planning unit's fiscal capability and organizational capacity. PWSQ is not a target nor a limitation on harvest, and is not an objective unless the responsible official chooses to make it an objective in the plan. PWSQ for the No Action alternative was derived by averaging the total wood sale program quantity from 2010-2014.

The projected timber sale quantity (PTSQ) is the estimated quantity of timber meeting applicable utilization standards that is expected to be sold during the plan period. As a subset of the projected wood sale quantity (PWSQ), the projected timber sale quantity includes volume from timber harvest for any purpose from all lands in the plan area based on expected harvests that would be consistent with the plan components. The PTSQ is also based on the planning unit's fiscal capability and organizational capacity. PTSQ is not a target nor a limitation on harvest, and is not an objective unless the responsible official chooses to make it an objective in the plan.

Table G-16 shows predicted PWSQ product type volume outputs. Table G-17 shows total volume sold from 1988-2014 for reference purposes.

Table G-14. Modeled average annual volume outputs by alternative for LTSY, ASQ, PWSQ, and PTSQ (million board feet (MMBF))

		NA*	PA	P	R*	B*	O*
	LTSY	18.3	97.5	97.4	7.5	13.9	12.2
	ASQ	18.3	67.6	67	7.5	13.9	12.2
Decade 1	PWSQ	40.6	62.1	61.8	14.3	37.4	37.5
	PTSQ	26.9	48.4	48.1	9.3	23.7	23.8
Decade 2	PWSQ	41.5	67.3	66.1	14.7	37.8	38.3
	PTSQ	27.8	53.6	52.4	9.7	24.1	24.6

* The ASQ and LTSY for the NA, R, B, and O alternatives represent the highest possible yield while still maintaining a non-declining flow. See the section below titled “Calculation of LTSY and ASQ for the NA, R, B, and O Alternatives” for details.

Table G-15. Modeled average annual volume outputs by alternative for LTSY, ASQ, PWSQ, and PTSQ (hundred cubic feet (CCF))

		NA*	PA	P	R*	B*	O*
	LTSY	38,397	191,094	186,418	15,576	29,132	26,525
	ASQ	38,397	139,416	138,041	15,576	29,132	26,525
Decade 1	PWSQ	82,758	125,866	125,379	28,849	7,5843	77,067
	PTSQ	56,466	99,574	99,087	19,310	49,551	50,775
Decade 2	PWSQ	84,751	136,013	133,519	29,600	76,552	78,634
	PTSQ	58,459	109,721	107,227	20,061	50,260	52,342

* The ASQ and LTSY for the NA, R, B, and O alternatives represent the highest possible yield while still maintaining a non-declining flow. See the section below titled “Calculation of LTSY and ASQ for the NA, R, B, and O Alternatives” for details.

Table G-16. Projected wood sale quantity (PWSQ) product volumes

Product Type	Measure	NA	PA	P	R	B	O
Harvest-Softwood Sawtimber	CCF	56,466	99,574	99,087	19,310	49,551	50,775
Harvest-Softwood Pulp	CCF	0	0	0	0	0	0
Harvest-Hardwood Sawtimber	CCF	0	0	0	0	0	0
Harvest-Hardwood Pulp	CCF	0	0	0	0	0	0
Poles	CCF	13	13	13	0	13	13
Posts	CCF	0	0	0	0	0	0
Fuelwood	CCF	8,914	8,914	8,914	3,231	8,914	8,914
Non-Saw	CCF	3,410	3,410	3,410	1,231	3,410	3,410
Grn Bio Cv	CCF	13,955	13,955	13,955	5,077	13,955	13,955
Total	CCF	82,758	125,866	125,379	28,849	75,843	77,067
	MMBF	40.57	62.07	61.77	14.26	37.37	37.47

Table G-17. Volume sold 1988-2014

Fiscal Year	MMBF	
1988	123.6	
1989	134	
1990	109.3	
1991	79.6	
1992	22	
1993	29.2	(eastside screens begins)
1994	52.5	
1995	18.2	
1996	48.7	
1997	36.2	
1998	28.1	
1999	35.4	
2000	51.1	
2001	23.9	
2002	22.4	
2003	30.6	
2004	27.6	
2005	18	
2006	37.4	
2007	34.6	
2008	60.9	
2009	43.6	
2010	48.2	
2011	40	
2012	35.9	
2013	46.6	
2014	46.8	
2015	57.7*	(estimated)

Calculation of LTSY and ASQ for the NA, R, B, and O Alternatives

Introduction:

To fulfill the requirements of the National Forest Management Act (NFMA) and 1982 Planning Rule, alternatives were analyzed to calculate key metrics of timber output. Specifically, analysis was conducted to determine Long Term Sustained Yield (LTSY) and Allowable Sale Quantity (ASQ) for each alternative. Through this analysis, it was determined that LTSY and ASQ cannot be calculated for the R, B, O, and NA alternatives as currently interpreted. This document provides a summary of the analysis performed, the assumptions used, and conclusions drawn for these alternatives, and describes the calculation of non-declining flow associated with these alternatives. While this document is specifically intended to describe the Forest Service developed R alternative, the same principles apply to the B, O, and NA alternatives.

Background:

To better understand the calculation of LTSY and ASQ, it is important to first understand the constraints and assumptions for these calculations. The considerations and assumptions in this analysis conform to the Pacific Northwest regional guidance on determining LTSY and ASQ provided via transmittal letter to the Colville National Forest on April 14th, 2011.

1. Timber Suitable Lands only
    a. The calculation of timber volumes that represent the LTSY and ASQ relate to designated as suitable for timber production. Harvest can and likely will occur on lands not designated suitable for timber production where other resource objectives are the driving factors in determining vegetation management; however, the referenced volume estimates are intended to reflect scheduled harvest for timber production. These scheduled harvests will be in areas designated as suitable for timber production. Because LTSY and ASQ relate only to lands suitable for timber production, this document will focus only on the model zone "TimberProd" (Active Timber Production modeling zone).
2. Consistency with Multiple Use Objectives and associated Plan Components
    a. Timber volumes are calculated based on consistency with multiple use objectives and associated plan components. For the purposes of this planning effort, all alternatives share the same forest wide desired conditions for vegetation structural stages. Specifically, this desired condition is to manage vegetative systems at or toward their natural range of variation. In other words, management is intended to create and/or maintain representative proportions of the landscape in key structural stages (Early, Mid-Open, Mid-Closed, Late-Open, & Late-Closed), commensurate with proportions that would have existed under natural disturbance regimes prior to Euro-American settlement. Because late and old forest structure is a key issue developed in this planning effort, special emphasis is placed on describing its condition and trends in the plan set of documents. For the purposes of this analysis, timber calculations are made using the assumption that harvest volumes at the LTSY level should create or maintain the desired conditions on the landscape.
3. Principle of Non-Declining Flow
    a. The National Forest Management Act (NFMA 1976) requires that the Department limits "sale of timber from each national forest to a quantity equal to or less than a quantity which can be removed from such forest annually in perpetuity on a sustained-yield basis" unless certain key criteria are met in determining and developing a departure. The principle of non-declining even flow is intended to provide a steady and predictable supply of timber products from NFS lands that does not decline over time. It is further intended to ensure consistent

long-term flow of timber products. Furthermore, non-declining flow is considered on a decadal basis; a given year may exceed the annual volume, provided that the decadal average of any given year is equal to or less than the following decade. Figure G-3 below shows an example of non-declining flow (NDF) for the O alternative.

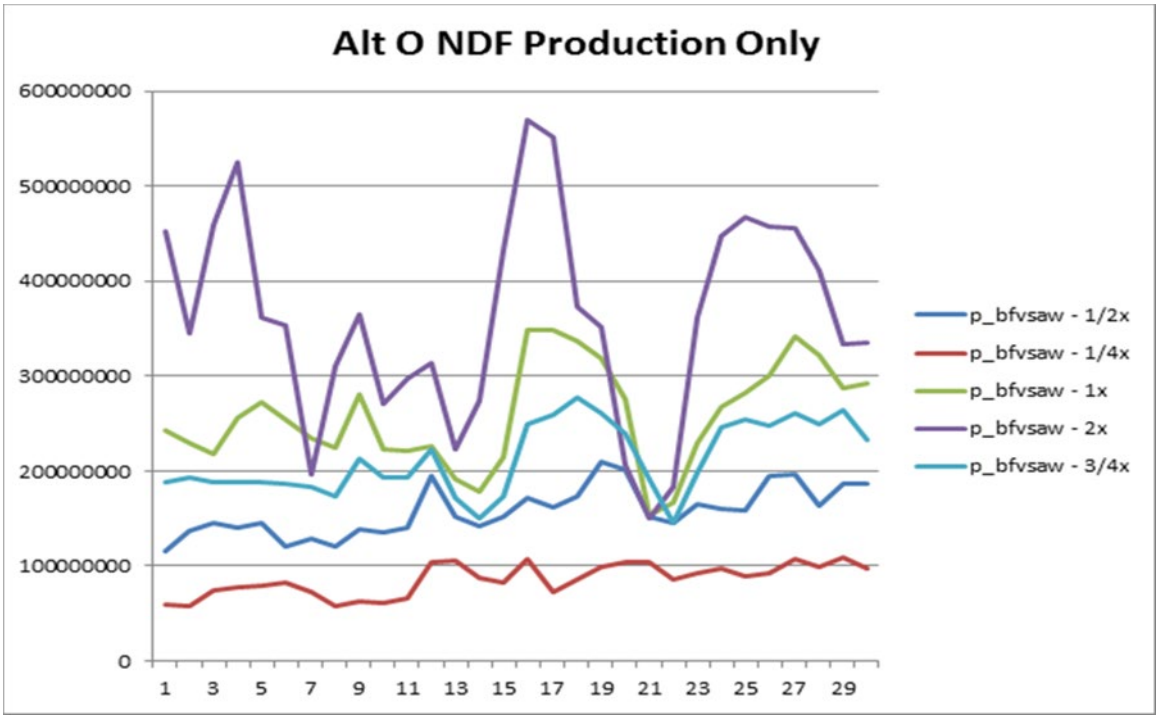


Figure G-3. Non-declining flow for the O alternative. The 1/2x management intensity is where non-declining flow is achieved.

4. Eastside Screens

    a. The R, B, O, and NA alternatives all continue Eastside Screens direction. Specifically, the Colville interpretation of Screens language that essentially prohibits harvest in stands dominated by trees 21" and larger (diameter at breast height DBH). While provisions exist within screen direction for limited harvest of large trees when specific criteria are met, the Colville Planning Team interprets these specific criteria to be sufficiently restrictive to prevent harvest of large tree dominated stands in any meaningful quantity. To comply with this interpretation of the alternatives continuing Eastside Screens provisions, calculations of LTSY and ASQ assumed that harvest would generally *not* occur in stands dominated by large trees.

Process:

A synopsis of harvest methods for the R alternative in the timber production zone is provided below:

Harvest scheduled for the R alternative:

In the Dry Douglas-fir vegetation type, shelterwood harvests are scheduled in the timber production zone targeting the medium size class of trees.

In the Northern Rocky Mountain Mixed Conifer vegetation type, a variable density thinning harvest is scheduled targeting small and medium size class stands.

In the Subalpine Fir / Lodgepole pine vegetation type, shelterwood harvests are scheduled in the timber production zone targeting small and medium size class stands.

Discussion:

In interpreting the results of the modeling for ASQ, it is important to keep in mind the existing conditions on the ground currently, especially as they relate to the application of Eastside Screens. Current conditions indicate that a majority of lands suitable for timber production are in the small to medium size class, as illustrated in . While this represents a sizable potential harvest base, scheduling excess harvest in the short term to target this size class would lead to a decrease in available volume in the future while waiting for regrowth from these shelterwoods. Conversely, harvesting more conservative acreage leads to natural growth of some of the currently medium sized stands into the large size class. Once a stand matures into the large size class, it becomes unavailable for timber harvest due to the size cap interpretation from Eastside Screens. In this way, it is difficult to provide for both a sustained harvest level *and* prevent maturation of stands into a size-class that is not harvestable under the specified constraints. As a result, non-declining flow volume is limited to that which can be sustained in the long term.

Calculations for non-declining even flow for each alternative have been developed. These values represent the long term volume that can be produced consistently over time without a decline in future outputs, while adhering to the constraints of Eastside Screens as interpreted for each alternative.

The calculation of LTSY assumes that the forest is already within its desired conditions, and looks at how much volume can be produced in perpetuity while maintaining those desired conditions.

The 1982 Planning Rule does contain provisions for developing a departure schedule which departs from the base sale schedule by harvesting excess volume in the short term to better meet multiple use objectives. However, a departure schedule can only be used when doing so would “lead to better attaining the overall objectives of multiple-use management.”

Part V – Mode Output Trajectory Graphs

The graphs below show model outputs for 100 years for each alternative by vegetation type and structure class. The horizontal (x) axis of the graph shows years and the vertical (y) axis shows percent. The solid horizontal lines on each graph represent the historical range of variability, with the dotted lines showing total percentage of the vegetation type within the given structure class. When the dotted line is between the two solid lines, the structure class is within HRV. These graphs can be used to see how structure changes over time and how quickly a certain structure type achieves the desired condition of HRV.

No Action Alternative

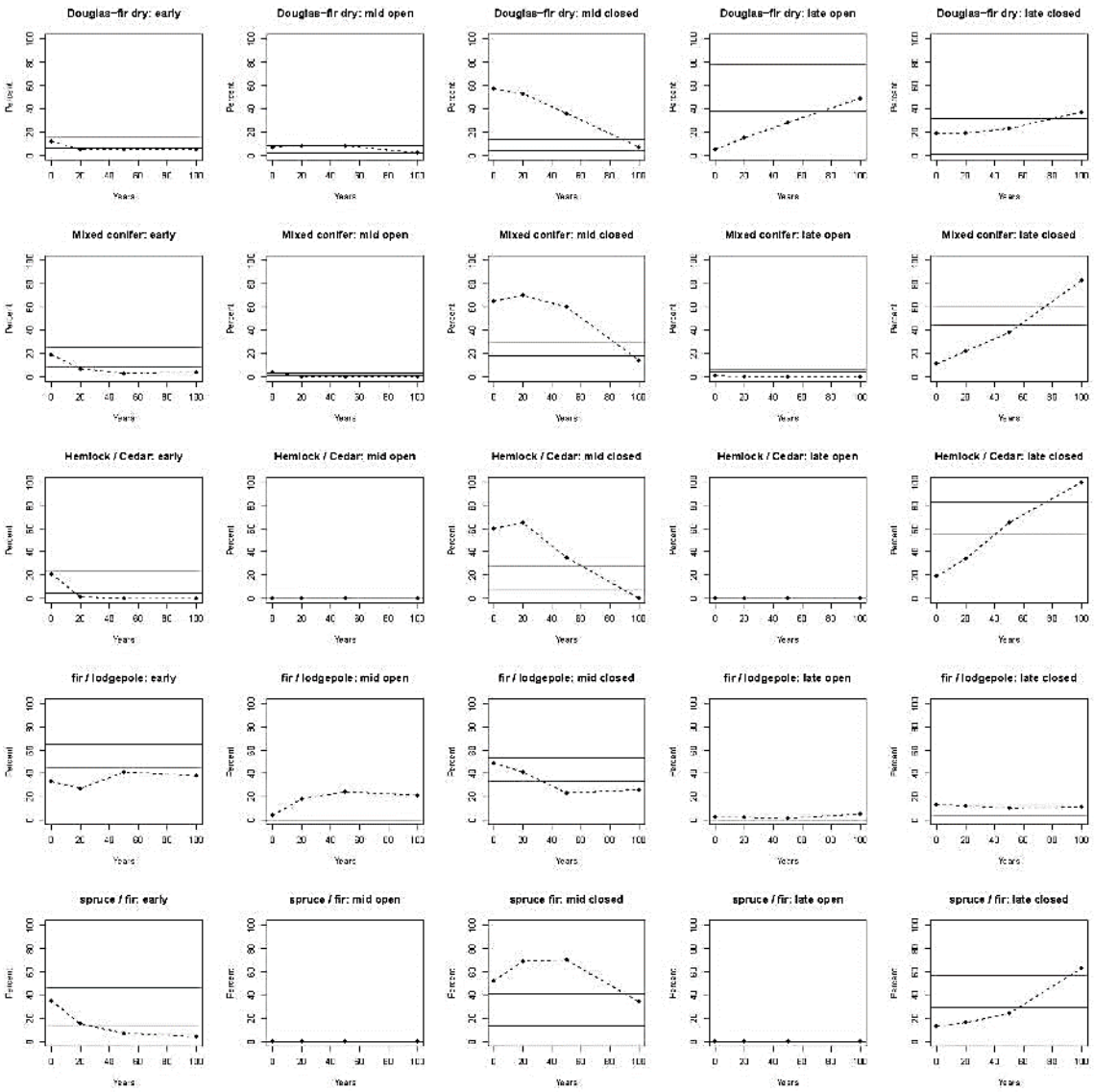


Figure G-4. No action alternative

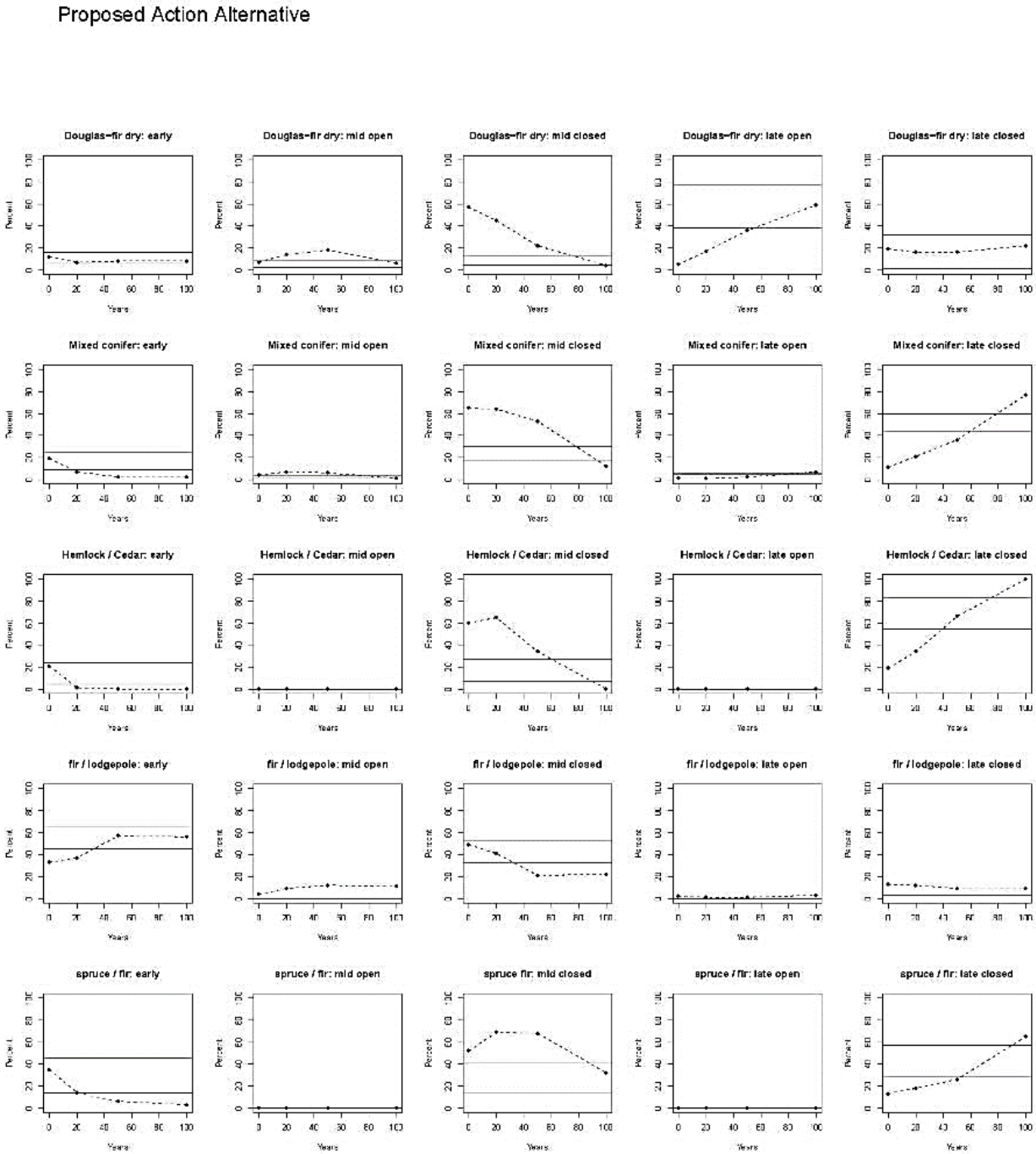


Figure G-5. Proposed action alternative

P Alternative

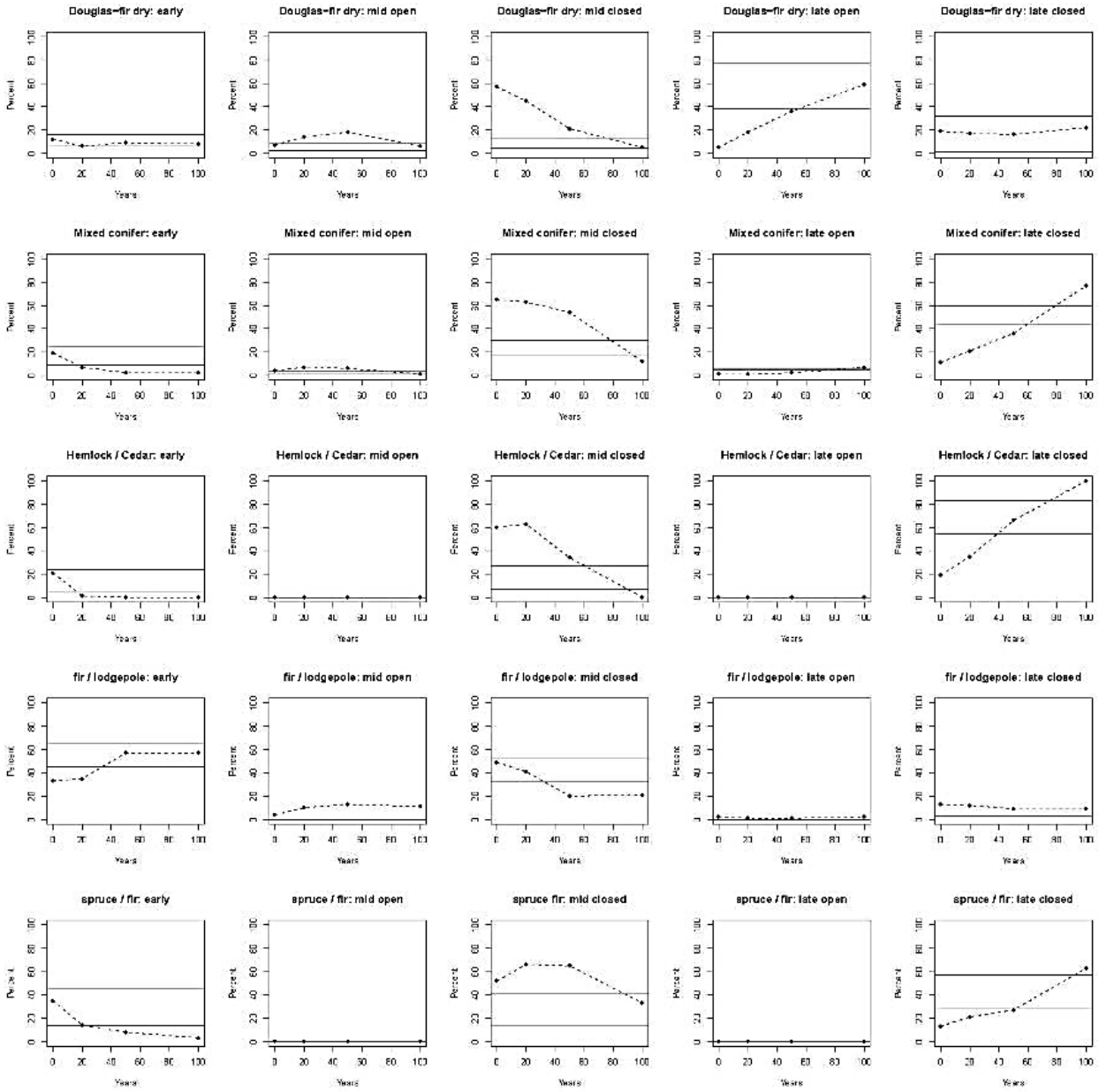


Figure G-6. Alternative P

R Alternative

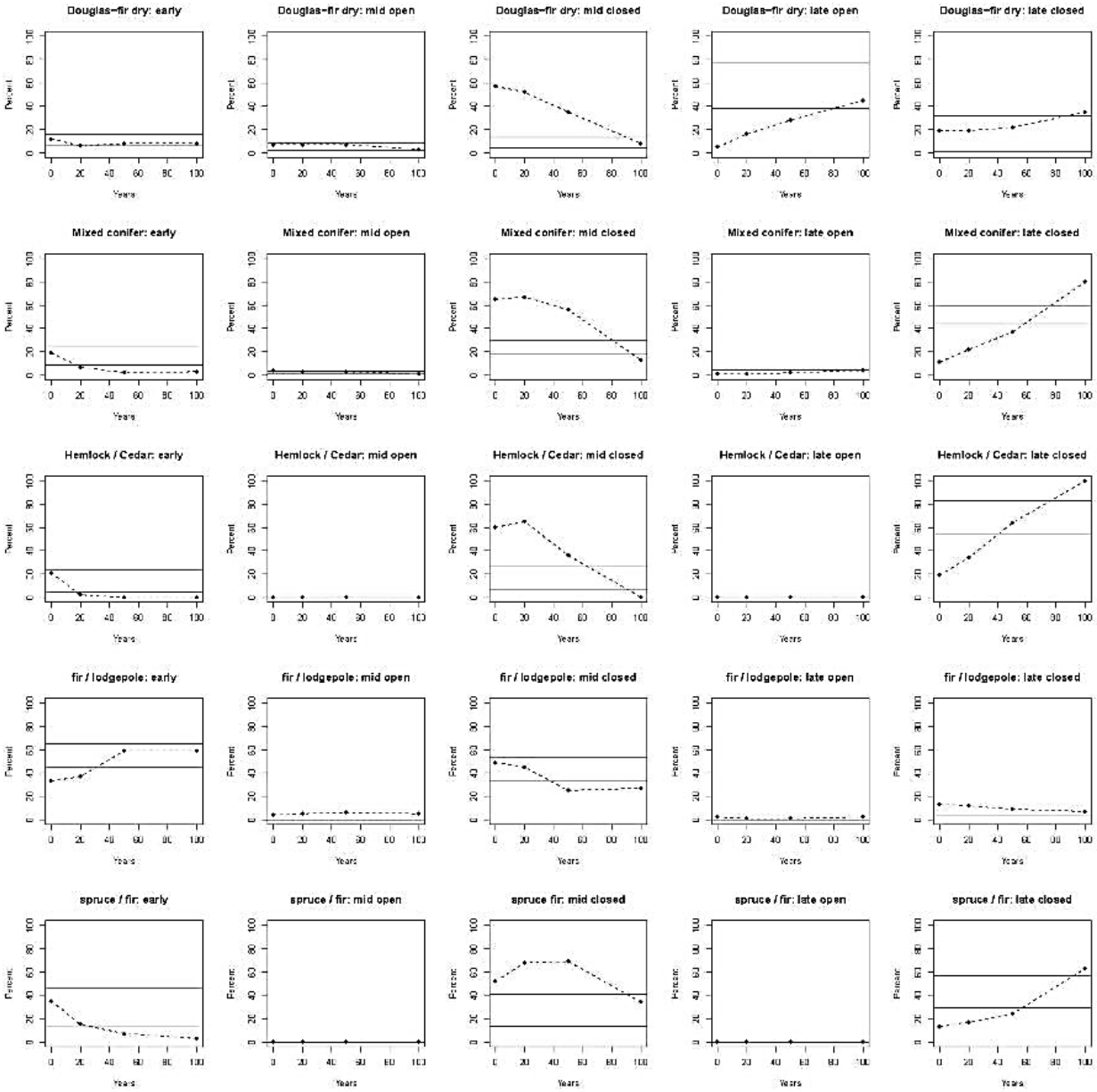


Figure G-7. Alternative R

B Alternative

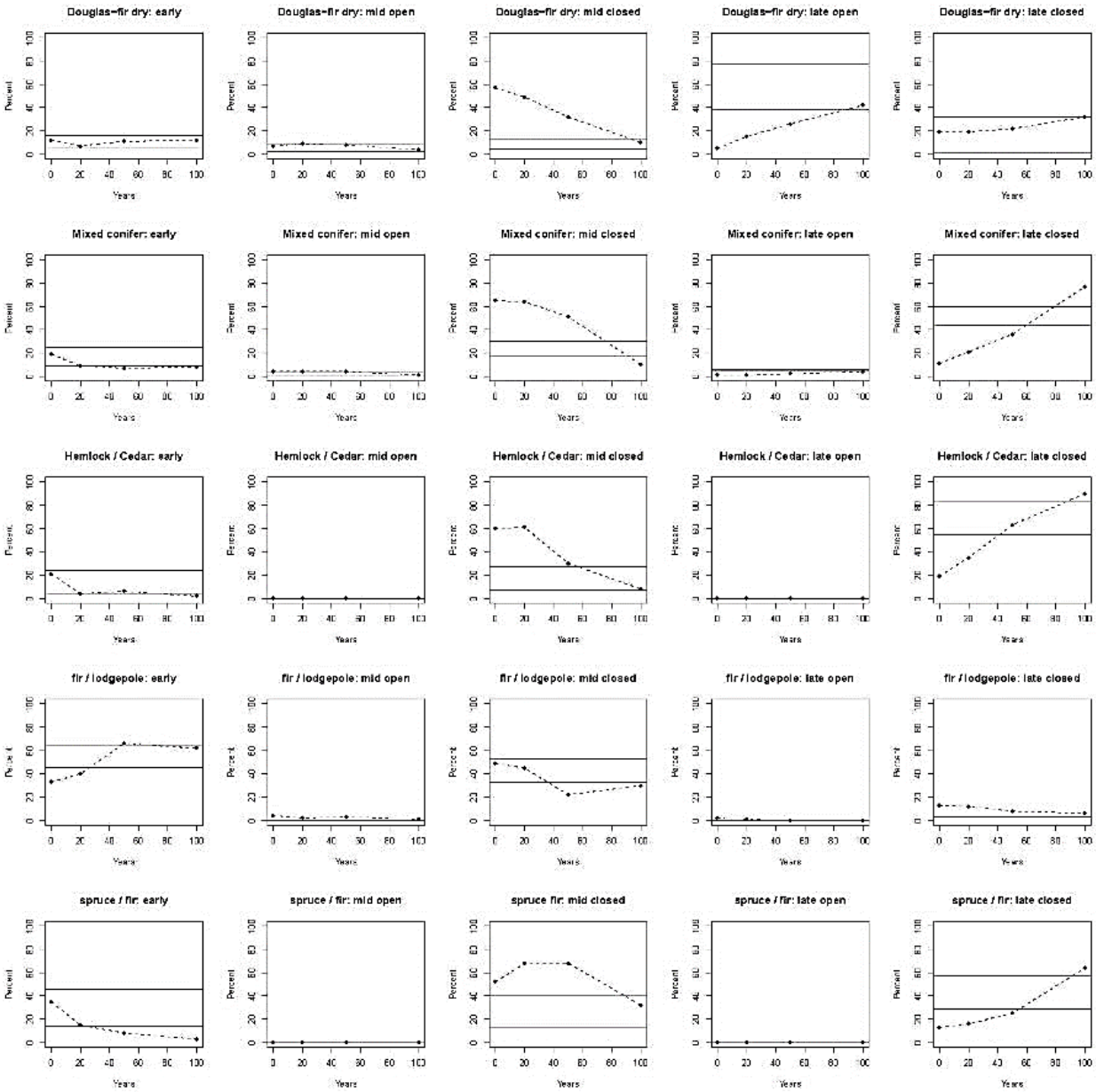


Figure G-8. Alternative B

O Alternative

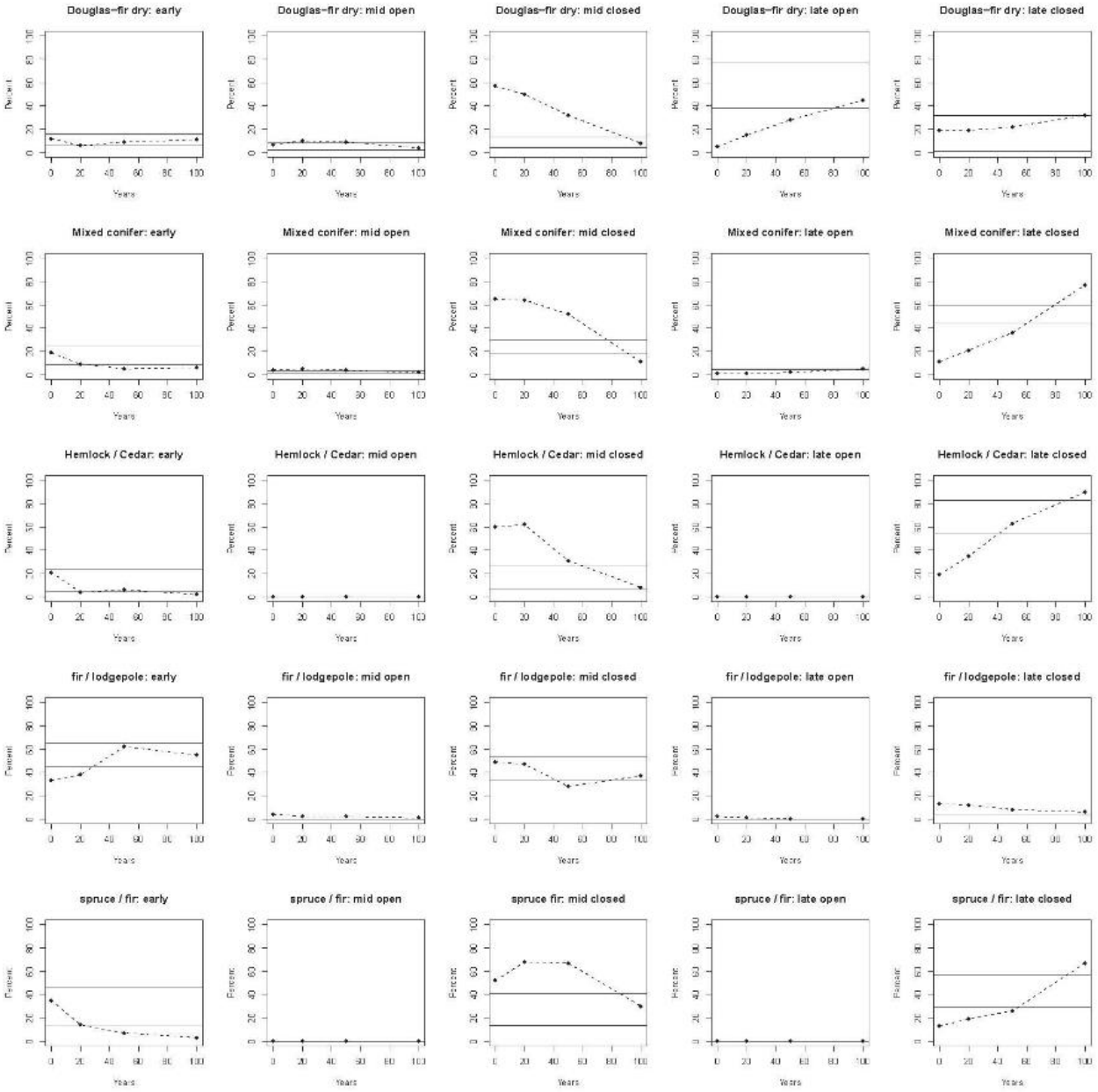


Figure G-9. Alternative O

Part VI - Rangeland Analysis

Provisions of the 1982 planning rule require that the capability for producing forage for grazing domestic livestock on National Forest System lands be determined. Further requirements can be found in the National Forest Management Act at 16 U.S.C. 1604(g)(2)(A) and in 36 CFR 219.20. The analysis process and results are discussed in the following sections.

This current assessment improves on the prior assessment done during the development of the 1988 Land and Resource Management Plan because it accounts for changes in suitability that have occurred since the original decisions were issued, and also because it employs current GIS mapping technologies that were unavailable during previous planning efforts.

To perform this assessment, the document titled Rangeland Suitability for Livestock Grazing at the Forest Plan Level and Standards for NEPA Display (Rev. 3/6/03) was used as a template. While completing this analysis, it is required to first determine what lands under national forest administration are capable of providing adequate forage for grazing animals, and then the capable lands are assessed for suitability based on specific identified resource management practices. Finally a suitability determination, based on the capability and suitability analysis of the planning area is produced.

Definitions of Capability and Suitability

Capability

As defined in 36 CFR 219.3, capability refers to the potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current resource conditions and site conditions, such as climate, slope, landform, soils, and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease.

Rangeland capability does not vary by alternative and is therefore only determined once through the land management planning process.

Suitability

Suitability refers to the appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses forgone. A unit of land may be suitable for a variety of individual or combined management practices.

Rangeland suitability may vary by alternative being considered in the Land Management Planning process, and for this reason, suitability is determined by alternative or grouping of similar alternatives.

Capability and Suitability Determination

The overlay of the capable acres with the suitable acres yields the Capable and Suitable Acres. This analysis is done separately for cattle and for sheep as they utilize the landscape differently. It would also vary for differing alternatives as suitability may change based on alternative components. For the forest plan revision, cattle and sheep are the only kinds of livestock being considered because it is anticipated that no other kinds of livestock would be permitted to graze on the Colville National Forest during the life of this plan. If other kinds of livestock use are considered at a later time, a capability and suitability analysis at the project level could be done to make determinations of capability and suitability for those species.

The capability and suitability analysis and determination is not a decision to graze livestock on any specific area of land. Nor is it a decision about, or estimate of, livestock grazing capacity. The capability/suitability analysis and determination may or may not provide supporting information for a decision to graze livestock on a specific area, though this would be accomplished at the project (allotment) scale.

Grazing allotments would contain areas that are capable and/or suitable as well as areas that are modeled as being not capable and/or not suitable. Because the evaluation is based on a modeling process and is dealing with a variety of complex landscapes, it is inevitable that this intermingling would occur on a land base of any significant size. Therefore, these capability/suitability determinations are not intended to imply that livestock would be precluded from occasionally being found on lands that may be modeled as non-capable or non-suitable.

Together, the capability and suitability analyses can provide information for forest plan level analysis as well as project level analysis and subsequent NEPA decisions.

At the forest plan level, capability and suitability analysis provides basic information regarding the potential of the land to produce resources and supply goods and services in a sustainable manner, as well as the appropriateness of using that land in a given manner. This information assists the interdisciplinary team and the line officer in evaluating alternatives and arriving at Forest landscape level decisions. It also helps in an analysis of alternative uses foregone.

At the project level, rangeland capability and suitability may be reviewed, updated, or made more site-specific, if it is an issue for that project or provides information useful to the decisions being made. For instance, rangelands identified as capable and suitable for domestic livestock grazing in the land and resource management plan may include areas that are not appropriate for domestic livestock grazing when analyzed at the site-specific level (that is, some wetlands or some campgrounds). A more site-specific analysis at the allotment (or multi-allotment) scale may provide information useful in planning management of the given allotment(s).

Determining Capability

All lands administered by the Colville National Forest were considered when being assessed for capability. Cattle and sheep grazing were considered separately because of distinct differences in the ways in which these animals forage and utilize the landscape. No other livestock species were considered because other domestic livestock species are not currently authorized to graze, or anticipated to graze on the Colville National Forest during the life of the plan.

From the total acres, lands considered rock outcrops, very wet and rubble-land were subtracted. This category includes lands classified as rock outcrop, rubble-land, lithic, serpenitic, river-wash, very wet or badlands in the soil resource coverages for the national forest.

Range capability guidance suggests that lands incapable of producing 200 lbs./acre/year of forage be removed next. Within the soil resource coverages for the Forest, lands classified as shallow soils were removed from consideration at this stage because of inherent productivity limitations.

Next, water bodies were removed from the capable land base. Existing coverages of the Forest's lakes, rivers and streams were used as the source for these adjustments. No minimum size of water body was selected for this exercise. A width of 6 feet was used as the average width for perennial streams for this analysis.

Next, the surfaces of levels 2 through 5 roads were removed from the capable land base as well as county roads and state highways. Level 1 roads were found to be capable rangelands for the Colville National Forest because they are almost always found in a fully vegetated state and they do currently support livestock grazing. The transportation coverage for the Forest was used as the data source. An average width of 16 feet is assumed on all roads that occur within the Forest.

Because slope limits the accessibility of livestock to potential forage, steep slopes need to be withdrawn from the capable land base. Consistent with the recommendations found in the Rangeland Suitability for Livestock Grazing at the Forest Plan Level and Standards for NEPA Display document, a 40 percent slope was determined to be a reasonable threshold for cattle and a 60 percent slope threshold was considered appropriate for sheep on the Forest (USDA Forest Service 2003). Lands steeper than these thresholds were removed from the land base. The Forest's digital elevation model was used to accomplish these withdrawals.

The template provides for the optional removal of additional lands because of distance from a water source. A determination was made that no such removal was necessary because water sources are relatively common on the Forest and this is not a limiting factor related to rangeland Capability.

The acreages that remained are considered to be the acreages of Capable Rangelands on the Colville National Forest.

Determining Suitability

The process of completing an analysis of rangeland suitability begins with the total acres that have been found to be capable rangelands, through the process identified above. In assessing suitability, the first reduction in the capable land base involves removing areas with high percentage tree canopy coverage. When canopy cover is 70 percent or greater, little forage is produced on these lands and they would be considered unsuitable.

Transitory rangelands that are producing adequate forage because of canopy cover reduction due to wildfire or silvicultural activity would be considered suitable if canopy cover is less than 60 percent. The expectation is that without further disturbance, a stand with 60 percent canopy cover would become 70 percent closed by the end of the revised forest plan's life (USDA Forest Service 2003). The source of the canopy cover information is the current vegetation map developed from satellite imagery for the forest plan revision.

In considering vegetation types that may be handled differently, it was concluded through an interdisciplinary discussion that all Western hemlock plant associations would be classified as unsuitable because, even after disturbance, the shrub types likely to dominate are unpalatable to livestock. Aspen stands would not be excluded from the suitable base because they tend to be small and not suitable for mapping. The source for the deletions based on plant associations are forest potential vegetation coverages.

Next, management areas or habitats which prohibit, or propose to prohibit, livestock grazing were removed.

The following areas are removed from the suitable area:

Table G-18. Colville National Forest unsuitable management areas/locations

Management Area/Location	Alternative(s)
Administrative & Recreation Sites	All (admin sites only)
Caribou Habitat	All
Established Research Natural Areas	All
Proposed Research Natural Areas	All except No Action
Salmo-Priest Wilderness	All

The sources for these boundaries are Forest management area coverages.

Wilderness legislation in 1964 allowed grazing on allotments that already existed in affected lands at the time the wilderness area is designated. Forest Service Manual 2320 and the Congressional Grazing Guidelines found in Forest Service Manual 2323.22 give further direction on grazing allotments in wilderness. Because the Salmo-Priest Wilderness on the Colville National Forest has never included a grazing allotment, the lands contained within its boundaries are considered unsuitable. The data source for this deduction is the management area coverage for the Forest.

Fenced recreation areas, administrative sites and permanent exclosures are considered unsuitable.

Because there are no fenced roads or railroads within the Forest, no reductions are being made based on road or railroad buffers.

Large wildfire areas are not removed from the suitable land base. Burned area rehabilitation teams generally advise restricting grazing for a period of one to three years following the fire, but because this is a small percentage of the time considered in the Revision, no reductions were considered.

With these subtractions completed, the tentatively determined suitable land base is defined for the Colville National Forest.

Table G-19. Colville National Forest capable rangelands

Description	Acreage
Forest Service Administered Lands	1,103,000
Capable for Cattle Grazing	628,740
Capable for Sheep Grazing	777,152

Table G-20. Colville National Forest suitable rangelands

Alternative	Acres of Suitable Rangeland
No Action	Cattle – 284,084 Sheep – 350,115
Proposed Action	Cattle – 281,999 Sheep – 348,030
Alternative R	Cattle – 281,999 Sheep – 348,030
Alternative P	Cattle – 281,999 Sheep – 348,030
Alternaive B	Cattle – 281,999 Sheep – 348,030
Alternative O	Cattle – 281,999 Sheep – 348,030

Processes Used for Determinations of Rangeland Capability and Suitability

Capability

Use GIS to identify areas that meet the following criteria (it is not expected that all National Forest System units would have all of the following data sets available in the near future. Use the best available data in making the determination and document what data sets are not available and what steps were taken to provide similar data). If local changes are made to the values to be applied, document the rationale behind the changes:

1. Begin with all lands within the project area that are National Forest System (NFS) lands.
2. Subtract soil types that are dominated by a large percentage of rock outcrop and rubbleland, loose granitic or highly erosive soils, or very wet and boggy soils. Optional - to identify erosive areas, a geologic layer to identify active landslides, slumps, etc. may be used.
3. Subtract soil types that are not inherently capable of producing more than 200 pounds of forage/acre within their Potential Natural Community (such as badland outcrops or alkali salt flats).
4. Subtract areas that consist of lakes, reservoirs, or ponds, e.g. the area covered by water at the high water mark (from polygon water layer from CFFs).
5. Buffer major rivers (Colorado or North Platte, for example) by the actual width (averaged for individual reaches if need be) and subtract.
6. Buffer perennial streams by the actual width of the water surface at the mean high water mark, or use an average width of 3 feet on either side of center line and subtract. The 6-foot width for perennial streams represents an average width for a streams water surface and can be used as a Unit-wide average for purposes of modeling.
7. Buffer Forest development roads by 8 feet on either side of center line and subtract. The 16-foot width for roads represents an average width for a roads surface and can be used as a Unit -wide average for purposes of modeling. The road surface is non-capable unless the road surface has been obliterated and revegetated in which case, the road surface would remain within the capable land base.
8. Subtract slopes meeting the following criteria:
    a. Subtract slopes greater than 60 percent (not capable for either sheep or cattle). Keep track of capable acres for cattle and sheep separately (may also need to track separately for other kinds and classes of livestock such as bison as the need presents).
    b. From the above (a) capability calculations, subtract slopes greater than 40 percent (slopes of 41-60 percent are capable for sheep but not normally for cattle). This figure can be modified for each specific Forest or Geographic area to fit with local situations (with documented rationale).
9. Optional: Subtract areas that lack available water, or lack the potential to develop water, within approximately 3 miles of the center of the polygon for Grasslands or one mile in mountainous rangelands. This figure can be modified for each specific Forest or Geographic area to fit with local situations (with documented rationale).
10. The remaining area is Capable Rangeland. The capable rangeland would normally be displayed as two separate map displays/acreage tables: one map/acreage table set displays capable

polygons/acreage for cattle; and, a second set displays capable polygons/acreage for sheep. Other displays may be used for other kinds of animals as needed. See figures G-10 and G-11 below.

Suitability

To determine rangeland suitability (36 CFR 219.3, definition of suitability); perform the following as a separate GIS analysis for each alternative or group of similar alternatives:

1. Subtract areas determined to be other than capable as determined in the capability evaluation above.
2. Subtract areas that currently have an overstory of tree canopy cover and/or unpalatable shrub canopy cover greater than 70 percent.
    a. Transitory range would be considered as a special short-term instance where suitability occurs because of the removal of the overstory vegetation (as by fire or harvest). However, because the long term site potential is normally a moderate to dense canopy with little understory production, and because these areas are normally dedicated to timber (and other resource) production, these areas are generally considered to be suitable for grazing only for the lifespan of the time that it takes for the canopy to once again close back to 70 percent or greater, and only if the costs or viability of adequately mitigating effects relative to livestock grazing on forest vegetation regeneration are acceptable.
    b. Use harvest maps and records to determine if specific areas currently meet the suitable criteria and if they are expected to remain within that criteria for the life of the plan. If so, they are determined to be suitable. If the transitory site would become non-suitable during the life of the plan, either portray it as non- suitable, or show it as being suitable only for the estimated time that it would continue to meet suitability definitions.
    c. Optional: Certain vegetative types (such as some Aspen communities) may be suitable for a given type of livestock in certain geographic areas and not in other areas. If appropriate, these vegetative communities may be subtracted out of the suitable acres as needed. Document the rationale for the decision.
3. Subtract areas that have a proposed management area prescription allocation that does not allow for livestock grazing (e.g., certain Research Natural Areas, Caribou Habitat, etc.). Subtract only management area prescriptions that have proposed standards & guidelines that do not allow for livestock grazing management, or where decisions have previously been reached that livestock grazing is incompatible with the planned land management prescription and the proposed alternative would continue that incompatibility finding.
4. Subtract fenced recreation areas, developed recreation sites, administrative sites (except administrative pack and saddle stock pastures), minerals production sites, fenced cultural resource sites, permanent exclosures, and appropriate special use sites, where livestock use has been determined to be incompatible with the primary land use and/or where the alternative proposes to exclude livestock use.
5. Buffer primary roads (from CFFs or Infra Travel Routes; Primary roads are defined by the actual fenced area, or where a fence is known or proposed to exist but the exact location is unknown, buffer by 100 feet on either side of the center line and subtract.
6. Buffer secondary/county roads by the actual fenced area, or where a fence is known or proposed to exist but the exact location is unknown by 33 feet on either side of the center line and subtract to account for the area that is fenced along secondary/county roads. Only use when the road (or road segment) is fully excluded from livestock grazing on NFS lands. The road surface itself is

non-capable. The fenced area alongside the road is capable of growing harvestable forage, but is unsuitable for livestock grazing if decisions have or would be made that livestock grazing is incompatible with other objectives associated with the ROW/easement. Road surfaces are taken out at the capability analysis level and fenced areas along roads are taken out at the suitability analysis level.

7. Buffer railroads by 100 feet on either side of centerline or by the actual fenced area, or where a fence is known or proposed to exist but the exact location is unknown, and subtract.
8. Subtract areas that are not currently within any range allotment or are closed to grazing. The reason for past or proposed closure or current lack of livestock grazing activity needs to be explained (e.g., lack of access, conflicts with wildlife, conflicts with recreation, etc.).
9. Subtract areas where decisions have been made that specific TES habitats need to be excluded from livestock grazing.
10. Have IDT specialists on the planning team identify any additional areas where conflicts occur between livestock grazing and other resources to the extent that the conflicts cannot be resolved or satisfactorily mitigated, and where the other resource values are proposed in the alternative to take precedence over livestock use. If the planning recommendation is that livestock use in these areas is incompatible, or the conflicts are incapable of being resolved in a satisfactory manner, these lands would be designated as non-suitable for the specific alternative for this planning cycle. Document the reason for the non-suitable determination.

The remaining area is Suitable Rangeland. The suitable rangeland would normally be displayed as multiple map displays and acreage tables with one map/acreage table display for each alternative. See figures G-12 and G-13 below.

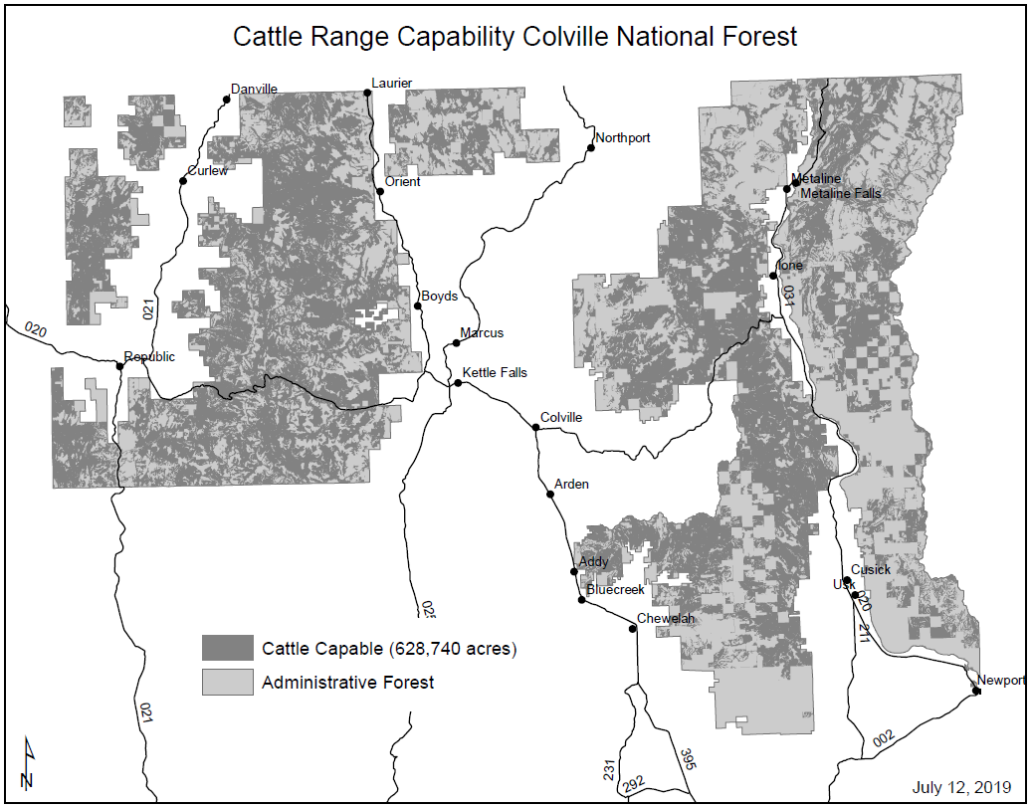


Figure G-10. Range capability for cattle on the Colville National Forest

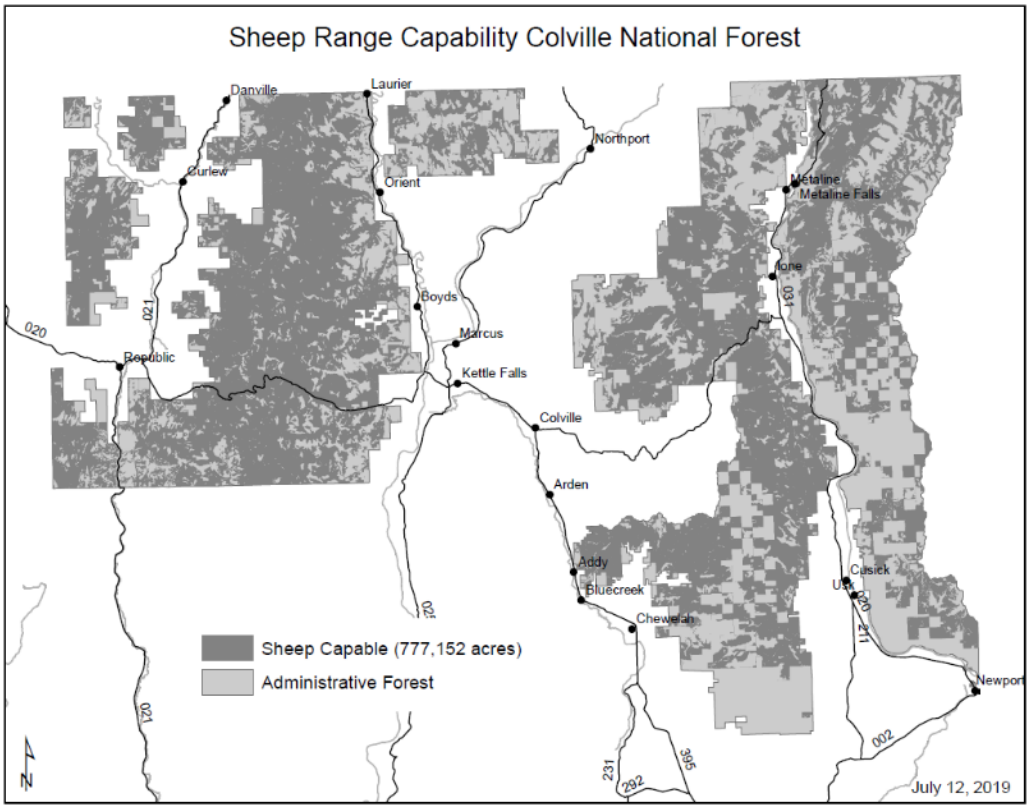


Figure G-11. Range capability for sheep on the Colville National Forest

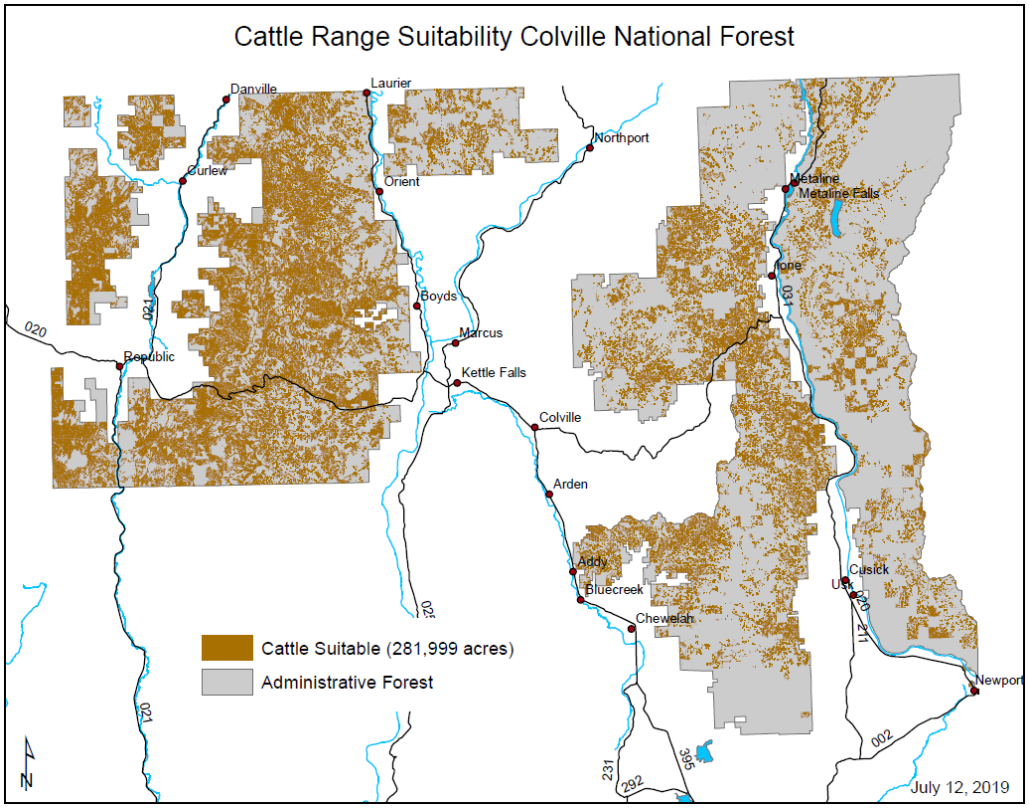


Figure G-12. Range suitability for cattle on the Colville National Forest

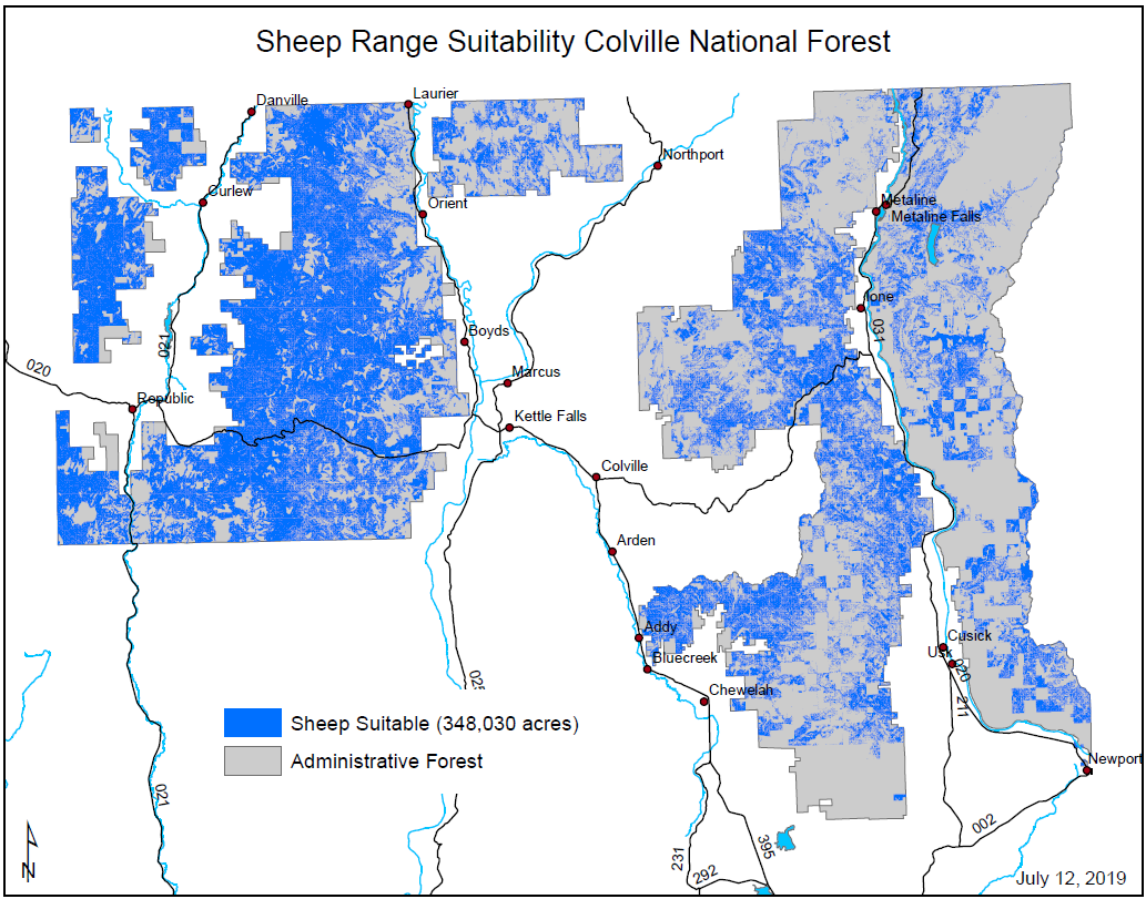


Figure G-13. Range suitability for sheep on the Colville National Forest

Appendix H. Aquatic and Riparian Conservation Strategies

Part I – Colville NF Aquatic and Riparian Conservation Strategy

The following is a detailed description of the Colville Aquatic and Riparian Conservation Strategy (Colville ARCS). The Colville ARCS is integrated into alternative P (preferred alternative).

Background

The Colville National Forest Aquatic and Riparian Conservation Strategy (Colville ARCS) is a broad-scale strategy to maintain and restore the ecological health of watersheds and aquatic and riparian ecosystems on the Colville National Forest. The Colville ARCS closely follows the USDA Forest Service, Pacific Northwest and Pacific Southwest Regional ARCS, which is a synthesis and refinement of three existing aquatic strategies: the *Northwest Forest Plan (NWFP)-Aquatic Conservation Strategy (ACS)* (USDA Forest Service and USDI Bureau of Land Management 1994a and 1994b); *Interim Strategies for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and portions of California* (PACFISH, USDA Forest Service and USDI Bureau of Land Management 1995); and the *Inland Native Fish Strategy* (INFISH, USDA Forest Service 1995a). The goal of the Colville ARCS (and the Regional ARCS) is to develop networks of properly functioning watersheds that support populations of fish and other aquatic and riparian-dependent organisms, and State designated uses of water, while enabling provision of multiple other ecosystem services, including outdoor recreation, special uses, range, timber, and wildlife habitat. The strategy focuses on maintaining and restoring dynamic ecological processes responsible for creating and sustaining habitats and providing high-quality water at landscape scales, rather than the individual project or small watershed scale (USDA Forest Service and USDI Bureau of Land Management 1994a and b).

ARCS maintains the goals of the three existing strategies in the Pacific Northwest Region and, for the following reasons, adopts and builds upon their basic structure and elements. First, new science completed since they were developed support their general framework and assumptions (Spence et al. 1996, Naiman et al. 2000, Reeves et al. 2016a). In particular, recent science reinforces the need for a landscape approach to aquatic habitat conservation that focuses on protection and restoration of the natural processes that create and maintain habitats at multiple scales (Rieman et al. 2015). Recent science also augments previous understanding of the ecological importance of headwater streams, the need to protect streamside forests, and the critical role of disturbance in maintaining watersheds and aquatic ecosystems (Reeves et al. 1995, National Research Council 2002, Benda et al. 2004, Moore et al. 2005, Rieman et al. 2006, Burnett and Miller 2007, Wipfli et al. 2007, Benda et al. 2015, Reeves et al. 2016a).

Second, there is evidence the existing strategies are working. Independent assessments, for instance, concluded that their basic components and associated management direction are fundamentally sound, are generally understood, valued, and implemented by Forest personnel, and have significantly improved the ways in which aquatic resources are managed on NFS lands (Heller et al. 2004, Reeves 2006, Reeves et al. 2006). Recent monitoring and assessments also suggest the strategies appear to be achieving their goals of maintaining and restoring aquatic and riparian habitats and key ecological processes at watershed and larger scales (Miller et al. 2015, Roper et al. 2016, Reeves et al. 2016a).

A third reason to build upon the existing strategies is that they are generally supported by the public. This is critical for effective habitat conservation and restoration (Rieman et al. 2015). Recent listening sessions associated with forest plan revisions in the NWFP-area, for example, revealed that the public would like

water and aquatic resources to be addressed as a key component of future plans. Specifically, most people supported the continuation or expansion of existing programs to protect and improve water quality, habitat for salmon and other aquatic species, and overall watershed health. In particular, the public suggested that the NWFP-ACS, including Riparian Reserves, should be retained, that the Key Watershed network should be revised or expanded, and that the scope and scale of watershed and stream restoration should be increased (Triangle Associates Inc. 2015, USDA Forest Service 2015).

The existing strategies also provide a solid foundation for addressing new regulations, policy and guidance pertaining to forest plans. Specifically, they address significant portions of the 2012 Planning Rule, including requirements to develop plan components and other plan content that: (1) maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds, (2) maintain or restore riparian areas, water quality and water resources, (3) contribute to the recovery of Federally-listed species, conserve proposed or candidate species, and maintain viable populations of species of conservation concern, and (4) identify watershed(s) that are a priority for maintenance or restoration (36 CFR 219.7-219.9). The existing strategies are also generally aligned with recent interagency guidance on forest planning, specifically *the Framework to Guide Forest Service and Bureau of Land Management Land Use Plan Revisions and Amendments in Western Oregon, Western Washington, and Northern California* ("RIEC Framework"; Regional Interagency Executive Committee, 2011) and the *Updated Interior Columbia Basin Strategy* (Interior Columbia Basin Interagency Deputy Regional Executive Team, 2014).

Nonetheless, recent science, assessment and monitoring, and policy direction point to the need to integrate and refine these existing strategies. First, PACFISH and INFISH were adopted as interim, short-term strategies to be replaced with a longer-term strategy. Moreover, Heller et al. (2004) identified the need for and utility of a single, unified, regional-scale aquatic conservation strategy that incorporates new science, information and lessons learned from implementation. Thus, while ARCS is similar to the existing strategies, it includes some modest, but meaningful refinements to them.

History

2008 ARCS

The Colville ARCS is a refinement of several versions of the Forest Service Region 6 ARCS. The Aquatic and Riparian Conservation Strategy (ARCS) was developed by FS Region 6 in 2008 to integrate management direction from the Northwest Forest Plan, PACFISH, INFISH, and ARS into a framework document to be used as guidance for forest plan revision processes. ARCS includes five elements including; designation of riparian management areas (RMAs), designation of a key watershed network, mid-scale analysis of watersheds, watershed restoration, and monitoring. The interaction of these five elements forms the basis for watershed, aquatic, and riparian ecosystem management and restoration (USDA Forest Service 2008a).

Scientific studies completed after the initiation of the Northwest Forest Plan, PACFISH, and INFISH support their assumptions and general framework, however there was a need for a unified aquatic conservation strategy that incorporated new science and addressed and clarified issues identified through more than a decade of field-level implementation (Naiman et al. 2000, Spence et al. 1996, Reeves 2006, Heller et al. 2004). Providing refinement to earlier strategies is the primary basis for the development of the original 2008 version of ARCS. ARCS-2008 includes better recognition of the role of disturbance in building ecosystem resiliency, consideration of scale effects on ecosystem processes, confirmation of the value of watershed-scale analysis, the need for better monitoring, and better establishment of the linkage

between management intent and aquatic strategy. During the forest plan revision process the 2008-ARCS version was used to formulate the proposed action.

ARCS-Modified

The 2008-ARCS supports forests adding specificity and local detail to tailor management of watersheds and riparian resources to local systems and conditions. Based on public and internal comments, best available science, and new policies on Forest Service management of aquatic and riparian resources, including the Watershed Condition Framework, and discussions with the forest plan interdisciplinary team, resource specialists in the Pacific Northwest regional office, and other reviewers of the revised forest plan, components in ARCS were updated and included in alternative R and alternative P in the draft forest plan (ARCS-modified is not included in alternative P of the Final Environmental Impact Statement (FEIS). The updated plan components are referred to as "ARCS-modified" in both the draft and FEIS.

Most of the updates made to ARCS plan components ARCS-modified add clarity to individual plan components (that is, guidelines worded properly as guidelines, standards worded as standards). The IDT also considered operational constraints in the evaluation of each standard and guideline within ARCS. Specific differences between ARCS and ARCS-modified are discussed in the FEIS.

2016-ARCS

Since 2008, the RO worked to integrate recent policy direction, best available science, and better align ARCS with the 2012 Planning Rule into ARCS-2016 (USDA Forest Service 2016a). While ARCS-2016 is tailored specifically for forest plan revisions completed under the 2012 planning rule, certain aspects of ARCS-2016 were incorporated into the Colville Plan in alternative P in the FEIS. Plan components incorporated from ARCS-2016 provide greater clarity than what was contained in ARCS-modified and respond to issues raised by both the public and the FS interdisciplinary team with regard to operation flexibility and assurances of protection and improvement of aquatic resources.

Colville ARCS

The overall strategy to maintain and restore the ecological health of watersheds and aquatic and riparian ecosystems on the Colville National Forest is incorporated throughout the revised forest plan (primarily in the Water Resources and Riparian Management Area sections). The Colville Aquatic and Riparian Conservation Strategy (Colville ARCS) outlined in this document includes plan components (desired conditions, objectives, standards, guidelines), designation and discussion of Riparian Management Areas and Key watersheds, and a discussion of how aquatic protection and restoration would be prioritized, completed, and monitored.

The Strategy

The Colville ARCS combines ecosystem and landscape perspectives to outline a management strategy to be applied over a broad, heterogeneous area. It focuses on broad-scale aquatic resource protection, coupled with strategically-focused active restoration in priority areas (USDA Forest Service 2005b).

The Colville ARCS includes five elements that interact at watershed and landscape scales to provide the basis for watershed, aquatic, and riparian ecosystem management and restoration. These components work together and complement each other to achieve the goal of a distribution of watershed conditions that are resilient to disturbance and that maintain, restore, and enhance water quality and habitat for fish, other aquatic organisms, and a variety of wildlife and other riparian-dependent resources (FSM 2526). These five elements are designed to be applied in an integrated fashion, and will not achieve desired results if implemented alone or in limited combination (FEMAT 1993).

1. Designation of Riparian Management Areas (RMAs) along permanently-flowing stream, ponds, lakes, wetlands, seeps, springs, intermittent streams and unstable sites where management activities are to maintain, restore or enhance the ecological health of aquatic and riparian ecosystems and dependent resources.
2. Designation of Key Watershed, which are a network of watersheds selected to serve as strongholds for important aquatic resources or having the potential to do so. Management emphasizes minimizing risk and maximizing restoration or maintaining ecosystem health. Key watersheds are selected based upon the requirements of the MIS/surrogate species. The Key Watershed concept has been found to be an effective strategy as in the Northwest Forest Plan area the watershed condition of Key Watersheds appears to be improving at a faster rate than non-key watersheds (Lanigan et al. 2012.)
3. Watershed or mid-scale analysis provides a basis for development of watershed-scale restoration strategies and provides the basis for defining desired conditions, management objectives and monitoring.
4. Watershed Restoration. Watershed restoration is defined as an integrated set of actions and treatments designed to facilitate the recovery of watersheds and related aquatic ecosystem structure and function.
5. Monitoring and adaptive management is a strategic assessment of the implementation and effectiveness of management activities and the ecological trends toward desired conditions.

Each element is discussed in detail in this document, and are shown in Figure H-1.

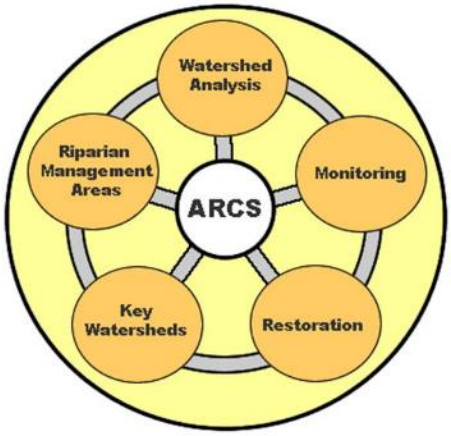


Figure H-1. The five primary elements of ARCS

These elements are intended to work together to maintain and restore aquatic and riparian ecosystems and water quality. They are implemented via forest plan components (e.g., desired conditions, suitability determinations, objectives, and standards and guidelines), other plan content and other administrative direction (see below).

Plan Components

Multiple plan components are used to implement the Colville ARCS. Plan components include desired conditions, suitability of uses, objectives, standards, and guidelines. Plan components in the Colville ARCS are included primarily in the “General Forest, Water Resources” and “Management Areas, Riparian” sections of the revised forest plan. Both the Focused and General Restoration Management Area sections of the plan include a Desired Condition specific to roads that is part of the Colville ARCS.

Plan components in the "Water Resources" section of the plan include general watershed plan components, and components specific to Key and Priority Watersheds. Plan components in the "Riparian Management Area" section include direction specific to Riparian Management Areas. In this document, plan components specific to each element of the Colville ARCS are listed in that section. Therefore, components are not necessarily presented in the order in which they appear in the plan.

Water Resources Plan Components

Water resources plan components include management direction for forest-wide aquatic and riparian systems. Plan components are applied at different watershed scales depending on the resource, and are identified in each plan component, where applicable.

Desired Conditions

FW-DC-WR-01. Natural Disturbance Regime of Aquatic and Riparian Systems

National Forest System lands contribute to the distribution, diversity, and resiliency of watershed and landscape-scale features, including natural disturbance regimes, of the aquatic, riparian, and wetland ecosystems to which plant and animal species, populations, and communities are adapted. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-02. Hydrologic and Aquatic and Riparian Habitat Connectivity

National Forest System lands contribute to uninterrupted physical and biological processes within and between watersheds. Floodplains, groundwater-dependent systems, upslope areas, headwater tributaries, and intact habitat refugia provide vertical, horizontal, and drainage network connections. These network connections provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic, riparian-dependent, and many terrestrial species of plants and animals. Subbasin scale is used for Forest planning, and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-03. Self-Sustaining Native and Aquatic and Riparian-Dependent Species

National Forest System lands contribute to habitat and ecological conditions that are capable of supporting self-sustaining populations of native aquatic and riparian-dependent plant and animal species. Subbasin scale is used for forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-04. Physical Integrity of Aquatic and Riparian Habitat

National Forest System lands provide aquatic habitats in which the distribution of conditions (e.g., bank stability, substrate size, pool depths and frequencies, channel morphology, large woody debris size and frequency) in the population of watersheds on the Forest is similar to the distribution of conditions in the population of similar, reference condition watersheds. Reference Conditions can be drawn from the Forest or Provincial scales. Conditions assessed at the subbasin scale are used for forest and project planning.

FW-DC-WR-05. Water Quality

National Forest System lands contribute to water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality is within the range that maintains the biological, physical, and chemical integrity and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities, and meets appropriate Washington State water quality standards. Subbasin scale is used for forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-06. Sediment Regimes

National Forest System lands contribute to the sediment regime within the natural range of variation. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport. Watershed scale is used for forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-07. In-stream Flows

National Forest System lands contribute to in-stream flows and groundwater sufficient to create and sustain riparian, aquatic, and wetland habitats, retain patterns of sediment, temperature, nutrient, and wood routing, and provide for (permitted or certificated) consumptive uses. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows functions in concert with local geology, valley types, soils and geomorphology. Subbasin scale is used for forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-08. Floodplain Inundation

National Forest System lands contribute to the timing, variability, and duration of floodplain inundation that are within the natural range of variation. Fifth field watershed or subwatershed scale is used for both Forest and project planning.

FW-DC-WR-09. Groundwater-Dependent Systems: Seeps, Springs, and Groundwater-fed Wetlands (Fens)

National Forest System lands contribute to the timing, variability, and water table elevation in groundwater-fed wetlands, seeps, springs, and other groundwater-dependent systems. These features are within or moving toward proper functioning condition. Subwatershed scale is used for both Forest and project planning.

FW-DC-WR-10. Water Production for Downstream Uses

National Forest System lands produce high-quality water for downstream ecological communities (including human communities) dependent upon them. Watershed scale is used for both Forest and project planning.

FW-DC-WR-11. Native Plant Communities

National Forest System lands contribute to the species composition and structural diversity of native plant communities in riparian management areas (including wetlands). These contribute to adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration; and supply amounts and distributions of coarse woody debris and fine particulate organic matter sufficient to sustain physical complexity and stability. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-12. Aquatic Invasive and Non-Native Species

Aquatic invasive species do not occur as a component of lake, stream, and other riparian-related ecosystems or compete with native species for critical resources. Subbasin scale is used for Forest planning. Fifth field watershed or subwatershed scale is used for project planning.

FW-DC-WR-13. Aquatic Threatened, Endangered, and Sensitive Species

National Forest System lands contribute to the recovery of federally threatened and endangered aquatic species and conservation of Regional Forester's sensitive aquatic species. Aquatic habitat supports spawning, rearing, and/or other key life history requirements. Aquatic habitat also is designated as critical

habitat for listed species (such as bull trout) in some areas. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.

FW-DC-WR-14. Resiliency to Climate Change

Aquatic and riparian ecosystems are resilient to the effects of climate change and other major disturbances. Subbasin is scale is used for Forest planning and 5th field watershed scale is used for project planning.

FW-DC-WR-15. Water Quality Standards in Municipal Supply Watersheds Source Water Protection Areas

National Forest system lands in municipal supply watersheds (North Fork Sullivan Creek, East Fork Deer Creek, and Cedar Creek (Ione)) and ground and surface source water protection areas provide water that meets or exceeds state water quality standards for drinking water with appropriate treatment.

FW-DC-WR-19. Focus and Priority Watershed Network

Focus and priority watersheds contribute to the sustainability of aquatic and riparian systems and species and provide resilient, productive habitat and high water quality.

Objectives

FW-OBJ-WR-01. Aquatic Invasive Species

Within the next 15 years, implement aquatic invasive species prevention measures at all developed recreation sites providing direct and/or indirect access to water bodies, such as boat ramps, campgrounds, and day use areas that provide portal zones for hand carried watercraft. Implement aquatic invasive species prevention measures as part of all aquatic survey and inventory procedures and other management activities that pose high potential for invasion vectors to occur.

FW-OBJ-WR-02. Aquatic Invasive and Non-Native Species

Within the next 15 years, implement aquatic invasive species control and eradication at 15 waterbodies (streams and lakes) where such invasions have become established and prevent attainment of listed fish recovery plan goals and/or effects to social, economic, and ecological systems are determined to be unacceptable.

FW-OBJ-WR-03. General Watershed Function and Restoration

Within the next 15 years, decrease sediment delivery from management activities on 1,000 acres including but not limited to roads, trails, livestock, unauthorized off-highway vehicle use, vegetation management, and dispersed and developed campsites. Restore hydrologic, aquatic, and riparian processes through activities that stabilize streambank erosion, and other accelerated channel destabilizing processes (that is, headcutting), improve lateral and vertical hydrologic connectivity, and improve stream channel and floodplain function on 10 miles of streams.

FW-OBJ-WR-04. Fish Habitat Improvement

Within 15 years, restore aquatic organism passage for all life stages of native species at 45 road/stream crossings and man-made instream structures such as water diversions and dams outside of key watersheds. Culverts and other passage improvements are to be designed to restore and maintain hydrologic and aquatic habitat function and stream channel resiliency to a range of flows through natural channel design and other acceptable treatment measures.

Standards

FW-STD-WR-01. Best Management Practices

All projects shall be implemented in accordance with best management practices, as described in national and regional technical guides.

FW-STD-WR-02. Aquatic Invasive Species - In-Water Work

Implement prevention measures for in-water projects to decrease the potential for aquatic invasive species transference into non-infested water bodies.

FW-STD-WR-03. Aquatic Invasive Species - Aquatic Resource Sampling

Aquatic sampling equipment must be disinfected prior to use in new stream or lake locations.

FW-STD-WR-04. Construction of New Roads, Trails and Developed Recreation Sites

New roads and trails will be designed to minimize disruption of natural hydrologic processes at perennial and intermittent stream crossings, valley bottoms, valley approaches and other over-land drainage features. New roads, trails, and developed recreation sites will integrate features, such as, but not limited to, rocked stream crossings, drain dips, sediment filtration, cross drains and crossings that minimize unnatural stream constriction, bank erosion, channel incision, sedimentation, or disruption of surface and subsurface flow paths.

Guidelines

FW-GDL-WR-01. Properly Functioning Watersheds

When aquatic and riparian desired conditions are being achieved and watersheds are functioning properly[29], projects should maintain[30] those conditions. When aquatic and riparian desired conditions are not yet achieved or watersheds have impaired function[29] or are functioning-at-risk[29] and to the degree that project activities would contribute to those conditions, projects should restore or not retard attainment of desired conditions[30]. Short-term adverse effects from project activities may be acceptable when they support long-term recovery of aquatic and riparian desired conditions. Exceptions to this guideline include situations where Forest Service authorities are limited. In those cases, project effects toward attainment of desired conditions should be minimized and not retard attainment of desired conditions to the extent possible within Forest Service authorities.

FW-GDL-WR-02. Aquatic Invasive Species - Wildfire Suppression Equipment

During wildfire suppression, cross contamination between streams and lakes from pumps, suction, and dipping devices should be avoided. Dumping water directly from one stream or lake into another should be avoided. Water storage and conveyance components of water tenders, engines, and aircraft should be disinfected prior to use on a new on-forest incident.

FW-GDL-WR-03. Aquatic Invasive Species - Early Detection and Rapid Response

Principles and processes of early detection and rapid response to find, identify and quantify new aquatic invasive species occurrences should be used. Early detection and rapid response should be coupled with

[29] Per Watershed Condition Framework Technical Guide, USDA Forest Service (Potyondy & Geier 2010) and/or subsequent versions and/or comparable methods. Other broad-scale or local inventory, assessment and monitoring data and analysis can be used to refine initial classifications made per WCF.
[30] See glossary for definitions of the terms “maintain,” “restore,” “degrade,” and “retard attainment.”

other integrated activities to rapidly assess and respond with quick and immediate actions to eradicate, control, or contain aquatic invasive species.

FW-GDL-WR-04. Watershed Restoration

Use the restoration methods that maximize the use of natural ecological processes for long-term sustainability and minimize the need for long-term maintenance.

FW-GDL-WR-05. Hydrologic Function of Roads, Trails, and Developed Recreation Sites

Roads and trails should be maintained to minimize disruption of natural hydrologic processes at perennial and intermittent stream crossings, valley bottoms, valley approaches and other over-land drainage features. Roads and trails should integrate features, such as, but not limited to, rocked stream crossings, drain dips, sediment filtration, cross drains and crossings that minimize unnatural stream constriction, bank erosion, channel incision, sedimentation, or disruption of surface and subsurface flow paths.

FW-GDL-WR-06. Chemical Fire Suppression

Whenever practical, as determined by the fire incident commander, use water or other less toxic wildland fire chemical suppressants for direct attack or less toxic approved fire retardants in areas occupied by riparian and aquatic-dependent threatened, endangered, proposed, candidate, or sensitive species, or their habitats.

Focused Restoration Management Area

The Key Watershed network, along with grizzly bear and caribou recovery areas were used to define the Focused Restoration Management Area. The Focused Restoration MA includes a desired condition for roads with the intent of reducing risk to aquatic systems in the Key Watershed network.

MA-DC-FR-05. Travelways, Roads

Road densities vary across the management area; however, there are no more than 1 mile of National Forest System Road per square mile within the focused restoration management area within each subwatershed. Total road density is calculated as miles of National Forest System road per square mile of National Forest System lands[31]. This road density calculation does not include roads under another jurisdiction, or roads that have been hydrologically stabilized[32] and impassable to all vehicular traffic, or decommissioned.

The Focused Restoration Management Area also includes a standard to minimize new road construction to reduce hydrologic risk, similar to a standard applying to Key Watersheds:

MA-STD-FR-01. Road Construction and Hydrologic Risk Reduction

In subwatersheds that are functioning properly with respect to roads (per the Watershed Condition Framework), there will be no net increase (at least 1 mile of road-related risk reduction for every new

[31] Roads included in the calculation can be modified depending on project specifics, i.e. if the FS is working with a county or other cooperator to improve road condition on a road not under FS jurisdiction on NFS lands, it would be included in the calculation.

[32] Road storage and stabilization treatments to avoid, minimize, or mitigate adverse effects to water quality, aquatic habitat, and riparian resources. Hydrologically stabilized roads minimize road erosion and road hydrologic connectivity to the stream system. Practices could include, but are not limited to, removal of culverts and fill material that present an unacceptable risk of failure or flow diversion, and suitable measures to ensure the road surface will intercept, collect, and remove water from the road surface in a manner that reduces concentrated flow in ditches, culverts, and over fill slopes and road surfaces without frequent maintenance. Because hydrologically stabilized roads remain on the National Forest System road system, the integrity of the roadway is retained to the extent practicable and measures are implemented to reduce sediment delivery from the road surface and fills and reduce the risk of crossing failure and stream diversion.

mile of road construction) in system roads that diminish hydrologic function. In subwatersheds that are functioning-at-risk or have impaired function with respect to roads, there will be a net decrease (for every mile of road construction there would be greater than 1 mile of road-related risk reduction) in system roads that affect hydrologic function to move toward proper function. Treatment priority shall be given to roads that pose the greatest relative ecological risks to riparian and aquatic ecosystems. Road-related risk reduction will occur prior to new road construction unless logistical restrictions require post-construction risk reduction.

General Restoration Management Area

The General Restoration Management Area includes all lands on the Colville National Forest not included in other management areas. The General Restoration Management Area includes a desired condition for roads with the intent of reducing risk to aquatic systems across the Management Area.

MA-DC-GR-05. Travelways, Roads

Road densities vary across the management area; however, there are no more than 2 miles of National Forest System Road per square mile within the general restoration management area within each subwatershed. Total road density is calculated as miles of National Forest System road per square mile of National Forest System lands. This road density calculation does not include roads under another jurisdiction, or roads that have been hydrologically stabilized and impassable to all vehicular traffic, or decommissioned.

The General Restoration Management Area includes a guideline specific to road management:

MA-GDL-GR-01. Roads

Limit potential road interactions with surface and sub-surface water by decreasing drainage density and/or accelerated or abnormal hill slope failure. When constructing or reconstructing roads do so in a hydraulic and geomorphic manner that provides watershed and sub-basin scale aquatic habitat connectivity and contributes to attainment of State water quality standards.

The methodology for calculation of road density under MA-DC-FR-05 and MA-DC-GR-05 is shown in Figure H-2 and Figure H-3.

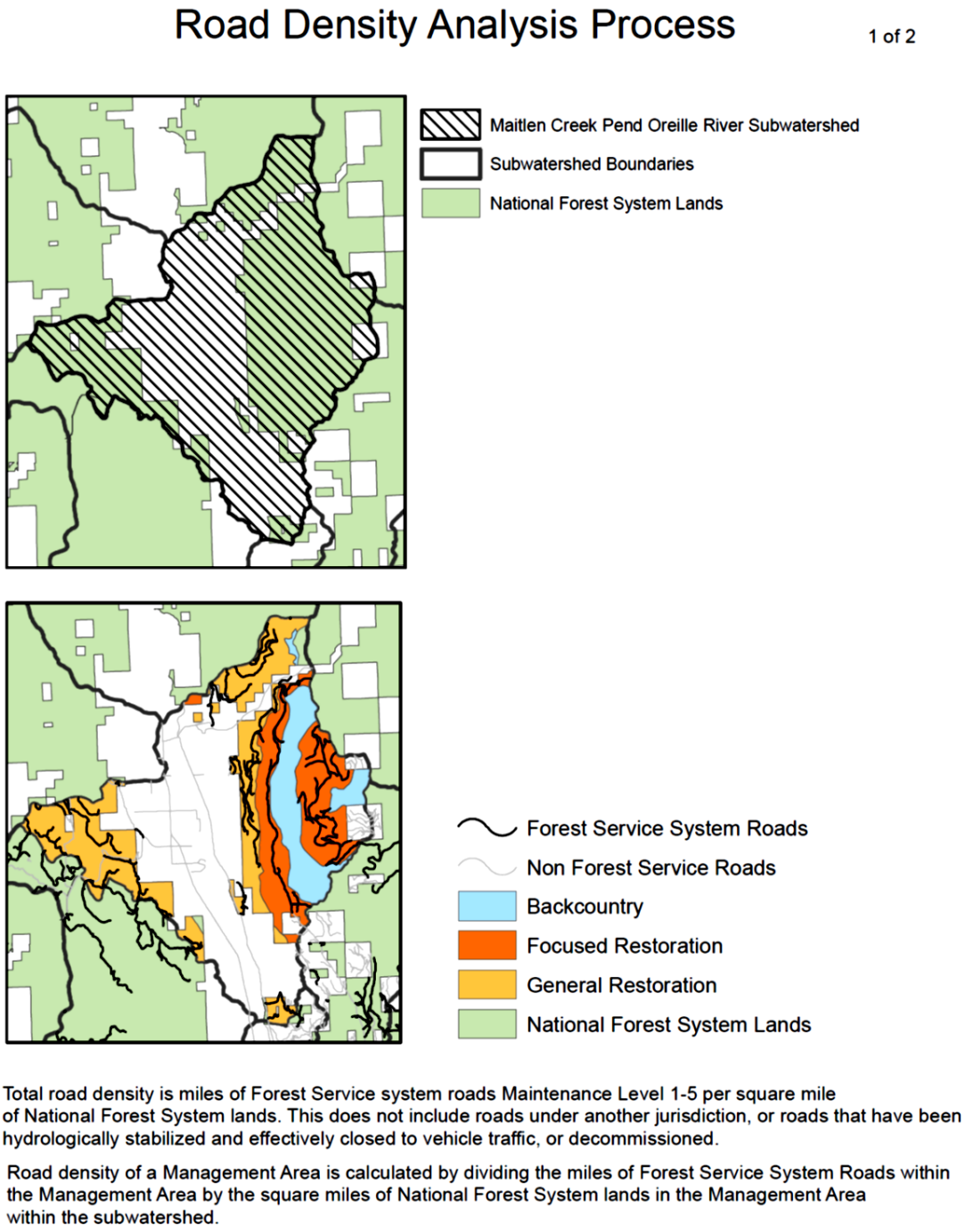
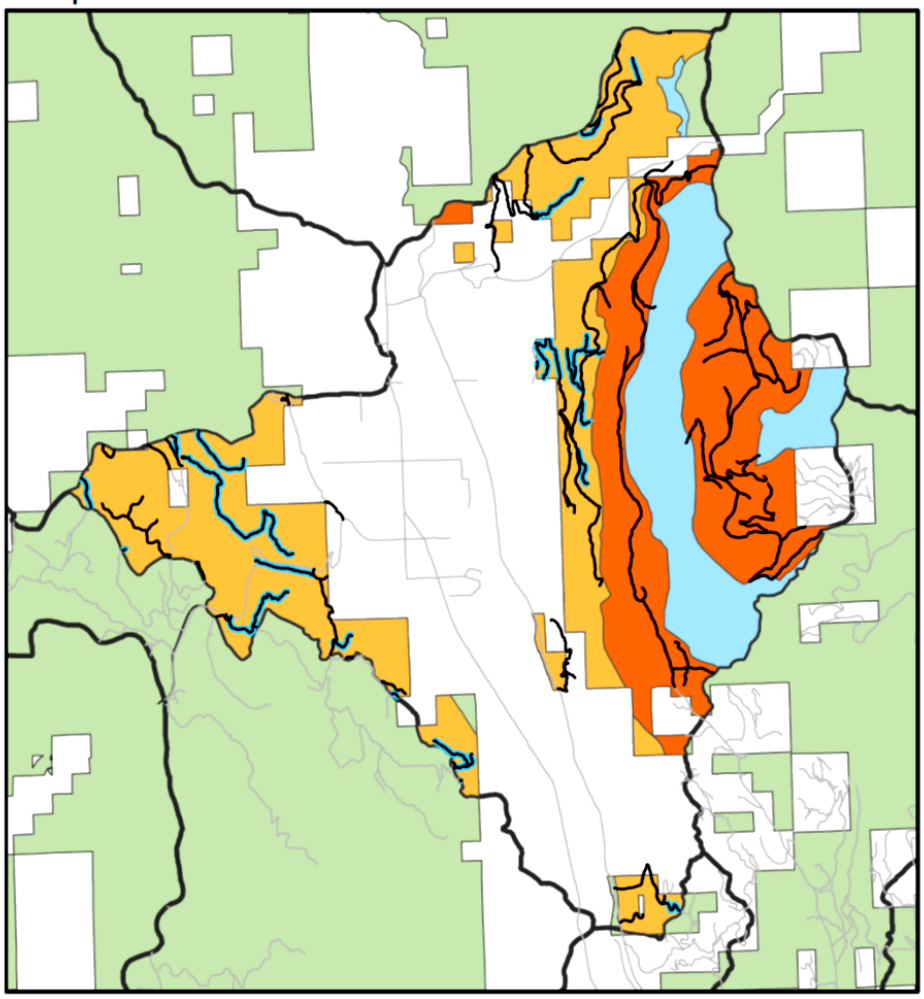


Figure H-2. Road density calculation process for the Focused and General Restoration Management Areas

Road Density Analysis Process
Example For The Maitlen Creek Pend Oreille River Subwatershed 2 of 2



Forest Service System Roads
F S System Roads Closed in General Restoration
Non Forest Service Roads
Backcountry
Focused Restoration
General Restoration
National Forest System Lands

Road density by Management Area is calculated by dividing the miles of Forest Service System Roads Maintenance Levels 1-5 within a Management Area by the Square Miles of National Forest System lands in the Management Area within the Subwatershed.

36.29 miles of Forest Service System Roads within General Restoration Management Area for the Maitlen Creek-Pend Oreille River Subwatershed divided by 13.24 Square Miles of General Restoration Management Area within Maitlen Creek-Pend Oreille River Subwatershed.
Equal 2.74 Miles/Square Miles.

Approximatley 14 miles of Forest Service System Roads were designated as closed. Closed roads were counted in the total miles of roads per square mile. Since it is unknown if these closed roads have been effectively stabilized and closed to vehicle traffic, all closed roads were included in the calculation.

Figure H-3. Road density calculation process for the Focused and General Restoration Management Areas continued

Riparian Management Areas

Protection and restoration of riparian areas is particularly important to achieving Colville ARCS desired conditions. Riparian zones are the inter-faces between terrestrial and aquatic ecosystems. Found adjacent to streams, rivers, lakes and wetlands, riparian zones provide a transitional zone between terrestrial and aquatic components of the landscape (Gregory et al. 1991). Although riparian zones occupy a small part of the overall Colville National Forest land base, they support a diverse vegetation community not found in the upland areas. Riparian zones provide important foraging, cover, travel corridors, and nesting habitat for birds, small and large mammals, reptiles, and amphibians. Healthy riparian zones with an abundance of trees and other native woody species and forbs provide for channel and floodplain stability and integrity. Healthy riparian vegetation adjacent to streams and on floodplains slow flood waters and reduce the likelihood of downstream flooding.

Riparian zones improve water quality by filtering runoff, sediment, and nutrients from adjacent upland slopes. Riparian zones provide stream cover and shade which helps keep the summer water temperatures cool for salmonids and other aquatic species, and are a source of large woody debris to stream channels. Riparian zones also contribute to the aquatic food base as a source of terrestrial insects that fall into channels and by providing detritus input which is used by myriad of macroinvertebrate species, which in turn are forage for fish and certain bird species such as the American dipper (*Cinclus mexicanus*). Healthy, functioning riparian zones are vital for providing good water quality and diverse aquatic habitat (Naiman et al. 1992, FEMAT 1993).

The Colville ARCS approach to riparian area management includes designation of relatively large default RMAs to protect and restore water quality, a wide range of aquatic and terrestrial habitats and species, and critical ecological processes. RMAs include portions of watersheds where aquatic and riparian dependent resources receive primary emphasis and where special management direction applies. The designation of RMAs (Table H-1) include the aquatic environment, the riparian zone and adjacent uplands. RMAs are designated for all permanently flowing streams, lakes, wetlands, seeps, springs and intermittent streams, and unstable sites that may influence these areas. RMAs are used to maintain and restore the riparian structure and function of intermittent and perennial streams, confer benefits to riparian-dependent plant and animal species, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, and contribute to a greater connectivity of the watershed for both riparian and upland species.

Within RMAs, management emphasizes aquatic and riparian dependent species. RMAs are used as the primary framework (coarse filter) that provides for riparian and aquatic ecosystem diversity by conserving biophysical processes at the landscape and watershed scales. Management of RMAs focuses on ecological processes and conditions. Management activities within RMAs are to be designed to maintain or enhance existing desired conditions or restore degraded conditions for aquatic and riparian dependent species USDA.

Table H-1. Riparian Management Area Widths

Stream and Water body Classification	Riparian Management Area (RMA) Widths
Fish-bearing streams	RMAs consist of the stream and the area on each side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet total, including both sides of the stream channel), whichever is greatest.
Permanently flowing non-fish-bearing streams	RMAs consist of the stream and the area on each side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet total, including both sides of the stream channel), whichever is greatest.
Constructed ponds and reservoirs and wetlands greater than 1 acre	RMAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or the extent of unstable and potentially unstable areas, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance from the edge of the wetland greater than 1 acre or the maximum pool elevation of constructed ponds and reservoirs, whichever is greatest.
Lakes and natural ponds	RMAs consist of the body of water and the area to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or to the extent of unstable and potentially unstable areas, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance, whichever is greatest.
Seasonally flowing or intermittent streams, wetlands, seeps and springs less than 1 acre and unstable and potentially unstable areas	The stream channel or wetland and the area from the edges of the stream channel or wetland to the outer edges of the riparian vegetation, extending from the edges of the stream channel to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest. A site-potential tree height is the average maximum height of the tallest dominant trees for a given site class.

RMAs are established to protect the ecological processes and conditions and the important functions of riparian zones provide to aquatic habitat including:

- The input of fine organic matter and nutrients to aquatic habitat.
- Providing for bank stability.
- Filtering sediment due to surface erosion thus controlling the amount reaching the aquatic system.
- A source of large woody debris.
- Shading the aquatic habitat thus helping to control water temperature.
- Controlling the microclimate within the riparian zone and adjacent to the aquatic habitat.

Recognition of small and intermittent streams and managing unstable lands to account for aquatic function and values.

RMAs are not “no touch” buffers. Instead, management activities designed to benefit aquatic and riparian-dependent resources and move the landscape toward desired conditions are allowed and encouraged within them. While default RMA widths are uniform, the management of RMAs is not

intended to be. Instead, a wide range of management activities, involving highly-varied prescriptions, are expected to occur within them. These activities are to be planned and implemented based on watershed and site-scale analyses that lead to project-specific designs that prescribe the types, locations, spatial extent, and timing of the activities. These designs must meet applicable standards and guidelines. This approach recognizes that effective project designs, including identification of both treated and untreated areas, depends on objectives and on local landscape context (Richardson et al. 2012).

Evolving science continues to provide new insights to help inform project-level plans for activities in RMAs. Recent scientific syntheses related to ESA-consultation in western OR (USDA Forest Service et al. 2013c), for example, provide information about the potential effects of forest thinning on stream temperature, large woody debris, and terrestrial wildlife species. Other recent work (e.g., Benda et al. 2015, Olson et al. 2014, and Olson and Burton 2014) provide additional science that can be used to plan and implement management activities in RMAs to help achieve desired conditions.

Riparian Management Area Plan Components

Plan components for RMAs include desired conditions for RMA composition, processes, grazing and roads. Objectives target improvement of riparian function at dispersed and developed recreation sites, restoration of riparian processes altered by roads, and restoration of late forest structure in upland RMAs. Standards and guidelines address management of RMA function, vegetation, roads, grazing, recreation, minerals, fire and fuels, lands, special uses, and hydropower.

Desired Conditions

MA-DC-RMA-01. Composition

Riparian management areas consist of native flora and fauna in a functional system and a distribution of physical, chemical, and biological conditions appropriate to natural disturbance regimes affecting the area.

MA-DC-RMA-02. Key Riparian Processes

Key riparian processes and conditions (including slope stability and associated vegetative root strength, capture and partitioning of water within the soil profile, wood delivery to streams and within the riparian management areas, input of leaf and organic matter to aquatic and terrestrial systems, solar shading, microclimate, and water quality) are operating consistently with local disturbance regimes.

MA-DC-RMA-03. Livestock Grazing

Livestock grazing of riparian vegetation retains sufficient plant cover, rooting depth and vegetative vigor to protect streambank and floodplain integrity against accelerated erosional processes, and allows for appropriate deposition of overbank sediment.

MA-DC-RMA-04. Roads

Roads located in or draining to riparian management areas do not present a substantial risk to soil or hydrologic function. Roads do not disrupt riparian and aquatic function.

Objectives

MA-OBJ-RMA-01. Improve Riparian Function at Dispersed and Developed Recreation Sites

During the next 15 years, restore riparian processes and balance need for occupancy and access to water at 75 dispersed and developed recreation sites, through education, enforcement, and engineering where recreational use results in bank damage, reduction in water quality, and/ or a reduction in stream shade.

MA-OBJ-RMA-02. Restoration of Riparian Habitat and Processes on Roads

Restore hydrologic and riparian habitat function within riparian management areas in non-key watersheds by reducing road-related impacts on 80 miles of road within 15 years.

MA-OBJ-RMA-03. Restoration of Late Forest Structure

Move upland vegetation within riparian management areas outside of key watersheds toward historical range of variability on 500 acres within 15 years of plan implementation.

Standards

MA-STD-RMA-01. Chemical Application

Apply herbicides, insecticides, piscicides, and other toxicants, other chemicals, and biological agents only to maintain, protect, or enhance aquatic and riparian resources and/or native plant communities.

MA-STD-RMA-02. Personal Fuelwood Cutting

Personal fuelwood cutting shall not be authorized within riparian management areas or source areas for large woody debris.

MA-STD-RMA-03. Timber Harvest and Thinning

Timber harvest and other silvicultural practices can occur in RMAs only as necessary to attain desired conditions for aquatic and riparian resources. Vegetation in RMAs will not be subject to scheduled timber harvest.

MA-STD-RMA-04. Yarding Activities

Cable yarding activities, if crossing streams, shall achieve full suspension over the active channel.

MA-STD-RMA-05. Road and Trail Construction and Maintenance

There shall be no sidecasting or placement of fill in riparian management areas, except where needed to construct or replace stream crossings. Snowplowing activities shall not allow runoff from roads and trails in locations where it could deliver sediment to streams.

MA-STD-RMA-06. Road and Trail Construction at Stream Crossings

At a minimum, all new or replaced permanent stream crossings shall accommodate at least the 100-year flood and its bedload and debris. The 100-year flood estimates will reflect the best available science regarding potential effects of climate change.

MA-STD-RMA-07. Road and Trail Construction-Fish Passage

Construction or reconstruction of stream crossings shall provide and maintain passage for all life stages of all native and desired non-native aquatic species and for riparian-dependent organisms where connectivity has been identified as an issue. Crossing designs shall reflect the best available science regarding potential effects of climate change on peak flows and low flows.

MA-STD-RMA-08. Management of Livestock Grazing to Attain Desired Conditions

Manage livestock grazing to move toward aquatic and riparian desired conditions. Where livestock grazing is found to prevent or retard attainment of aquatic and riparian desired conditions, modify grazing management. If adjusting practices is not effective, remove livestock from that area using appropriate administrative authorities and procedures.

MA-STD-RMA-09. Recreational and Permitted Grazing Management-Livestock Handling, Management, and Water Facilities

New and replaced livestock handling and/or management facilities and livestock trailing, salting, and bedding are prohibited in RMAs unless they do not prevent or retard attainment of aquatic and riparian desired conditions, inherently must be located in an RMA, or are needed for resource protection.

MA-STD-RMA-10. Permitted Grazing Management - Allotment Management Planning

During allotment management planning, negative impacts to water quality and aquatic and riparian function from existing livestock handling or management facilities located within riparian management areas shall be minimized to allow conditions to move toward the desired condition.

MA-STD-RMA-11. Wildland Fire and Fuels Management - Minimum Impact Suppression Tactics

Use minimum impact suppression tactics during wildland fire suppression activities in RMAs.

MA-STD-RMA-12. Wildland Fire and Fuels Management - Portable Pumps

Portable pump set-ups shall include containment provisions for fuel spills, and fuel containers shall have appropriate containment provisions. Park vehicles in locations that do not allow entry of spilled fuel into streams.

MA-STD-RMA-13. Water Drafting

Fish habitat and water quality shall be protected when withdrawing water for administrative purposes. When drafting, pumps shall be screened at drafting sites to prevent entrainment of aquatic species, screen area shall be sized to prevent impingement on the screens, and shall have one-way valves to prevent back-flow into streams. Use appropriate screening criteria where listed fish or critical habitat are present.

MA-STD-RMA-14. Aerial Application of Fire Chemicals

Aerial application of chemical retardant, foam, or other fire chemicals is prohibited within 300 feet (slope distance) of perennial and intermittent waterways. Waterways are defined as any body of water (including lakes, rivers, streams, and ponds) whether it contains aquatic life except in cases where human life or public safety is threatened and chemical use could be reasonably expected to alleviate that threat. This includes open water that may not be mapped as such on avoidance area maps and intermittent streams with surface water at the time of retardant use.

MA-STD-RMA-15. Lands and Special Uses Authorizations

Authorizations for all new and existing special uses that result in adverse effects to habitat conditions and ecological processes essential to aquatic and riparian-dependent resources shall require mitigation that results in re-establishment, restoration, mitigation, or improvement of those conditions and processes. These authorizations include, but are not limited to, water diversion or transmission facilities (e.g., pipelines, ditches), energy transmission lines, roads, hydroelectric, and other surface water development proposals.

MA-STD-RMA-16. Hydroelectric - New Support Facilities

Locate new support facilities outside of RMAs. Support facilities include any facilities or improvements (workshops, housing, switchyards, staging areas, transmission lines, etc.) not directly integral to the production of hydroelectric power or necessary for the implementation of prescribed protection, mitigation, or enhancement measures.

MA-STD-RMA-17. Mineral Operations in RMAs

For operations in RMAs, ensure operators take all practicable measures to maintain, protect, and rehabilitate water quality and habitat for fish and wildlife and other riparian-dependent resources affected by the operations. Ensure operations do not retard or prevent attainment of aquatic and riparian desired conditions. Exceptions to this standard include situations where the Forest Service has limited discretionary authorities. In those cases, project effects shall be minimized and shall not prevent or retard attainment of aquatic and riparian desired conditions to the extent possible within those authorities.

MA-STD-RMA-18. Operating Plans for Existing Activities

Work with operators to adjust their mineral operations to minimize adverse effects to aquatic and riparian-dependent resources in RMAs. Require best management practices and other appropriate conservation measures to mitigate potential mine operation effects.

MA-STD-RMA-19. Structures and Support Facilities

Work with operators to locate structures, support facilities, and roads outside RMAs. Where no alternative exists, work with operators to locate and manage them to minimize effects upon aquatic and riparian desired conditions. When structures, support facilities, and roads are no longer required for mineral activities, reclaim sites to achieve aquatic and riparian desired conditions. Require operations to provide financial assurance adequate for the forest to reclaim disturbed areas in the absence of a financially solvent operator. Bonding will be posted prior to approval of any Plan of Operations.

MA-STD-RMA-20. Mine Waste

Do not locate mine waste with the potential to generate hazardous substances (as defined by the Comprehensive Environmental Response, Compensation, and Liability Act) within RMAs and/or areas where groundwater contamination is possible. The exception is short-term staging of waste during abandoned mine cleanup.

MA-STD-RMA-21. Leasable Exploration and Development

Consent decisions to allow mineral leasing will provide Bureau of Land Management (BLM) stipulations for lease management. Once leased, the Forest will actively coordinate and consult with BLM regarding lease exploration and development activities. In consultation with the BLM, the Forest will recommend best management practices and mitigation as Conditions of Approval to support attainment and maintenance of aquatic and riparian desired conditions.

MA-STD-RMA-22. Salable Minerals

Prohibit salable mineral activities such as sand and gravel mining and extraction within RMAs unless no alternatives exist and if the action(s) will not retard or prevent attainment of aquatic and riparian desired conditions.

MA-STD-RMA-23. Inspection and Monitoring of Mineral Plans, Leases, and Permits

Conduct inspections, monitor, and annually review required monitoring for mineral plans, leases, and permits. Evaluate inspection and monitoring results and require mitigations for mineral plans, leases, and permits as needed to eliminate impacts that retard or prevent attainment of aquatic and riparian desired conditions.

MA-STD-RMA-24. Suction Dredge and Placer Mining

Mineral activities on NFS lands shall avoid or minimize adverse effects to aquatic threatened or endangered species/populations and their designated critical habitat.

- All suction dredge mining activities in occupied habitat for aquatic threatened or endangered species/populations and in their designated critical habitat shall be evaluated by the district ranger to determine if the mining activity is causing or "will likely cause significant disturbance of surface resources"[33] . A likelihood that a threatened or endangered species "take" (defined in Section 3[18] of the ESA of 1973 as amended) incidental to the mining activity is an example of a significant resource disturbance. Other significant disturbances that do not involve incidental take might involve effects on channel stability or stream hydraulics.
- If the district ranger determines that placer mining operations are causing or will likely cause significant disturbance to surface resources, the district ranger shall contact and inform the operator to seek voluntary compliance with 36 CFR 228 mining regulations and to cease operations until compliance.

Guidelines

MA-GDL-RMA-01. Aquatic and Riparian Conditions

RMAs include portions of watersheds where aquatic and riparian-dependent resources receive primary management emphasis. When RMAs are properly functioning[29] and aquatic and riparian desired conditions are being achieved, projects should maintain[30] those conditions. When RMAs have impaired function[29] or are functioning-at-risk[29] or if aquatic and riparian desired conditions are not yet being achieved and to the degree that project activities would contribute to those conditions, projects or permitted activities should restore or not retard attainment of desired conditions[30]. Short-term adverse effects from project activities may be acceptable when they support long-term recovery of aquatic and riparian desired conditions. Exceptions to this guideline include situations where Forest Service authorities are limited. In those cases, project effects toward attainment of RMA desired conditions should be minimized and not retard attainment of desired conditions to the extent possible within Forest Service authorities.

MA-GDL-RMA-02. Fuel Storage

Refueling shall occur with appropriate containment equipment and a spill response plan in place. Wherever possible, storage of petroleum products and refueling will occur outside of RMAs. If refueling or storage of petroleum products is necessary within RMAs, these operations will be conducted no closer than 100 feet from waterways.

MA-GDL-RMA-03. Felling Trees

When trees are felled for safety, they should be retained onsite (channels and adjacent floodplains) to maintain, protect, or enhance aquatic and riparian resources unless otherwise determined that such trees pose a new risk to administrative or developed recreation sites.

MA-GDL-RMA-04. Landings, Skid Trails, Decking, and Temporary Roads

Landings, designated skid trails, staging, or decking should not occur in RMAs, unless there are no other reasonable alternatives, in which case they should:

- Be of minimum size
- Be located outside the active floodplain

[33] The phrase ''will likely cause significant disturbance of surface resources'' means that, based on past experience, direct evidence, or sound scientific projection, the district ranger reasonably expects that the proposed operations would result in impacts to NFS lands and resources that probably need to be avoided or ameliorated by means such as reclamation, bonding, timing restrictions, and other mitigation measures to avoid or minimize adverse environmental impacts on NFS resources.

- Minimize effects to large wood, bank integrity, temperature, and sediment levels
- Not result in unnatural modification of flow paths
- Enable the impacted site(s) to be reclaimed as soon as practicable.

Existing infrastructure may be reused with intent of removal and restoration of riparian function as soon as practicable.

MA-GDL-RMA-05. Road Construction

Construction of permanent or temporary roads in RMAs should be avoided except where Forest authorities are limited by law or regulation, and except where necessary for:

- Stream crossings
- Stream, wetland, riparian restoration, or road relocation
- Mine reclamation
- Employee, contractor, or public safety

MA-GDL-RMA-06. Temporary Road Reconstruction

Temporary roads in RMAs should be avoided. When avoidance is not possible, temporary roads should be managed to protect and restore aquatic and riparian desired conditions.

MA-GDL-RMA-07. Road and Trail Construction – Wetlands and Unstable Areas

Wetlands and unstable areas should be avoided when reconstructing existing roads and trails or constructing new roads, trails, and landings. Impacts should be mitigated where avoidance is not possible.

MA-GDL-RMA-08. Road and Trail Management – Drainage

Road and trail drainage should be routed away from potentially unstable channels, fills, and hillslopes.

MA-GDL-RMA-09. Road and Trail Construction – Passage for Riparian-dependent Species

Construction or reconstruction of stream crossings should allow passage for other riparian-dependent species where connectivity has been identified as an issue.

MA-GDL-RMA-10. Road and Trail Construction—Minimization of Diversion Potential

Where feasible, new or reconstructed stream crossings should be designed to prevent the diversion of streamflow out of the channel and down the road or trail in the event of crossing failure. If avoidance is not possible, minimize the potential effects of crossing failure.

MA-GDL-RMA-11. Fish Passage Barriers

Consider retaining fish passage barriers where they serve to restrict access by undesirable non-native species and are consistent with restoration of habitat for native species.

MA-GDL-RMA-12. Annual Grazing Use Indicators

The purpose of this guideline is to manage livestock grazing to help attain and maintain aquatic and riparian desired conditions over time. Specifically, it is intended to maintain or improve vegetative and stream conditions, help ensure the viability of aquatic species, provide important contributions to the recovery of ESA-listed species, and facilitate attainment of State water quality standards.

The annual livestock use and disturbance indicators described below should be applied to help achieve, over longer timeframes, conditions at site and watershed scales that enable attainment and maintenance of desired conditions. The values specified below are starting points for management. Only those indicators and numeric values that are appropriate to the site and necessary for maintaining or moving towards desired conditions should be applied.[34] Specific indicators and indicator values should be prescribed and adjusted, if needed, in a manner that reflects existing and desired conditions and the natural potential of the specific geo-climatic, hydrologic and vegetative setting in which they are being applied[35]. Indicators and indicator values should be adapted over time based on long-term monitoring and evaluation of conditions and trends. Alternative use and disturbance indicators and values, including those in current ESA consultation documents or non-ESA allotment management plans or allotment NEPA decisions, may be used if they are based on best available science and monitoring data and meet the purpose of this guideline.

1. Where desired conditions for water quality, aquatic habitat, and riparian vegetation have been attained[36] and riparian vegetation is in late-seral conditions[37], protect or maintain those conditions by managing annual livestock grazing use and disturbance as follows [38]:
    - maintain a minimum of 4-inch residual stubble height [39] of key herbaceous species on the greenline;
    - utilize no more than 30-45 percent of deep-rooted herbaceous vegetation in the active floodplain[40] and, as needed, in other critical portions of the riparian management area;
    - limit streambank alteration[41] to no more than 20-25 percent; and
    - limit use of woody species to no more than 30-40 percent of current year's leaders along streambanks and, as needed, in other critical portions of the riparian management area.
2. Where desired conditions for water quality, aquatic habitat, and/or riparian vegetation have not yet been attained, but conditions are moving towards those desired conditions[9], enable continued recovery by managing annual livestock grazing use and disturbance as follows:

[34] Not all indicators may apply to a particular site. For example, stubble height is a meaningful indicator for lower gradient streams where herbaceous vegetation plays an important role in stabilizing streambanks. It is generally less useful for steeper channels, where channel morphology is controlled by coarse substrates. Moreover, not all numeric values may apply to a particular site (e.g., sites with short graminoids).
[35] Indicator values for specific sites should be determined based on consideration of local conditions including, but not limited to, the degree of departure between existing and desired conditions, the current and desired rate of improvement, site sensitivity to grazing, grazing season, the presence of special status species (e.g., ESA-listed species, Regional Forester's sensitive species) that are sensitive to grazing, whether or not water quality standards and related requirements (e.g., TMDLs for impaired waters) are being met, and the site's importance in maintaining or attaining those standards and requirements. Consideration of these conditions is especially important in prescribing specific stubble height values within the 4-inch to 6-inch range and streambank alteration values within the 15-20% range.
[36] Assessment of conditions and trends should be based on best available information at a variety of spatial and temporal scales. Site-specific information is particularly important.
[37] Late seral conditions means the existing riparian vegetation community is similar to the potential natural community composition (per Winward 2000).
[38] Per Pacfish/Infish Monitoring, Multiple Indicator Monitoring (BLM Technical Reference 1737-23) protocols or comparable methods for stubble height, streambank alteration, and use of woody species. Per Bureau of Land Management protocols (BLM/RS/ST-96/004+1730) or comparable methods for herbaceous utilization.
[39] Stubble height criteria apply at the end of the grazing period, when that period ends after the growing season. When the grazing period ends before the growing season does, stubble height criteria can be applied at the end of the grazing period or the end of the growing season.
[40] Active floodplain is defined as the area bordering a stream inundated by flows at a surface elevation that is two times the maximum bankfull depth (measured at the thalweg).
[41] Streambank alteration criteria apply within 1-2 weeks of removal of livestock from each pasture.

- maintain a minimum of 4-inch to 6-inch residual stubble height of key herbaceous species on the greenline[10];
- follow the criteria for utilization of deep-rooted herbaceous vegetation, streambank alteration, and use of woody species described in (1).

3. Where desired conditions for water quality, aquatic habitat, and/or riparian vegetation have not been attained and conditions are not moving towards those desired conditions[9], enable recovery by managing annual livestock grazing use and disturbance as follows:
    - maintain a minimum of 6-inch residual stubble height of key herbaceous species on the greenline;
    - utilize no more than 30-35 percent of deep-rooted herbaceous vegetation in the active floodplain and, as needed, in other critical portions of the riparian management area;
    - limit streambank alteration to no more than 15-20 percent[12]; and
    - limit use of woody species to no more than 20-30 percent of current year's leaders along streambanks and, as needed, in other critical portions of the riparian management area.

MA-GDL-RMA-13. Recreational and Permitted Grazing Management – Livestock Handling Activities

Livestock trailing, bedding, loading, and other handling activities should be avoided in RMAs, except for those that inherently must occur in an RMA.

MA-GDL-RMA-14. Recreational and Permitted Grazing Management - Fish Redds

Avoid livestock trampling of federally listed threatened or endangered fish redds.

MA-GDL-RMA-15. Recreation Management – New Facilities and Infrastructure

New facilities or infrastructure should not be placed within expected long-term channel migration zones. Facilities that inherently occur in RMAs (e.g., road stream crossings, boat ramps, docks, interpretive trails) should be located to minimize impacts on riparian-dependent resource conditions (e.g., within geologically stable areas, avoiding major spawning sites).

MA-GDL-RMA-16. Recreation Management – Existing Facilities

Consider removing, relocating, or re-designing existing recreation facilities that are not meeting desired conditions in RMAs or are in active floodplains.

MA-GDL-RMA-17. Wildland Fire and Fuels Management – Temporary Fire Facilities

Temporary fire facilities (such as, incident bases, camps, staging areas, helispots, and other centers) for incident activities should be located outside RMAs. When no practical alternative exists, all appropriate measures to maintain, restore, or enhance aquatic and riparian-dependent resources should be used.

MA-GDL-RMA-18. Water Drafting Sites

Water drafting sites should be located and managed to minimize adverse effects on stream channel stability and instream flows needed to maintain riparian resources, channel conditions, and fish habitat.

MA-GDL-RMA-19. Wildland Fire and Fuels Management – Fire Line Construction

Water bars on fire lines should be located and configured to minimize sediment delivery to streams and to minimize creation of new stream channels and unauthorized roads and trails.

MA-GDL-RMA-20. Wildland Fire and Fuels Management – Burning Masticated Fuels

To minimize soil damage when burning masticated fuels within RMAs, burning of masticated fuel beds larger than 3 inches in depth should be accomplished with moist soil conditions.

MA-GDL-RMA-21. Direct Ignition

Direct ignition in RMAs should not be used unless effects analysis demonstrates that it would not retard attainment of aquatic and riparian desired conditions.

MA-GDL-RMA-22. Hydroelectric – Existing Support Facilities

Existing support facilities that are located within RMAs should be operated, maintained, or removed to restore or enhance aquatic and riparian-dependent resources.

Suitable Uses

Table H-2. Suitable uses for riparian management areas

Activity or Use	May Authorize	May Not Authorize
Facilities, administrative	X	X New facilities, except those that inherently must be in RMAs New
Facilities, developed recreation	X	X New facilities, except those that inherently must be in RMAs
Fire, planned ignition	X	
Fire, use of unplanned ignition	X	
Forest products, commercial use (non-timber harvest)	X	
Forest products, firewood, commercial use	X	
Forest products, firewood, permitted personal use		X
Forest products, personal use	X	
Grazing, permitted	X	
Infrastructure, above ground infrastructure associated with special use permits, such as communication sites, energy developments, and/or utility lines.	X	
Mechanized recreational use, summer	X	
Minerals, leasable – surface occupancy[1]	X*	
Minerals, locatable[2]	X	
Minerals, salable	X	
Motorized recreational use, summer, trails or play areas	X	X New designated motorized use areas, except road/trail stream crossings
Motorized recreational use, winter, trails or cross-country	X	

Activity or Use	May Authorize	May Not Authorize
Non-motorized recreational use, summer	X	
Non-motorized recreational use, winter	X	
Road construction, permanent	X	
Road construction, temporary	X	
Special use permits	X	
Timber harvest as a restoration tool	X	
Timber harvest, scheduled production		X
Utility corridors	X	

*In addition, waste and disposal areas are not authorized in RMAs.

[1] Forest Service has consent authority for leasable minerals. The Secretary of Interior holds authority to issue permits and leases.

[2] Locatable minerals are suitable unless the area is withdrawn from mineral entry.

Key Watersheds

Key Watersheds are management areas that either provide, or are expected to provide, high-quality habitat or water for rare aquatic and riparian species and/or provide high-quality drinking water to communities that depend upon Forest Service watersheds as their municipal water sources. Key Watersheds were designated using the protocol in Reiss et al. 2008 using Bull Trout (BT), Westslope Cutthroat Trout (WSCT), and Interior Redband Trout (IRT) as surrogate species, and the Aquatic Ecological Condition model which assesses watershed condition at the subwatershed scale. The designation of a subwatershed as key was based on the condition of the subwatershed and the status of surrogate species within the subwatershed.

The key watershed network is expected to remain unchanged through the life of the revised forest plan. Future adjustments may be necessary based on substantial, new information (e.g. populations and trends, life history characteristics and needs, distribution and use/non-use of habitats) or new listings of species. For more detail on how Key Watersheds were designated, refer to the Fisheries Specialist Report prepared for the Final Environmental Impact Statement (MacDonald et al. 2018). Key Watersheds are shown in Table H-3 and Figure H-4.

Table H-3. Key Watershed name and numbers, acreage, surrogate species, and Bull Trout Critical Habitat

Key Watershed Number	Key Watershed Name	Total Subwatershed Acres	CNF Ownership Acres	Surrogate Species	Bull Trout Critical Habitat
170102160102	Winchester Creek	10482	5628	WSCT	+
170102160103	Smalle Creek	17754	11058	BT, WSCT	+
170102160201	Exposure Creek-Pend Oreille River	41224	14296	BT, WSCT	
170102160204	Cee Cee Ah Creek	12063	6500	WSCT	
170102160206	Tacoma Creek	39519	27182	BT, WSCT	+
170102160302	West Branch Le Clerc Creek	21672	15099	BT, WSCT	+
170102160303	East Branch Le Clerc Creek	26663	11145	BT, WSCT	+
170102160304	Ruby Creek	19597	18385	BT	+
170102160401	Harvey Creek	32999	27554	BT, WSCT	

Key Watershed Number	Key Watershed Name	Total Subwatershed Acres	CNF Ownership Acres	Surrogate Species	Bull Trout Critical Habitat
170102160402	Headwaters Sullivan Creek	45516	45417	BT, WSCT	+
170102160403	North Fork Sullivan Creek-Sullivan Creek	12709	11260	BT, WSCT	+
170102160702	Headwaters South Salmo River	20697	12472	BT	
170102160902	Sweet Creek-Pend Oreille River	41832	28905	WSCT	
170102160903	Slate Creek	20195	19907	BT, WSCT	+
170102161003	Cedar Creek	17209	5359	BT, WSCT	+
170200011004	North Fork Deep Creek	49257	26634	WSCT	
170200011301	South Fork Sherman Creek	22004	21899	IRT	
170200011302	Upper Sherman Creek	26381	26260	IRT	
170200011303	Lower Sherman Creek	20987	15998	IRT	
170200011306	Barnaby Creek	23108	14299	IRT	
170200011401	Upper Hall Creek	31648	13786	IRT	
170200021301	Trout Creek	23435	14122	IRT	
170200021701	Tonata Creek	14453	13781	IRT	
170200021907	East Deer Creek-Kettle River	23385	15443	WSCT	
170200022002	North Fork Deadman Creek	13450	13187	IRT	
170200022003	Deadman Creek	26518	22310	IRT	
	Total	654,757	**457,886**		

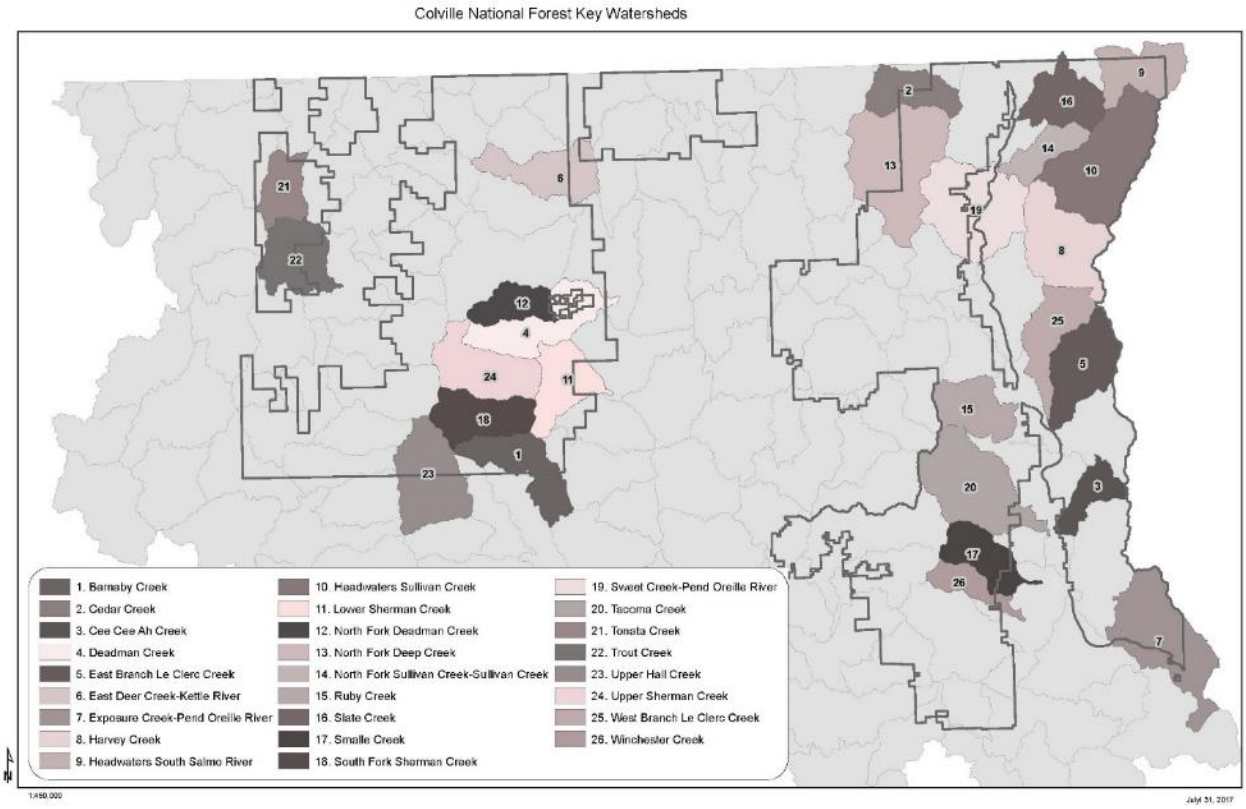


Figure H-4. Key watersheds

A subset of key watersheds are designated as priorities for restoration through the life of the plan. Key watersheds that are a priority for restoration are where the Forest will focus the majority of aquatic restoration projects under the revised forest plan. Objectives for Key Watersheds that are a priority for restoration were estimated based on the amount of restoration work needed to maintain or improve watershed condition. Key Watersheds that are a priority for restoration are shown in Table H-4.

Table H-4. Key Watersheds that are a priority for restoration, and estimated restoration completed through the life of the plan

Key Watershed Prioritization	Road Improvements (miles)*	Aquatic Organism Passage Improvement (# of crossings)	Range Infrastructure Improvement (acres)	Riparian Vegetation Structure Improvement (acres)	Stream Restoration (miles)
West Branch Le Clerc Creek	3	5	20	0	10
East Branch Le Clerc Creek	3	1	20	0	10
Deadman Creek	5	1	30	75-150	3
Upper Sherman Creek	5	5	0	75-150	2
South Fork Sherman Creek	5	9	0	75-150	4
Barnaby Creek	5	5	30	75-150	4
Harvey Creek	15	4	0	75-150	8

Key Watershed Prioritization	Road Improvements (miles)*	Aquatic Organism Passage Improvement (# of crossings)	Range Infrastructure Improvement (acres)	Riparian Vegetation Structure Improvement (acres)	Stream Restoration (miles)
Tonata Creek	4	4	50	75-150	3
North Fork Deadman Creek	5	1	30	75-150	3
North Fork Sullivan Creek	1	2	0	0	1
Sullivan Creek	15	6	0	75-150	20
Ruby Creek	20	4	30	75-150	3
Treatments in additional key and/or priority watersheds (estimate addition 3 subwatersheds during 15 years)	30	6	30	75-150	10
Total for the life of the plan (essential projects completed for 14 subwatersheds)	116 miles	53 crossings	240 acres	750-1500 acres	81 miles

Key Watershed Plan Components

Desired Conditions

FW-DC-WR-16. Key Watershed Network

Networks of watersheds with functional habitat and functionally intact ecosystems contribute to and enhance conservation and recovery of specific threatened, endangered, and/or sensitive aquatic species and high water quality and natural flow regimes. The networks contribute to short-term conservation and long-term recovery at the Recovery Unit or other appropriate population scale.

FW-DC-WR-17. Roads in Key Watersheds

Roads in key watersheds are not a risk to the function of soil and water resources. Roads do not disrupt hydrologic or aquatic habitat function or threatened and endangered species biological and behavioral attributes.

FW-DC-WR-18. Key Watershed Integrity

Key watersheds have high watershed integrity and contribute to resilient aquatic and riparian ecosystems.

Objectives

FW-OBJ-WR-05. Key Watershed Restoration Prioritization

Management in key watersheds focuses on restoration or preservation of watershed, aquatic, and riparian function and recovery of threatened and endangered species. Improve watershed condition class in key watersheds that are a priority for restoration within 15 years of forest plan implementation. Key watersheds that are a priority for restoration are East Branch LeClerc Creek, West Branch LeClerc Creek, Deadman Creek, Barnaby Creek, Harvey Creek, North Fork Deadman Creek, North Fork Sullivan Creek,

Sullivan Creek, Ruby Creek, Tonata Creek, Upper Sherman Creek, and South Fork Sherman Creek subwatersheds.

Additional key watersheds that are a priority for restoration will be identified, as appropriate, through the life of the plan through the WCF process.

FW-OBJ-WR-06. Key Watershed Road Treatments

Reduce road-hydrologic connectivity and sediment delivery on roads through storm damage risk reduction treatments, full hydrologic decommissioning, and other accepted treatment measures on 116 miles of hydrologically connected road within 15 years of forest plan implementation.

Restore or maintain aquatic organism passage and improve hydrologic and aquatic habitat function at 53 road/stream crossings for all native aquatic species, seasons, flows, and life stages in key watersheds within 15 years of forest plan implementation through culvert replacement or crossing improvement and natural channel design or other acceptable treatment measures that provide for natural stream channel function at all flows.

FW-OBJ-WR-07. Key Watershed Range Infrastructure Improvements

Improve hydrologic and aquatic function through range infrastructure improvements, including riparian fencing, movement and improvement of watering troughs, and other acceptable treatments over 240 acres within 15 years of plan implementation.

FW-OBJ-WR-08. Upland Vegetation Structure in Riparian Management Areas in Key Watersheds

Move upland vegetation within riparian management areas in key watersheds toward historical range of variability on 1,500 acres within 15 years of plan implementation.

FW-OBJ-WR-09. Stream Restoration in Key Watersheds

Restore hydrologic, geomorphic, and riparian process and function on 81 miles of stream within 15 years of forest plan implementation through activities including streambank stabilization, restoration of lateral and vertical hydrologic connectivity, and improvement of stream channel and floodplain function.

Standards

FW-STD-WR-05. Road Construction and Hydrologic Risk Reduction in Key Watersheds

In Key Watersheds and in subwatersheds with ESA critical habitat for aquatic species that are functioning properly with respect to roads, there will be no net increase (at least one mile of road-related risk reduction for every new mile of road construction) in system roads that affect hydrologic function. In Key Watersheds and in subwatersheds with ESA critical habitat for aquatic species that are functioning-at-risk or have impaired function with respect to roads, there will be a net decrease (for every mile of road construction there would be greater than one mile of road-related risk reduction) in system roads that affect hydrologic function to move toward proper function. Treatment priority shall be given to roads that pose the greatest relative ecological risks to riparian and aquatic ecosystems. Road-related risk reduction will occur prior to new road construction unless logistical restrictions require post-construction risk reduction.

FW-STD-WR-06. Hydroelectric and Other Water Development Authorizations in Key Watersheds

Hydroelectric and other water development authorizations shall include requirements for instream flows and habitat conditions that maintain or restore native fish and other desired aquatic species populations, riparian-dependent resources, favorable channel conditions, and aquatic connectivity.

FW-STD-WR-07. New Hydroelectric Facilities and Water Developments

New hydroelectric facilities and water developments shall not be located in a key watershed unless it can be demonstrated they have minimal risks and/or no adverse effects to fish and water resources for which the key watershed was established.

Guidelines

There are no guidelines specific to Key Watersheds.

Watershed Analysis

Background and Purpose

Watershed analysis is an essential component of the Colville ARCS. Watershed analysis is an interdisciplinary analysis of the status and trends of watershed and aquatic ecosystem conditions, key State-designated beneficial uses of water (e.g., municipal water supply), and the hydrologic, geomorphic, and biological processes that strongly influence them. This important component of the ARCS provides consistent, mid-scale information that serves as a foundation for plan implementation through the development of strategic and integrated programs and projects that protect and restore aquatic resources, while enabling informed and sustainable resource use and management. These analyses, together with assessment (Section 7), monitoring, and evaluation (Section 12), provide context and information to adaptively execute the other components of the ARCS. These include management of RMAs and Key Watersheds, implementation of Watershed Restoration, and compliance with Standards and Guidelines.

Watershed analysis is intended to guide plan implementation by providing decision-makers and others: 1) information to identify activities that would maintain watershed and aquatic and riparian ecological conditions or move them toward desired conditions; and 2) the context for developing projects and evaluating their consistency, via the NEPA process, with plan direction (that is, desired conditions, objectives, standards, and guidelines associated with watershed and aquatic resources). This includes ensuring that management activities in Key Watersheds and RMAs maintain, restore, or enhance aquatic and riparian resources.

Through identification of actions needed to avoid or minimize adverse effects and/or restore ecosystem conditions and processes, watershed analysis is also intended to enable protection and recovery of listed species and their habitats and to facilitate efficient project-level conferencing and consultation under Section 7 of the Endangered Species Act. Similarly, it should enable protection and restoration of water quality and the full range of beneficial uses of water identified under the Clean Water Act.

Watersheds to be Analyzed

In the late ‘90s and early 2000’s, the Forest completed watershed analysis for over 20 percent of the Forest. Generally, watershed analyses were completed to inform vegetation management projects, and have been completed for the Ninemile, Thirteenmile, Tacoma, Cusick, LeClerc, Lone Ranch, West Deer, Lost, Ruby, Cee Cee Ah, Skookum, Loop Creek, South Deep, Slate, Salmo, Sullivan, Tonata, Quartzite,

and Scatter Watersheds. An objective is included in the revised forest plan to update or complete watershed analysis during the next 15 years.

FW-OBJ-WR-11. Watershed Analysis

Within 15 years of plan implementation, complete or update watershed analyses for five subwatersheds. Criteria for selecting subwatershed for watershed analysis include: Key Watersheds, Priority Watersheds, watersheds that support designated critical habitat, or support listed species, and watersheds where management activities are likely to occur that may affect aquatic resources (due to their inherent nature, location, timing, or scale).

Criteria for selecting potential watersheds for which analyses will be completed include 1) Key Watersheds; 2) watersheds that have been or likely will be identified as Priority Watersheds during the life of the plan; 3) watersheds that support listed species or contain designated critical habitat; and 4) watersheds wherein management activities are likely to occur that may substantially affect aquatic resources (e.g., due to their inherent nature, location, timing, or scale).

Watershed analyses should generally be conducted or updated prior to developing and implementing Watershed Restoration Action Plans for Priority Watersheds.

In addition, watershed analyses shall be conducted or updated prior to:

- Proposing changes to RMA widths
- Timber salvage or construction of facilities in RMAs
- Construction of permanent system roads in RMAs

Line Officer Role

The desired outcome is an efficient, effective analysis that provides a better understanding of watershed structure and function and a set of recommendations that help inform future management actions within and around the watershed. To achieve this goal, line officers should guide analysis teams throughout the analysis process, ensuring that the analysis focuses on the most critical issues and questions and the scope, type and level of analysis is aligned with management needs and available financial resources and staff. This is critical to avoiding common pitfalls observed in previous analyses, which included unconstrained scope and level of detail.

Analysis Process

The watershed analysis process (Regional Ecosystem Office, 1995) includes 6 steps to be conducted via an interdisciplinary process: 1) characterizing the study watershed; 2) identifying important water and aquatic resources and key management issues and questions associated with them; 3) describing current resource conditions and trends and the dominant biophysical processes (natural and human-caused) responsible for them; 4) comparing and contrasting those conditions with applicable reference conditions; 5) synthesizing and interpreting that information; and 6) identifying opportunities and making management recommendations to maintain or restore watershed and aquatic resources when those conditions are consistent with or trending toward desired conditions or otherwise to improve those resource conditions. It is generally based on existing information, although new information may be needed in some situations.

The 5th field watershed is the primary scale of the analysis. However, because relevant issues, ecological conditions, and dominant biophysical processes often occur at both broader and finer scales, components of the analysis may need to be conducted at a subbasin scale, while others may need to be addressed at a

subwatershed or finer scale. Still others (e.g., habitat connectivity between and within watersheds) may need to be evaluated at multiple scales. The challenge is to efficiently analyze the interaction of multiple processes operating at multiple spatial and temporal scales and incorporate relevant findings into a concrete watershed conservation and management strategy.

The topics to be covered in a watershed analysis generally include: 1) hydrologic and geomorphic processes; 2) vegetation; 3) disturbance regimes; 4) transportation systems; 5) water quality; 6) aquatic and riparian species and habitats; and 7) human uses.

Updating Existing Watershed Analyses

Most future work will involve updating existing analyses rather than conducting entirely new ones. The process for updates is similar to the analysis process described above, except that updates should be narrowly focused on refreshing, refining or augmenting only those critical components of the existing documents that do not reasonably address current issues and questions, adequately characterize current resource conditions and trends, align with current science and policy, or reflect contemporary management needs and opportunities.

Line officers should define the scope of these updates and the financial and staff resources available to support them, after considering the recommendations of an interdisciplinary team that has critically reviewed the existing analyses.

General Products

The products of a watershed analysis generally include all or a subset of the following, depending on the scope of the analysis:

- A summary of the current status and trajectory of watershed conditions, aquatic and riparian-dependent resources and their habitat, water quality, and key State-designated beneficial uses of water
- A description of the key historic and ongoing processes (natural and human-caused) responsible for those conditions and trends
- An assessment of the status and trends of the watershed with respect to general Forest-wide desired conditions (DCs) at applicable scales (subbasin and/or watershed) and any specific DCs for Key Watersheds and/or Riparian Management Areas (RMAs)
- Any recommended adjustments to the default, forest-wide widths for RMAs, as necessary
- A recommendation for retaining or changing the status of the watershed with respect to the Key Watershed network (e.g., adding or removing the watershed from the network)
- Specific opportunities for managing, protecting, and restoring the watershed and its important resource values. This includes identification of areas within the watershed that are particularly important and activities that could be taken or avoided to protect and restore watershed conditions while achieving other socioeconomic objectives
- A strategic framework for implementing restoration opportunities. This includes, if applicable, a ranked list of potential Priority Subwatersheds to consider restoring via the FS National Watershed Condition Framework (WCF) process, the type and scope of critical restoration treatments, their location and priority, and any major considerations for timing/completion of restoration work
- A completed Watershed Restoration Action Plan (WRAP) for WCF Priority Subwatersheds per the national template, as appropriate

- Significant information gaps and the inventories, monitoring, and/or analyses needed to address those gaps, and their relative priority
- A list of important monitoring questions and indicators.

These products should be informed by and aligned with the major goals, objectives, strategies, and tactics included in other relevant restoration/recovery plans (e.g., ESA-recovery plans, State restoration plans for impaired waters).

Specific map and tabular products may include all or a subset of the following, depending on the scope of the analysis:

- Perennial and intermittent streams, fish habitats (including key spawning and rearing areas, critical habitat, etc.), and any major barriers to fish passage
- Other special aquatic habitats (side channels, ponds, wetlands, etc.) of particular importance
- Groundwater-dependent ecosystems (including springs) and important groundwater recharge zones
- Key beneficial uses of water
- Major water rights and uses
- The quality, quantity, and timing of streamflows and areas and processes that strongly influence them
- Any water-quality limited stream segments
- Available stream and water quality inventory and monitoring results, including those from PIBO, applicable stream temperature monitoring and assessment programs, the Regional stream survey program, and other relevant programs
- Key and/or Priority Watersheds in the analysis area
- RMAs, including unstable areas
- Key geomorphic features and processes strongly influencing watershed conditions and resources
- Current and historic forest and rangeland vegetative conditions
- Wildfire risks relevant to aquatic and riparian resources
- Potential impacts/risks that the road network poses to watershed conditions and aquatic resources
- Known and high-risk sites for aquatic and riparian invasive species
- Projected climatic changes (e.g., streamflows, stream temperatures, aquatic biota, vegetative conditions) relevant to aquatic resources
- A listing of priority restoration treatments, including the location or general area and relative priority and any major considerations for timing/completion of restoration work.

Relationship with Project and Watershed Planning and Landscape Analysis

Watershed analysis is best conducted separate from project-level planning and the NEPA process. Its results are used to identify projects ripe for implementation and facilitate preparation of NEPA analyses, particularly Purpose and Need statements and descriptions of existing conditions. A watershed analysis more thoroughly informs decisions. New analyses or significant updates may be appropriate when a unit is contemplating complex projects covering a wide range of activities over large areas and multiple years. Large-scale vegetation management projects spanning multiple watersheds may require an analysis to

understand resources and their interaction with a broader perspective. The watershed analysis approach described here can be applied at broader scales if needed.

Where feasible, watershed analysis should inform the watershed restoration process. Specifically, these analyses can guide selection of Priority Watersheds and development of Watershed Restoration Action Plans via the Watershed Condition Framework process.

Documentation

Watershed analyses should be a concise synthesis of key information about resource conditions and trends and the recommended management strategies and actions to address them. Line officers should define their scope and review and approve final products. These analyses should be kept in the record and be readily available for use. Supporting geospatial data should also be retained as part of the record. Watershed analyses are not Federal actions leading to a decision and do not require NEPA analysis, public outreach, and documentation.

Analysis Resources

Many resources, as described below, are available to support watershed analysis.

Existing Analysis

Much of the watershed analysis process involves the integration and synthesis of existing information. Therefore, identification and review of existing analyses is a critical step in the process. Similar to the assessment phase of plan development or revision (Section 7), information from the following documents should be reviewed and synthesized during the analysis process and be used to guide other components of the analysis, as appropriate given the scope of the analysis: 1) results of Step A (Assessment) of the National Watershed Condition Framework, 2) existing watershed analyses, 3) status reviews/assessments and recovery plans for threatened, endangered, or sensitive species, 4) State assessments and management plans associated with water quantity and quality, 5) results of broad-scale status and trend monitoring programs (e.g., AREMP and PIBO), 6) transportation analyses, and 7) climate change vulnerability assessments and adaptation strategies. In addition, relevant broad-scale environmental analyses for the area may be useful.

A key difference between the assessment phase of plan revision and watershed analysis is the spatial scale at which this and other information is considered. The assessment is intended to broadly characterize conditions across a whole Forest or several Forests. In contrast, watershed analysis is intended to address issues at finer scales, primarily at the watershed scale. Consequently, some of the existing information may only provide context for how conditions in a subbasin or watershed compare with other subbasins or watersheds. Other existing data and reports, however, may provide information about specific conditions within the analysis watershed. Some other sources may do both.

Analysis Guides

Existing guidebooks, such as Ecosystem Analysis at the Watershed Scale: Federal Guide for Watershed Analysis (Regional Ecosystem Office, 1995), provide a logical, structured and organized approach to conducting watershed analyses. Analysis teams are thus encouraged to use relevant components of those guidebooks to direct their work. Components of these guidebooks that are beyond the scope or level of detail decided by the line officer should be disregarded.

Datasets and Analysis Tools

Numerous datasets, models, and other analysis tools are available to assist in conducting watershed analysis. Each has different capabilities and strengths and limitations, which need to be critically

evaluated prior to their application. Use of these tools should be focused on filling important information gaps needed to address the key management questions identified and approved by the line officer early in the analysis process.

Available models can simulate a variety of watershed processes, including surface erosion and mass wasting, stream shade and/or heat loading to streams, large woody debris recruitment, and fluvial and floodplain processes. In addition, existing models can be used to characterize a variety of road-related impacts to watersheds and aquatic ecosystems.

The following datasets are generally available across the Region and can be used in the analysis process, as needed:

- National Hydrography Dataset and Watershed Boundary Dataset
- Fish Distribution and Fish Passage databases
- USGS streamflow monitoring
- Streamflow modeling (e.g., Variable Infiltration Capacity model)
- Physical and biological stream survey data and reports
- Historic surveys and photos
- National Watershed Condition Assessment
- AREMP and PIBO data and analyses
- Stream temperature monitoring and modeling (e.g., NorWeST products)
- State and Federal habitat and population monitoring programs
- State and Federal water quality monitoring
- State lists of water-quality limited streams (303-d list)
- Water Rights and Uses database
- Surface Water Diversion database
- Terrestrial Ecological Unit Inventory
- Topographic data (e.g., digital elevation models)
- Aerial photographs
- Existing and potential vegetation
- Fire Regime Condition Class maps
- Forest transportation systems and results of Travel Analyses
- Rangeland condition assessments and monitoring
- Aquatic and riparian invasive species databases
- Climate change datasets (snow, flow regimes, stream temperatures, soil-drought)

Typically, these data sources can and should be complemented with local information for the analysis area (e.g., localized road condition inventory).

Broadscale Status and Trend Monitoring

The products of broad-scale status and trend monitoring (see the Monitoring section of this document), particularly the PIBO dataset (Figure H-5 and Figure H-6), can be used to inform analysis of specific watersheds. For example, as a starting point for watershed analysis, analysis teams can consider how in-channel conditions and trends for a particular watershed fit within the distribution of conditions and trends across all reference (least disturbed) and managed watersheds within a larger area. This, together with the watershed-specific information described below, can enable analysis teams to more completely and accurately assess watershed and aquatic habitat conditions, their likely trajectories, the reasons those conditions exist (e.g., natural disturbance or human impacts), what actions might be warranted in the watershed, and generally how and where they should be implemented. This two-tiered approach, involving broad-scale status and trend assessment and monitoring across many watersheds to identify spatial and temporal patterns, coupled with more detailed, process-based analysis of specific watersheds to identify the causes of these patterns and management needs and opportunities, is consistent with the recommendations of Lisle et al. (2015).

It is important to recognize that while "reference conditions" are useful in describing potential environmental conditions and providing a tool for diagnosing current status and trends, they may not always equate to desired conditions. First, while they may characterize the "best available" and perhaps the "best attainable" conditions based on current data and information, they do not necessarily represent "natural" or "pristine" conditions because all watersheds have been impacted by human activities to some degree (e.g., fire suppression). As such, understanding of the range of true "natural conditions" is limited. In addition, these conditions need to be assessed in the context of the species, issue, or process of interest to holistically understand whether deviation from reference condition is ecologically meaningful. For example, high levels of fine sediments may adversely affect developing salmonid eggs, but may support spawning lamprey.

As described by Montgomery and MacDonald (2002), in-channel data are best viewed as one set of diagnostic indicators of watershed and aquatic habitat condition. To inform management decisions, it is important to understand the reasons for these conditions and what, if any, management actions are needed to address them. This is a challenge because channel conditions are highly variable over space and time and can result from multiple pathways and processes influenced by both natural conditions and human impacts (Lisle et al. 2015). Thus, evaluation of reach-level channel data requires more than simple comparisons with data from reference sites. Such evaluations should characterize the current state of the system and the dominant natural and human-caused processes that control key variables of interest. This will generally involve consideration of the location of the reaches in the channel network, regional and local biogeomorphic context, controlling influences such as sediment supply and transport capacity, riparian vegetation, in-channel flow obstructions, and disturbance history (Montgomery and MacDonald, 2002).

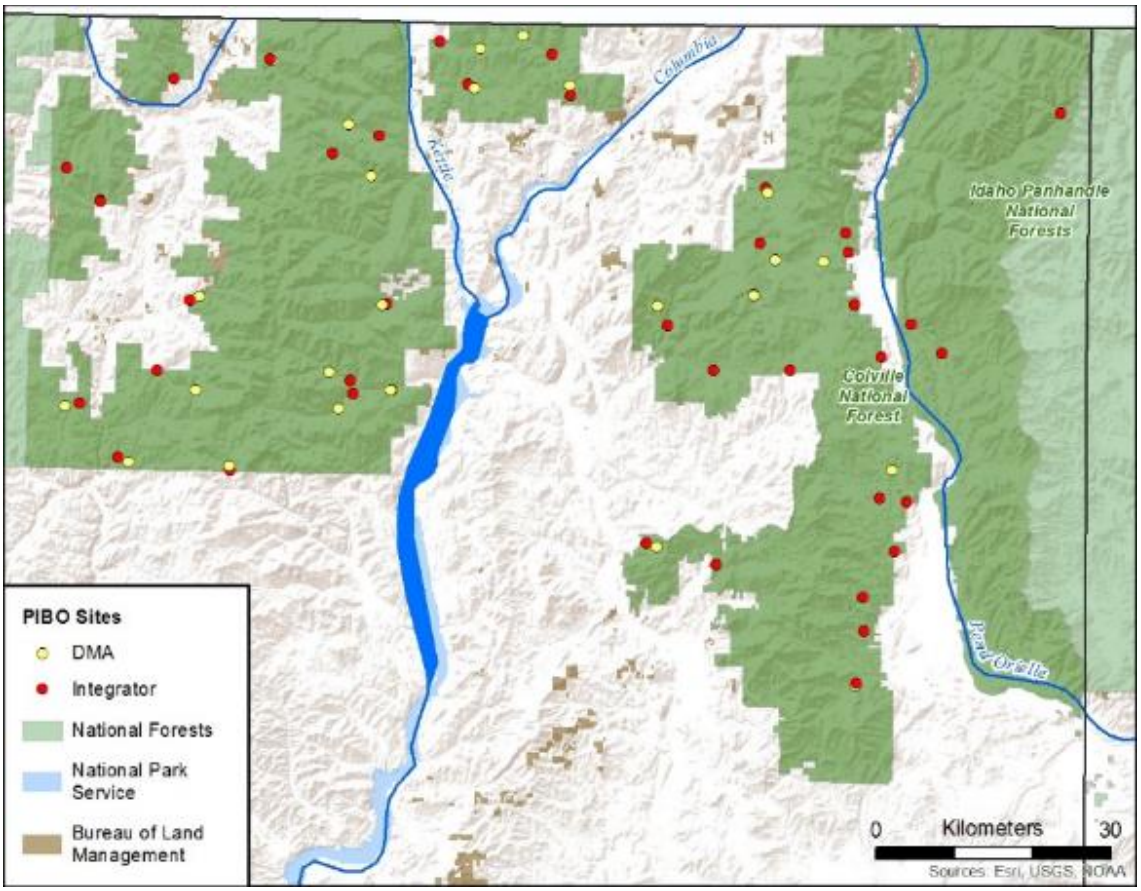


Figure H-5. Map of PIBO sites on the Colville National Forest

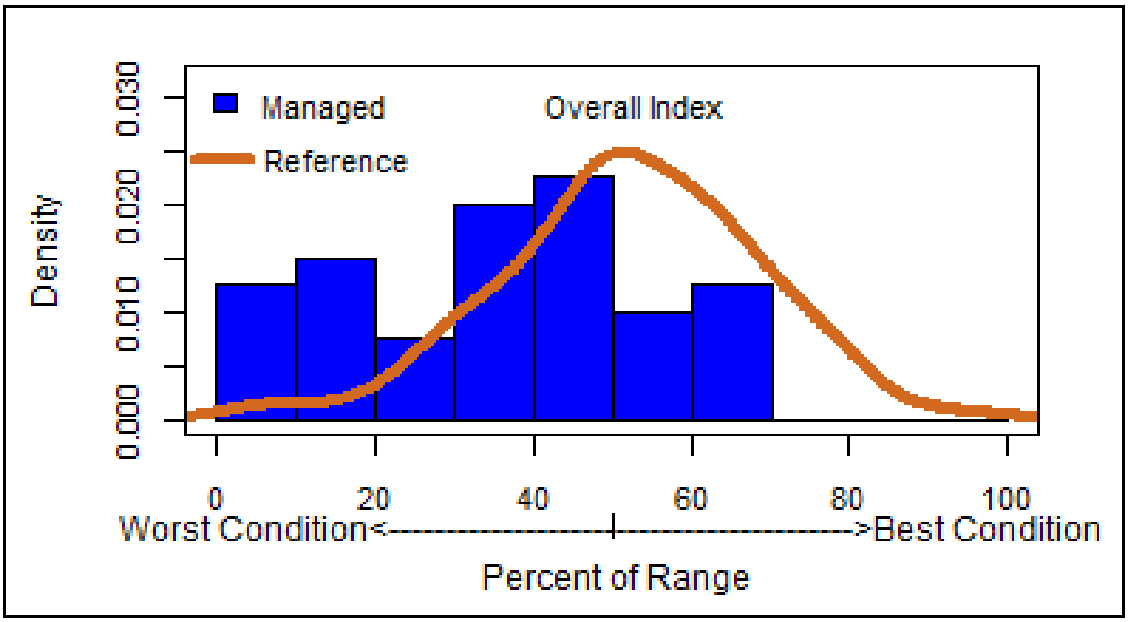


Figure H-6. The distribution of stream habitat condition index scores for sites on the Colville National Forest

The distributions of conditions for streams in managed watersheds (blue histogram) indicate that they are not as good as expected reference conditions, as determined from data from minimally-managed watersheds (brown line) across the PIBO study area. The habitat index is an integrated score comprised of scores from multiple habitat parameters, such as substrate composition, fine sediment in pools, large wood frequency, percentage pool habitat, and macroinvertebrate community composition (Al-Chokhachy et al. 2010). Scores are also available for individual habitat parameters. Reference conditions can be used to help assess how habitat conditions in a particular watershed or watersheds compare with those in the least disturbed watersheds. Consideration of natural watershed processes and human alterations of those processes is necessary to understand the reasons that those habitat conditions exist and what, if any, management actions are needed to address them.

Watershed Restoration

Background

Watershed restoration to benefit aquatic and riparian-dependent resources and water quality is an integral element of the Colville ARCS. Restoration, in concert with other ARCS elements, contributes to protection and recovery of those resources. Collectively, the goal of restoration and the ARCS as a whole is to provide for ecologically healthy watershed, riparian, and aquatic ecosystems, as defined by the aquatic and riparian desired conditions. The phrase “ecologically healthy” refers to functions affecting biodiversity, productivity, biochemical, and evolutionary processes that are adapted to the environmental conditions in a given region (Karr et al 1986; Karr 1991).

Watershed restoration is designed to facilitate the recovery of watershed functions and related physical, biological, and chemical processes to promote recovery of riparian and aquatic composition, structure, and ecosystem function. Restoring the health and resiliency of selected watersheds will help ensure that the network of Key Watersheds remains well-represented and distributed over time.

Watershed restoration is a catalyst for initiating ecological recovery (FEMAT 1993). Restoration efforts will be comprehensive, addressing both protection of existing functioning aspects of a watershed and restoration of degraded or compromised aspects. It may not be possible to restore every watershed and some restoration actions may only have limited success because of an extensive level of degradation. The effectiveness of restoration efforts is not likely to be extensive or immediately visible for some time. At the watershed scale, it may take an extended period (decades or longer) to observe the full effects of treatments. Even longer timeframes may be necessary to see changes at the regional scale.

Effective restoration at the watershed scale is a complex undertaking. Restoration programs require diagnosing watershed conditions and processes, identifying primary disturbance regimes (past, present and future), and the ability to locate, design, and implement integrated treatments to achieve the desired, watershed-scale response. To be effective, these programs need to: 1) target root causes of water quality, habitat and ecosystem change; 2) tailor restoration actions to local potential of the systems; 3) match the scale of restoration to the scale of the problem; and 4) be explicit about expected outcomes (Beechie et al. 2010). The Colville National Forest accomplishes restoration through a whole watershed approach including internal and external partners, passive and active restoration, prioritization, documentation of restoration needs, monitoring, and adaptive management.

Whole Watershed Approach and Partnerships

Water resources such as clean, cold water and healthy fish populations know no jurisdictional boundaries. To successfully fulfill agency responsibilities to maintain and restore these resources, work should be

implemented across boundaries with willing neighbors and other partners in restoration. Whole watershed restoration considers opportunities from the ridgetop to the valley bottom. Restoration should be designed and implemented at the watershed or subwatershed scale. Treatment objectives and activities on NFS lands should be coordinated with other resource programs and with restoration on other ownerships. Watershed-scale restoration is an interdisciplinary effort requiring close coordination and working partnerships among multiple resource programs, other agencies, Tribal governments, watershed councils, adjacent landowners, collaborative groups, and other stakeholders and partners. Interdisciplinary skills provide both operational and technical capacity for implementing comprehensive watershed restoration programs. Coordination and partnerships are essential to effectively address community and watershed-scale restoration needs and opportunities. Coordination also enhances skill and funding sources needed to sustain multi-year programs.

Types of Restoration

Watershed restoration programs include passive and active approaches. Both are needed for a successful restoration program (Roni et al. 2002).

Passive restoration involves the protection and/or natural recovery of watersheds and aquatic and riparian ecosystems. It is applied at the landscape scale as intended to enable ecosystems to resist and recover from large-scale disturbances, such as fire, floods, and debris flows as well as chronic disturbances. Passive restoration involves planning and implementing various resource management programs and activities (e.g., fuels and timber management, recreation) in a way that maintains watershed and habitat conditions when they are in good condition and facilitates their recovery when they are not.

Active restoration is active intervention with integrated project activities. It focuses on re-establishment or modification of specific ecosystem processes. Active restoration is generally applied using integrated treatments (e.g., fish passage, road decommissioning and stabilization, riparian and upslope vegetation treatment, instream habitat improvement, restoration of streamflows) that are strategically applied at multiple, priority sites within a watershed. It is focused and applied on a more limited scale (e.g., specific sites in Key and Priority watersheds) than passive restoration.

Active restoration should be prioritized to emphasize the protection and/or retention of existing high-quality habitat and water and naturally functioning watersheds and ecosystems. This is accomplished by identifying and treating major risk factors (e.g., unstable roads or poorly located and/or drained roads, certain invasive plants and animals, major obstructions to physical and biological connectivity) threatening ecosystem integrity and likely to adversely influence existing conditions. Identification, prioritization, and integrated treatment of watersheds with limited loss of function and condition are also a priority. These watersheds will likely serve as the next generation of refugia for fish and provide high-quality water in the future. Their selection should consider the extent of habitat degradation and the degree to which their natural diversity and ecological processes are retained (Reeves et al. 1995). Active restoration programs should consider and complement recovery plans for fish, water quality, and other riparian-dependent species. Mid-scale watershed analysis through the Watershed Condition Framework Priority Watershed designation process (described below) will be critical to identify key ecological processes influencing watershed condition and function and will be important in identifying specific protection and/or treatment objectives.

In cases where the full recovery of watershed functions and processes is not possible (e.g., mixed ownerships without coordinated restoration opportunities, major dams/diversions for hydropower or other developments that influence large and/or important portions of the floodplain or stream channel), mitigation treatments may be needed. These should incorporate design features to benefit aquatic and riparian-dependent resources.

Watershed Condition Framework

A fundamental goal of the Forest Service is "To protect NFS watersheds by implementing practices designed to maintain and improve watershed condition, which is the foundation for sustaining ecosystems and the production of renewable natural resources, values, and benefits" (FSM 2521). Watershed condition is defined as "The state of the physical and biological characteristics and processes within a watershed that affect the hydrologic and soil functions supporting aquatic ecosystems" (Potyondy and Geier 2010). Properly functioning watersheds have five characteristics (Potyondy and Geier 2010):

- Provide for high biotic integrity, and support adaptive animal and plant communities that reflect natural processes;
- Resilient and recover rapidly from natural and human disturbances;
- Exhibit a high degree of connectivity along the stream both laterally across the floodplain and valley bottom, and vertically between surface and subsurface flows;
- Important ecosystem services including high water quality, recharge of streams and aquifers, maintenance of riparian communities, and resiliency to climate variability and change;
- Maintain long-term soil function.

The Watershed Condition Framework (WCF) was conceptualized at the National scale to change the Forest Service's approach to landscape and watershed restoration. The WCF established a nationally consistent approach to classify watersheds based on underlying ecological, hydrological, and geomorphic functions and targets implementation of focused restoration activities in priority subwatersheds. The WCF provides outcome-based performance measures for documentation of improvement in watershed condition at Forest, Regional, and National scales (Potyondy and Geier 2010) through prioritization, and active and passive restoration.

The Watershed Condition Framework is a 6-step process for watershed restoration (Figure H-7) that includes:

1. Classifying watershed condition at the subwatershed scale;
2. Prioritizing watersheds for restoration;
3. Developing Watershed Restoration Action Plans;
4. Implementing integrated projects;
5. Tracking restoration accomplishments; and
6. Monitoring and verifying the WCF process and its outcomes.

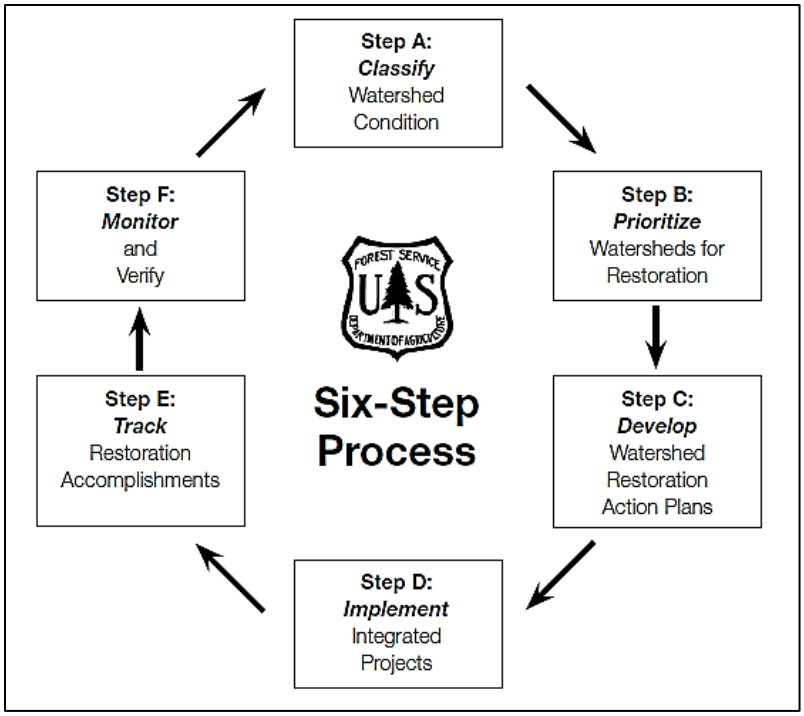


Figure H-7. The 6-step Watershed Condition Framework process

Classification

National forests throughout the U.S. began implementing the WCF process in 2010. Subwatersheds on the CNF were classified into three categories through the WCF based on classes described in FSM 2521.1 and Potyondy and Geier (2010):

- Class 1: Functioning Properly—subwatersheds that exhibit high geomorphic hydrologic and biotic integrity relative to natural potential conditions. The watershed is functioning similar to natural wildland conditions (Karr and Chu 1999, Lackey 2001). There are minimal adverse human impacts on natural physical or biological processes, and the watershed is able to naturally recover to previous condition in response to natural and human disturbance (Yount and Niemi 1990);
- Class 2: Functioning at Risk—subwatersheds exhibit moderate integrity as described above;
- Class 3: Impaired Function—subwatersheds exhibit low integrity as described above. Adverse human impacts have caused a threshold to be exceeded where the watershed is no longer as resilient to physical and biological processes.

Subwatersheds are classified by the WCF based on geomorphic, hydrologic, and biotic integrity relative to potential natural condition, which relates to geomorphic, hydrologic, and biological watershed function. Integrity is evaluated in the context of the natural disturbance regime and geoclimatic setting and includes aquatic and terrestrial components because water quality and aquatic habitat are related to the integrity and functionality of the upland and riparian areas across the watershed (Potyondy and Geier 2010).

The WCF classification process includes four process categories including “aquatic physical”, “aquatic biological”, “terrestrial physical”, and “terrestrial biological”. These process categories are represented by 12 indicators comprised of attributes that represent underlying ecological function and processes that affect soil and hydrologic function (Potyondy and Geier 2010). Each indicator attribute receives a rating

that is summed and averaged to produce an indicator score. The indicator scores within each process category are averaged, and the final watershed condition score is computed as a weighted average of the four process category scores. Process categories, attributes, and indicators used by WCF to assess condition are shown in Figure H-9. Composite watershed condition ratings are shown in Figure H-8.

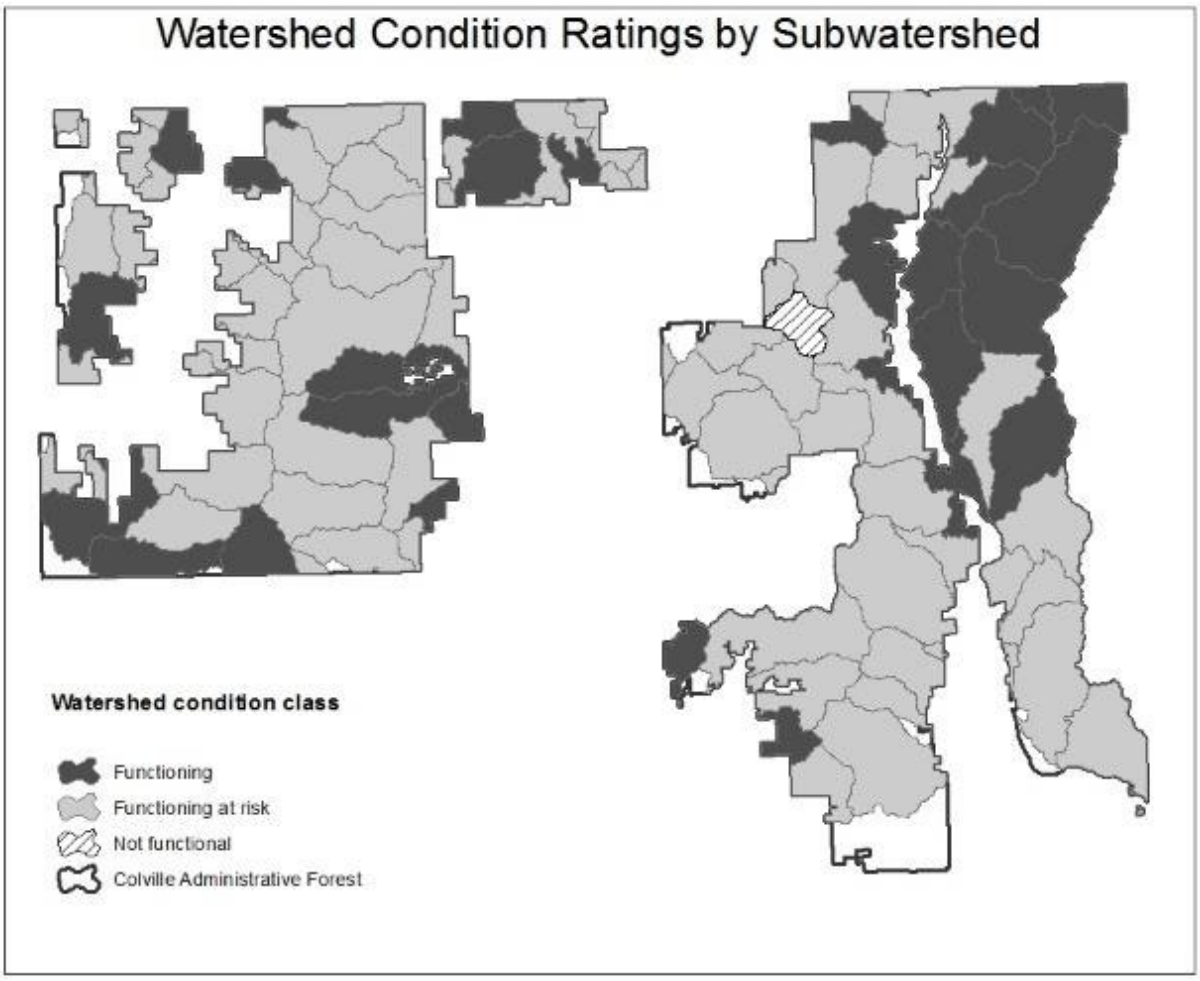


Figure H-8. Composite watershed condition ratings

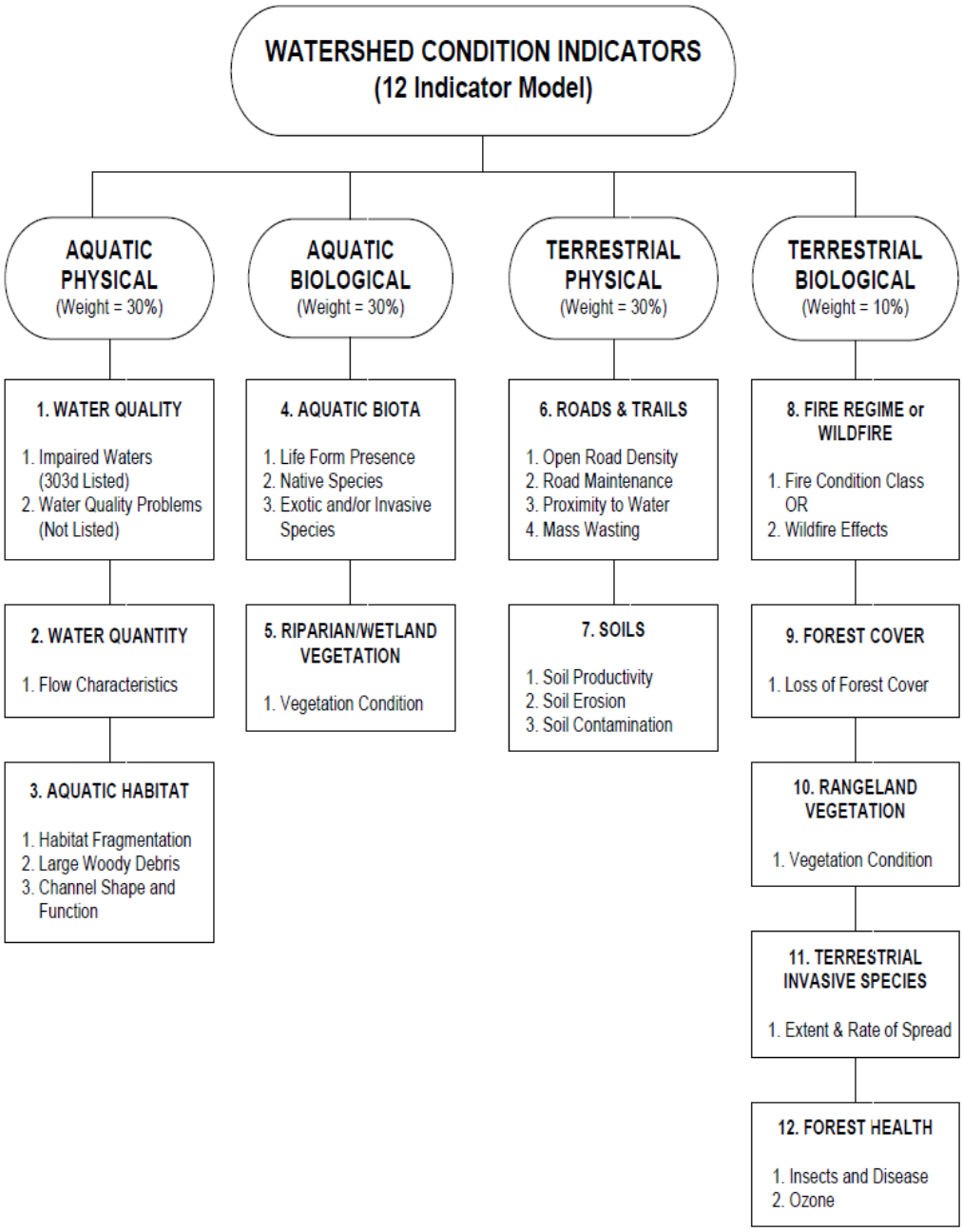


Figure H-9. Watershed Condition Framework process category, indicator, and attribute results

Prioritizing Watersheds for Restoration

The purpose of watershed prioritization is to maximize the efficiency and effectiveness of the restoration program by focusing resources toward work in the most important watersheds. Prioritization is done in two phases; through designation of a Key Watershed network through the forest plan, and through designation of Priority Watersheds through the Watershed Condition Framework process. Priority Watersheds are designated at the subwatershed scale and are the areas where near-term (5 to 7 years)

restoration programs and resources will be focused. Priority watersheds through the life of the forest plan will generally be a subset of the broader, longer-term Key Watershed network.

Due to capacity limitations, however, watershed-scale restoration work cannot be implemented across the entire Key Watershed network at one time or not even during the life of a forest plan. Therefore the CNF identified a smaller number of Priority Watersheds as the focus for near-term (that is, 5-7 year timeframe) restoration. These Priority Watersheds are also Management Areas and are specified at the subwatershed (12-HU) scale. In general, they are a subset of the broader, longer-term Key Watershed network. Exceptions include situations where unique issues and restoration opportunities occur in areas outside of the Key Watershed network. Priority Watersheds are expected to change during the life of the forest plan as restoration objectives and actions are completed.

Developing Watershed Restoration Action Plans

Restoration programs must implement a wide range of projects that address multiple impacts and threats at a watershed scale. This needs to be done in a phased and coordinated manner (Roni et al. 2002). Consistent with this approach, once the Forest identifies priority watersheds through WCF, the watershed analysis process and other assessments will identify a suite of "essential" restoration projects needed to restore the critical ecological conditions and processes in those areas at the whole watershed scale. This could include restoration of fish passage barriers, road improvements or decommissioning, stream and floodplain reconstruction, dam removal, restoration of instream flows, invasive species control, vegetation management and many other actions. This suite of essential projects should be designed to achieve specific and explicit restoration goals and objectives for the watershed, address the root causes (rather than symptoms) of degradation, be fit to the local ecological potential of the watershed and ecosystem, and be of sufficient scope and scale to address these problems (Beechie et al. 2010). Identified essential restoration projects should be based on a consideration of the potential effects of climate change and the ability of restoration actions to minimize them. In particular, water availability, streamflows, and stream temperature should be considered. Identified restoration projects should also be informed by and generally consistent with any applicable recovery plans for ESA-listed aquatic species and/or and State water quality improvement plans.

Per WCF, these projects, their general location, estimated costs, interested partners, and other information will be documented in a Watershed Restoration Action Plan (WRAP) for each Priority Watershed. In the preparation of WRAPs, consideration shall be given to restoration actions located off NFS lands when those projects are essential to the restoration of the watershed and benefits national forest resources (e.g., facilitating the upstream passage of rare fish species from private land onto NFS lands by implementing a passage project on downstream private lands).

The Colville ARCS and revised forest plan include an objective for watershed restoration in Focus and Priority Watersheds. There are no additional plan components specific to Focus and Priority Watersheds. The CNF identified 3 priority watersheds through this process and completed watershed action plans outlining essential project to improve watershed condition for 3 priority watersheds, in 2011 and 2012, including West Branch LeClerc Creek, East Branch LeClerc Creek, and Ninemile Creek (CNF 2011, 2012a, b). Completion of essential projects within these subwatersheds is currently in progress, and has been completed in the East Branch LeClerc Creek subwatershed. Once essential projects in existing subwatersheds are completed, additional priority subwatersheds would be identified through the life of the plan.

FW-OBJ-WR-10. Watershed Restoration in Focus and Priority Watersheds

During 15 years, implement the watershed condition framework through completion of essential projects outlined in watershed action plans in existing focus and priority watersheds to improve watershed

condition class. Focus watersheds designated at the 5th field watershed scale include Upper Sanpoil, Chewelah Creek-Colville River, and Le Clerc Creek-Pend Oreille River watersheds. Priority watersheds designated at the subwatershed scale include Ninemile Creek and West Branch LeClerc Creek subwatersheds.

Implementing Integrated Projects

Once a WRAP is developed, essential restoration projects are implemented in a logical, phased, and coordinated way. For example, restoration of habitat connectivity is often one of the first restoration actions that should be completed in a watershed (Roni et al. 2002). Conversely, if road decommissioning is needed in a watershed, it should be conducted after any other critical work that is dependent on those particular roads is complete.

As described previously, restoration projects should be done in an interdisciplinary manner. Also, close coordination with other agencies, Tribal governments, watershed councils, adjacent landowners, collaboratives, and other stakeholders and partners is essential.

Tracking Restoration Accomplishments

Implementation of restoration actions will be tracked for individual essential restoration projects, as identified in a WRAPs for each Priority Watershed. These will be recorded in corporate databases. In addition, once all essential projects are completed, per WCF, the watershed is considered to have been "improved" or "restored". Similarly, this status is tracked in agency databases.

Restoration project areas not specified as Priority Watersheds are also recorded in agency databases.

Monitoring, Verification, and Adaptive Management in Restoration

Monitoring and adaptive management are essential to ensuring the success of restoration. As such, Forests will incorporate monitoring and adaptive management as foundational components of their restoration programs, as described in this section. Specifically, Forests will implement WCF Monitoring as described below. In addition, implementation, effectiveness, and validation monitoring should be incorporated into project plans. Information gained from that monitoring should be shared to facilitate mutual learning and adaptive management.

WCF Monitoring

The National WCF process includes two tiers of monitoring: Tier 1 monitoring is focused on performance accountability. That is, it is intended to assess whether the WCF process was implemented properly. Tier 2 monitoring is a longer-term effort to develop relationships between focused restoration activities in a watershed and improvements in upland, channel, and aquatic habitat conditions.

Tier I monitoring guidance has recently been finalized (USDA Forest Service 2015f). It is designed to address the following questions to ensure that the WCF process has been correctly implemented:

- Were the watersheds properly classified?
- Were the indicator rule sets to classify the watersheds applied as described?
- Was the process and criteria used to select priority watersheds in alignment with WCF Step B recommendations?
- Is there a clear linkage between individual indicators and attributes and the restoration actions (essential projects) designed to improve watershed conditions?

- Has the suite of essential projects identified in the WRAP been completed?
- Is it reasonable to conclude that with the completion of essential projects identified in the WRAP the watershed is now on a trajectory to improve in overall condition?
- If applicable, were collaborators and partners involved in the implementation of the essential projects? What percentage of the work was accomplished using partnerships?
- Was the completion date of essential projects verified and documented in the appropriate database?
- Was the watershed condition class of the completed WRAP documented as improved in the database of record?
- Are improvements or changes to the Watershed Condition Framework or Tier 1 monitoring procedures needed?

Tier II monitoring guidance has not yet been finalized. Once completed, this monitoring direction will also guide Forest restoration monitoring programs.

Implementation, Effectiveness, and Validation Monitoring

Watershed restoration is founded in science. As such, there is a continuous stream of contributions to the body of knowledge. Restoration techniques should be implemented, monitored, and subsequently modified to reflect what was learned through monitoring. Information from monitoring enters a feedback loop, improving future restoration actions (Roni et al. 2002). Reporting, publishing, and disseminating the success or failure of restoration projects will not only help a particular District or Forest learn, but will assist others within and outside the agency, adding to the restoration community's knowledgebase.

Implementation monitoring is simply documenting that a project has been conducted and/or conducted according to specific design criteria (e.g., best management practices). For example, when an aquatic organism project is implemented, the action should be documented in the Regional Barrier Database, so the Forest and Region can track accomplishments.

Effectiveness monitoring evaluates how effectively a project met its intended goal. For example, when an aquatic organism project is implemented, effectiveness monitoring would evaluate whether previous impacts to stream channel structure and function have been eliminated or reduced (e.g., does the crossing simulate a natural stream channel?). Costs for effectiveness monitoring should be included in project budgets.

Validation monitoring, generally the most expensive form of the three monitoring approaches, validates assumptions made in effectiveness monitoring. For example, restoration of stream function and structure at a road-stream crossing is often assumed to provide upstream passage for fish if the new structure "simulates" a natural stream. Validate monitoring tests that assumption. Because of its generally higher cost, validation monitoring is usually performed on a small subset of the overall number of projects.

Water Quality

The principal law governing pollution in the nations streams, lakes, and estuaries is the Federal Water Pollution Control Act (P.L. 92-500, enacted in 1972), commonly known as the Clean Water Act (CWA). The CWA is the primary federal law that protects the nation's waters, including lakes, rivers, aquifers and coastal areas from point and non-point source pollution. The primary objective of the CWA is to restore and maintain the integrity of the nations waters through regulation of point and non -point source water pollution.

Through the CWA, each state is required to provide guidance and direction for the protection and restoration of water bodies (40 CFR 131.12). In Washington, the United States Environmental Protection Agency (EPA) has designated authority for compliance with the CWA to The Washington Department of Ecology (WADoE). As required under the CWA, Ecology identified beneficial uses and developed water quality standards to protect beneficial uses. Water quality standards for the primary pollutants on streams and rivers across the CNF are shown in Table H-5. Designated beneficial uses established for national forests, wilderness areas, and national parks in Washington include (WAC 173-201A-200; Baldwin 2006):

- Salmon and trout spawning, core rearing and migration
- Extraordinary primary contact recreation
- Domestic, industrial, and agricultural water supply
- Stock watering
- Wildlife habitat
- Harvesting (fish, etc.)
- Commerce and navigation
- Boating
- Aesthetic values

Table H-5. Water quality standards for waters of the CNF (WAC 173-201A-200)

Parameter	Standard
Temperature	16°C (60.8^{0}F), 12^{0}C (53.6^{0}F) in bull trout critical habitat (7 day average of daily maximum temperature)
pH	6.5-9.0*
Fecal Coliform	geometric mean above 50 colonies per 100 milliliters with the 90th percentile of the samples not exceeding 100 colonies per 100 milliliters
Dissolved Oxygen	9.5 mg/L (lowest 1-day minimum)
Total Dissolved Gas	Shall not exceed 110% of saturation at any point of sample collection
+Turbidity	5 NTU over background when background is 50 NTU or less. A 10% increase in turbidity when background turbidity is more than 50 NTU.

*Based on naturally occurring dissolved calcite from regional limestone geology, the upper range of the standard for pH was raised from 8.5 to 9.0 (Whiley and Baldwin 2005).

+ Sediment in water bodies fits into two categories; suspended sediments (measured and regulated by the turbidity standard), and bedded sediments. There is no approved water quality standard for sediment in Washington. Bedded sediments are difficult to regulate and implement without site specificity on background erosion rates.

Section 303(d) of the Clean Water Act and EPA regulation (40 CFR 130.2(J), and 130.7), delegates the authority to list waters that do not meet water quality standards or beneficial uses to individual states. Washington determines its 303(d) list through the water quality assessment (WQA) process. Once a water body is listed as impaired on the 303(d) list, it is Ecology's responsibility to develop a Total Maximum Daily Load (TMDL) for each pollutant of concern. A TMDL is a quantitative plan and analysis procedure for attaining and maintaining water quality standards and specifies the total load of pollutant a waterbody can carry and still meet beneficial uses. The TMDL and associated Water Quality Implementation Plan (WQIP) outline the process through which beneficial uses can be met through the identification of sources of pollutants, and actions that lead to improved water quality (40 CFR 130.2(H)).

A 2000 Memorandum of Agreement (MOA) between Ecology and Region 6 of the U.S. Forest Service designates the Forest Service as the management agency for meeting CWA requirements on NFS lands. Through this MOA, the FS is responsible for ensuring that all waters on NFS lands meet or exceed water quality laws and regulations and that activities on NFS lands are consistent with protections provided in Washington Administrative Code and relevant state and water quality requirements (USDA Forest Service and WADoE, 2000). The MOA recognizes the contribution of existing FS direction, including the Interior Columbia Basin Ecosystem Management Project (ICBEMP), INFISH, and BMPs in meeting water quality laws and regulations, and states that the Forest service and Ecology will collaborate to address 303(d) listings through the development of TMDLs and WQIPs (USDA Forest Service and WADoE, 2000). While the 2000 MOA has not been updated, the CNF and Ecology continue to manage CWA compliance under MOA.

While the Forest Service has made progress under MOA implementation, the agency is challenged by budget constraints that make treatment of all road-related risk difficult. The Forest Service continues to prioritize and treat roads that are the greatest risk to aquatic and riparian systems. The CNF uses a science-based roads analysis procedure to evaluate road risk and uses this information to prioritize road treatments based on beneficial uses and conditions. In addition, the CNF minimizes the construction of new roads, especially those located near streams or unstable areas, and decommissions or hydrologically stabilizes high-risk roads.

To meet the goals outlined in the MOA and comply with the CWA, Ecology began working with the CNF in 2002 on a TMDL for temperature, bacteria, pH, and dissolved oxygen and Water Quality Implementation Plan (WQIP) (WADoE 2006) for waters across the Forest on the 1998 303(d) list. EPA approved the TMDL and WQIP for fecal coliform on 8 waterbody segments and temperature on 4 segments from the 1998 303(d) list as well as 41 temperature-impaired waterbody segments added to the 303(d) list during the TMDL development process in 2005 (EPA 2005, Whiley and Baldwin 2005). The TMDL for pH and dissolved oxygen was not approved at this time because the submittal report lacked some of the required components in the dissolved oxygen and pH analysis (Baldwin 2006). EPA also approved a TMDL for the Colville River and its tributaries for fecal coliform in 2003 (Coots 2002, Murray and Coots 2003, Baldwin 2005). There are several stream segments on the CNF included in the Colville River TMDL. As water bodies are added to the 303(d), they are integrated into the monitoring and WQIPs for the Forest.

The CNF is working to reduce fecal coliform bacteria from varied sources, including recreation and livestock grazing. In 2013, Ecology concluded that the CNF has made significant progress in the last eight years toward meeting the requirements of the bacteria TMDL and improving water quality on the Colville National Forest. Based on monitoring and restoration progress toward meeting fecal coliform standards, the final target date to reduce bacteria concentrations to meet water quality standards has been extended from October 2013 to October 2018 (USDA Forest Service 2014a). Monitoring and restoration activities will continue with the goal of meeting the fecal coliform standard by 2018.

The CNF is also working to monitor and improve temperature in impaired stream reaches. The WQIP and TMDL requires temperature monitoring and compliance at 37 sites by 2056. The CNF has temperature data for 78 streams with varying years of data. A subset of these 78 temperature monitoring sites are on temperature-impaired streams. Progress continues to increase temperature monitoring sites and to improve the processes that impair stream temperature.

The majority of waterbodies across the CNF meet water quality standards and support designated beneficial uses, however the current 303(d) list and TMDLs do not necessarily include all the streams across the CNF where water quality may be impaired. Many streams do not have the monitoring data to determine if water quality is impaired. Protection measures for activities with the potential to impact

water quality, including BMPs and forest plan standards and guidelines that focus on riparian areas and other vulnerable areas ensure that waters of the CNF will continue to be of high quality. Focused restoration activities to improve hydrologic processes will continue to preserve and improve water quality where needed. Those waterbodies that do not meet these goals are monitored, and WQIPs and TMDLs are in place to improve conditions.

Best Management Practices

Preventing water quality impacts is more effective than restoring damage from management activities. Implementation and monitoring of Best Management Practices (BMPs) is the fundamental basis of the Forest Service water quality management program to protect, restore, or mitigate water quality impacts from activities on NFS lands (USDA Forest Service 2012d). BMPs are methods, measures, or practices to reduce or eliminate the introduction of pollutants into receiving waters (36 CFR 219.19). Site-specific BMPs are required and implemented at the project level using WA forest practices rules (222 WAC), regional guidance (USDA Forest Service 1988d), forest plan direction, and national BMP guidance.

Implementation and effectiveness monitoring of BMPs has been completed across project activities on the CNF since the development of regional BMPs, however monitoring completed at the project scale was not integrated into a larger program of consistent BMP monitoring and reporting. In 2012, the Chief of the FS gave direction and technical guidance to implement a national BMP program (USDA Forest Service 2012d) to establish consistent direction for BMP implementation to control non-point source pollution on NFS lands to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources and meet the intent of State and Federal water quality laws and regulations, Executive Orders, and USDA and Forest Service directives. The national program built upon and unified previous guidance from regions across the country, and provided a consistent set of BMPs and methods for evaluating the implementation and effectiveness of BMP applications agency-wide. The National BMP Program provides a set of practices that are intended to be tailored to fit specific projects and onsite conditions for any project. Volume 1 of the national BMP Technical Guide can be accessed on the web at the national program website: (http://www.fs.fed.us/biology/watershed/BMP.html). The national BMP program also establishes a consistent process to monitor, evaluate, and report implementation and effectiveness of BMPs in the protection of water quality at multiple scales (USDA Forest Service 2012d), and provides a strong feedback loop to address shortcomings in BMP effectiveness and/or implementation.

The National BMP Program emphasizes the importance of monitoring, conducting follow-up corrective actions where necessary to protect or improve water quality, and using adaptive management to improve water quality protection on future projects (Figure H-10).

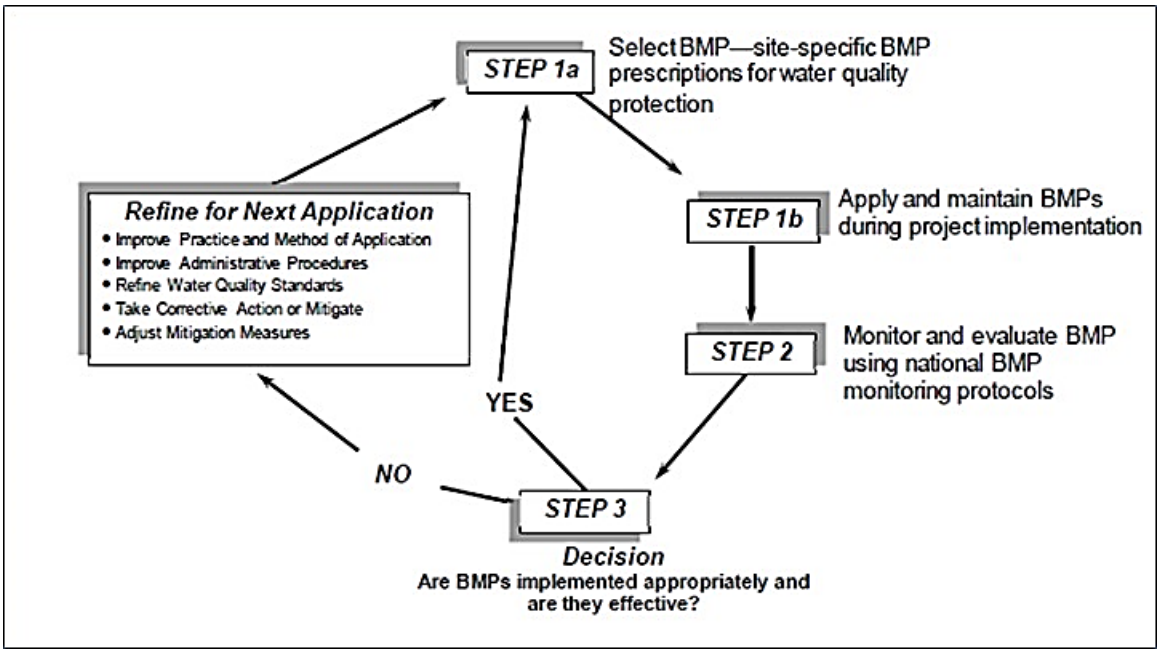


Figure H-10. Forest Service Nonpoint Source Strategy (USDA Forest Service 2012c)

BMP monitoring completed on the CNF since 2012, using the national BMP protocol indicates that most projects monitored were implemented correctly, and that BMPs were generally effective in protecting water quality. When BMPs were not implemented correctly, monitoring provided the feedback to implement corrective actions where needed to improve future BMP implementation and effectiveness (USDA Forest Service 2013a).

Prior to the national BMP program, the Forest monitored and reported BMP implementation and effectiveness, but methods and reports were inconsistent and not comparable across other Forest units. The national BMP monitoring program was developed to establish a consistent process to monitor and evaluate FS efforts to implement BMPs and the effectiveness of those efforts to protect water quality at national, regional and local scales. The national BMP monitoring program includes 42 monitoring protocols for 10 resource management categories, and a data management system with standardized ratings for implementation and effectiveness. The CNF is assigned a certain number of BMPs to complete each year by the Regional Office under the National BMP protocol. In addition to the assigned National BMPs, project-level BMPs are assessed as needed to ensure compliance. These project-level BMPs can use either the National BMP protocols or other appropriate methodology to assess compliance.

Monitoring and Adaptive Management

Monitoring is a systematic process of collecting information to evaluate effects of actions or changes in conditions or relationships (36 CFR 219.19). It is continuous and provides feedback for the planning cycle by testing relevant assumptions, tracking relevant conditions over time, and measuring management effectiveness. Plan monitoring is designed to enable the responsible official to determine if a change in plan components or other plan content that guide management of resources on the plan area may be needed (36 CFR 219.12).

Adaptive management is a continual process of adjusting management actions in response to new information or knowledge, including monitoring results.

Scientists and policymakers generally recognize that adaptive management is necessary to effectively manage complex and poorly understood ecosystems (RIEC 2011, Bormann et al. 2007, Schreiber et al. 2004, McLain and Lee 1996, Walters 1986). It is a continual process of adjusting actions in response to new information or knowledge (RIEC 2011). It is composed of an ongoing cycle of planning and implementing activities, monitoring through collection of data by observation or measurement, evaluation of those data, and subsequent adjustments in the overall process (Figure H-11).

Figure H-11. Adaptive management cycle, including planning, action, monitoring and evaluation (Haynes et al. 2006)

Reflecting direction from the 2012 Planning Rule (36 CFR 219.12), this section outlines a consistent monitoring and adaptive management (MAM) framework at the broad-scale and the forest plan level. This framework is focused on enabling managers to make informed, sound decisions by addressing key questions and reducing uncertainties at multiple scales. Some components of broad-scale monitoring will be implemented by the Regional Office, whereas others will involve both Regional and Forest-level activities. Importantly, as described below, the broad-scale and forest plan guidance of this framework are intended to efficiently work together and inform one another.

This MAM framework focuses on using monitoring to answer the following key questions:

- Are plans are being implemented correctly?
- Are plans and activities effective in achieving desired results?
- What is the status and trend of watersheds, water quality, and aquatic and riparian resources?
- Are underlying assumptions of the plans valid?

In addition, this MAM framework provides a mechanism for accountability and oversight and provides a feedback loop, so that management direction and/or activities can be evaluated and modified at multiple spatial (project site to Region) and temporal scales (years to decades or more) by decision-makers at different levels of the agency (district ranger to regional forester).

This framework uses a multi-scale approach because: 1) the ARCS and revised forest plan components (e.g., desired conditions, objectives, standards and guidelines) cover a broad range of spatial and temporal scales, 2) the condition of watersheds and aquatic and riparian habitats is influenced by numerous processes operating at a similarly large range of scales, 3) the sensitivity to disturbance of different ecosystem components varies widely across those scales, and 4) adaptive management actions need to be taken by different people at different administrative levels over varying timeframes.

Broad-Scale Monitoring

Implementation and Effectiveness of ARCS Standards and Guidelines, including Water Quality Best Management Practices

This monitoring element is intended to assess the following: *At a regional scale, are activities being implemented in a manner consistent with ARCS watershed/aquatic standards and guidelines, including water quality best management practices (BMPs), and other applicable policy and direction? Are they effective in protecting watershed conditions and aquatic habitats at project sites?* These questions will be addressed through Regional implementation of the National BMP and BMP monitoring program.

Table H-6. Best management practices monitoring

Component	Objective(s)
Population of interest	Management activities associated with: aquatic ecosystems, chemical uses, facilities and non-recreation special uses, wildland fire, minerals, rangelands, recreation, roads, vegetation, and water uses.
Sampling methods	random sample of projects and activity sites, per National BMP monitoring protocols
Monitoring indicators	multiple field-based indicators, varying by activity type
Measurement scale	site-scale
Measurement protocol	National BMP monitoring protocols
Evaluation scale	site-scale
Evaluation methods	National BMP rating system
Analysis and reporting scale	Region and/or Province
Data Sources	FS database
Monitoring frequency	Annually
Evaluation and reporting frequency	Every 1-2 years

Potential adaptive management actions would generally be taken by the regional forester. These would generally focus on significant issues occurring over broad areas (that is, many Forests). Actions could include development or refinement of Regional policies and procedures, training and functional assistance trips to Forests, and direction to Forests to focus additional resources toward certain activities. These actions would generally occur over short to medium time-scales (e.g., one to 5 years).

Additional effectiveness monitoring will be conducted on a prioritized ad-hoc basis. Current broad-scale effectiveness monitoring activities are focused on evaluating the effectiveness of road restoration in reducing the hydrologic and geomorphic impacts of roads and improving habitat connectivity at road-stream crossings.

Status and Trend of Watersheds and Aquatic Habitat Conditions

This monitoring element is intended to answer the following question: *What is status and trend of watershed and aquatic habitat conditions at provincial and regional scales?*

The PACFISH/INFISH Biological Opinion Monitoring Program (PIBO), in the Interior Columbia River Basin will be used to address this question.

Table H-7. Status and trend of watersheds and aquatic habitat conditions monitoring

Component	Objective(s)
Population of interest	All 12-digit hydrologic units (HUs) in western OR and WA (AREMP) and in the Interior Columbia River Basin (PIBO)
Sampling methods	Random sample of 12-digit HUs (subwatersheds) and reaches within them, per AREMP and PIBO protocols
Monitoring indicators	multiple field-based indicators, including those pertaining to connectivity, pools, wood, substrate, macroinvertebrates, and stream temperature
Measurement scale	stream reach
Measurement protocols	applicable AREMP and PIBO field protocols
Evaluation scale	reach and/or 12-digit HU
Evaluation methods	departure from reference conditions (that is, managed vs. reference watersheds) via habitat index models; trends over time
Analysis and reporting scale	Region and Province (that is, western OR and WA)
Data Sources	FS and other agency databases
Monitoring frequency	Annual sampling in selected watersheds and reaches. Individual sites revisited every 5-10 years.
Evaluation and reporting frequency	5-10 years

Potential adaptive management actions associated with this status and trend monitoring would usually be taken by the regional forester. These would generally focus on significant issues occurring over broad areas (e.g., millions of acres). Actions could include emphasizing existing plan direction, directing Forests to develop new plan direction, or increasing or decreasing the type, scope, scale or location of different activities (e.g., watershed restoration, timber harvest, road building or decommissioning, fuels treatment). These actions would generally occur over medium to long time-scales (e.g., one to several decades).

Status and Trend of Stream Temperature

This monitoring element is intended to answer the following question: *What is status and trend of stream temperature at provincial and regional scales?*

This question will be answered through ongoing implementation of the NorWeST Regional Stream Temperature Database and Modeling Project. This project uses data from extensive existing monitoring conducted by National Forests, other Federal agencies, States, Tribes, and other organizations. These data are integrated into a common dataset and used, together with empirical models, to develop basin-scale characterizations of stream temperature over different timeframes.

Table H-8. Temperature monitoring

Component	Objective(s)
Population of interest	all perennial streams in OR and WA and northern CA
Sampling methods	combination of random and non-randomly selected stream reaches
Monitoring indicators	stream temperature
Measurement scale	point-scale
Measurement protocols	State-approved or comparable protocols
Evaluation scale	8-digit HU (river basin)
Evaluation methods	characterization of current status, past trends and potential future stream temperatures based on measured temperature and basin-scale empirical models and global circulation (climate) models

Component	Objective(s)
Analysis and reporting scale	Region to River Basin
Data Sources	FS and other agency databases
Monitoring frequency	Annual sampling in selected watersheds and reaches.
Evaluation and reporting frequency	5-10 years

Potential adaptive management actions would generally be taken by the regional forester. These would generally focus on significant issues occurring over broad areas (that is, millions of acres). Actions could include refinement or modified implementation of this strategy (ARCS), direction to Forests to develop new plan direction or adjust approaches to implementing current plan direction, and/or changes in climate change adaptation strategies. They could also include coordination with regulatory agencies regarding the applicability of current water quality standards. These actions would generally occur over medium to long time-scales (e.g., one to several decades).

Forest Plan Monitoring

Plan Implementation

This monitoring element is intended to assess the following: *Are watershed/aquatic restoration projects (e.g., road improvement and decommissioning, fish passage improvements, riparian and stream habitat improvements, aquatic invasive species treatments, etc.) being implemented at a rate consistent with plan objectives?* This monitoring is responsive to the 2012 Planning Rule 219.12.a.5, elements ii-iv, vi, and vii.

ii. Status of select ecological conditions

iii. Status of focal species (related to 219.9 Diversity)

iv. Status of ecological conditions (see 219.9) related to T&E, candidate, and conservation concern species

vi. Changes due to climate change and other stressors

vii. Progress toward meeting DCs and Objectives, including multiple use opportunities.

Table H-9. Monitoring watershed and aquatic restoration projects

Plan component	Objective(s)
Population of interest	all activities with established plan objectives relevant to watershed and aquatic resources
Sampling methods	complete census
Monitoring indicators	annual and multi-year accomplishment metrics (e.g., stream miles restored, watersheds improved)
Measurement scale	Project
Measurement protocol	FS accomplishment reporting procedures
Analysis and reporting scale	Forest
Evaluation scale	Forest
Evaluation methods	GIS summaries
Data Sources	FS databases
Monitoring frequency	Annually
Evaluation and reporting frequency	Every 2 years
Plan Monitoring Element (219.12.a.5)	ii-iv, vi-vii

Potential adaptive management actions would generally be taken by local line officers (district rangers and forest supervisors). They could include increasing or decreasing the type, scope, scale or location of different activities (e.g., watershed restoration, timber harvest, road building or decommissioning, fuels treatment). These actions would generally occur over short time-scales (e.g., yearly or every 2-3 years).

Implementation and Effectiveness of Plan Standards and Guidelines, including Water Quality Best Management Practices

Similar to the broad-scale monitoring described previously, this monitoring element is intended to answer the following question: *Are activities being implemented in a manner consistent with watershed/aquatic standards and guidelines, including water quality best management practices (BMPs), and other applicable policy and direction? Are the projects effective in protecting watershed conditions and aquatic habitats at a site-scale?*

The same data, evaluation methods, and evaluation frequencies described under broad-scale monitoring will be used to answer this question at the Forest scale. However, only the data from the Forest of interest will be used to assess implementation and effectiveness of Standards, Guidelines and BMPs associated with a specific forest plan.

This monitoring element is responsive to the 2012 Planning Rule 219.12.a.5, elements i-iii.

i. Status of select watershed conditions.

ii. Status of select ecological conditions.

iii. Status of ecological conditions (see 219.9) related to T&E, candidate, and conservation concern species.

Table H-10. Water quality best management practices monitoring at the forest scale

Plan Component	Standards and Guidelines
Population of interest	Forest-selected activities that could including those pertaining to vegetation management, roads, range, minerals, fire and fuels, and water uses. At a minimum, all Forests will monitor roads, vegetation management, range and fire/fuels management activities (as applicable).
Sampling approach	random sample of projects and activity sites, per National BMP monitoring protocols
Monitoring indicators	multiple field-based indicators, varying by activity type
Measurement scale	site-scale
Measurement protocol	National BMP monitoring protocols
Evaluation scale	site-scale
Evaluation methods	National BMP rating system
Analysis and reporting scale	Forest
Data Sources	FS database
Monitoring frequency	Annually
Evaluation and reporting frequency	Every 2 years
Plan Monitoring Element (219.12.a.5)	i-iii

Potential adaptive management actions would generally be taken by local line officers (district rangers and forest supervisors). They could include correcting problems identified at monitored sites (e.g., addressing excessive erosion a road-stream crossing). They could also address broader programmatic

issues such as needs to improve project designs (e.g., ineffective culvert design) or oversight of their implementation (e.g., poor construction practices). These actions would generally occur over short time-scales (e.g., every 1-2 years).

Status and Trend of Watersheds and Aquatic Habitat Conditions

Similar to the broad-scale monitoring described previously, this monitoring element is intended to answer the following questions: *What is status and trend of watershed conditions at a Forest scale? Are conditions trending toward desired conditions?*

The same data, evaluation methods, and evaluation frequencies described under broad-scale monitoring will be used to answer this question at a forest scale. However, only the data from the Forest of interest will be used to assess how conditions there fit within the distribution of reference sites across larger domains (e.g., Interior Columbia River Basin, similar ecoregions) and how they change over time.

This monitoring element is responsive to the 2012 Planning Rule 219.12.a.5, elements i-iv and vi-vii.

i. Status of select watershed conditions
ii. Status of select ecological conditions
iii. Status of focal species (related to 219.9 Diversity)
iv. Status of ecological conditions (see 219.9) related to T&E, candidate, and conservation concern species
vi. Changes due to climate change and other stressors
vii. Progress toward meeting DCs and Objectives, including multiple use opportunities.

Potential adaptive management actions would generally be taken by local line officers (district rangers or forest supervisors). They could include increasing or decreasing the type, scope, scale or location of different activities (e.g., watershed restoration, timber harvest, road building or decommissioning, fuels treatment) or the implementation of other plan components (e.g., standards and guidelines). These actions would generally occur over moderate to long time-scales (e.g., a decade or more).

Status and Trend of Aquatic Species Distribution

This forest plan monitoring element is intended to answer the questions: *Are native aquatic populations, especially ESA-listed species and Species of Conservation Concern, maintaining or trending toward their desired distribution?*

While the range of a species can be maintained through increasing population resiliency, range can be increased through management actions such as aquatic organism passage projects, invasive species eradication/control, rare species reintroductions, and providing suitable habitat. The Regional Fish Distribution Database is a means for tracking fish distribution through time. The database is fed by Forest Service fish distribution data (Level 2 stream surveys, redd counts, and other biological surveys) and periodic data exchanges with other fish distribution databases in Oregon and Washington. Other data sources are the U.S. Fish and Wildlife Service, State fish and wildlife agency, and interagency species status assessments.

The scale of this monitoring component is Forest-wide. The frequency of assessment is every 15 years for each species. Forest-wide assessments should compare the current distribution of aquatic ESA-listed species and Species of Conservation Concern with their distribution a planning cycle ago. The analysis should include a discussion of the factors associated with species distribution increase or decrease. If a

species distribution experienced a significant decrease due to factors within Forest Service control, adjustments will be made in management actions to address the impacts at the District and Forest levels. The relevance of species distribution decrease over a decade should be determined at the Forest level and should consider natural stochastic events such as wildfires, but also any anthropogenic impacts upon population resiliency to those disturbances.

This monitoring element is responsive to the 2012 Planning Rule 219.12.a.5, elements i-iv, vi, and vii

i. Status of select watershed conditions
ii. Status of select ecological conditions
iii. Status of focal species (related to 219.9 Diversity)
iv. Status of ecological conditions (see 219.9) related to T&E, candidate, and conservation concern species
vi. Changes due to climate change and other stressors
vii. Progress toward meeting DCs and Objectives, including multiple use opportunities.

Table H-11. Monitoring status and trend of watersheds and aquatic habitat conditions

Plan Component	Desired Conditions
Population of interest	ESA-listed and Species of Conservation Concern aquatic species distribution throughout Forest
Sampling approach	Comparison of species distribution currently with the last planning cycle, 15 years ago.
Monitoring indicators	Increase or decrease of species range.
Measurement scale	Forest scale
Measurement protocol	Comparison of species distribution over a decade
Evaluation scale	Forestwide
Evaluation methods	Use Regional Fish Distribution Database, other agencies' data sources, and status assessments to inform comparison.
Analysis and reporting scale	Forestwide
Data Sources	Regional Fish Distribution Database, other agencies' data, and species status assessments
Monitoring frequency	Variable, based upon species and unit
Evaluation and reporting frequency	Findings reported every decade
Plan Monitoring Element (219.12.a.5)	i-iv, vi-vii

Status and Trend of Stream Temperature

Similar to the broad-scale monitoring described previously, this monitoring element is intended to answer the following questions: *What is status and trend of stream temperature at a Forest scale? Are conditions trending toward desired conditions?*

The same data, evaluation methods, and evaluation frequencies described under broad-scale monitoring will be used to answer this question at a forest scale. The same data, evaluation methods, and evaluation frequencies described under broad-scale monitoring will be used to answer this question at the Forest scale. However, only the data from the Forest of interest will be used to assess how conditions on that unit.

Potential adaptive management actions are similar to those described above under Status and Trend of Watershed and Aquatic Habitats.

This monitoring element is responsive to the 2012 Planning Rule 219.12.a.5, elements ii, vi, and vii.

ii. Status of select ecological conditions

vi. Changes due to climate change and other stressors

vii. Progress toward meeting DCs and Objectives, including multiple use opportunities.

Coordination and Cooperation

Internal and external coordination and cooperation is essential to ensure successful management of waters and their associated riparian areas and biota. As such, Forest Service Watershed and Fisheries professionals should collaborate with each other and with their other colleagues to accomplish management goals for aquatic and riparian habitat. Equally important, Forest Service professionals should work with neighboring landowners and other agencies, Tribal Nations, organizations, and individuals to cooperatively manage watersheds across ownership boundaries. Sharing personnel and resources is essential to successful borderless whole watershed management.

Considering limited personnel and funding, collaboration between agencies with a role in the management of fish and wildlife resources is necessary for any of the agencies to fulfill their mission. This has always been true, but has become a necessity today as science continues to illuminate the complexities of the management of water quality and fish and wildlife species within the ecosystems in which they occur. Management actions such as rare species management, habitat restoration, stocking, harvest, and invasive species control and eradication require collaboration. As such, the Forest Service will collaborate with other agencies, organizations, and Tribal Nations with the development and implementation of conservation agreements and strategies. The Forest Service will cooperate with Federal, Tribal, and State fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest, and poaching that may threaten the continued existence and distribution of native fish stocks occurring on Federal lands. Forests will cooperate with State and Tribal agencies when aquatic invasive species eradication projects are proposed. State and/or Tribal agencies will take the lead on projects and be responsible for necessary public notification and coordination. Forests will also coordinate and cooperate with State water and water quality management agencies to better align and integrate programs and ensure compliances with applicable laws and regulations.

Risks and Uncertainties

As with any strategy designed to protect and restore ecosystems, it is uncertain whether the ARCS will achieve its goals. There are risks that it may not. These risks and uncertainties stem from several key factors. First, we have incomplete knowledge of these highly complex systems. These knowledge gaps mean that the ARCS may be missing key components. Moreover, the effectiveness of some existing aspects of the strategy has not been fully demonstrated. For instance, there are few examples of successful restoration at the scales of interest (that is, typically watershed or subbasin, over long-timeframes). At the same time, new threats, such as climate change and invasive species, have emerged and substantially increased risks to and uncertainties associated with aquatic ecosystems.

Besides risks and uncertainties associated with the composition of the ARCS, full implementation of the strategy is not guaranteed. For example, implementation is strongly dependent on budgets and a robust, highly skilled workforce with access to extensive resource information. However, skills and capacity in the region have declined substantially in the past 20 years and future declines are possible. Another key

source of risk and uncertainty is the fact that the Colville ARCS pertains only to NFS lands. It does not apply to habitat impacts (including dam operations) and biological impacts (including the introduction of non-native fish) off National Forests or activities on other Federal lands and State and private lands. These activities will have a large influence on the maintenance and recovery of aquatic ecosystems and water quality.

Part II – Aquatic Direction Comparison Table for the Alternatives Considered in Detail for the Colville National Forest Plan Revision

This section provides a comparison of plan components associated with each Aquatic and Riparian Conservation Strategy (ARCS) analyzed for the no action and action alternatives in the FEIS.

Plan components under ARCS-modified reflect the numbering system in the 6/10/2015 version of the Draft Revised Forest Plan. To make comparison between aquatic and riparian resources across alternatives, the order of plan components presented in table H-12 follows what was in the 2008 Proposed Action. Blank cells indicate no direct comparison is applicable.

Table H-12. Aquatic direction comparison table for plan revision alternatives considered in detail

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
General Watershed Desired Conditions			
Riparian Goal (7) maintain or restore riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geoclimatic region. Riparian Goal (8) maintain or restore habitat to support populations of well distributed native and desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of aquatic-dependent communities.	National Forest System lands contribute to: Aquatic Ecosystems DC The distribution, diversity, and complexity of watershed and landscape-scale features, including natural disturbance regimes, of the aquatic and riparian ecosystems to which species, populations, and communities are uniquely adapted. Subbasin scale for both Forest planning and project planning.	FW-DC-WR-01. Natural Disurbance Regime of Aquatic and Riparian Systems National Forest System lands contribute to the distribution, diversity, and resiliency of watershed and landscape-scale features, including natural disturbance regimes, of the aquatic, riparian, and wetland ecosystems to which plant and animal species, populations, and communities are adapted. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-01. Natural Disurbance Regime of Aquatic and Riparian Systems National Forest System lands contribute to the distribution, diversity, and resiliency of watershed and landscape-scale features, including natural disturbance regimes, of the aquatic, riparian, and wetland ecosystems to which plant and animal species, populations, and communities are adapted. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.
Riparian Goal (1) maintain or restore water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems; Riparian Goal (2) maintain or restore stream channel integrity, channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed;	National Forest System lands contribute to: Aquatic Ecosystems DC Spatial connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact habitat refugia. These network connections provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic, riparian-dependent, and many upland species of plants and animals. For Forest planning, spatial connectivity is between watersheds at the subbasin scale. For project planning, spatial connectivity is between subwatersheds at the watershed scale.	FW-DC-WR-02. Hydrologic and Aquatic and Riparian Habitat Connectivity National Forest System lands contribute to uninterrupted physical and biological processes within and between watersheds. Floodplains, wetlands, groundwater-dependent ecosystems, upslope areas, headwater tributaries, and intact habitat refugia provide lateral, longitudinal, and drainage network connections. These network connections provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic, riparian-dependent, and many terrestrial species of plants and animals. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-02. Hydrologic and Aquatic and Riparian Habitat Connectivity National Forest System lands contribute to uninterrupted physical and biological processes within and between watersheds. Floodplains, groundwater-dependent systems, upslope areas, headwater tributaries, and intact habitat refugia provide vertical, horizontal, and drainage network connections. These network connections provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic, riparian-dependent, and many terrestrial species of plants and animals. Subbasin scale is used for Forest planning, and 5th field watershed or subwatershed scale is used for project planning.

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
Riparian Goal (3) maintain or restore instream flows to support healthy riparian and aquatic habitats, the stability and effective function of stream channels, and the ability to route flood discharges;	National Forest System lands contribute to: Aquatic Ecosystems-DC Habitat and ecological conditions capable of supporting self-sustaining populations of native and desired non-native, riparian-dependent plant and animal species. Subbasin scale for Forest planning; watershed or subwatershed scale for project planning.	FW-DC-WR-03. Self-Sustaining Native and Aquatic and Riparian-Dependent Species National Forest System lands contribute to habitat and ecological conditions that are capable of supporting self-sustaining populations of native aquatic and riparian-dependent plant and animal species. Subbasin scale is used for Forest planning and watershed or subwatershed scale is used for project planning.	FW-DC-WR-03. Self-Sustaining Native and Aquatic and Riparian-Dependent Species National Forest System lands contribute to habitat and ecological conditions that are capable of supporting self-sustaining populations of native aquatic and riparian-dependent plant and animal species. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.
Riparian Goal (4) maintain or restore natural timing and variability of the water table elevation in meadows and wetlands;	National Forest System lands contribute to: Aquatic Ecosystems-DC The physical integrity of the aquatic system and riparian habitat, including shorelines, banks, and bottom configurations. Watershed scale for Forest planning; subwatershed scale for project planning.	FW-DC-WR-04. Physical Integrity of Aquatic and Riparian Habitat National Forest System lands contribute to the physical integrity of the aquatic system and riparian habitat, including, banks, and floodplains. 5th field watershed scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-04. Physical Integrity of Aquatic and Riparian Habitat National Forest System lands provide aquatic habitats in which the distribution of conditions (e.g., bank stability, substrate size, pool depths and frequencies, channel morphology, large woody debris size and frequency) in the population of watersheds on the Forest is similar to the distribution of conditions in the population of similar, reference condition watersheds. Reference Conditions can be drawn from the Forest or Provincial scales. Conditions assessed at the subbasin scale are used for forest and project planning.

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
	National Forest System lands contribute to: Aquatic Ecosystems-DC Water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality is within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities. Watershed scale for both forest planning and project planning.	FW-DC-WR-05. Water Quality National Forest System lands contribute to water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality is within the range that maintains the biological, physical, and chemical integrity and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities. Subbasin scale is used for forest planning, and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-05. Water Quality National Forest System lands contribute to water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality is within the range that maintains the biological, physical, and chemical integrity and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities, and meets appropriate Washington State water quality standards. Subbasin scale is used for forest planning and 5th field watershed or subwatershed scale is used for project planning.
	National Forest System lands contribute to: Aquatic Ecosystems-DC The sediment regime within the natural range of variability. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport. Watershed scale for both Forest planning and project planning.	FW-DC-WR-06. Sediment Regimes National Forest System lands contribute to the sediment regime within the natural range of variation. Elements of the sediment regime include; the timing, volume, rate, and character of sediment input, storage, and transport. Fifth field watershed scale is used for Forest planning, and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-06. Sediment Regimes National Forest System lands contribute to the sediment regime within the natural range of variation. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport. Watershed scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.
	National Forest System lands contribute to: Aquatic Ecosystems-DC In-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows are retained. Watershed scale for both Forest planning and project planning.	FW-DC-WR-07. In-stream Flows National Forest System lands contribute to in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows functions in concert with local geology, valley types, soils and geomorphology. Subbasin scale is used for Forest planning, and 5th field watershed or	FW-DC-WR-07. In-stream Flows National Forest System lands contribute to in-stream flows and groundwater sufficient to create and sustain riparian, aquatic, and wetland habitats, retain patterns of sediment, temperature, nutrient, and wood routing, and provide for (permitted or certificated) consumptive uses. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows functions in concert with local geology, valley types, soils and geomorphology. Subbasin scale is used for Forest planning and 5th field

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
		subwatershed scale is used for project planning.	watershed or subwatershed scale is used for project planning.
	National Forest System lands contribute to: Aquatic Ecosystems-DC The timing, variability, and duration of floodplain inundation is within the natural range of variability. Subwatershed scale for both Forest planning and project planning.	FW-DC-WR-08. Floodplain Innundation National Forest System lands contribute to the timing, variability, and duration of floodplain inundation that are within the natural range of variation. Fifth field watershed or subwatershed scale is used for both Forest and project planning.	FW-DC-WR-08. Floodplain Innundation National Forest System lands contribute to the timing, variability, and duration of floodplain inundation that are within the natural range of variation. Fifth field watershed or subwatershed scale is used for both Forest and project planning.
	National Forest System lands contribute to: Aquatic Ecosystems-DC The timing, variability, and water table elevation in wetlands, seeps and springs is within the natural range of variability. Subwatershed scale for both Forest planning and project planning.	FW-DC-WR-09. Wetlands, Seeps, Springs, and Other Groundwater-Dependent Systems National Forest System lands contribute to the timing, variability, and water table elevation in wetlands, seeps, springs, and other groundwater dependent systems. These features are within or moving toward proper functioning condition. Subwatershed scale is used for both Forest and project planning.	FW-DC-WR-09. Groundwater-Dependent Systems: Seeps, Springs, and Groundwater-fed Wetlands (Fens) National Forest System lands contribute to the timing, variability, and water table elevation in groundwater-fed wetlands, seeps, springs and other groundwater-dependent systems. These features are within or moving toward proper functioning condition. Subwatershed scale is used for both Forest and project planning.
			FW-DC-WR-10. Water Production for Downstream Uses National Forest System lands produce high-quality water for downstream ecological communities (including human communities) dependent upon them. Watershed scale is used for both Forest and project planning.

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Riparian Goal (6) maintain or restore riparian vegetation, to: a) provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems; b) provide adequate summer and winter thermal regulation within the riparian and aquatic zones; c) and help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.	National Forest System lands contribute to: Aquatic Ecosystems-DC The species composition and structural diversity of native plant communities in riparian management areas including wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration, and to supply amounts and distributions of coarse woody debris and fine particulate organic matter sufficient to sustain physical complexity and stability. Watershed scale for Forest planning; subwatershed scale for project planning.	FW-DC-WR-10. Native Plant Communities National Forest System lands contribute to the species composition and structural diversity of native plant communities in riparian management areas (including wetlands). These contribute to adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration; and supply amounts and distributions of coarse woody debris and fine particulate organic matter sufficient to sustain physical complexity and stability. Subbasin scale is used for Forest planning, and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-11. Native Plant Communities National Forest System lands contribute to the species composition and structural diversity of native plant communities in riparian management areas (including wetlands). These contribute to adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration; and supply amounts and distributions of coarse woody debris and fine particulate organic matter sufficient to sustain physical complexity and stability. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.
Riparian Goal (5) maintain or restore diversity and productivity of native and desired non-native plant communities in riparian zones.	National Forest System lands contribute to: Aquatic Ecosystems-DC Native assemblages of riparian dependent plants and animals free of persistent non-native species. Watershed scale for both Forest and project planning.	FW-DC-WR-11. Aquatic Invasive and Non-Native Species Aquatic invasive species do not occur as a component of lake, stream and other riparian related ecosystems or compete with native species for critical resources. Subbasin scale is used for Forest planning. Fifth field watershed or subwatershed scale is used for project planning.	FW-DC-WR-12. Aquatic Invasive and Non-Native Species Aquatic invasive species do not occur as a component of lake, stream, and other riparian- related ecosystems or compete with native species for critical resources. Subbasin scale is used for Forest planning. Fifth field watershed or subwatershed scale is used for project planning.

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		FW-DC-WR-12. Aquatic Threatened, Endangered, and Sensitive Species National Forest System lands contribute to the recovery of federally threatened and endangered fish species and conservation of regional forester's sensitive fish species. Aquatic habitat supports spawning, rearing and other key life history requirements. Subbasin scale is used for Forest planning, and 5th field watershed or subwatershed scale is used for project planning.	FW-DC-WR-13. Aquatic Threatened, Endangered, and Sensitive Species National Forest System lands contribute to the recovery of federally threatened and endangered aquatic species and conservation of regional forester's sensitive aquatic species. Aquatic habitat supports spawning, rearing, and/or other key life history requirements. Aquatic habitat also is designated as critical habitat for listed species (such as bull trout) in some areas. Subbasin scale is used for Forest planning and 5th field watershed or subwatershed scale is used for project planning.
			FW-DC-WR-14. Resiliency to Climate Change Aquatic and riparian ecosystems are resilient to the effects of climate change and other major disturbances. Subbasin is scale is used for Forest planning and 5th field watershed scale is used for project planning.
		FW-DC-WR-13. Water Quality Standards in Source Water Protection Areas NFS lands in ground and surface source water protection areas provide water that meets or exceeds state water quality standards for drinking water with appropriate treatment.	FW-DC-WR-15. Water Quality Standards in Municipal Supply Watersheds and Source Water Protection Areas National Forest system lands in municipal supply watersheds (North Fork Sullivan Creek and East Fork Deer Creek) and ground and surface source water protection areas provide water that meets or exceeds state water quality standards for drinking water with appropriate treatment.
		FW-DC-WR-17. Focus and Priority Watershed Network Focus and priority watersheds contribute to the sustainability of aquatic and riparian systems and	FW-DC-WR-19. Focus and Priority Watershed Network Focus and priority watersheds contribute to the sustainability of aquatic and riparian systems and species and provide

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		species and provide resilient, productive habitat and high water quality.	resilient, productive habitat and high water quality.

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Key Watershed Desired Conditions			
No specific "DC" were incorporated into INFISH for Priority/Key WA	Key Watersheds DC: Networks of watersheds with good habitat and functionally intact ecosystems contribute to and enhance conservation and recovery of specific threatened or endangered fish species, fish species of concern, and fish species of interest, and high water quality and quantity. The networks contribute to short-term conservation and long-term recovery at the ESU/Recovery Unit or other appropriate population scale.	FW-DC-WR-14. Key Watershed Network Networks of watersheds with functional habitat and functionally intact ecosystems contribute to and enhance conservation and recovery of specific threatened, endangered and/or sensitive fish species and high water quality and natural flow regimes. The networks contribute to short-term conservation and long-term recovery at the Recovery Unit or other appropriate population scale.	FW-DC-WR-16. Key Watershed Network Networks of watersheds with functional habitat and functionally intact ecosystems contribute to and enhance conservation and recovery of specific threatened, endangered, and/or sensitive aquatic species and high water quality and natural flow regimes. The networks contribute to short-term conservation and long-term recovery at the Recovery Unit or other appropriate population scale.
	Key Watersheds DC: Roads in key watersheds do not present substantial risk to aquatic resources.	FW-DC-WR-15. Roads in Key Watersheds Roads in key watersheds are not a risk to the function of soil and water resources. Roads do not disrupt hydrologic or aquatic habitat function or threatened and endangered species biological and behavioral attributes.	FW-DC-WR-17. Roads in Key Watersheds Roads in key watersheds are not a risk to the function of soil and water resources. Roads do not disrupt hydrologic or aquatic habitat function or threatened and endangered species biological and behavioral attributes.
	Key Watersheds DC: Key Watersheds have high watershed integrity and provide resilient aquatic and riparian ecosystems.	FW-DC-WR-16. Key Watershed Integrity Key watersheds have high watershed integrity and contribute to resilient aquatic and riparian ecosystems.	FW-DC-WR-18. Key Watershed Integrity Key watersheds have high watershed integrity and contribute to resilient aquatic and riparian ecosystems.

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Riparian Management Area Desired Conditions			
	Riparian Management Area DC Riparian management areas within any given watershed reflect a natural composition of native flora and fauna and a distribution of physical, chemical, and biological conditions appropriate to natural disturbance regimes affecting the area.	MA-DC-RMA-01. Composition Riparian management areas consist of native flora and fauna in a functional system and a distribution of physical, chemical, and biological conditions appropriate to natural disturbance regimes affecting the area.	MA-DC-RMA-01. Composition Riparian management areas consist of native flora and fauna in a functional system and a distribution of physical, chemical, and biological conditions appropriate to natural disturbance regimes affecting the area.
	Riparian Management Area DC Key riparian processes and conditions, including slope stability and associated vegetative root strength, wood delivery to streams and within the RMAs, input of leaf and organic matter to aquatic and terrestrial systems, solar shading, microclimate, and water quality, are operating consistently with local disturbance regimes.	MA-DC-RMA-02. Key Riparian Processes Key riparian processes and conditions (including slope stability and associated vegetative root strength, capture and partitioning of water within the soil profile, wood delivery to streams and within the riparian management areas, input of leaf and organic matter to aquatic and terrestrial systems, solar shading, microclimate, and water quality) are operating consistently with local disturbance regimes.	MA-DC-RMA-02. Key Riparian Processes Key riparian processes and conditions (including slope stability and associated vegetative root strength, capture and partitioning of water within the soil profile, wood delivery to streams and within the riparian management areas, input of leaf and organic matter to aquatic and terrestrial systems, solar shading, microclimate, and water quality) are operating consistently with local disturbance regimes.
		MA-DC-RMA-03. Livestock Grazing Livestock grazing of riparian vegetation retains sufficient plant cover, rooting depth and vegetative vigor to protect stream bank and floodplain integrity against accelerated erosional processes, and allows for appropriate deposition of overbank sediment.	MA-DC-RMA-03. Livestock Grazing Livestock grazing of riparian vegetation retains sufficient plant cover, rooting depth and vegetative vigor to protect stream bank and floodplain integrity against accelerated erosional processes, and allows for appropriate deposition of overbank sediment.
		MA-DC-RMA-04. Roads Roads located in or draining to riparian management areas do not present a substantial risk to soil or hydrologic function. Roads do not disrupt riparian and aquatic function.	MA-DC-RMA-04. Roads Roads located in or draining to riparian management areas do not present a substantial risk to soil or hydrologic function. Roads do not disrupt riparian and aquatic function.

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General Water Resources Objectives			
		FW-OBJ-WR-01. Aquatic Invasive Species Within the next 15 years, implement aquatic invasive species prevention measures at all developed recreation sites providing direct and/or indirect access to water bodies, such as boat ramps and other campgrounds, resorts and day use areas that provide portal zones for hand carried watercraft. Implement aquatic invasive species prevention measures as part of all aquatic survey and inventory procedures and other management activities which pose high potential for invasion vectors to occur. -For guidance on invasive riparian plants, see Vegetation Desired Condition section	FW-OBJ-WR-01. Aquatic Invasive Species Within the next 15 years, implement aquatic invasive species prevention measures at all developed recreation sites providing direct and/or indirect access to water bodies, such as boat ramps, campgrounds, and day use areas that provide portal zones for hand carried watercraft. Implement aquatic invasive species prevention measures as part of all aquatic survey and inventory procedures and other management activities that pose high potential for invasion vectors to occur. For guidance on invasive riparian plants see Vegetation Desired Condition section.
		FW-OBJ-WR-02. Aquatic Invasive and Non-Native Species Within the next 15 years, implement aquatic invasive species control and eradication at 10 sites where such invasions have become established and prevent attainment of listed fish recovery plan goals and/or effects to social, economic, and ecological systems are determined to be unacceptable.	FW-OBJ-WR-02. Aquatic Invasive and Non-Native Species Within the next 15 years, implement aquatic invasive species control and eradication in 15 waterbodies (streams and lakes) where such invasions have become established and prevent attainment of listed fish recovery plan goals and/or effects to social, economic, and ecological systems are determined to be unacceptable.

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		FW-OBJ-WR-03. General Watershed Function and Restoration Within the next 15 years, decrease sediment delivery from management activities on 1,000 acres including but not limited to roads, trails, livestock, unauthorized off-highway vehicle use, vegetation management, and dispersed and developed campsites. Restore hydrologic, aquatic and riparian processes through activities that stabilize stream bank erosion, and other accelerated channel destabilizing processes (that is, headcutting), improve lateral and vertical hydrologic connectivity, and improve stream channel and floodplain function on 10 miles of streams.	FW-OBJ-WR-03. General Watershed Function and Restoration Within the next 15 years, decrease sediment delivery from management activities on 1,000 acres including but not limited to roads, trails, livestock, unauthorized off-highway vehicle use, vegetation management, and dispersed and developed campsites. Restore hydrologic, aquatic and riparian processes through activities that stabilize streambank erosion, and other accelerated channel destabilizing processes (that is, headcutting), improve lateral and vertical hydrologic connectivity, and improve stream channel and floodplain function on 10 miles of streams.
		FW-OBJ-WR-04. Fish Habitat Improvement. Within 15 years restore aquatic organism passage for all life stages of native species at 45 road/stream crossings and man-made instream structures such as water diversions and dams outside of key watersheds. Culverts and other passage improvements are to be designed to restore and maintain hydrologic and aquatic habitat function and stream channel resiliency to a range of flows through natural channel design and other acceptable treatment measures.	FW-OBJ-WR-04. Fish Habitat Improvement. Within 15 years, restore aquatic organism passage for all life stages of native species at 45 road/stream crossings and man-made instream structures such as water diversions and dams outside of key watersheds. Culverts and other passage improvements are to be designed to restore and maintain hydrologic and aquatic habitat function and stream channel resiliency to a range of flows through natural channel design and other acceptable treatment measures.

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		FW-OBJ-WR-10. Watershed Restoration in Focus and Priority Watersheds During 15 years implement the watershed condition framework through completion of essential projects outlined in watershed action plans in existing focus and priority watersheds to improve watershed condition class. Focus watersheds designated at the 5th field watershed scale include, Upper Sanpoil, Chewelah Creek-Colville River, and LeClerc Creek-Pend Oreille River watersheds. Priority watersheds designated at the subwatershed scale include Ninemile Creek, East Branch LeClerc Creek, and West Branch LeClerc Creek subwatersheds.	FW-OBJ-WR-10. Watershed Restoration in Focus and Priority Watersheds During 15 years, implement the watershed condition framework through completion of essential projects outlined in watershed action plans in existing focus and priority watersheds to improve watershed condition class. Focus watersheds designated at the 5th field watershed scale include Upper Sanpoil, Chewelah Creek-Colville River, and LeClerc Creek-Pend Oreille River watersheds. Priority watersheds designated at the subwatershed scale include Ninemile Creek and West Branch LeClerc Creek subwatersheds.
			FW-OBJ-WR-11. Watershed Analysis Within 15 years of plan implementation, complete or update watershed analyses for 5 subwatersheds. Criteria for selecting subwatershed for watershed analysis include: Key Watersheds, Priority Watersheds, watersheds that support designated critical habitat, or support listed species, and watersheds where management activities are likely to occur that may affect aquatic resources (due to their inherent nature, location, timing, or scale).

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	Key Watershed Objectives		
	Water Resources, Key Watersheds Objective – 1 Le Clerc Creek – Pend Oreille River, Upper San Poil, Chewelah Creek – Colville River watershed restoration (Colville) Reduce the road-generated sediment production and delivery during the next 15 years. Acceptable methods include culvert removal or replacement, livestock crossing armoring, stream crossing surfacing (placing crushed rock on road surface approaches), installing drainage crossings, road storm damage risk reduction measures, road maintenance level reduction, road decommission followed by riparian vegetation restoration, and riparian fencing. Methods to improve the stream channel and riparian habitat include, but are not limited to, culvert replacement or removal to provide upstream fish passage, road relocation and/or decommission, reducing the impacts of or closing and rehabilitating dispersed recreation sites, riparian fencing and planting, and instream structure placement.	FW-OBJ-WR-05. Key Watershed Restoration Prioritization Management in key watersheds focuses on restoration or preservation of watershed, aquatic, and riparian function and recovery of threatened and endangered species. Improve watershed condition class in key watersheds that are a priority for restoration within 15 years of forest plan implementation. Key watersheds that are a priority for restoration include: *East Branch LeClerc Creek, West Branch LeClerc Creek, Deadman Creek, Barnaby Creek, Harvey Creek, North Fork Deadman Creek, North Fork Sullivan Creek, Sullivan Creek, Ruby Creek, Tonata Creek, Upper Sherman Creek, and South Fork Sherman Creek subwatersheds.* Additional key watersheds that are a priority for restoration will be identified, as appropriate, through the life of the plan.	FW-OBJ-WR-05. Key Watershed Restoration Prioritization Management in key watersheds focuses on restoration or preservation of watershed, aquatic, and riparian function and recovery of threatened and endangered species. Improve watershed condition class in key watersheds that are a priority for restoration within 15 years of forest plan implementation. Key watersheds that are a priority for restoration include: *East Branch LeClerc Creek, West Branch LeClerc Creek, Deadman Creek, Barnaby Creek, Harvey Creek, North Fork Deadman Creek, North Fork Sullivan Creek, Sullivan Creek, Ruby Creek, Tonata Creek, Upper Sherman Creek, and South Fork Sherman Creek subwatersheds.* Additional key watersheds that are a priority for restoration will be identified, as appropriate, through the life of the plan through the WCF process.

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	Water Resources, Key Watersheds Objective – 2 All other key watersheds (Colville) In the most important places for threatened, endangered and sensitive fish and water quality, prioritize restoration opportunities within Riparian Management Areas that improve riparian processes and water quality. Reduce road-generated sediment on 436 acres of road prism during the next 15 years. Acceptable methods can include culvert removal, stream crossing surfacing (placing crushed rock on road surface approaches), installing drainage crossings, road storm damage risk reduction measures, road maintenance level reduction, and road decommission followed by riparian vegetation restoration, and riparian fencing Methods to improve channel and riparian habitat include, but are not limited to, culvert replacement or removal to provide upstream fish passage, road relocation and/or decommission, reducing the impacts of or closing and rehabilitating dispersed recreation sites, riparian fencing and planting, and instream structure placement.	FW-OBJ-WR-06. Key Watershed Road Treatments Reduce road-hydrologic connectivity and sediment delivery on roads through storm damage risk reduction treatments, full hydrologic decommissioning, and other accepted treatment measures on 78 miles of hydrologically connected road within 15 years of forest plan implementation. Restore or maintain aquatic organism passage at 44 road/stream crossings for all native species, seasons, flows, and life stages within 15 years of Forest plan implementation, through culvert replacement or installation and improvement of hydrologic and aquatic habitat function and resiliency to a range of flows thorough natural channel design and other acceptable treatment measures.	FW-OBJ-WR-06. Key Watershed Road Treatments Reduce road-hydrologic connectivity and sediment delivery on roads through storm damage risk reduction treatments, full hydrologic decommissioning, and other accepted treatment measures on 116 miles of hydrologically connected road within 15 years of forest plan implementation. Restore or maintain aquatic organism passage and improve hydrologic and aquatic habitat function at 53 road/stream crossings for all native aquatic species, seasons, flows, and life stages in key watersheds within 15 years of forest plan implementation through culvert replacement or crossing improvement and natural channel design or other acceptable treatment measures that provide for natural stream channel function at all flows.

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		FW-OBJ-WR-07. Key Watershed Range Infrastructure Improvements Improve hydrologic and aquatic function through range infrastructure improvements, including riparian fencing, movement and improvement of watering troughs, and other acceptable treatments on 250 acres within 15 years of plan implementation.	FW-OBJ-WR-07. Key Watershed Range Infrastructure Improvements Improve hydrologic and aquatic function through range infrastructure improvements, including riparian fencing, movement and improvement of watering troughs, and other acceptable treatments over 240 acres within 15 years of plan implementation.
		FW-OBJ-WR-08. Upland Vegetation Structure in Riparian Management Areas in Key Watersheds Move upland vegetation within riparian management areas in key watersheds toward historical range of variability on 1,200 acres within 15 years of plan implementation.	FW-OBJ-WR-08. Upland Vegetation Structure in Riparian Management Areas in Key Watersheds Move upland vegetation within riparian management areas in key watersheds toward historical range of variability (table 8) on 1,500 acres within 15 years of plan implementation.
		FW-OBJ-WR-09. Stream Restoration in Key Watersheds Restore hydrologic, geomorphic, and riparian process and function on 76 miles of stream within 15 years of forest plan implementation through activities including streambank stabilization, restoration of lateral and vertical hydrologic connectivity and improvement of stream channel and floodplain function.	FW-OBJ-WR-09. Stream Restoration in Key Watersheds Restore hydrologic, geomorphic, and riparian process and function on 81 miles of stream within 15 years of forest plan implementation through activities including streambank stabilization, restoration of lateral and vertical hydrologic connectivity and improvement of stream channel and floodplain function.

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Riparian Management Area Objectives			
	Riparian Management Areas (Colville) Objective – 2 Modify grazing practices in key watersheds with active grazing allotments in riparian management areas to move conditions toward the desired conditions for riparian management areas. *Riparian Management Areas (Colville) Objective – 3* During the next 15 years, within the Riparian Management Areas, restore riparian processes at dispersed recreation sites with the priority being those sites where recreational use results in bank damage, a reduction in water quality, and/ or a reduction in shade over the stream. Consolidate access trails to the remaining dispersed campsites. *Riparian Management Areas (Colville) Objective – 4* During the next 15 years, consolidate user-created access routes in Riparian Management Areas onto stable locations that minimize disturbance to riparian processes and water quality. Restore excess user-trails within Riparian Management Areas. *Riparian Management Areas (Colville) Objective – 5* During the next 15 years, provide upstream fish passage at road crossings on the following fish-bearing streams within the following key watersheds:	MA-OBJ-RMA-01. Improve Riparian Function at Dispersed and Developed Recreation Sites During the next 15 years, restore riparian processes and balance need for occupancy and access to water at 50 dispersed and developed recreation sites, through education, enforcement, and engineering where recreational use results in bank damage, reduction in water quality, and/ or a reduction in stream shade. MA-OBJ-RMA-02. Restoration of Riparian Habitat and Process on Roads Restore hydrologic and riparian habitat function within RMAs in non-key watersheds by reducing road-related impacts on 30 miles of road within 15 years. MA-OBJ-RMA-03. Restoration of Late Forest Structure Move upland vegetation within riparian management areas outside of key watersheds toward HRV on 500 acres within 15 years of plan implementation.	MA-OBJ-RMA-01. Improve Riparian Function at Dispersed and Developed Recreation Sites During the next 15 years, restore riparian processes and balance need for occupancy and access to water at 75 dispersed and developed recreation sites, through education, enforcement, and engineering where recreational use results in bank damage, reduction in water quality, and/ or a reduction in stream shade. MA-OBJ-RMA-02. Restoration of Riparian Habitat and Processes on Roads Restore hydrologic and riparian habitat function within riparian management areas in non-key watersheds by reducing road-related impacts on 80 miles of road within 15 years. MA-OBJ-RMA-03. Restoration of Late Forest Structure Move upland vegetation within riparian management areas outside of key watersheds toward historical range of variability on 500 acres within 15 years of plan implementation.

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General Water Resources Standards and Guidelines			
Pool Frequency (kf)- Varies by Channel Width (all systems) * Wetted with in feet: * Number pools per mile: Water Temperature (sf) No measurable increase in maximum water temperature (7-day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period). Maximum water temperatures below 59°F within adult holding habitat and below 48°F within spawning and rearing habitats. Large Woody Debris (sf)(forested systems) East of Cascade Crest in Oregon, Washington, Idaho, Nevada and western Montana. >20 pieces per mile; >12 inch diameter; >35 foot length.			FW-GDL-WR-01. Properly Functioning Watersheds When aquatic and riparian desired conditions are being achieved and watersheds are functioning properly[42], projects should maintain[43] those conditions. When aquatic and riparian desired conditions are not yet achieved or watersheds have impaired function[42] or are functioning-at-risk[42] and to the degree that project activities would contribute to those conditions, projects should restore or not retard attainment of desired conditions[43]. Short-term adverse effects from project activities may be acceptable when they support long-term recovery of aquatic and riparian desired conditions. Exceptions to this guideline include situations where Forest Service authorities are limited. In those cases, project effects toward attainment of desired conditions should be minimized and not retard attainment of desired conditions to the extent possible within Forest Service authorities.

[42] Per Watershed Condition Framework Technical Guide, USDA Forest Service (Potyondy and Geier 2010) and/or subsequent versions and/or comparable methods. Other broad-scale or local inventory, assessment and monitoring data and analysis can be used to refine initial classifications made per WCF.
[43] See FEIS glossary for definitions of the terms “maintain,” “restore,” “degrade,” and “retard attainment.”

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Bank Stability (sf)(non-forested systems) - > 80 percent stable Lower Bank Angle (sf)(non-forested systems) - >75 percent of banks with <90 degree angle (that is undercut) Width/Depth Ratio (sf)(all systems) - <10, mean wetted width divided by mean depth			
			FW-STD-WR-01. Best Management Practices All projects shall be implemented in accordance with best management practices, as described in national and regional technical guides.
		FW-STD-WR-01. Aquatic Invasive Species—In-Water Work Implement prevention measures for in-water projects to decrease the potential for aquatic invasive species transference into non-infested water bodies.	FW-STD-WR-02. Aquatic Invasive Species—In-Water Work Implement prevention measures for in-water projects to decrease the potential for aquatic invasive species transference into non-infested water bodies.

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		FW-STD-WR-02. Construction of New Roads, Trails, and Developed Recreation Sites New roads and trails will be designed to minimize disruption of natural hydrologic processes at perennial and intermittent stream crossings, valley bottoms, valley approaches and other over-land drainage features. New roads, trails and developed recreation sites will integrate features, such as, but not limited to, rocked stream crossings, drain dips, sediment filtration, cross drains and crossings that minimize unnatural stream constriction, bank erosion, channel incision, sedimentation, or disruption of surface and subsurface flow paths.	FW-STD-WR-04. Construction of New Roads, Trails, and Developed Recreation Sites New roads and trails will be designed to minimize disruption of natural hydrologic processes at perennial and intermittent stream crossings, valley bottoms, valley approaches and other over-land drainage features. New roads, trails and developed recreation sites will integrate features, such as, but not limited to, rocked stream crossings, drain dips, sediment filtration, cross drains and crossings that minimize unnatural stream constriction, bank erosion, channel incision, sedimentation, or disruption of surface and subsurface flow paths.
		FW-GDL-WR-01. Aquatic Invasive Species—Wildfire Suppression Equipment During wildfire suppression, cross contamination between streams and lakes from pumps, suction, and dipping devices should be avoided. Dumping water directly from one stream or lake into another should be avoided. Water storage and conveyance components of water tenders, engines, and aircraft should be disinfected prior to use on a new on-forest incident.	FW-GDL-WR-02. Aquatic Invasive Species—Wildfire Suppression Equipment During wildfire suppression, cross contamination between streams and lakes from pumps, suction, and dipping devices should be avoided. Dumping water directly from one stream or lake into another should be avoided. Water storage and conveyance components of water tenders, engines, and aircraft should be disinfected prior to use on a new on-forest incident.
		FW-GDL-WR-02. Aquatic Invasive Species—Aquatic Resource Sampling Aquatic sampling equipment should be disinfected prior to use in new stream or lake locations.	FW-STD-WR-03. Aquatic Invasive Species—Aquatic Resource Sampling Aquatic sampling equipment must be disinfected prior to use in new stream or lake locations.

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		FW-GDL-WR-03. Aquatic Invasive Species—Early Detection and Rapid Response Principles and processes of early detection and rapid response (EDRR) to find, identify, and quantify new aquatic invasive species occurrences should be used. EDRR should be coupled with other integrated activities to rapidly assess and respond with quick and immediate actions to eradicate, control, or contain aquatic invasive species.	FW-GDL-WR-03. Aquatic Invasive Species—Early Detection and Rapid Response Principles and processes of early detection and rapid response to find, identify, and quantify new aquatic invasive species occurrences should be used. Early detection and rapid response should be coupled with other integrated activities to rapidly assess and respond with quick and immediate actions to eradicate, control, or contain aquatic invasive species.
WR-1. Design and implement watershed restoration projects in a manner that promotes long-term ecological integrity of ecosystems, conserve the genetic integrity of native species, and contributes to attainment of Riparian Management Objectives.	Watershed Restoration Guideline- 2 Watershed restoration projects should be designed to minimize the need for long-term maintenance.	FW-GDL-WR-04. Watershed Restoration Use the restoration methods that maximize the use of natural ecological processes for long- term sustainability and minimize the need for long-term maintenance.	FW-GDL-WR-04. Watershed Restoration Use the restoration methods that maximize the use of natural ecological processes for long- term sustainability and minimize the need for long-term maintenance.
		FW-GDL-WR-05. Hydrologic Function of Roads, Trails, and Developed Recreation Sites Roads and trails should be maintained to minimize disruption of natural hydrologic processes at perennial and intermittent stream crossings, valley bottoms, valley approaches and other over-land drainage features. Roads and trails should integrate features, such as, but not limited to, rocked stream crossings, drain dips, sediment filtration, cross drains and crossings that minimize unnatural stream constriction, bank erosion, channel incision, sedimentation, or disruption of surface and subsurface flow paths.	FW-GDL-WR-05. Hydrologic Function of Roads, Trails, and Developed Recreation Sites Roads and trails should be maintained to minimize disruption of natural hydrologic processes at perennial and intermittent stream crossings, valley bottoms, valley approaches and other over-land drainage features. Roads and trails should integrate features, such as, but not limited to, rocked stream crossings, drain dips, sediment filtration, cross drains and crossings that minimize unnatural stream constriction, bank erosion, channel incision, sedimentation, or disruption of surface and subsurface flow paths.

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			FW-GDL-WR-06. Chemical Fire Suppression Whenever practical, as determined by the fire incident commander, use water or other less toxic wildland fire chemical suppressants for direct attack or less toxic approved fire retardants in areas occupied by riparian and aquatic-dependent threatened, endangered, proposed, candidate, or sensitive species, or their habitats.
Key Watershed Standards and Guidelines			
	Standard KW There shall be no net increase at any time in the mileage of Forest roads in any key watershed unless doing so results in a reduction in road-related risk to watershed condition. No net increase means that for each mile of new road constructed, at least one mile of road must be decommissioned to hydrologically stable, self-maintaining conditions. Priority should be given to roads that pose the greatest relative ecological risks to riparian and aquatic ecosystems.	FW-STD-WR-03. Road Construction and Decommissioning in Key Watersheds There shall be no net increase (that is, for each mile of new road constructed, at least one mile of road must be decommissioned) at any time in the mileage of National Forest System roads in any key watershed unless doing so results in a reduction in road-related risk to watershed condition. The decommissioned road shall be in a hydrologically stable and self-maintaining condition. Priority for decommissioning will be given to roads that pose the greatest relative ecological risks to riparian and aquatic function.	FW-STD-WR-05. Road Construction and Hydrologic Risk Reduction in Key Watersheds In Key Watersheds and in subwatersheds with ESA critical habitat for aquatic species that are functioning properly with respect to roads, there will be no net increase (at least one mile of road-related risk reduction for every new mile of road construction) in system roads that affect hydrologic function. In Key Watersheds and in subwatersheds with ESA critical habitat for aquatic species that are functioning-at-risk or have impaired function with respect to roads, there will be a net decrease (for every mile of road construction there would be greater than one mile of road-related risk reduction) in system roads that affect hydrologic function to move toward proper function. Treatment priority shall be given to roads that pose the greatest relative ecological risks to riparian and aquatic ecosystems. Road-related risk reduction will occur prior to new road construction unless logistical restrictions require post-construction risk reduction.

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	Standard KW Hydroelectric and other water development authorizations shall include requirements for in-stream flows and habitat conditions that maintain or restore native fish and other desired aquatic species populations, riparian dependent resources, favorable channel conditions, and aquatic connectivity.	FW-STD-WR-04. Hydroelectric and Other Water Development Authorizations in Key Watersheds Hydroelectric and other water development authorizations shall include requirements for in-stream flows and habitat conditions that maintain or restore native fish and other desired aquatic species populations, riparian dependent resources, favorable channel conditions, and aquatic connectivity.	FW-STD-WR-06. Hydroelectric and Other Water Development Authorizations in Key Watersheds Hydroelectric and other water development authorizations shall include requirements for instream flows and habitat conditions that maintain or restore native fish and other desired aquatic species populations, riparian dependent resources, favorable channel conditions, and aquatic connectivity.
	Standard KW New hydroelectric facilities and water developments shall not be located in a key watershed unless it can be demonstrated they have minimal risks and/or no adverse effects to fish and water resources for which the key watershed was established.	FW-STD-WR-05. New Hydroelectric Facilities and Water Developments New hydroelectric facilities and water developments shall not be located in a key watershed unless it can be demonstrated they have minimal risks and/or no adverse effects to fish and water resources for which the key watershed was established.	FW-STD-WR-07. New Hydroelectric Facilities and Water Developments New hydroelectric facilities and water developments shall not be located in a key watershed unless it can be demonstrated they have minimal risks and/or no adverse effects to fish and water resources for which the key watershed was established.

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Riparian Management Area Standards and Guidelines			
Pool Frequency (kf)- Varies by Channel Width (all systems) * Wetted with in feet: * Number pools per mile: Water Temperature (sf) No measurable increase in maximum water temperature (7-day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period). Maximum water temperatures below 59°F within adult holding habitat and below 48°F within spawning and rearing habitats. Large Woody Debris (sf)(forested systems) East of Cascade Crest in Oregon, Washington, Idaho, Nevada and western Montana. >20 pieces per mile; >12 inch diameter; >35 foot length.	Guideline RA When RMAs are properly functioning[44], project activities should maintain those conditions. When RMAs are not properly functioning, and to the degree that project activities would drive or contribute to improper function, project activities should improve those conditions. Project activities in RMAs should not result in long-term degradation to aquatic and riparian conditions at the watershed scale. Limited short term or site-scale effects from activities in RMAs may be acceptable when they support, or do not diminish, long-term benefits to aquatic and riparian resources.	MA-STD-RMA-01. Aquatic and Riparian Conditions When riparian management areas are properly functioning[1], project activities shall maintain those conditions. When riparian management areas are not properly functioning, and to the degree that project activities would drive or contribute to improper function, project activities shall improve those conditions. Project activities in riparian management areas shall not result in long-term degradation to aquatic and riparian conditions at the watershed scale. Limited short term or site-scale effects from activities in riparian management areas may be acceptable when they support, or do not diminish, long-term benefits to aquatic and riparian resources.	MA-GDL-RMA-01. Aquatic and Riparian Conditions RMAs include portions of watersheds where aquatic and riparian-dependent resources receive primary management emphasis. When RMAs are properly functioning[42] and aquatic and riparian desired conditions are being achieved, projects should maintain[43] those conditions. When RMAs have impaired function[42] or are functioning-at-risk[42] or if aquatic and riparian desired conditions are not yet being achieved and to the degree that project activities would contribute to those conditions, projects or permitted activities should restore or not retard attainment of desired conditions[43]. Short-term adverse effects from project activities may be acceptable when they support long-term recovery of aquatic and riparian desired conditions. Exceptions to this guideline include situations where Forest Service authorities are limited. In those cases, project effects toward attainment of RMA desired conditions should be minimized and not retard attainment of desired conditions to the extent possible within Forest Service authorities.

[44] Assessment of properly functioning or fully functioning condition is a concept originally developed by the BLM to assess the natural habitat forming processes of riparian and wetland areas (Prichard et al. 1993). Ecosystems at any temporal or spatial scale are in a properly functioning condition when they are dynamic and resilient to perturbations to structure, composition and processes of their biological and physical components (USDA Forest Service 1998b). Primary elements typically include hydrologic characteristics, physical structure/form, vegetative characteristics, water quality and aquatic/riparian biological community characteristics. The general methodology provides an integrated measure of condition and can be used at a variety of scales from individual reaches to watersheds. The basic approach is used to assess a wide range of process-based, riparian and aquatic conditions. The current R6 process to assess watershed condition, which uses the Ecosystem Management Decision Support (EMDS) model, and the R4 PFC Rapid Assessment Process are examples of this technique, used at the sub-watershed and watershed scales. This general methodology has also been used for salmonid systems by the NMFS (1996) and as a tool in salmon conservation and recovery planning (e.g., Ecosystem Diagnosis and Treatment Model (EDT) described by Lestelle et al. 2004).

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Bank Stability (sf)(non-forested systems) - > 80 percent stable Lower Bank Angle (sf)(non-forested systems) - >75 percent of banks with <90 degree angle (that is undercut) Width/Depth Ratio (sf)(all systems) - <10, mean wetted width divided by mean depth			
RA-3 Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish.	Standard R Apply herbicides, insecticides, piscicides and other toxicants, and other chemicals only to maintain, protect, or enhance aquatic and riparian resources or to restore native plan communities.	MA-STD-RMA-02. Chemical Application Apply herbicides, insecticides, piscicides, and other toxicants, other chemicals, and biological agents only to maintain, protect, or enhance aquatic and riparian resources and/or native plant communities.	MA-STD-RMA-01. Chemical Application Apply herbicides, insecticides, piscicides, and other toxicants, other chemicals, and biological agents only to maintain, protect, or enhance aquatic and riparian resources and/or native plant communities.
TM-1 Prohibit timber harvest, including fuel wood cutting, in Riparian Habitat Conservation Areas, except as described below. A. Where catastrophic events such as fire, flooding, volcanic, wind, or insect.	RMA Standard TM: Fuelwood cutting shall not be authorized in the active floodplain[45] or within primary source areas for large woody debris.	MA-STD-RMA-03. Personal Fuelwood Cutting Personal fuelwood cutting shall not be authorized within riparian management areas or source areas for large woody debris.	MA-STD-RMA-02. Personal Fuelwood Cutting Personal fuelwood cutting shall not be authorized within riparian management areas or source areas for large woody debris
damage result in degraded riparian conditions, allow salvage and fuel wood cutting in Riparian Habitat Conservation Areas only where present and future	RMA Guideline TM Timber harvest and thinning should occur in RMAs only as necessary to maintain, restore, or enhance conditions that are needed to support	MA-STD-RMA-04. Timber Harvest and Thinning Timber harvest and thinning can occur in riparian management areas only as necessary to move vegetation in RMAs toward HRV, which maintains, restores,	MA-STD-RMA-03. Timber Harvest and Thinning Timber harvest and other silvicultural practices can occur in RMAs only as necessary to attain desired conditions for aquatic and riparian resources.

[45] Active floodplain is the area bordering a stream that is inundated by flows at a surface elevation defined by two times the maximum bankfull depth (i.e., bankfull depth measured at thalweg).

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woody debris needs are met, where cutting would not retard or prevent attainment of other	aquatic and riparian dependent resources.	or enhances conditions needed to support aquatic and riparian dependent resources.	Vegetation in RMAs will not be subject to scheduled timber harvest.
Riparian Management Objectives, and where adverse effects can be avoided to inland native fish. For priority watersheds, complete watershed analysis prior to salvage cutting in RHCAs	RMA Guideline TM: Yarding activities should achieve full suspension over the active channel[46].	MA-STD-RMA-05. Yarding Activities Yarding activities, if crossing streams, shall achieve full suspension over the active channel.	MA-STD-RMA-04. Yarding Activities Cable yarding activities, if crossing streams, shall achieve full suspension over the active channel.
Apply silvicultural practices for Riparian Habitat Conservation Areas to acquire desired vegetation characteristics where needed to attain Riparian Management Objectives. Apply silvicultural practices in a manner that does not retard attainment of Riparian Management Objectives and that avoids adverse effects on inland native fish.	RMA Guideline RF: Fish passage barriers should be retained where they serve to restrict access by undesirable non-native species and are consistent with restoration of habitat for native species	MA-GDL-RMA-08. Fish Passage Barriers Consider retaining fish passage barriers where they serve to restrict access by undesirable non-native species and are consistent with restoration of habitat for native species.	MA-GDL-RMA-11. Fish Passage Barriers Consider retaining fish passage barriers where they serve to restrict access by undesirable non- native species and are consistent with restoration of habitat for native species.
	RMA Guideline RF: Protect fish habitat and water quality when withdrawing water for administrative purposes	MA-STD-RMA-03. Water Withdrawal Protect fish habitat and water quality when withdrawing water.	n/a

[46] Active channel is the bankfull width of flowing perennial or intermittent streams.

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RA-4. Prohibit storage of fuels and other toxicants within Riparian Habitat Conservation Areas. Prohibit refueling within Riparian Habitat Conservation Areas unless there are no other alternatives. Refueling sites within a Riparian Habitat Conservation Area must be approved by the Forest Service or Bureau of Land Management and have an approved spill containment plan.		MA-GDL-RMA-01. Fuel Storage Do not store fuel or other toxicants in RMAs.	MA-GDL-RMA-02. Fuel Storage Refueling shall occur with appropriate containment equipment and a spill response plan in place. Wherever possible, storage of petroleum products and refueling will occur outside of RMAs. If refueling or storage of petroleum products is necessary within RMAs, these operations will be conducted no closer than 100 feet from waterways.
RA-3 Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on inland native fish.	Standard RA Apply herbicides, insecticides, piscicides and other toxicants, and other chemicals only to maintain, protect, or enhance aquatic and riparian resources or to restore native plan communities.	MA-STD-RMA-02. Chemical Application Apply herbicides, insecticides, piscicides, and other toxicants, other chemicals, and biological agents only to maintain, protect, or enhance aquatic and riparian resources and/or native plant communities.	MA-STD-RMA-01. Chemical Application Apply herbicides, insecticides, piscicides, and other toxicants, other chemicals, and biological agents only to maintain, protect, or enhance aquatic and riparian resources and/or native plant communities.
RA-2 Trees may be felled in Riparian Habitat Conservation Areas when they pose a safety risk. Keep felled trees on site when needed to meet woody debris objectives.	Guideline RA Generally retain, on site, trees needed to maintain, protect, or enhance aquatic and riparian resources that are felled for safety.	MA-GDL-RMA-02. Felling Trees When trees are felled for safety, they should generally be retained onsite (channels and adjacent floodplains), to maintain, protect, or enhance aquatic and riparian resources unless otherwise determined that such trees pose a new risk to administrative or developed recreation sites.	MA-GDL-RMA-03. Felling Trees When trees are felled for safety, they should be retained onsite (channels and adjacent floodplains) to maintain, protect, or enhance aquatic and riparian resources unless otherwise determined that such trees pose a new risk to administrative or developed recreation sites.

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RF-2. For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by: a.) Completing watershed analyses prior to construction of new roads or landings in Riparian Habitat Conservation Areas within priority watersheds. b.) Minimizing road and landing locations in RHCAs *c.) – included on page 1430 of this table* *d.)* avoiding sediment delivery to streams from the road surface. 1. Outsloping of the roadway surface is preferred,	RMA Guideline TM: New landings, designated skid trails, staging or decking should not occur in RMAs, unless there are no alternatives, in which case they should: * Be of minimum size, * Be located outside the active floodplain, and * Minimize effects to large wood, bank integrity, temperature and sediment levels.	MA-GDL-RMA-03. Landings, Skid Trails, Decking, and Temporary Roads Landings, designated skid trails, staging or decking shall not occur in riparian management areas, unless there are no other reasonable alternatives, in which case they will: * Be of minimum size * Be located outside the active floodplain * Minimize effects to large wood, bank integrity, temperature, and sediment levels * Not result in unnatural modification of flow paths * Impacted site(s) to be reclaimed as soon as practicable. Existing infrastructure may be reused with intent of removal and restoration of riparian function as soon as practicable.	MA-GDL-RMA-04. Landings, Skid Trails, Decking, and Temporary Roads Landings, designated skid trails, staging, or decking shall not occur in RMAs, unless there are no other reasonable alternatives, in which case they will: * Be of minimum size * Be located outside the active floodplain * Minimize effects to large wood, bank integrity, temperature, and sediment levels * Not result in unnatural modification of flow paths * Enable the impacted site(s) to be reclaimed as soon as practicable. Existing infrastructure may be reused with intent of removal and restoration of riparian function as soon as practicable.
except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. 2. Route road drainage away from potentially unstable stream channels, fills and hillslopes e.) Avoiding disruption of natural hydrologic flow paths f.) Avoiding sidecasting of	RMA Guideline RF: Generally avoid new road construction in RMAs except where necessary for stream crossings.	MA-GDL-RMA-04. Road Construction Construction of permanent or temporary roads in riparian management should be avoided except where necessary for: * stream crossings * stream, wetland or riparian restoration * mine reclamation * employee, contractor, or public safety	MA-GDL-RMA-05. Road Construction Construction of permanent or temporary roads in RMAs should be avoided except where Forest authorities are limited by law or regulation, and except where necessary for: * stream crossings * stream, wetland, riparian restoration, or road relocation * mine reclamation * employee, contractor, or public safety
soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in priority watersheds.			MA-GDL-RMA-06. Temporary Road Reconstruction Temporary roads in RMAs should be avoided. When avoidance is not possible, temporary roads should be managed to protect and restore aquatic and riparian desired conditions.

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RF-3. Determine the influence of each road on the Riparian Management Objectives. Meet Riparian Management Objectives and avoid adverse effects on inland native fish by: a. reconstructing road and drainage features that do not meet design criteria or operation and maintenance	RMA Standard RF: Avoid side-casting (placement of unconsolidated earthen waste materials resulting from road construction or maintenance) in RMAs.	MA-STD-RMA-06. Road Construction and Maintenance No sidecasting or placement of fill in riparian management areas. Snowplowing activities shall include measures to prevent runoff from roads in locations where it could deliver sediment to streams.	MA-STD-RMA-05. Road and Trail Construction and Maintenance There shall be no sidecasting or placement of fill in riparian management areas, except where needed to construct or replace stream crossings Snowplowing activities shall not allow runoff from roads and trails in locations where it could deliver sediment to streams.
standards, or that have been shown to be less effective than designed for controlling sediment delivery, or that retard attainment of Riparian Management Objectives, or do not protect priority watersheds from increased sedimentation.	RMA Standard RF: Avoid placing fill material on organic debris in RMAs.	Consolidated into MA-STD-RMA-09	Consolidated into MA-STD-RMA-05
b. prioritizing reconstruction based on the current and potential damage to inland native fish and their priority watersheds, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of Riparian Habitat Conservation Areas.	RMA Guideline RF: Wetlands and unstable areas should be avoided when reconstructing existing roads or constructing new roads and landings. Minimize impacts where avoidance is not practical	MA-GDL-RMA-05. Road Construction—Wetlands and Unstable Areas Wetlands and unstable areas should be avoided when reconstructing existing roads or constructing new roads and landings. Impacts should be mitigated where avoidance is not possible.	MA-GDL-RMA-07. Road and Trail Construction—Wetlands and Unstable Areas Wetlands and unstable areas should be avoided when reconstructing existing roads and trails or constructing new roads, trails, and landings. Impacts should be mitigated where avoidance is not possible.

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c. closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to inland native fish in priority watersheds, and the ecological value of the riparian resources affected.	RMA Guideline RF: Generally minimize hydrologic connectivity and delivery from roads. This includes roads inside and outside of RMAs	Addressed in multiple plan components	n/a
RF-2. For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by: c.) initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan:	RMA Guideline RF: Road drainage should be routed away from potentially unstable channels, fills, and hillslopes. This applies to both inside and outside of RMAs.	MA-GDL-RMA-06. Road Management—Road Drainage Road drainage should be routed away from potentially unstable channels, fills, and hillslopes.	MA-GDL-RMA-08. Road and Trail Management—Drainage Road and trail drainage should be routed away from potentially unstable channels, fills, and hillslopes.
1. Road design criteria, elements, and standards that govern construction and reconstruction. 2. Road management objectives for each road 3. Criteria that govern road operation, maintenance, and management. 4. Requirements for pre-, during-, and post-storm	RMA Standard RF: Avoid side-casting (placement of unconsolidated earthen waste materials resulting from road construction or maintenance) in RMAs.	MA-STD-RMA-06. Road Construction and Maintenance No sidecasting or placement of fill in riparian management areas. Snowplowing activities shall include measures to prevent runoff from roads in locations where it could deliver sediment to streams.	MA-STD-RMA-05. Road and Trail Construction and Maintenance There shall be no sidecasting or placement of fill in riparian management areas, except where needed to construct or replace stream crossings Snowplowing activities shall not allow runoff from roads and trails in locations where it could deliver sediment to streams.
inspections and maintenance. 5. Regulation of traffic during wet periods to minimize	RMA Standard RF: Avoid placing fill material on organic debris in RMAs.	Consolidated into MA-STD-RMA-09	Consolidated into MA-STD-RMA-05

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erosion and sediment delivery and accomplish other objectives. 6. Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control. 7. Mitigation plans for road failures.	RMA Guideline RF: Wetlands and unstable areas should be avoided when reconstructing existing roads or constructing new roads and landings. Minimize impacts where avoidance is not practical	MA-GDL-RMA-05. Road Construction—Wetlands and Unstable Areas Wetlands and unstable areas should be avoided when reconstructing existing roads or constructing new roads and landings. Impacts should be mitigated where avoidance is not possible.	MA-GDL-RMA-07. Road and Trail Construction—Wetlands and Unstable Areas Wetlands and unstable areas should be avoided when reconstructing existing roads and trails or constructing new roads, trails, and landings. Impacts should be mitigated where avoidance is not possible.
	RMA Guideline RF: Generally minimize hydrologic connectivity and delivery from roads. This includes roads inside and outside of RMAs	Addressed in multiple plan components	n/a
	RMA Guideline RF: Road drainage should be routed away from potentially unstable channels, fills, and hillslopes. This applies to both inside and outside of RMAs.	MA-GDL-RMA-06. Road Management—Road Drainage Road drainage should be routed away from potentially unstable channels, fills, and hillslopes.	MA-GDL-RMA-08. Road and Trail Management—Drainage Road and trail drainage should be routed away from potentially unstable channels, fills, and hillslopes.
RF-4 Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk.	RMA Standard RF: New or replaced permanent stream crossings will accommodate at least the 100-year flood, including associated bedload and debris	MA-STD-RMA-07. Road Construction at Stream Crossings New or replaced permanent stream crossings will accommodate at least the 100-year flood, including associated bedload and debris. Use natural channel design techniques.	MA-STD-RMA-06. Road and Trail Construction at Stream Crossings At a minimum, all new or replaced permanent stream crossings shall accommodate at least the 100-year flood and its bedload and debris. The 100-year flood estimates will reflect the best available science regarding potential effects of climate change.

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improvements include those that do not meet design and operation maintenance criteria, or that have been shown to be less effective than designed for controlling erosion, or that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds from increased sedimentation. Base priority for upgrading on risks in priority watersheds and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure			MA-GDL-RMA-10. Road and Trail Construction at Stream Crossings-Minimization of Diversion Potential Where feasible, new or reconstructed stream crossings should be designed to prevent the diversion of streamflow out of the channel and down the road or trail in the event of crossing failure. If avoidance is not possible, minimize the potential effects of crossing failure.
RF-5. Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.	RMA Guideline RF: Construction or reconstruction of stream crossings should allow passage for other riparian-dependent species where connectivity has been identified as an issue	MA-GDL-RMA-07. Road Construction—Passage for Riparian—Dependent Species Construction or reconstruction of stream crossings should allow passage for other riparian-dependent species where connectivity has been identified as an issue.	MA-GDL-RMA-09. Road and Trail Construction—Passage for Riparian—Dependent Species Construction or reconstruction of stream crossings should allow passage for other riparian-dependent species where connectivity has been identified as an issue.
	RMA Standard RF: In fish bearing streams, construction or reconstruction of stream crossings will provide and maintain passage for all fish species and all life stages of fish	MA-STD-RMA-08. Road Construction-Fish Passage In fish bearing streams, construction or reconstruction of stream crossings will provide and maintain passage for all native fish species at all life stages.	MA-STD-RMA-07. Road and Trail Construction-Fish Passage Construction or reconstruction of stream crossings shall provide and maintain passage for all life stages of all native and desired non-native aquatic species and for riparian-dependent organisms where connectivity has been identified as an issue. Crossing designs shall reflect the best available science

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			regarding potential effects of climate change on peak flows and low flows.
GM-1. Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of Riparian Management Objectives or are likely to adversity affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting Riparian Management Objectives.			MA-STD-RMA-08. Management of Livestock Grazing to Attain Desired Conditions Manage livestock grazing to move toward aquatic and riparian desired conditions. Where livestock grazing is found to prevent or retard attainment of aquatic and riparian desired conditions, modify grazing management. If adjusting practices is not effective, remove livestock from that area using appropriate administrative authorities and procedures.
	RMA Standard GM New livestock handling, management, or watering facilities shall be located outside of RMAs, except for those that inherently must be located in an RMA and those needed for resource protection	MA-STD-RMA-09. Recreational and Permitted Grazing Management-Livestock Handling, Management, and Water Facilities Locate new livestock handling, management, or watering facilities outside of riparian management areas, except for those that inherently must be located in a riparian management area and those that are needed for resource protection.	MA-STD-RMA-09. Recreational and Permitted Grazing Management-Livestock Handling, Management, and Water Facilities New and replaced livestock handling and/or management facilities and livestock trailing, salting, and bedding are prohibited in RMAs unless they do not prevent or retard attainment of aquatic and riparian desired conditions, inherently must be located in an RMA, or are needed for resource protection.

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GM-2. Locate new livestock handling and/or management facilities outside of Riparian Habitat Conservation Areas. For existing livestock handling facilities inside the Riparian Habitat Conservation Areas, assure that facilities do not prevent attainment of Riparian Management Objectives. Relocate or close facilities where these objectives cannot be met.	RMA Guideline GM Within green-line vegetation area adjacent to all watercourses[47]: Do not exceed 20 percent streambank alteration; Do not exceed 40% utilization of mean annual vegetative production on woody vegetation; Maintain at least 4-6 inches or do not exceed 40% utilization of mean annual vegetative production on herbaceous vegetation[48]	MA-GDL-RMA-09. Permitted Grazing Management—Greenline Vegetation Areas[4] Within greenline vegetation areas adjacent to all watercourses[49] measured in designated monitoring areas: * Streambank alteration should not exceed 25 percent * Utilization of available mean annual vegetative production on woody vegetation should not exceed 40 percent Residual stubble height of at least 6 to 8 inches should be maintained and no more than 40 percent of mean annual vegetative production on deep rooted herbaceous vegetation should be used as determined by plant community type	MA-GDL-RMA-12. Annual Grazing Use Indicators The purpose of this guideline is to manage livestock grazing to help attain and maintain aquatic and riparian desired conditions over time. Specifically, it is intended to maintain or improve vegetative and stream conditions, help ensure the viability of aquatic species, provide important contributions to the recovery of ESA-listed species, and facilitate attainment of State water quality standards. The annual livestock use and disturbance indicators described below should be applied to help achieve, over longer timeframes, conditions at site and watershed scales that enable attainment and maintenance of desired conditions. The values specified below are starting points for management. Only those indicators and numeric values that are appropriate to the site and necessary for maintaining or moving towards desired conditions should be applied.[50] Specific indicators and indicator values should be prescribed and adjusted, if needed, in a manner that reflects existing and desired conditions and the natural potential of

[47] National Forests can modify the numeric values in these guidelines to more effectively achieve desired conditions. Rationale for these changes should be documented.
[48] Sampling and assessment of these parameters is intended to portray the general condition of banks and riparian vegetation along an individual stream reach within each pasture. It is assumed that there will be some variability in conditions within the reach, including occasional, limited area of concentrated animal use, such as water gaps or crossings.
[49] Numeric values in this guideline may be modified to effectively achieve desired conditions. Rationale for these changes must be documented. This guideline can be applied solely or in combination as appropriate to site-specific conditions. Sampling and assessment of these parameters is intended to portray the general condition of banks and riparian vegetation along an individual stream reach within each pasture after the grazing season. It is assumed that there will be some variability in geomorphic, hydrologic and vegetation conditions within designated monitoring areas, including occasional, limited areas of concentrated animal use, such as water gaps or crossings.
[50] Not all indicators may apply to a particular site. For example, stubble height is a meaningful indicator for lower gradient streams where herbaceous vegetation plays an important role in stabilizing streambanks. It is generally less useful for steeper channels, where channel morphology is controlled by coarse substrates. Moreover, not all numeric values may apply to a particular site (e.g., sites with short graminoids).

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			the specific geo-climatic, hydrologic and vegetative setting in which they are being applied[51]. Indicators and indicator values should be adapted over time based on long-term monitoring and evaluation of conditions and trends. Alternative use and disturbance indicators and values, including those in current ESA consultation documents or non-ESA allotment management plans or allotment NEPA decisions, may be used if they are based on best available science and monitoring data and meet the purpose of this guideline.
			1. Where desired conditions for water quality, aquatic habitat, and riparian vegetation have been attained[52] and riparian vegetation is in late seral conditions[53], protect or maintain those conditions by managing annual livestock grazing use and disturbance as follows [54]: * maintain a minimum of 4-inch residual stubble height[55] of key herbaceous species on the greenline;

[51] Indicator values for specific sites should be determined based on consideration of local conditions including, but not limited to, the degree of departure between existing and desired conditions, the current and desired rate of improvement, site sensitivity to grazing, grazing season, the presence of special status species (e.g., ESA-listed species, Regional Forester's sensitive species) that are sensitive to grazing, whether or not water quality standards and related requirements (e.g., TMDLs for impaired waters) are being met, and the site's importance in maintaining or attaining those standards and requirements. Consideration of these conditions is especially important in prescribing specific stubble height values within the 4-inch to 6-inch range and streambank alteration values within the 15-20% range.
[52] Assessment of conditions and trends should be based on best available information at a variety of spatial and temporal scales. Site-specific information is particularly important.
[53] Late seral conditions means the existing riparian vegetation community is similar to the potential natural community composition (per Winward 2000).
[54] Per Pacfish/Infish Monitoring, Multiple Indicator Monitoring (BLM Technical Reference 1737-23) protocols or comparable methods for stubble height, streambank alteration, and use of woody species. Per Bureau of Land Management protocols (BLM/RS/ST-96/004+1730) or comparable methods for herbaceous utilization.
[55] Stubble height criteria apply at the end of the grazing period, when that period ends after the growing season. When the grazing period ends before the growing season does, stubble height criteria can be applied at the end of the grazing period or the end of the growing season.

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			* utilize no more than 30-45 percent of deep-rooted herbaceous vegetation in the active floodplain[56] and, as needed, in other critical portions of the riparian management area; * limit streambank alteration[57] to no more than 20-25 percent; and * limit use of woody species to no more than 30-40 percent of current year's leaders along streambanks and, as needed, in other critical portions of the riparian management area 2. Where desired conditions for water quality, aquatic habitat, and/or riparian vegetation have not yet been attained, but conditions are moving towards those desired conditions[25], enable continued recovery by managing annual livestock grazing use and disturbance as follows: * maintain a minimum of 4-inch to 6-inch residual stubble height of key herbaceous species on the greenline[26]; * follow the criteria for utilization of deep-rooted herbaceous vegetation, streambank alteration, and use of woody species described in (1). 3. Where desired conditions for water quality, aquatic habitat, and/or riparian vegetation have not been attained and conditions are not moving toward those desired conditions[25], enable recovery by managing annual livestock grazing use and disturbance as follows: * maintain a minimum of 6-inch residual stubble height of key herbaceous species on the greenline; * utilize no more than 30-35 percent of deep-rooted herbaceous vegetation in

[56] Active floodplain is defined as the area bordering a stream inundated by flows at a surface elevation that is two times the maximum bankfull depth (measured at the thalweg).
[57] Streambank alteration criteria apply within 1-2 weeks of removal of livestock from each pasture.

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			the active floodplain and, as needed, in other critical portions of the riparian management area; * limit streambank alteration to no more than 15-20 percent[28]; and * limit use of woody species to no more than 20-30 percent of current year's leaders along streambanks and, as needed, in other critical portions of the riparian management area.
	RMA Guideline GM During allotment management planning consider removal of existing livestock handling or management facilities from RMAs	MA-STD-RMA-10. Permitted Grazing Management—Allotment Management Planning During allotment management planning, negative impacts to water quality and aquatic and riparian function from existing livestock handling or management facilities located within riparian management areas shall be minimized to allow conditions to move toward the desired condition or eliminated.	MA-STD-RMA-10. Permitted Grazing Management—Allotment Management Planning During allotment management planning, negative impacts to water quality and aquatic and riparian function from existing livestock handling or management facilities located within riparian management areas shall be minimized to allow conditions to move toward the desired condition.
GM-3. Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that would not retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish.	RMA Guideline GM Livestock trailing, bedding, loading, and other handling activities should be avoided in RMAs	MA-GDL-RMA-10. Recreational and Permitted Grazing Management—Livestock Handling Activities Livestock trailing, bedding, loading, and other handling activities should be avoided in riparian management areas, except for those that inherently must occur in a riparian management area.	MA-GDL-RMA-13. Recreational and Permitted Grazing Management—Livestock Handling Activities Livestock trailing, bedding, loading, and other handling activities should be avoided in RMAs, except for those that inherently must occur in an RMA.
GM-4. Adjust wild horse and burro management to avoid impacts that prevent attainment of Riparian Management Objectives or adversely affect inland native fish	RMA Guideline GM Generally avoid trampling of federally listed threatened or endangered fish redds by livestock	MA-STD-RMA-11. Recreational and Permitted Grazing Management—Fish Redds Restrict livestock access to federally-listed threatened or endangered fish redds.	MA-GDL-RMA-14. Recreational and Permitted Grazing Management—Fish Redds Prohibit livestock trampling of federally listed threatened or endangered fish redds.

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RM-1. Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Riparian Management Objectives and avoids adverse effects on inland native fish. Complete watershed analysis prior to construction of new recreation facilities in Riparian Habitat Conservation Areas within priority watersheds. For existing recreation facilities inside Riparian Habitat Conservation Areas, assure that the facilities or use of the facilities would not prevent attainment of Riparian Management Objectives or	RMA Guideline RM Generally avoid placing new facilities or infrastructure within expected long-term channel migration zone. Where activities inherently must occur in RMAs (e.g. road stream crossings, boat ramps, docks, interpretive trails), locate them to minimize impacts on riparian dependent resource conditions (e.g., within geologically stable areas, avoiding major spawning sites).	MA-GDL-RMA-11. Recreation Management—New Facilities and Infrastructure New facilities or infrastructure should not be placed within expected long-term channel migration zones. Activities that inherently occur in riparian management areas (e.g., road stream crossings, boat ramps, docks, and interpretive trails) should be located to minimize impacts on riparian-dependent resource conditions (e.g., within geologically stable areas, avoiding major spawning sites).	MA-GDL-RMA-15. Recreation Management—New Facilities and Infrastructure New facilities or infrastructure should not be placed within expected long-term channel migration zones. Facilities that inherently occur in RMAs (e.g., road stream crossings, boat ramps, docks, interpretive trails) should be located to minimize impacts on riparian-dependent resource conditions (e.g., within geologically stable areas, avoiding major spawning sites).
	RMA Guideline RM Consider removing or relocating existing recreation facilities that are causing unacceptable impacts in RMAs.	MA-GDL-RMA-12. Recreation Management—Existing Facilities Consider removing or relocating existing recreation facilities that are not meeting desired conditions in riparian management areas or are in active floodplains.	MA-GDL-RMA-16. Recreation Management—Existing Facilities Consider removing, relocating, or re-designing existing recreation facilities that are not meeting desired conditions in RMAs or are in active floodplains.

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adversely affect inland native fish. Relocate or close recreation facilities where Riparian Management Objectives cannot be met or adverse effects on inland native fish cannot be avoided. RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting Riparian Management Objectives and avoiding adverse effects on inland native fish, eliminate the practice or occupancy. RM-3. Address attainment of Riparian management Objectives and potential effect on inland native fish in Wild and Scenic Rivers, Wilderness and other Recreation Management Plans.			

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MM-1. Minimize adverse effects to inland native fish species from mineral operations. If a Notice of Intent indicates that a mineral operation would be located in a Riparian Habitat Conservation Area, consider the effects of the activity on inland native fish in the determination of significant surface disturbance pursuant to 36 CFR 228.4. For operations in a Riparian Habitat Conservation Area ensure operators take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat which may be affected by the operations. When bonding is required, consider (in the estimation of bond amount) the cost of stabilizing, rehabilitating, and reclaiming the area of operations.	RMA Guideline MM Adverse effects to aquatic and other riparian dependent resources from mineral operations should be minimized or avoided. For operations in a riparian management area ensure operators take all practicable measures to maintain, protect, and rehabilitate water quality, and habitat for fish and wildlife and other riparian dependent resources which may be affected by the operations.	MA-GDL-RMA-13. Mineral Management—Operations in Riparian Management Areas Operators should take all practicable measures to maintain, protect, and rehabilitate water quality and habitat for fish and wildlife, and other riparian-dependent resources that may be affected by operations occurring in the riparian management area.	MA-STD-RMA-17. Mineral Operations in RMAs For operations in RMAs, ensure operators take all practicable measures to maintain, protect, and rehabilitate water quality and habitat for fish and wildlife and other riparian-dependent resources affected by the operations. Ensure operations do not retard or prevent attainment of aquatic and riparian desired conditions. Exceptions to this standard include situations where the Forest Service has limited discretionary authorities. In those cases, project effects shall be minimized and shall not prevent or retard attainment of aquatic and riparian desired conditions to the extent possible within those authorities.
	RMA Guideline MM Where possible, adjust the operating plans for existing activities to minimize adverse effects to aquatic and riparian dependent resources in the RMAs.	MA-GDL-RMA-16. Minerals Management—Operating Plans for Existing Activities Where applicable, work with mine operators to modify existing plans of operations to minimize adverse effects to aquatic and riparian-dependent resources in riparian management areas.	MA-STD-RMA-18. Operating Plans for Existing Activities Work with operators to adjust their mineral operations to minimize adverse effects to aquatic and riparian-dependent resources in RMAs. Require best management practices and other appropriate conservation measures to mitigate potential mine operation effects.

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MM-2. Locate structures, support facilities, and roads outside Riparian Habitat Conservation Areas. Where no alternative to siting facilities in Riparian Habitat Conservation Areas exists, locate and construct the facilities in ways that avoid impacts to Riparian Habitat Conservation Areas and streams and adverse effects on inland native fish. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate and revegetate roads no longer required for mineral or land management activities.	RMA Guideline MM Structures and support facilities should be located outside RMAs. Where no alternative to siting facilities or roads in RMAs exists, locate them in a way to minimize adverse effects to aquatic and other riparian dependent resources. Existing roads should be maintained to minimize damage to aquatic and riparian dependent resources in the RMAs.	MA-GDL-RMA-14. Minerals Management—Structures and Support Facilities Structures and support facilities should be located outside riparian management areas. Where no alternative sites exist for facilities or roads outside of riparian management areas, locate them in a way to minimize adverse effects to aquatic and other riparian-dependent resources. Existing roads should be maintained to minimize damage to aquatic and riparian-dependent resources in the riparian management areas.	MA-STD-RMA-19. Structures and Support Facilities Work with operators to locate structures, support facilities, and roads outside RMAs. Where no alternative exists, work with operators to locate and manage them to minimize effects upon aquatic and riparian desired conditions. When structures, support facilities, and roads are no longer required for mineral activities, reclaim sites to achieve aquatic and riparian desired conditions. Require operations to provide financial assurance adequate for the forest to reclaim disturbed areas in the absence of a financially solvent operator. Bonding will be posted prior to approval of any Plan of Operations.

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MM-3 Prohibit solid and sanitary waste facilities in Riparian Habitat Conservation Areas. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in Riparian Habitat Conservation Areas exists, and releases can be prevented and stability can be ensured, then: a. analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics. b. locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in Riparian Habitat Conservation Areas.	RMA Standard MM Locate mine waste with the potential to generate hazardous material (per CERCLA) outside of RMAs. If no reasonable alternative to locating these facilities in RMAs exists, then locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials.	MA-GDL-RMA-15. Minerals Management—Mine Waste Locate mine waste with the potential to generate hazardous material (per CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act of 1980) outside of riparian management areas. If no reasonable alternative to locating these facilities in riparian management areas exists, then locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. Reclaim and monitor waste facilities to assure chemical and physical stability and revegetation to avoid adverse effects to inland native fish.	MA-STD-RMA-20. Mine Waste Do not locate mine waste with the potential to generate hazardous substances (as defined by the Comprehensive Environmental Response, Compensation, and Liability Act) within RMAs and/or areas where groundwater contamination is possible. The exception is short-term staging of waste during abandoned mine cleanup.

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c. monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to inland native fish and to attain Riparian Management Objectives. d. reclaim and monitor waste facilities to assure chemical and physical stability and revegetation to avoid adverse effects to inland native fish, and to attain the Riparian Management Objectives. e. require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.			

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MM-4 For leasable minerals, prohibit surface occupancy within Riparian Habitat Conservation Areas for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and Riparian Management Objectives can be attained and adverse effects to inland native fish can be avoided. Adjust the operating plans of existing contracts to (1) eliminate impacts that prevent attainment of Riparian Management Objectives and (2) avoid adverse effects to inland native fish			MA-STD-RMA-21. Leasable Exploration and Development Consent decisions to allow mineral leasing will provide Bureau of Land Management (BLM) stipulations for lease management. Once leased, the Forest will actively coordinate and consult with BLM regarding lease exploration and development activities. In consultation with the BLM, the Forest will recommend best management practices and mitigation as Conditions of Approval to support attainment and maintenance of aquatic and riparian desired conditions.
MM-5. Permit sand and gravel mining and extraction within Riparian Habitat Conservation Areas will occur only if no alternatives exist, if the action(s) would not retard or prevent attainment of Riparian Management Objectives and adverse effects to inland native fish can be avoided.			MA-STD-RMA-22. Salable Minerals Prohibit salable mineral activities such as sand and gravel mining and extraction within RMAs unless no alternatives exist and if the action(s) will not retard or prevent attainment of aquatic and riparian desired conditions.

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MM-6. Develop inspection, monitoring and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of Riparian Management Objectives and avoid adverse effects on inland native fish.			MA-STD-RMA-23. Inspection and monitoring of mineral plans, leases, and permits Conduct inspections, monitor, and annually review required monitoring for mineral plans, leases, and permits. Evaluate inspection and monitoring results and require mitigations for mineral plans, leases, and permits as needed to eliminate impacts that retard or prevent attainment of aquatic and riparian desired conditions.
			MA-STD-RMA-24. Suction Dredge and Placer Mining Mineral activities on NFS lands shall avoid or minimize adverse effects to aquatic threatened or endangered species/populations and their designated critical habitat. * All suction dredge mining activities in occupied habitat for aquatic threatened or endangered species/populations and in their designated critical habitat shall be evaluated by the district ranger to determine if the mining activity is causing or "will likely cause significant disturbance of surface resources"[58]. A likelihood that a threatened or endangered species "take" (defined in Section 3[18] of the ESA of 1973 as amended) incidental to the mining activity is an example of a significant resource disturbance. Other significant disturbances that do not involve incidental take might involve effects on channel stability or stream hydraulics

[58] The phrase ''will likely cause significant disturbance of surface resources'' means that, based on past experience, direct evidence, or sound scientific projection, the district ranger reasonably expects that the proposed operations would result in impacts to NFS lands and resources which more probably than not need to be avoided or ameliorated by means such as reclamation, bonding, timing restrictions, and other mitigation measures to avoid or minimize adverse environmental impacts on NFS resources.

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			* If the district ranger determines that placer mining operations are causing or will likely cause significant disturbance to surface resources, the district ranger shall contact and inform the operator to seek voluntary compliance with 36 CFR 228 mining regulations and to cease operations until compliance.
	RMA Guideline FM Temporary fire facilities (e.g., incident bases, camps, wheelbases, staging areas, helispots and other centers) for incident activities should be located outside RMAs. When no practical alternative exists, all appropriate measures to maintain, restore, or enhance aquatic and riparian dependent resources should be used.	MA-GDL-RMA-17. Fire and Fuels Management—Temporary Fire Facilities Temporary fire facilities (e.g., incident bases, camps, staging areas, helispots, and other centers) for incident activities should be located outside riparian management areas. When no practical alternative exists, all appropriate measures to maintain, restore, or enhance aquatic and riparian-dependent resources should be used.	MA-GDL-RMA-17. Wildland Fire and Fuels Management—Temporary Fire Facilities Temporary fire facilities (such as, incident bases, camps, staging areas, helispots, and other centers) for incident activities should be located outside RMAs. When no practical alternative exists, all appropriate measures to maintain, restore, or enhance aquatic and riparian-dependent resources should be used
RA-5 Locate water drafting sites to avoid adverse effects to inland native fish and instream flows, and in a manner that does not retard or prevent attainment of Riparian Management Objectives.	RMA Standard FM Pumps shall be screened at drafting sites to prevent entrainment of native and desired non-native fish and shall have one-way valves to prevent backflow into streams.	MA-GDL-RMA-20. Pump and Dipping Equipment Cleaning Suction devices and dipping apparatus will be cleaned and pumps will be de-contaminated between water sources to prevent the spread of aquatic invasive species. Pumping should be done in accordance with current Washington Department of Fish and Wildlife hydraulic project approval.	MA-STD-RMA-13. Water Drafting Fish habitat and water quality shall be protected when withdrawing water for administrative purposes. When drafting, pumps shall be screened at drafting sites to prevent entrainment of aquatic species, screen area shall be sized to prevent impingement on the screens, and shall have one-way valves to prevent back-flow into streams. Use appropriate screening criteria where listed fish or critical habitat are present.

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	RMA Standard FM Portable pump set-ups shall include containment provisions for fuel spills and fuel containers shall have appropriate containment provisions. Vehicles should be parked in locations that avoid entry of spilled fuel into streams	MA-STD-RMA-13. Fire and Fuels Management—Portable Pumps Portable pump set-ups shall include containment provisions for fuel spills and fuel containers shall have appropriate containment provisions. Park vehicles in locations that do not allow entry of spilled fuel into streams.	MA-STD-RMA-12. Fire and Fuels Management—Portable Pumps Portable pump set-ups shall include containment provisions for fuel spills and fuel containers shall have appropriate containment provisions. Park vehicles in locations that do not allow entry of spilled fuel into streams.
	RMA Guideline FM Water drafting sites should be located and managed to minimize adverse effects on stream channel stability, sedimentation, and in-stream flows needed to maintain riparian resources, channel conditions, and fish habitat	MA-GDL-RMA-18. Water Drafting Sites Water drafting sites should be located and managed to minimize adverse effects on stream channel stability and in-stream flows needed to maintain riparian resources, channel conditions, and fish habitat.	MA-GDL-RMA-18. Water Drafting Sites Water drafting sites should be located and managed to minimize adverse effects on stream channel stability and instream flows needed to maintain riparian resources, channel conditions, and fish habitat.
FM-1. Design fuel treatment and fire suppression strategies, practices, and actions so as not to prevent attainment of Riparian Management Objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could perpetuate or be damaging to long-term ecosystem function or inland native fish.	RMA Guideline FM Aerial application of chemical retardant, foam, or other fire chemicals and petroleum should be avoided within 300 feet of waterways.	Standards for fire retardant are now covered by national direction (FEIS Nationwide Aerial Application of Fire Retardant on National Forest System Land 10/2011).	MA-STD-RMA-14. Aerial Application of Fire Chemicals Aerial application of chemical retardant, foam, or other fire chemicals is prohibited within 300 feet (slope distance) of perennial and intermittent waterways. Waterways are defined as any body of water (including lakes, rivers, streams, and ponds) whether it contains aquatic life except in cases where human life or public safety is threatened and chemical use could be reasonably expected to alleviate that threat. This includes open water that may not be mapped as such on avoidance area maps and intermittent streams with surface water at the time of retardant use.

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FM-2. Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of Riparian Habitat Conservation Areas. If the only suitable location for such activities is within the Riparian Habitat Conservation Area, an exemption may be granted following a review and recommendation by a resource advisor. The advisor would prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to inland native fish a primary goal. Use an interdisciplinary team, including a fishery biologist, to predetermine incident base and helibase locations during pre-suppression planning	RMA Guideline FM Generally locate and configure fire lines to minimize sediment delivery, creation of new stream channels and unauthorized roads and trails	MA-GDL-RMA-19. Fire and Fuels Management—Fire Line Construction Water bars on fire lines should be located and configured to minimize sediment delivery to streams and to minimize creation of new stream channels and unauthorized roads and trails.	MA-GDL-RMA-19. Fire and Fuels Management—Fire Line Construction Water bars on fire lines should be located and configured to minimize sediment delivery to streams and to minimize creation of new stream channels and unauthorized roads and trails.
	RMA Standard FM To minimize soil damage when chipping fuels within RMAs, limit chip bed depths on dry soils to 7.5 cm. or less (Busse et al. 2005).	MA-STD-RMA-21. Fire and Fuels Management—Burning Masticated Fuels To minimize soil damage when burning masticated fuels within riparian management areas, burning of masticated fuel beds larger than 3 inches in depth should be accomplished with moist soil conditions.	MA-GDL-RMA-20. Fire and Fuels Management—Burning Masticated Fuels To minimize soil damage when burning masticated fuels within RMAs, burning of masticated fuel beds larger than 3 inches in depth should be accomplished with moist soil conditions.
FM-3. Avoid delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor and a fishery biologist, when the action agency determines an escape fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.			MA-GDL-RMA-21. Direct Ignition Direct ignition in RMAs should not be used unless effects analysis demonstrates that it would not retard attainment of aquatic and riparian desired conditions.
	RMA Standard FM Use Minimum Impact Suppression tactics (MIST) during fire suppression activities in RMAs (NWCG 2006)	MA-STD-RMA-12. Fire and Fuels Management—Minimum Impact Suppression Tactics Use minimum impact suppression tactics (MIST) during wildland fire suppression activities in riparian management areas.	MA-STD-RMA-11. Fire and Fuels Management—Minimum Impact Suppression Tactics Use minimum impact suppression tactics during wildland fire suppression activities in RMAs.

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FM-4. Design prescribed burn projects and prescriptions to contribute to the attainment of the Riparian Management objectives. FM-5. Immediately establish an emergency team to develop a rehabilitation treatment plan to attain Riparian Management objectives and avoid adverse effects on inland native fish whenever Riparian Habitat Conservation Areas are significantly damaged by wildfire or a prescribed fire burning out of prescription.			
LH-3. Issue leases, permits, rights-of way, and easements to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish. Where the authority to do so was retained, adjust existing leases, permits, rights-of-way, and easements to eliminate effects that would retard or prevent attainment of the Riparian Management	RMA Standard LH Locate new support facilities outside of RMAs. Support facilities include any facilities or improvements (workshops, housing, switchyards, staging areas, transmission lines, etc.) not directly integral to the production of hydroelectric power or necessary for the implementation of prescribed protection, mitigation or enhancement measures.	MA-STD-RMA-15. Hydroelectric—New Support Facilities Locate new support facilities outside of riparian management areas. Support facilities include any facilities or improvements (workshops, housing, switchyards, staging areas, transmission lines, etc.) not directly integral to the production of hydroelectric power or necessary for the implementation of prescribed protection, mitigation, or enhancement measures.	MA-STD-RMA-16. Hydroelectric—New Support Facilities Locate new support facilities outside of RMAs. Support facilities include any facilities or improvements (workshops, housing, switchyards, staging areas, transmission lines, etc.) not directly integral to the production of hydroelectric power or necessary for the implementation of prescribed protection, mitigation, or enhancement measures.

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Objectives or adversely affect inland native fish. If adjustments are not effective, eliminate the activity. Where the authority to adjust was not retained, negotiate to make changes in existing leases, permits, rights-of-way, and easements to eliminate effects that would prevent attainment of the Riparian Management Objectives or adversity affect inland native fish. Priority for modifying existing leases, permits, rights-of-way, and easements would be based on the current and potential adverse effects on inland native fish and the ecological value of the riparian resources affected.	RMA Standard LH Authorizations for all new and existing special uses including, but not limited to water diversion or transmission facilities (e.g., pipelines, ditches), energy transmission lines, roads, hydroelectric and other surface water development proposals, shall result in the re-establishment, restoration, or mitigation of habitat conditions and ecological processes identified as being essential for the maintenance or improvement of habitat conditions for fish, water and other riparian dependent species and resources. These processes include in-stream flow regimes, physical and biological connectivity, water quality, and integrity and complexity of riparian and aquatic habitat.	MA-STD-RMA-14. Lands and Special Uses Authorizations Authorizations for all new and existing special uses (including, but not limited to water diversion, storage or transmission facilities [e.g., pipelines, ditches], energy transmission lines, roads, hydroelectric and other surface water development proposals) shall result in the re-establishment, restoration, or mitigation of soil and habitat conditions and ecological processes identified as being essential for the maintenance or improvement of habitat conditions for fish, soil, water, and other riparian-dependent species and resources. These processes include in-stream flow regimes, physical and biological connectivity, water quality, and integrity and complexity of riparian and aquatic habitat.	MA-STD-RMA-15. Lands and Special Uses Authorizations Authorizations for all new and existing special uses that result in adverse effects to habitat conditions and ecological processes essential to aquatic and riparian-dependent resources shall require mitigation that results in re-establishment, restoration, mitigation, or improvement of those conditions and processes. These authorizations include, but are not limited to, water diversion or transmission facilities (e.g., pipelines, ditches), energy transmission lines, roads, hydroelectric, and other surface water development proposals.

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
LH-2 Locate new hydroelectric ancillary facilities outside Riparian Habitat Conservation Areas. For existing ancillary facilities inside the RHCA that are essential to proper management, provide recommendations to the FERC to assure that the facilities would not prevent attainment of the Riparian Management Objectives and that adverse effects on inland native fish are avoided. Where these objectives cannot be met, provide recommendations to the	RMA Guideline LH If existing support facilities are located within the RMAs, they should be operated and maintained to restore or enhance aquatic and riparian dependent resources. At time of permit reissuance, consider removing support facilities, where practical.	MA-GDL-RMA-22. Hydroelectric—Existing Support Facilities Existing support facilities that are located within riparian management areas should be operated, maintained, or removed to restore or enhance aquatic and riparian-dependent resources.	MA-GDL-RMA-22. Hydroelectric – Existing Support Facilities Existing support facilities that are located within RMAs should be operated, maintained, or removed to restore or enhance aquatic and riparian-dependent resources.
FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in Riparian Habitat Conservation Areas to avoid effects that would retard or prevent attainment of the Riparian Management Objectives and avoid adverse effects on inland native fish.			

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
LH-1 Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the appropriate State agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate State agencies.			
LH-4. Use land acquisition, exchange and conservation easements to meet Riparian Management Objectives and facilitate restoration of fish stocks and other species at risk of extinction.	Watershed Restoration Guideline – 1 Watershed restoration projects should be designed to maximize the use of natural ecological processes as a tool in meeting and maintaining restoration objectives	See FW-STD-WR-02. Watershed Restoration	

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
WR-2. Cooperate with federal, state, local, and Tribal agencies, and private landowners to develop watershed-based Coordinated Resource Management Plans (CRMPs) or other cooperative agreements to meet Riparian Management objectives.			
FW-1. Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of the Riparian Management Objectives.			
FW-2. Design, construct and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the Riparian Management			
objectives or adversely affect inland native fish. For existing fish and wildlife interpretative and other user-enhancement facilities inside Riparian Habitat Conservation Areas, assure that Riparian Management objectives are met and adverse effects on inland native fish avoided or relocate or close such facilities.			

No Action and B Alternative INFISH (1995)	Proposed Action and Alternative O ARCS (2008)	Alternative R ARCS-modified (2015)	Alternative P Colville ARCS
FW-3. Cooperate with federal, Tribal, and state wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of the Riparian Management objectives or adversely affect inland native fish.			
W-4. Cooperate with federal, Tribal, and state fish management agencies to identify and eliminate adverse effects on native fish associated with habitat manipulation, fish stocking, fish harvest and poaching. RF-1 Cooperate with federal, Tribal, state and county agencies and cost-share partners to achieve consistency in road design, operation and maintenance necessary to attain Riparian Management Objectives			

Appendix I. Research Natural Areas

Following is a description of the established and proposed Research Natural Areas found on the Colville National Forest.

Research Natural Areas (RNAs)

Process

Research Natural Areas are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on NFS lands. RNAs are for non-manipulative research, observation, and study. These areas protect either outstanding examples of late-successional plant communities, pristine examples of plant communities that are relatively rare, or unusual complexes of plant communities in very good condition. They also may assist in implementing provisions of special acts, such as the Endangered Species Act and the monitoring provisions of the National Forest Management Act. The prime consideration in managing RNAs is maintenance of unmodified conditions and natural processes.

The RNAs designated in the revised forest plan were identified during the plan revision process as unique habitats or prime examples of habitat types that would enhance the representativeness of the natural area network as they are not currently identified in existing RNAs. The Forest Service Manual (FSM 4063) and individual RNA Establishment Records provide specific direction concerning RNA management.

The Forest Supervisor approves or disapproves management activities within the areas in coordination with the Pacific Northwest Research Station director. The potential for additional RNAs is not precluded during the life of this plan. Establishment of any additional RNAs would require site-specific NEPA and an amendment to the land and resource management plan.

Established Research Natural Areas

Bunchgrass Meadows: The main habitat type is subalpine fir/Cascade azalea community; subalpine fir/beargrass community; subalpine fir/big huckleberry community; mid-elevation permanent pond and drainage basin; mid-elevation sphagnum bog. Established in 2008 the RNA is approximately 720 acres.

Halliday Fen: The main habitat type is western red cedar/queen's cup community; western red cedar/devil's club community; western red cedar hemlock/queen's cup community; marl fen. Established in 1999 the RNA is approximately 725 acres.

Maitlen Creek: The main habitat type is Douglas-fir/ninebark forest; Douglas-fir/pinegrass woodland; grand fir/queen's cup forest; mid-elevation stream; subalpine fir/pinegrass forest; subalpine fir/twinflower forest; western hemlock/queen's cup forest; western larch forest; western red cedar/queen's cup forest; mid-elevation stream and riparian system; red alder forest. Established in 1973 the RNA is approximately 653 acres.

Round Top Mountain: The main habitat type is green fescue grassland; subalpine fir/beargrass forest; subalpine fir/Cascades azalea woodland. The RNA, established in 1998, is shared with the Idaho Panhandle National Forests, with approximately 213 acres on the Colville National Forest.

Salmo: The main habitat type is mid-elevation stream; subalpine fir/beargrass forest; subalpine fir/Cascade azalea woodland; western hemlock/five-leaved red bramble forest; western hemlock/fools

huckleberry forest; western hemlock/queen's cup forest; western red cedar/devil's club forest; western white pine/queen's cup forest. Established in 1973 the RNA is approximately 1,405 acres.

Proposed Research Natural Areas

Fire Mountain: The main habitat type is Douglas-fir/pinegrass community; ponderosa pine/pinegrass community; subalpine fir/huckleberry community snowberry phase. The site contains approximately 1,454 acres.

Hall Ponds: The site is a mid-elevation freshwater wetland and is approximately 628 acres.

Thirteenmile Ponds: The site is approximately 159 acres and is a mid-elevation freshwater wetland. It includes one vernal and one permanent mid- to high-elevation pond, both created and maintained by beaver activity. The surrounding forest communities are Douglas-fir/snowberry and Douglas-fir/pinegrass. When the site was originally proposed for inclusion in the Research Natural Area System, it contained good streamside vegetation, but has since burned over in a wildfire and seeded in with non-native plants. It is no longer being proposed as an RNA.

Table I-1. Colville National Forest Research Natural Areas

Name	Administrative Location (Ranger District)	Acres
Bunchgrass Meadows	Sullivan Lake	720
Fire Mountain*	Republic	1,454
Hall Ponds*	Republic	628
Halliday Fen	Sullivan Lake	725
Maitlen Creek	Sullivan Lake	653
Round Top Mountain	Sullivan Lake	213
Salmo	Sullivan Lake	1,405
Thirteenmile Ponds**	Republic	159

*Proposed Research Natural Areas

** No longer proposed

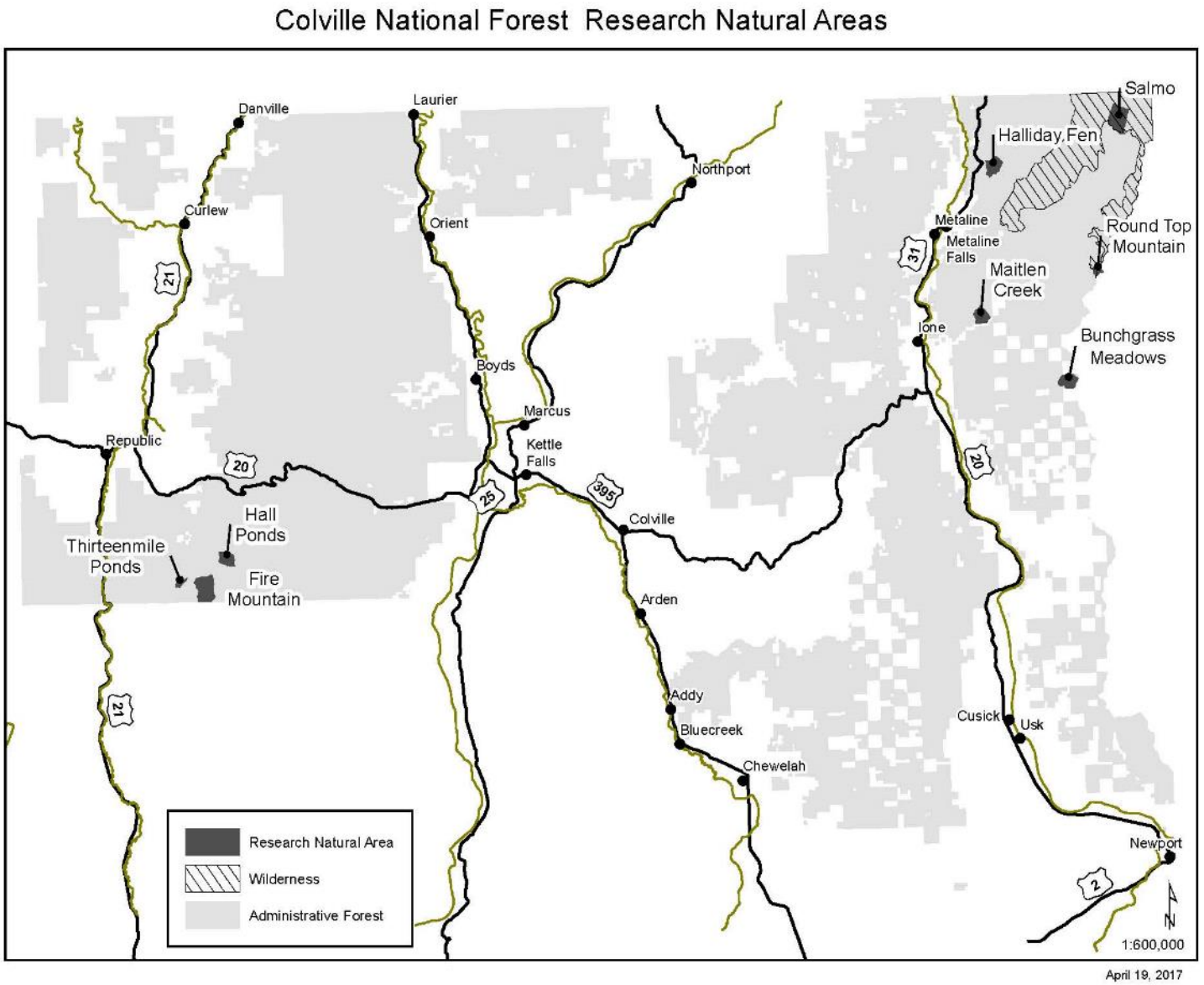

Figure I-1. Research Natural Areas on the Colville National Forest

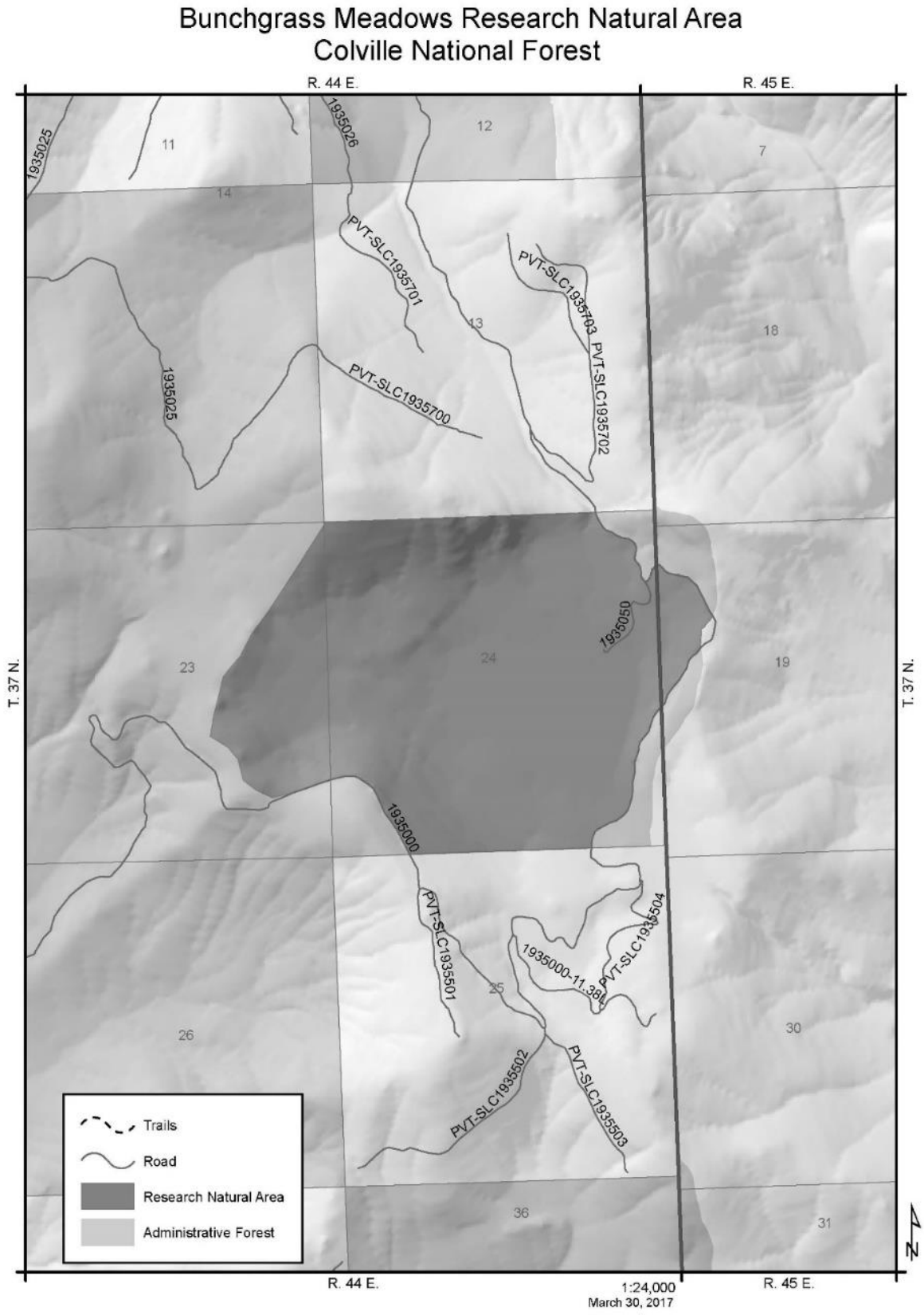

Figure I-2. Bunchgrass Meadows RNA

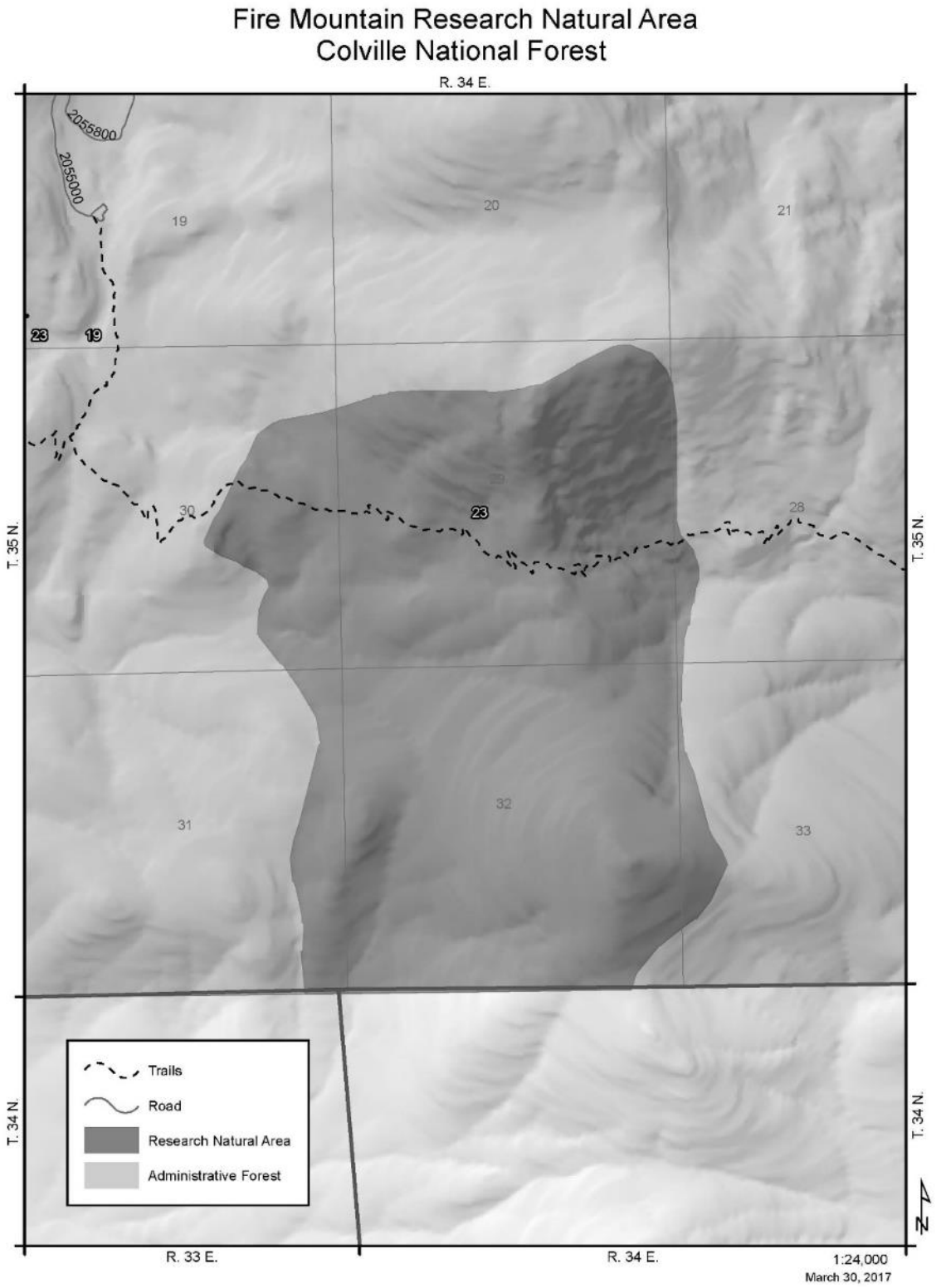

Figure I-3. Fire Mountain RNA

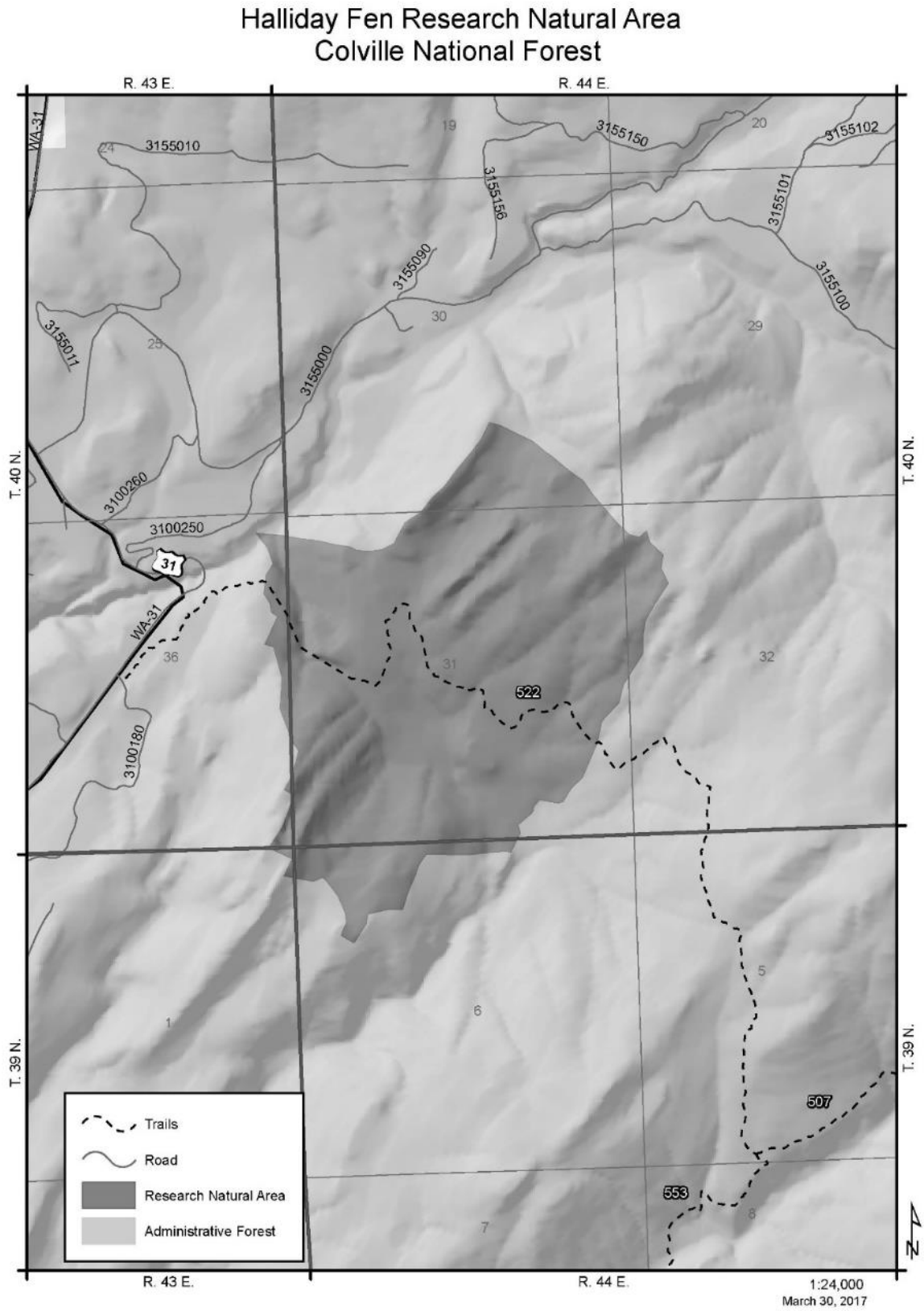

Figure I-4. Halliday Fen RNA

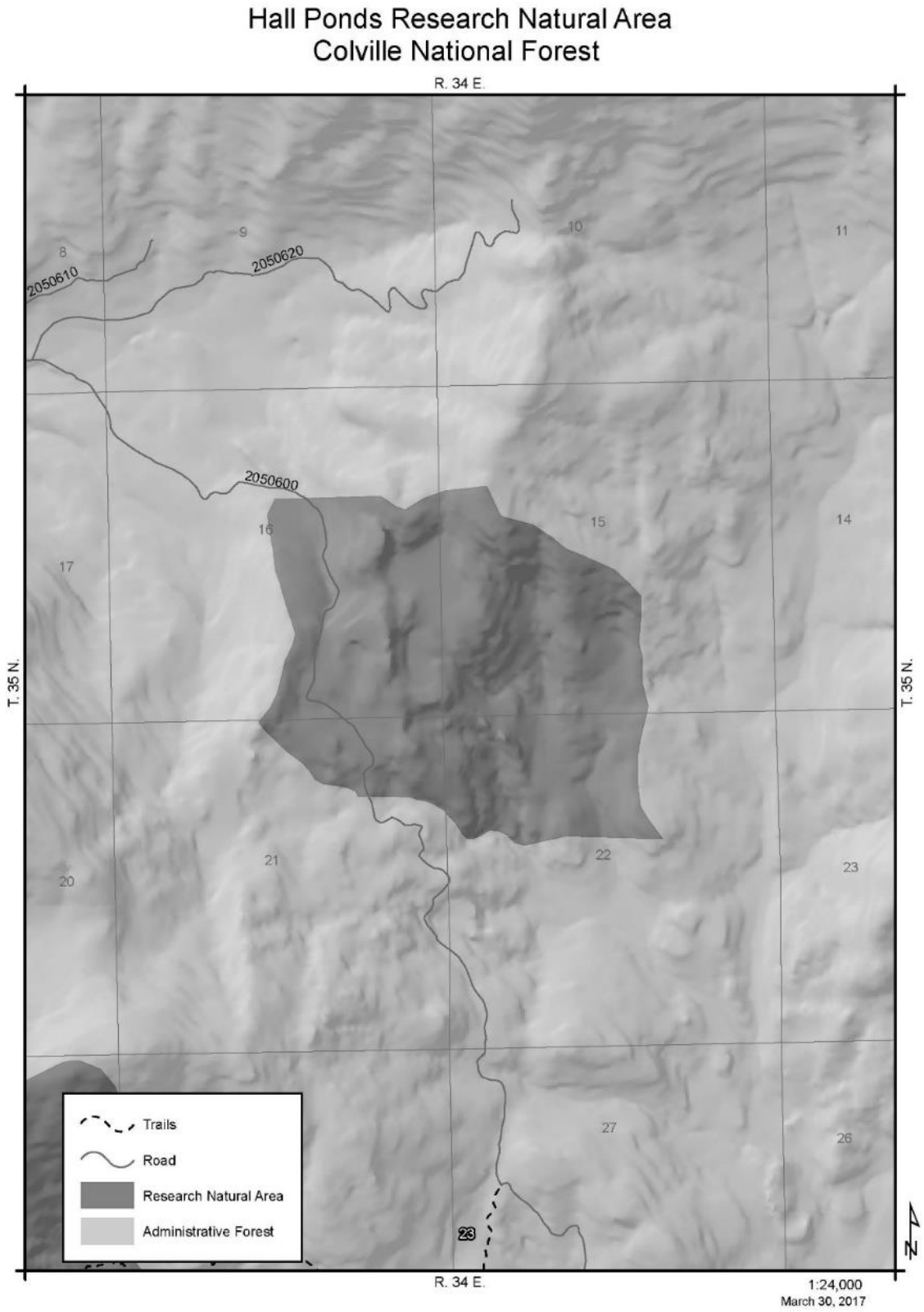

Figure I-5. Hall Ponds RNA

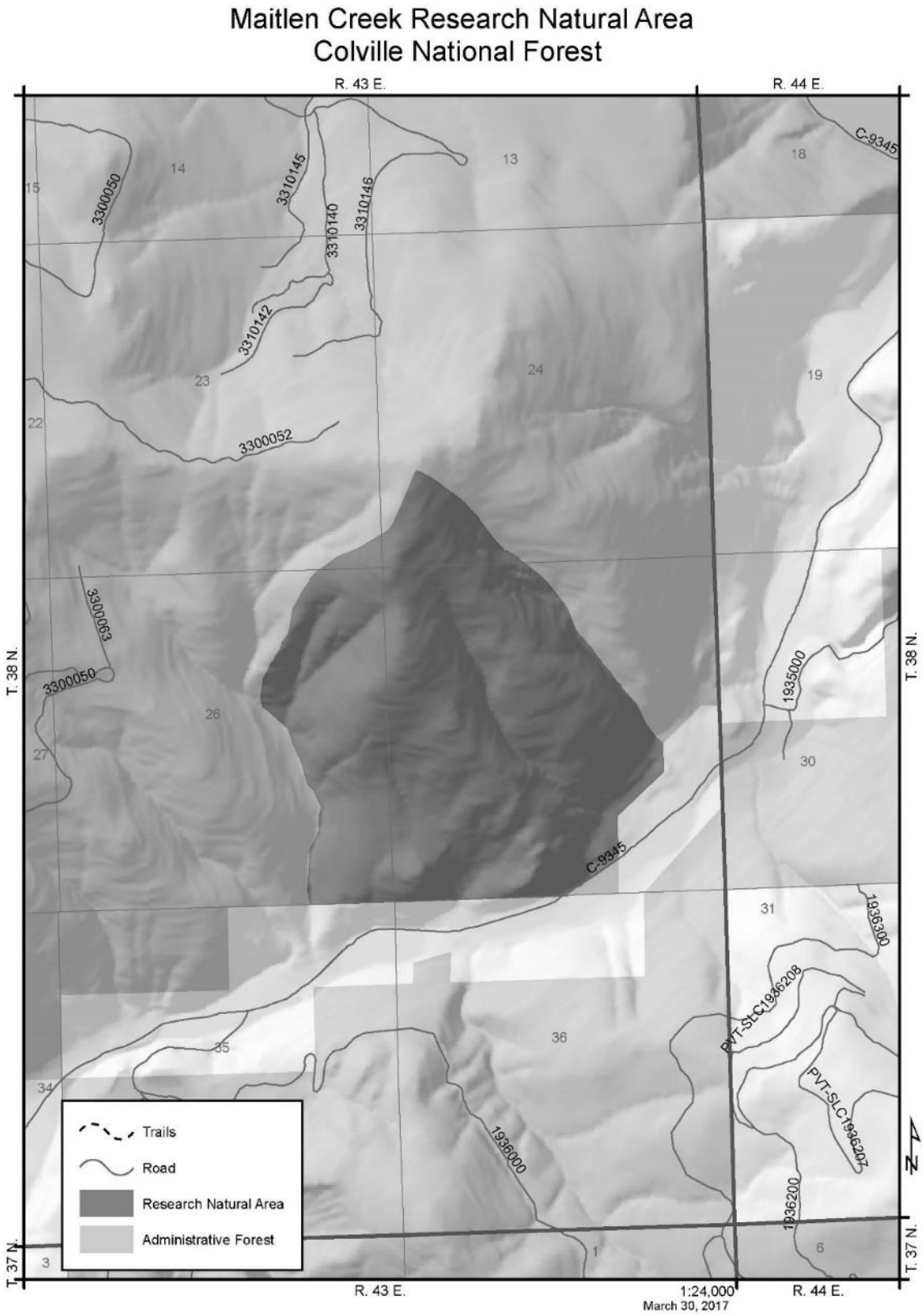

Figure I-6. Maitlen Creek RNA

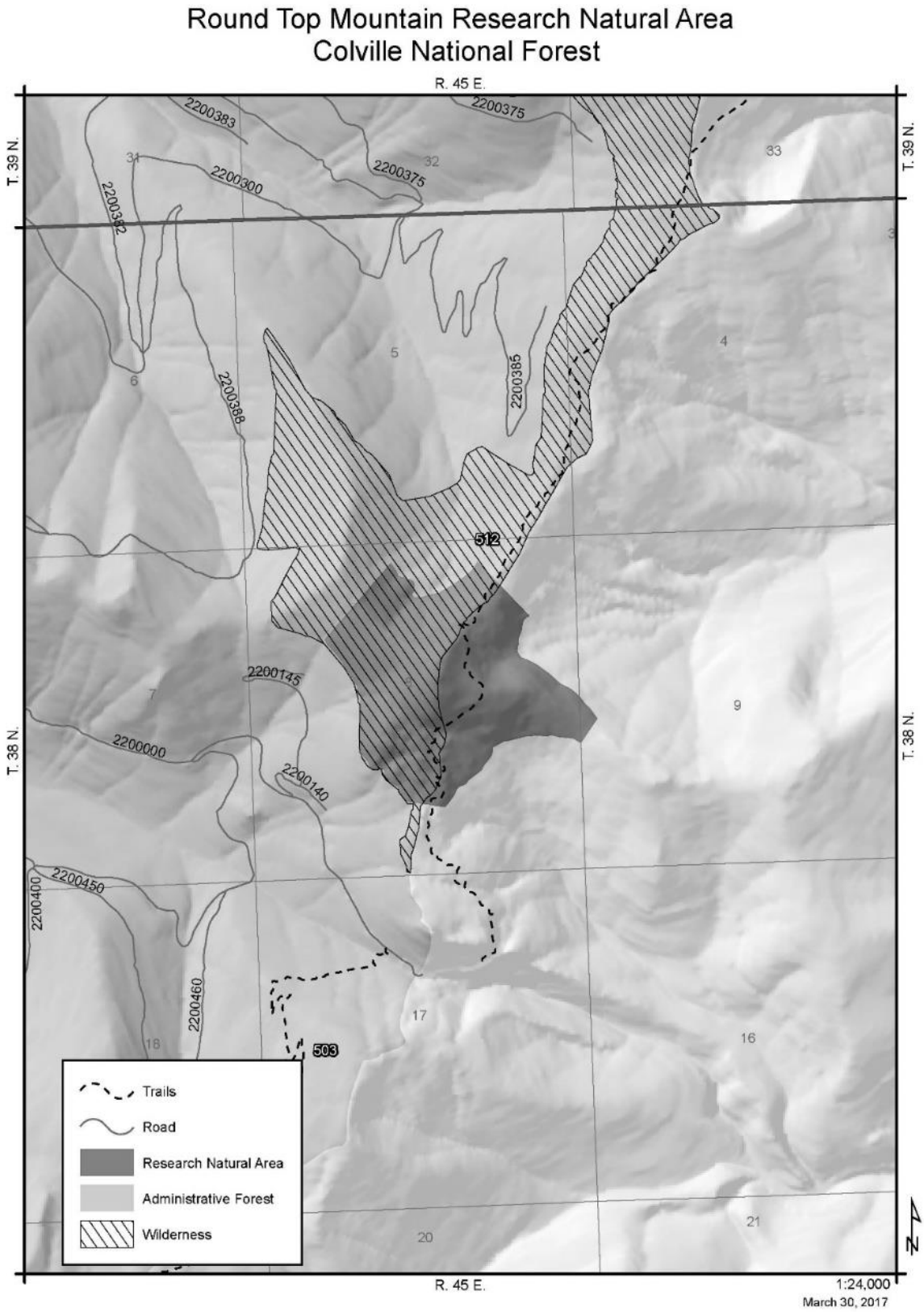

Figure I-7. Round Top Mountain RNA

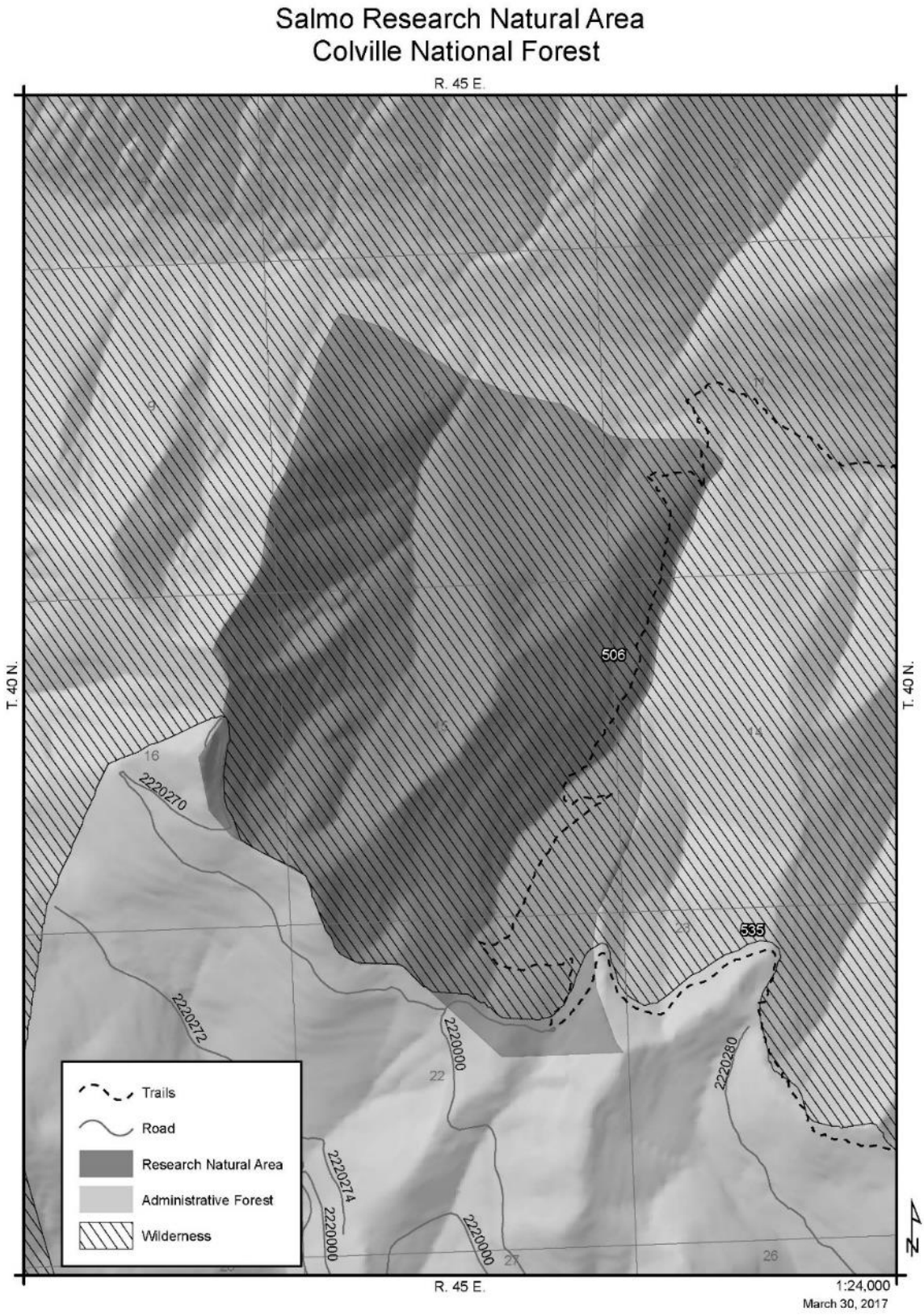

Figure I-8. Salmo RNA

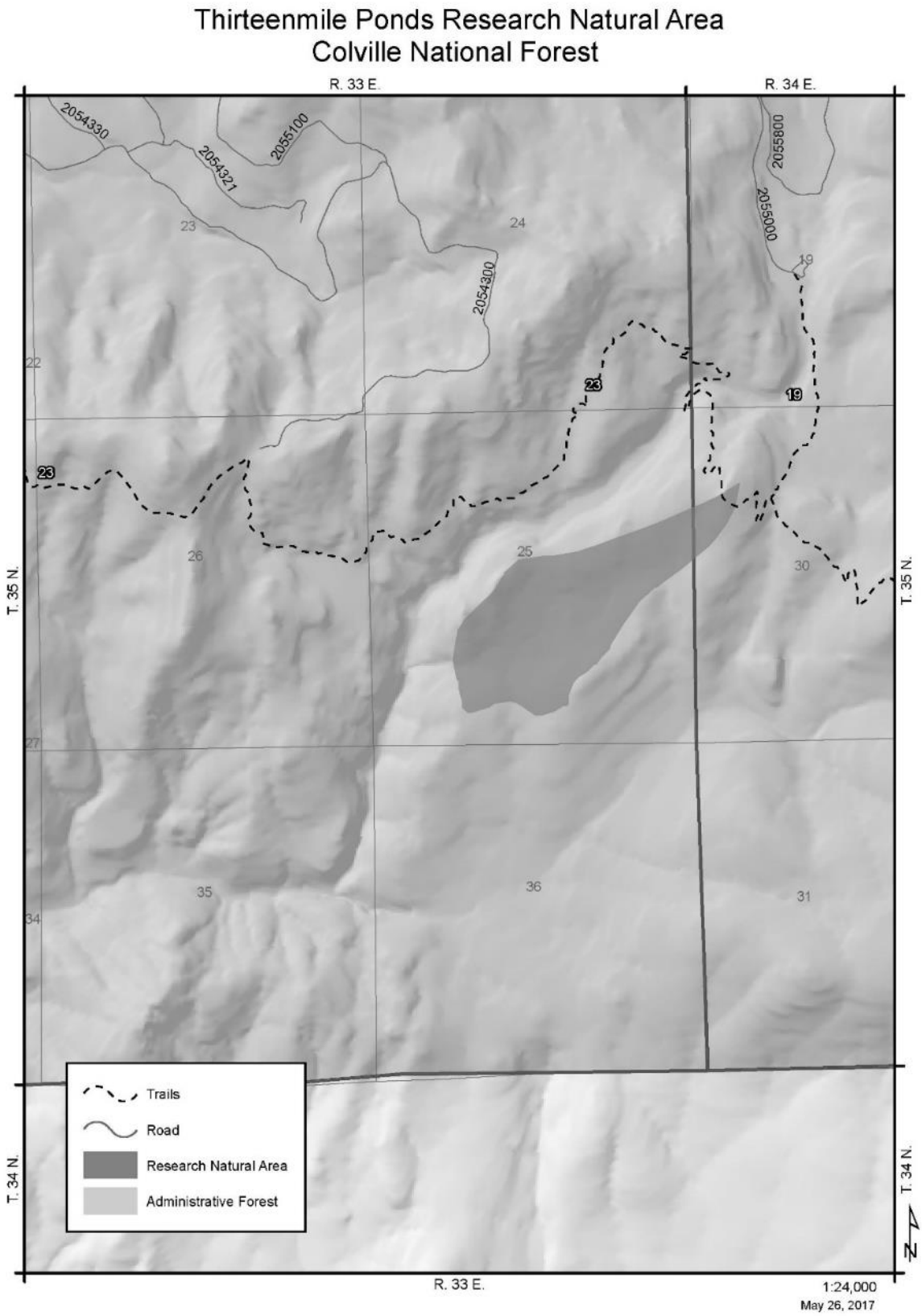

Figure I-9. Thirteenmile Ponds RNA

Appendix J. Sites with Administrative Designations and Areas Withdrawn from Mineral Entry

Administrative and Recreation Sites

Table J-1. Administrative Sites on the Colville National Forest

Site Name	Type	County/Ranger District	Township	Range	Section
Barnaby Butte Lookout	Administrative Site	Ferry/Republic RD	T. 35 N.	R. 35 E.	7,18
Brown Mountain Seed Orchard	Administrative Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	16,17
Cedar Creek Seed Orchard	Administrative Site	Stevens/Three Rivers RD	T. 40 N.	R. 42 E.	10
Chewelah Lookout	Administrative Site	Stevens/Three Rivers RD	T. 32 N.	R. 41 E.	12
Colville NF – Supervisors Office	Administrative Site	Stevens/Three Rivers RD	T. 35 N.	R. 39 E.	16
Curlew Civilian Conservation Center	Administrative Site	Ferry/Republic RD	T. 40 N.	R. 32 E.	27
D1 Pal Moore Orchard Storage Shed	Administrative Site	Stevens/Three Rivers RD	T. 33 N.	R. 41 E.	2
D1 Radio Bldg., Old Dominion	Administrative Site	Stevens/Three Rivers RD	T. 36 N.	R. 40 E.	34
D4 Bodie Mtn Radio Bldg.	Administrative Site	Ferry/Republic RD	T. 38 N.	R. 32 E.	6
D4 Bodie Mtn Radio Bldg.	Administrative Site	Ferry/Republic RD	T. 39 N.	R. 32 E.	6,31
D4 Quartz Mt Radio Bldg.	Administrative Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	3
D4 Quartz Mt Radio Bldg.	Administrative Site	Ferry/Republic RD	T. 36 N.	R. 33 E.	3,33,34
D5 Radio Bldg., Sullivan Mtn	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	16
D5 Salmo Mtn. Lookout	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 45 E.	16
Dominion Lookout	Administrative Site	Stevens/Three Rivers RD	T. 36 N.	R. 40 E.	34
Drycreek Site	Administrative Site	Pend Oreille/Newport RD	T. 33 N.	R. 45 E.	30
First Thought Lookout	Administrative Site	Stevens/Three Rivers RD	T. 39 N.	R. 37 E.	7
Flagstaff Lookout	Administrative Site	Stevens/Three Rivers RD	T. 39 N.	R. 39 E.	5
Flowery Trail Seed Orchard	Administrative Site	Pend Oreille/Newport RD	T. 32 N.	R. 43 E.	5
Graves Mountain Lookout	Administrative Site	Ferry/Republic RD	T. 36 N.	R. 35 E.	12

Site Name	Type	County/Ranger District	Township	Range	Section
Halliday Fen RNA[59]	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 43 E.	1,6
Halliday Fen RNA	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	6,31
Halliday Fen RNA	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	1,6,31,36
Halliday Fen RNA	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 44 E.	6,30,31, 32
Hanlon	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 44 E.	29
Huckleberry Lookout	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 42 E.	29,30
Kettle Range Observation Site	Administrative Site	Ferry/Republic RD	T. 36 N.	R. 35 E.	19
Lookout Station	Administrative Site	Pend Oreille/Newport RD	T. 36 N.	R. 42 E.	24
Lookout Station	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 43 E.	24
Marble Lookout	Administrative Site	Ferry/Republic RD	T. 39 N.	R. 35 E.	4
Martin Creek Administration Site	Administrative Site	Ferry/Republic RD	T. 39 N.	R. 36 E.	15
Mill Creek Administrative Site	Administrative Site	Stevens/Three Rivers RD	T. 36 N.	R. 41 E.	20
Newport Geophysical Observatory	Administrative Site	Pend Oreille/Newport RD	T. 32 N.	R. 45 E.	16,20,21,22,28
Newport RD	Administrative Site	Pend Oreille/Newport RD	T. 31 N.	R. 45 E.	13
Newport RD	Administrative Site	Pend Oreille/Newport RD	T. 31 N.	R. 46 E.	13
Pal Moore Seed Orchard	Administrative Site	Stevens/Three Rivers RD	T. 33 N.	R. 41 E.	1,2
Republic RD	Administrative Site	Ferry/Republic RD	T. 36 N.	R. 32 E.	1
Republic RD	Administrative Site	Ferry/Republic RD	T. 36 N.	R. 33 E.	1,6
Round Top Mountain RNA	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 45 E.	8
Salmo RNA	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 45 E.	9,10,11, 14,15,16, 22
Sullivan Lake	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	29,30,31,32
Sullivan Lake RD	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	31
Sullivan Mountain Lookout	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	16
Teepee Seed Orchard	Administrative Site	Pend Oreille/Sullivan Lake RD	T. 37 N.	R. 42 E.	34
Three Rivers RD	Administrative Site	Stevens/Three Rivers RD	T. 36 N.	R. 38 E.	20
49 Degrees North	Recreation Site	Stevens/Three Rivers RD	T. 32 N.	R. 41 E.	1,6

[59] Research Natural Area

Site Name	Type	County/Ranger District	Township	Range	Section
49 Degrees North	Recreation Site	Stevens/Three Rivers RD	T. 32 N.	R. 42 E.	6
Abercrombie	Recreation Site	Stevens/Three Rivers RD	T. 40 N.	R. 42 E.	34
Barnaby Butte	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 34 E.	35
Barnaby Buttes	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 35 E.	8,17
Batey-Bould	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 43 E.	9,10
Bead Lake	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 45 E.	3,4,9,10,33
Bead Lake	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 45 E.	3,4,27,33,34
Bead Lake Boat Launch	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 45 E.	9,10
Bear Pasture	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 45 E.	5,6
Bear Pasture	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 45 E.	5,6,31,32
Bearpot	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 34 E.	19
Big Lick	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 34 E.	9,16
Big Meadow Lake Campground	Recreation Site	Pend Oreille/Three Rivers RD	T. 37 N.	R. 41 E.	1,12
Big Meadow Lake Campground	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 37 N.	R. 42 E.	1,6,7,12
Boulder Deer Summit	Recreation Site	Ferry/Republic RD	T. 39 N.	R. 35 E.	20,21
Boundary Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	1
Boundary Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 44 E.	1,6
Browns Lake	Recreation Site	Pend Oreille/Newport RD	T. 34 N.	R. 44 E.	13,14,23,24
Browns Lake Campground	Recreation Site	Pend Oreille/Newport RD	T. 34 N.	R. 44 E.	23,24
Canyon Creek	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	35
Canyon Creek Campground	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	35,36
Chewelah Creek	Recreation Site	Stevens/Three Rivers RD	T. 33 N.	R. 41 E.	4,9
Chewelah Ski Area	Recreation Site	Stevens/Three Rivers RD	T. 32 N.	R. 41 E.	2,3,10,11
Comstock	Recreation Site	Stevens/Three Rivers RD	T. 37 N.	R. 40 E.	17,18
Cooks Lake	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 44 E.	24
Cooks Lake	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 45 E.	19,24
Cougar	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	28
Crescent Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	1,12
Crescent Lake Picnic Area	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	1,12

Site Name	Type	County/Ranger District	Township	Range	Section
Crowell Ridge	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	16
Davis Lake	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 36 E.	3,34
Davis Lake	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 36 E.	34
Davis Lake Campground	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 36 E.	3,34
Davis Lake Campground	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 36 E.	34
Deer Creek	Recreation Site	Ferry/Republic RD	T. 39 N.	R. 35 E.	20
Deer Creek Forest Camp	Recreation Site	Ferry/Republic RD	T. 39 N.	R. 35 E.	20,21
East Sullivan	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	31,32
Edds Mtn	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 34 E.	4,5
Edds Mtn	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 34 E.	4,5,33
Edgewater Campground	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 43 E.	29,30,31,32
Elbow Lake	Recreation Site	Stevens/Three Rivers RD	T. 40 N.	R. 38 E.	21
Elk Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 43 E.	24,25
Elk Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	19,24,25,30
Empire Lake	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 32 E.	12
Ferry Lake	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	21
Ferry Lake Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	16,21
Flume Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	31
Frater Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 42 E.	3
Frater Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 37 N.	R. 42 E.	3,34
Geophysical	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 45 E.	21,28
Gibraltar	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 33 E.	20,21,28,29
Gillette Campground	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	17,20
Grassy Top North	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 45 E.	17
Grassy Top South	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	35
Growden Heritage Interpretive Site	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	28,29
Half Moon Lake	Recreation Site	Pend Oreille/Newport RD	T. 34 N.	R. 44 E.	26
Hall Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	5,6
Hall Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	5,6,31,32
Hall Mtn	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	9,10

Site Name	Type	County/Ranger District	Township	Range	Section
Halliday	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	36
Hoodoo	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 36 E.	31,32
Jungle Hill	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 35 E.	8
Kettle Crest	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 34 E.	13,18,19,24
Kettle Crest	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 35 E.	18,19
Kings Lake Snopark	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 44 E.	2
Lake Ellen	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 36 E.	26,27,34,35
Lake Ellen Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 36 E.	26
Lake Ellen Campground West	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 36 E.	26,27,34,35
Lake Gillette Campground	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	19,20
Lake Leo	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 42 E.	3
Lake Leo	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	3,4
Lake Leo Campground	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 42 E.	3
Lake Leo Campground	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	3,4
Lake Thomas - Lake Gillette	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	17,19,20
Lake Thomas Campground	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	17
Lakeshore North	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	31,32
Lakeshore South	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	17,18
Lambert	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 34 E.	3,4,9
Lambert Campground	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 34 E.	4,9
Le Clerc Recreation Area	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 44 E.	19
Leona	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 34 E.	26,27
Lime Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 43 E.	14
Little Pend Oreille Information Site	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	19
Little Pend Oreille Orv	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	19
Little Twin Lakes	Recreation Site	Stevens/Three Rivers RD	T. 35 N.	R. 41 E.	4
Little Twin Lakes	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 41 E.	4,32,33
Little Twin Lakes Recreation Area	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 41 E.	33

Site Name	Type	County/Ranger District	Township	Range	Section
Log Flume Heritage Interpretive Site	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	25,36
Long & Fish Lake	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	28,33
Long Alec	Recreation Site	Ferry/Republic RD	T. 39 N.	R. 35 E.	31
Long Lake Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	28
Lost Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 36 N.	R. 43 E.	15,22
Lower Wolf	Recreation Site	Pend Oreille/Newport RD	T. 31 N.	R. 45 E.	13
Lower Wolf	Recreation Site	Pend Oreille/Newport RD	T. 31 N.	R. 46 E.	13
Maple Mtn	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 32 E.	18
Maple Mtn	Recreation Site	Okanogan/Republic RD	T. 37 N.	R. 32 E.	18
Marcus	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 34 E.	16,21
Middle Fork Calispell	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 42 E.	25,30
Middle Fork Calispell	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 43 E.	30
Mill Pond Campground	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	30
Mill Pond Flume Trailhead	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 43 E.	24,25
Mill Pond Flume Trailhead	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	19,24,25,30
Muddy Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 37 N.	R. 42 E.	12,32
Mystic Lake	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 45 E.	29,32
Ninemile Falls	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	11
No Name Lake	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 45 E.	4,5,8,9
Noisy Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	17,18,19,20
Noisy Creek Campground	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	17,18,19
Northeast	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	32
Old Stage	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 34 E.	12,13,18
Old Stage	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 35 E.	18
Outlet Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	31
Panhandle Campground	Recreation Site	Pend Oreille/Newport RD	T. 35 N.	R. 44 E.	29
Parker Lake	Recreation Site	Pend Oreille/Newport RD	T. 34 N.	R. 43 E.	3,34
Pend Oreille River	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 37 N.	R. 43 E.	28,33
Pepoon Lake	Recreation Site	Stevens/Three Rivers RD	T. 39 N.	R. 39 E.	6
Pierre Lake	Recreation Site	Stevens/Three Rivers RD	T. 39 N.	R. 37 E.	5
Pierre Lake Campground	Recreation Site	Stevens/Three Rivers RD	T. 39 N.	R. 37 E.	5
Pioneer Park	Recreation Site	Pend Oreille/Newport RD	T. 31 N.	R. 45 E.	1

Site Name	Type	County/Ranger District	Township	Range	Section
Pioneer Park Campground	Recreation Site	Pend Oreille/Newport RD	T. 31 N.	R. 45 E.	1,12
Profanity	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 34 E.	12
Red Bluff	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	30
Renner Lake	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 36 E.	24
Rogers Mtn	Recreation Site	Stevens/Three Rivers RD	T. 37 N.	R. 40 E.	2
Ruby	Recreation Site	Pend Oreille/Newport RD	T. 35 N.	R. 44 E.	18,19
Rufus	Recreation Site	Stevens/Three Rivers RD	T. 36 N.	R. 42 E.	17,20
Ryan Cabin	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 35 E.	30
Salmo	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 40 N.	R. 45 E.	22
Sand Creek Rd	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 43 E.	1
Sand Creek Rd	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	1,6
Shedroof	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 45 E.	17
Sherlock	Recreation Site	Stevens/Three Rivers RD	T. 39 N.	R. 42 E.	17
Sherman	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 34 E.	2
Sherman Creek	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	35,36
Sherman Overlook Day Use	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 35 E.	19,20
Sherman Pass Campground	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 35 E.	19
Silver Creek	Recreation Site	Stevens/Three Rivers RD	T. 39 N.	R. 42 E.	8,9
Snow Peak	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 34 E.	27,34
Snow Peak Shelter	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 34 E.	36
South Skookum Lake	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 44 E.	1
South Skookum Lake Campground	Recreation Site	Pend Oreille/Newport RD	T. 33 N.	R. 44 E.	1
Stickpin	Recreation Site	Ferry/Republic RD	T. 38 N.	R. 35 E.	30
Sullivan Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	25,26,29,30,31,32,33,34,35,36
Sullivan Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 45 E.	3,9,10,16,17,19,20,30
Sullivan Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 38 N.	R. 44 E.	1,6,7,12,13,18
Sullivan Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 43 E.	25

Site Name	Type	County/Ranger District	Township	Range	Section
Sullivan Lake	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	6,31,32, 33
Sullivan Lake Group Campground	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	31,32
Summit Lake	Recreation Site	Stevens/Three Rivers RD	T. 40 N.	R. 37 E.	16,17,2 0,21
Swan Lake	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	19,20,2 9
Swan Lake Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	20,29
Ten Mile	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	19,24
Ten Mile	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	19
Ten Mile Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 32 E.	19,24
Ten Mile Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	19
Thirteen Mile Campground	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	31
Thirteenmile	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 33 E.	31
Thunder Creek	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 45 E.	3,10
Timber Ridge	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 34 E.	27,28
Trout Lake	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	11,12,1 3,14
Trout Lake Campground	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 36 E.	11,12,1 3,14
Upper Bead Lake	Recreation Site	Pend Oreille/Newport RD	T. 32 N.	R. 45 E.	9,10
Upper Wolf	Recreation Site	Pend Oreille/Newport RD	T. 31 N.	R. 45 E.	13
Wapaloosie	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 34 E.	31,36
Wapaloosie	Recreation Site	Ferry/Republic RD	T. 37 N.	R. 35 E.	31
West Sullivan	Recreation Site	Pend Oreille/Sullivan Lake RD	T. 39 N.	R. 44 E.	31
White Mountain Interpretive Site	Recreation Site	Ferry/Republic RD	T. 36 N.	R. 34 E.	23
White Mtn	Recreation Site	Ferry/Republic RD	T. 35 N.	R. 35 E.	28

Communication Sites and Energy Corridors

Tables J-2 and J-3 list the communication sites and energy corridors designated on the Colville National Forest. The tables correspond to the map in Figure J-1, which displays the locations of the communication sites and energy corridors.

Table J-2. List of designated communication sites on the Colville National Forest

Communication Site Name/Lease Holders	County/Ranger District	Site Designation	Location
Bisbee Mountain • Verizon • Washington State Dept. of Transportation	Ferry/Three Rivers	Low-power, non-broadcast	NE¼ Sec. 9, T. 36N., R.36E., W.M., in Ferry County

Communication Site Name/Lease Holders	County/Ranger District	Site Designation	Location
Bodie Mountain • Washington State Department of Natural Resources • Forest Service	Ferry/Republic	Low-power, non-broadcast	NW¼NW¼ Sec. 6, T. 38N., R.32E., W.M., in Ferry County
Chewelah Peak • SBA Structures	Stevens/Newport	Low-power, non-broadcast	SE¼ Sec. 12, T. 32N., R41E., W.M., in Stevens County
Deer Mountain • Pend Oreille PUD #1	Pend Oreille/Sullivan Lake	Low-power, non-broadcast	N½ Sec. 13, T. 38N., R.42E., W.M., in Pend Oreille County
Flagstaff Mountain • SBA Structures • Verizon • AT&T • Department of Homeland Security, U.S. Customs and Border Patrol • Forest Service	Stevens/Three Rivers	Low-power, non-broadcast	NE¼ Sec. 5, T. 39N., R.39E., W.M., in Stevens County
Flume Creek • Pend Oreille County Emergency Management • Department of Energy, Bonneville Power Administration	Pend Oreille/Sullivan Lake	Low-power, non-broadcast	SE¼ Sec. 31, T. 40N., R.43E., W.M., in Pend Oreille County
Owl Mountain • Orient-Laurier TV Club	Ferry/Three Rivers	Low-power, non-broadcast	SW¼SW¼ Sec. 10. T. 40N., R.36E., W.M., in Ferry County
Ruby Mountain • Pend Oreille Telephone Company	Pend Oreille/Newport	Low-power, non-broadcast	Sec. 25, T. 35N., R.43E., W.M., in Pend Oreille County
Sand Ridge • **Department of Homeland Security, U.S. Customs and Border Patrol**	**Pend Oreille/Sullivan Lake**	**Low-power, non-broadcast**	**SW¼ Sec. 1, T. 38N., R.43E., W.M., in Pend Oreille County**

Table J-3. Designated energy corridors on the Colville National Forest

Energy Type	Ranger District	Line Name/Number	Permit Holder
Powerline	Newport	Addy-Cusick – LUGI Supplement* No 28	Dept. Of Energy BPA
Powerline	Newport	Bell-Boundary 1, 2 & 3 - LUGI Supp. #43	Dept. Of Energy BPA
Powerline	Sullivan Lake	Bell-Boundary #3 - LUGI Supp. #53	Dept. Of Energy BPA
Powerline	Sullivan Lake	Box Canyon Tap - LUGI Supp. #48	Dept. Of Energy BPA
Powerline	Sullivan Lake	Boundary-Cranbrook - LUGI Supp. #47	Dept. Of Energy BPA
Powerline	Sullivan Lake	Bell-Boundary 1, 2 & 3 - LUGI Supp. #43	Dept. Of Energy BPA
Powerline	Sullivan Lake	Colville-Boundary No. 1 (Spirit- Metaline) - LUGI Supp. #44	Dept. Of Energy BPA
Powerline	Republic	Colville-Republic - LUGI Supp. #45	Dept. Of Energy BPA
Powerline	Three Rivers	Bell-Boundary #3 - LUGI Supp. #53	Dept. Of Energy BPA
Powerline	Three Rivers	Colville-Republic - LUGI Supp. #45	Dept. Of Energy BPA
Powerline	Three Rivers	Colville-Republic - LUGI Supp. #45	Dept. Of Energy BPA
Powerline	Three Rivers	Colville-Boundary No. 1 (Colville-Spirit) - LUGI Supp. #44	Dept. Of Energy BPA
Powerline	Three Rivers	Colville-Boundary No. 1 (Colville-Spirit) - LUGI Supp. #44	Dept. Of Energy BPA
Powerline	Newport and Sullivan Lake	Distribution voltages	PUD #1 Pend Oreille County
Fiber Optical Cable	Rep/Three Rivers/SL	--	Northwest Open Access Network

*Land Use Grant Instruments (LUGI) are the authorizing instrument. Each line is authorized under a different Supplement.

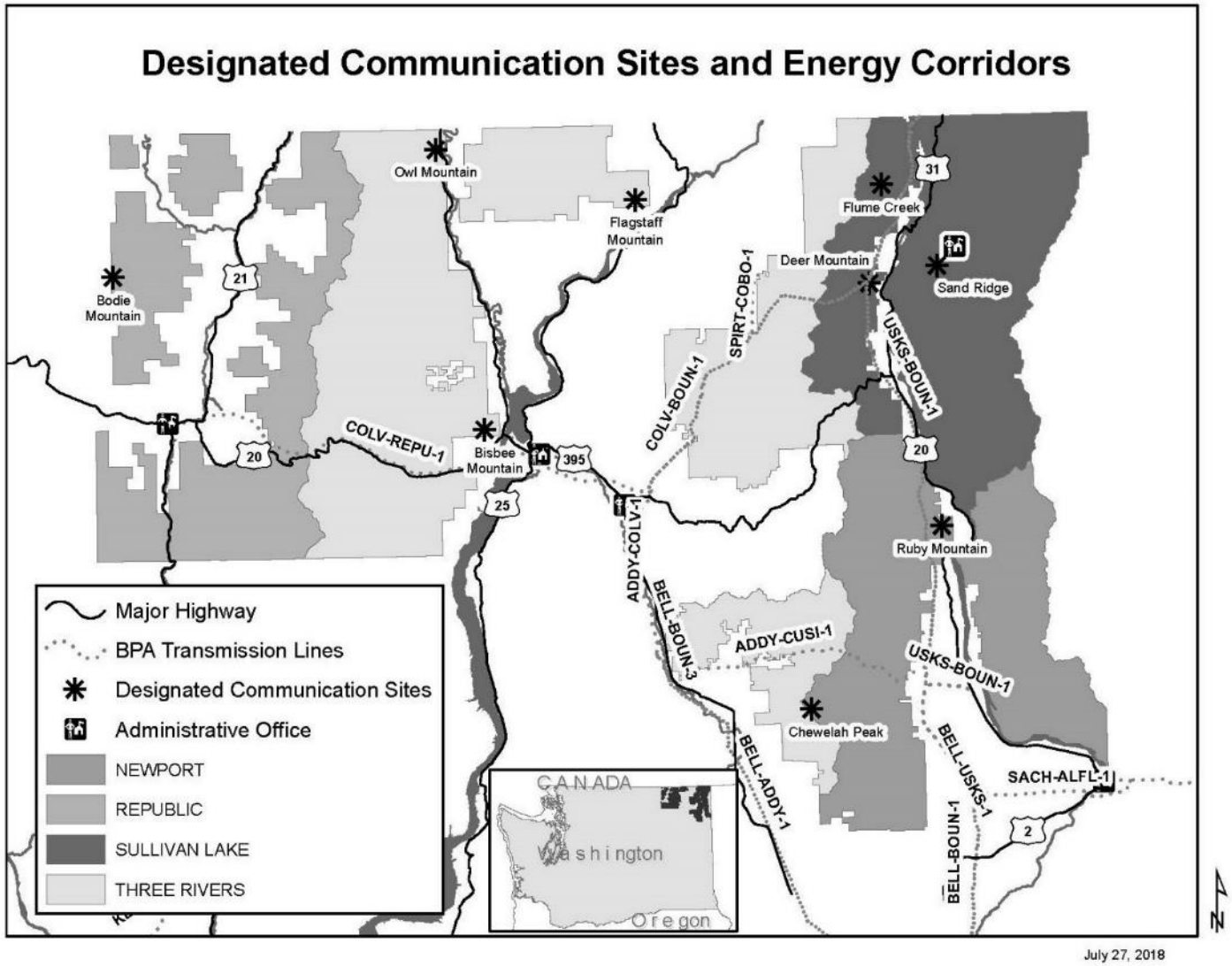

Figure J-1. Designated communication sites and energy corridors

Mineral Withdrawals

The following areas have been withdrawn from one or more of the mining laws and have limits on mineral entry. The map number in table J-4 corresponds to the maps in Figures J-2 through J-9.

Table J-4. Mineral withdrawals

Map #	Area Name	Area Type	Township	Range	Section (All legal descriptions are in the Willamette Meridian)	Acres
62	Pioneer Park Recreation Area	Recreation Site	T. 31 N.	R. 45 E.	Sec. 1, Lot 8	37.1
10	Chewelah Ski Area	Recreation Site	T. 32 N.	R. 41 E.	Sec. 2, W½SW¼SW¼; Sec. 3, S½NE¼, E½SE¼, NE¼NW¼SE¼; Sec. 10 E½NE¼NE¼l Sec. 11, NW¼NW¼NW¼;	220
10	Chewelah Ski Area	Recreation Site	T. 32 N.	R. 41 E.	Sec. 11, SW¼NW¼NW¼	10
9	Chewelah Lookout	Administrative Site	T. 32 N.	R. 41 E.	Sec. 12, N½SE¼ M&B[60]	10
31	Flowery Trail Seed Orchard	Administrative Site	T. 32 N.	R. 43 E.	Sec. 5, E½SW¼SW¼, SE¼SW¼, S½NE¼SW¼	80
2	Bead Lake Recreation Area	Recreation Site	T. 32 N.	R. 45 E.	Sec. 3, Lot 1, W½ Lot 2, Lot 3-8 inclusive; Sec. 4, Lot 1, 2, and 6; Sec. 9, NE¼NE¼NW¼; Sec. 10 Lot 3 except north 10 acres, Lot 4-6 inclusive, Lot 7 except south 20 acres, and Lot 8 except south 20 acres.	576
56	No Name Lake Recreation Area	Recreation Site	T. 32 N.	R. 45 E.	Sec. 8, Lot 1 and NE¼ Lot 2	35.74
55	Newport Geophysical Observatory	Administrative Site	T. 32 N.	R. 45 E.	Sec. 21	640
57	Pal Moore Seed Orchard	Administrative Site	T. 33 N.	R. 41 E.	Sec. 1, W½E½, and W½ Lot 4, W½SW¼NW¼; Sec. 2, S½S½ Lot 1, S½SE¼ Lot 2, S½NE¼	146.22
70	South Skookum Lake Recreation Area	Recreation Site	T. 33 N.	R. 44 E.	Sec. 1, S½NW¼ Lot 1, SW¼ Lot 1, W½SE¼ Lot 1, SE¼NE¼ Lot 2, E½SW¼ Lot 2, SE¼ Lot 2, E½SW¼NE¼, E½W½SW¼NE¼, W½NE¼SE¼NE¼, NW¼SE¼NE¼, W½SW¼SE¼NE¼, N½NE¼NW¼SE¼	92.5
11	Cooks Lake Recreation Area	Recreation Site	T. 33 N.	R. 44 E.	Sec. 24, NE¼SE¼	40

[60] Metes and Bounds survey was conducted.

Map #	Area Name	Area Type	Township	Range	Section (All legal descriptions are in the Willamette Meridian)	Acres
22	Drycreek Site	Administrative Site	T. 33 N.	R. 45 E.	Sec. 30, SW¼NE¼SE¼, E½SE¼SE¼, NW¼SE¼SE¼	40
2	Bead Lake Recreation Area	Recreation Site	T. 33 N.	R. 45 E.	Sec. 34, Lot 1 except north 20 acres, Lot 2 except west 20 acres, Lot 3 except east 20 acres, lot 4 except east 20 acres, lot 5, Lot 6, and SW¼SW¼NE¼	
58	Parker Lake Recreation Area	Recreation Site	T. 34 N.	R. 43 E.	Sec. 3, W½W½ Lot 2, Lot 3, W½W½SW¼NE¼, SE¼NW¼, N½NE¼NE¼SW¼, NW¼NW¼NW¼SE¼	107.75
25	Federal Power Commission 2042	Power Withdrawal	T. 34 N.	R. 44 E.	Portions of Secs. 5 and 32	
4	Brown Lake Recreation Area	Recreation Site	T. 34 N.	R. 44 E.	Sec. 14, S½SE¼SE¼; Sec. 23, NE¼NE¼, N½SE¼NE¼; Sec. 24, N½NW¼, N½S½NW¼, NW¼NE¼, N½SW¼NE¼	260
35	Half Moon Lake Recreation Area	Recreation Site	T. 34 N.	R. 44 E.	Sec. 26, E½W½SW¼SW¼, E½SW¼SW¼	30
77	Swan Lake Recreation Area	Recreation Site	T. 35 N.	R. 32 E.	Sec. 20, Lots 1, 2, 3, NW¼SE¼; Sec. 29, Lots 1 and 2	219
28	Ferry Lake Recreation Area	Recreation Site	T. 35 N.	R. 32 E.	Sec. 21, Lots 1-4 inclusive	126
40	Strip Of Land 200 Feet Each Side Of Centerline	San Poil Hwy Roadside Zone	T. 35 N.	R. 32 E.	Sec. 24, SE¼SE¼; Sec. 25, E½E½	40.2
49	Long & Fish Lake Recreation Area	Recreation Site	T. 35 N.	R. 32 E.	Sec. 28, Lots 1, 2, 3,S½NE¼; Sec. 33, Lots 1 and 2	239
79	Ten Mile Campground	Recreation Site	T. 35 N.	R. 32 E.	Sec. 24 S½NE¼, NE¼SE¼	157.19
5	Brown Mountain Seed Orchard	Administrative Site	T. 35 N.	R. 33 E.	Sec. 16, NWNW¼, N½SW¼NW¼; Sec. 17, E½E½NE¼NE¼, E½NE¼SE¼NE¼	75
40	Strip Of Land 200 Feet Each Side Of Centerline	San Poil Hwy Roadside Zone	T. 35 N.	R. 33 E.	Sec. 19, Lot 4; Sec. 30, Lot 1; Sec. 31, Lot 4, SE¼SW¼	
79	Ten Mile Campground	Recreation Site	T. 35 N.	R. 33 E.	Sec. 19, Lot 3	
1	Barnaby Butte Lookout	Administrative Site	T. 35 N.	R. 35 E.	Sec. 7 (Un-surveyed); Sec. 18 (Un-surveyed) M&B	10
42	Lake Ellen Recreation Area	Recreation Site	T. 35 N.	R. 36 E.	Sec. 26, Lots 1-4 inclusive; Sec. 27, Lots 1 and 2; Sec. 34, Lot 1; Sec. 35, NW¼NW¼NW¼	288.55
48	Little Twin Lakes Recreation Area	Recreation Site	T. 35 N.	R. 41 E.	Sec. 4, Lot 3	20.23

Map #	Area Name	Area Type	Township	Range	Section (All legal descriptions are in the Willamette Meridian)	Acres
25	Federal Power Commission 2042	Power Withdrawal	T. 35 N.	R. 43 E.	Portion of Sec. 3	190
25	Federal Power Commission 2042	Power Withdrawal	T. 35 N.	R. 44 E.	Portions of Secs. 7, 12, 18, 19 and 20	
68	Ruby Recreation Area	Recreation Site	T. 35 N.	R. 44 E.	Sec. 19, Lots 1, 2, 6 and 7	113
39	Sherman Hwy 20 Roadside Zone	Strip Of Land 200 Feet From Centerline	T. 36 N.	R. 33 E.	Sec. 25, NW¼NW¼; Sec. 26, NNE¼, NE¼NW¼	1026
16	Quartz Lookout Admin. Site	Administrative Site	T. 36 N.	R. 33 E.	Sec. 34, SW¼SW¼ M&B	10
39	Strip Of Land 200 Feet Each Side Of Centerline	Sherman Hwy 20 Roadside Zone	T. 36 N.	R. 34 E.	Sec. 15, SW¼; Sec. 16. S½; Sec. 21 NE¼; Secs. 22, 23, 24; Sec. 26, N½N½; Sec. 27, NE¼	
34	Graves Mountain Lookout	Administrative Site	T. 36 N.	R. 35 E.	Sec. 12 (un-surveyed), M&B	10
39	Sherman Hwy 20 Roadside Zone	Strip Of Land 200 Feet From Centerline	T. 36 N.	R. 35 E.	Un-surveyed Sec. 8 SE¼; Sec. 9, SW¼SW¼; Sec. 13. SW¼SW¼; Sec. 14 and 15; Sec. 16, N½; Sec 17; Sec. 18, S½SE¼; Sec 19; Sec. 20, N½; Sec. 23, NE¼NE¼; Sec. 24	
41	Kettle Range Observation Site	Administrative Site	T. 36 N.	R. 35 E.	Sec. 19 (Un-surveyed) M&B	12
7	Canyon Creek Recreation Area	Recreation Site	T. 36 N.	R. 36 E.	Sec. 35, S½NE¼NE¼, SE¼NE¼	60
39	Sherman Hwy 20 Roadside Zone	Strip Of Land 200 Feet From Centerline	T. 36 N.	R. 36 E.	Sec. 19, S½S½; Sec. 25, S½; Sec. 28, SW¼; Sec. 29; Sec. 30 N½; Sec. 33, NW¼NW¼, S½S½NE¼; Sec. 34, NW¼NE¼, S½NE¼, NW¼; Sec. 35, N½; Sec. 36, NW¼	
80	Trout Lake Recreation Area	Recreation Site	T. 36 N.	R. 36 E.	Un-surveyed Sec. 11, E½SE¼; Sec. 12, SW¼SW¼; Sec. 13, NW¼NW¼; Sec. 14, NE¼NE¼	200
21	Dominion Lookout	Administrative Site	T. 36 N.	R. 40 E.	Sec. 34, NE¼ M&B	20
54	Mill Cr. Administrative Site	Administrative Site	T. 36 N.	R. 41 E.	Sec. 20, SE¼NW¼, NE¼SW¼, N½SE¼	160
48	Little Twin Lakes Recreation Area	Recreation Site	T. 36 N.	R. 41 E.	Sec. 33, Lots 3 and 4, NE¼SW¼	100.94
33	Frater Lake Recreation Area	Recreation Site	T. 36 N.	R. 42 E.	Sec. 2, Lots 1 and 2; Sec. 3, Lots 1 and 2	38.85
43	Lake Leo	Recreation Site	T. 36 N.	R. 42 E.	Sec. 3, Lots 5, 7, SE¼SW¼	92.15
45	Lake Thomas- Lake Gillette	Recreation Site	T. 36 N.	R. 42 E.	Sec. 17, Lot 5, SW¼NE¼, SE¼SW¼, NW¼SE¼	137
45	Lake Thomas- Lake Gillette	Recreation Site	T. 36 N.	R. 42 E.	Sec. 20, Lot 1, SE¼NW¼	105

Map #	Area Name	Area Type	Township	Range	Section (All legal descriptions are in the Willamette Meridian)	Acres
50	Lookout Station	Administrative Site	T. 36 N.	R. 42 E.	Sec. 24, Lot 1	39.24
25	Federal Power Commission 2042	Power Withdrawal	T. 36 N.	R. 43 E.	Portions of Sec. 15 and 22	
51	Lost Creek Recreation Area	Recreation Site	T. 36 N.	R. 43 E.	Sec. 15, Lot 5, 8; Sec. 22, Lot 1	136
46	Le Clerc Rec. Area	Recreation Site	T. 36 N.	R. 44 E.	Sec. 19, E½W½SW¼NE¼, E½SW¼NE¼	10
37	Hanlon Administrative Site	Administrative Site	T. 36 N.	R. 44 E.	Sec. 29, E½SW¼NE¼, E½NW¼NE¼, W½W½SE¼NE¼, W½W½NW¼NE¼	60
81	Twin Sisters Lo Admin. Site	Administrative Site	T. 37 N.	R.35E	Un-surveyed Sec. 10, M&B	10
32	Frater Lake Recreation Area	Recreation Site	T. 37 N.	R. 42 E.	Sec. 34 S½SE¼	80.23
33	Frater Lake Recreation Area	Recreation Site	T. 37 N.	R. 42 E.	Sec. 34, S½SE¼	
78	Teepee Seed Orchard	Administrative Site	T. 37 N.	R. 42 E.	Sec. 34 E½SW¼NE¼, W½SE¼NE¼, N½NW¼NE¼SE¼, N½NE¼NW¼SE¼,S½SE¼NW¼NE¼	55
25	Federal Power Commission 2042	Power Withdrawal	T. 37 N.	R. 43 E.	Portions of Secs. 28 and 33	
59	Pend Oreille River Rec. Area	Recreation Site	T. 37 N.	R. 43 E.	Sec. 33, Lots 1, 4, 5, and 8	123.05
15	Bodie Mountain Lookout	Administrative Site	T. 38 N.	R. 32 E.	Sec.6, Lot 4 M&B	10
24	Empire Lake Recreation Area	Recreation Site	T. 38 N.	R. 32 E.	Sec. 12, W½NE¼, NW¼SE¼	120
19	Davis Lake Recreation Area	Recreation Site	T. 38 N.	R. 36 E.	Sec. 34 SE¼SW¼	61.76
66	Renner Lake Recreation Area	Recreation Site	T. 38 N.	R. 36 E.	Sec. 34, SE¼NW¼NW¼, SW¼NE¼NW¼, NE¼SW¼NW¼, NW¼SE¼NW¼	40
38	Huckleberry Lookout	Administrative Site	T. 38 N.	R. 42 E.	Sec. 29, W½SW¼; Sec. 30 E½SE¼ M&B	10
25	Federal Power Commission 2042	Power Withdrawal	T. 38 N.	R. 43 E.	Portions of Secs. 1, 12, 19, 20, 29, and 32	
65	Powersite Reserve 639	Power Withdrawal	T. 38 N.	R. 43 E.	Sec. 4, Lots 3, 4, 5 and 15	68.7
27	Federal Power Commission 2225	Power Withdrawal	T. 38 N.	R. 44 E.	Portions of Secs. 1, 5, 6, 7, 12, 13, 18, 31, and 36	522
73	Sullivan Lake Recreation Area	Recreation Site	T. 38 N.	R. 44 E.	Sec. 6, Lots 2, 4, 7, and 8; Sec. 7 Lots 2, 3, and 7; Sec. 18, Lots 2-7 inclusive, Lot 9, S½SE¼;	624.35
67	Round Top Mtn. Res. Natural Area	Administrative Site	T. 38 N.	R. 45 E.	Sections 8 and 9 (portions of)	213
64	Powersite Classification 373	Power Withdrawal	T. 39 N.	R. 32 E.	Sec. 12, NE¼SW¼	40

Map #	Area Name	Area Type	Township	Range	Section (All legal descriptions are in the Willamette Meridian)	Acres
20	Deer Creek Summit Campground	Recreation Site	T. 39 N.	R. 35 E.	Un-surveyed Sec. 20, SE¼NE¼	40
52	Marble Lookout	Administrative Site	T. 39 N.	R. 35 E.	Un-surveyed Sec. 4, M&B	10
53	Martin Cr. Admin. Site (Orient)	Administrative Site	T. 39 N.	R. 36 E.	Sec. 10, SW¼SE¼, E½SE¼ except Exchange Survey 282 Comprising 14.91 acres; Sec. 15, NW¼NE¼	145
29	First Thought Lookout	Administrative Site	T. 39 N.	R. 37 E.	Sec. 7, NE¼SW¼ M&B	10
61	Pierre Lake	Recreation Site	T. 39 N.	R. 37 E.	Sec. 5, Lots 5-10 inclusive	27.25
30	Flagstaff Lookout	Administrative Site	T. 39 N.	R. 39 E.	Sec. 5, SE¼NE¼	40
60	Pepoon Lake Recreation Area	Recreation Site	T. 39 N.	R. 39 E.	Sec. 6, W½SE¼	80
26	Federal Power Commission 2144	Power Withdrawal	T. 39 N.	R. 43 E.	Portions of Secs. 2, 3, 10, 11, 15, 22, 24, and 26	609.24
36	Halliday Fen RNA[61]	Administrative Site	T. 39 N.	R. 43 E.	Sec. 1, Lot 1 M&B	646.4
63	Powersite Classification 328	Power Withdrawal	T. 39 N.	R. 43 E.	Portion of Sec. 3	0.95
73	Sullivan Lake Reservoir Site	Recreation Site	T. 39 N.	R. 43 E.	Sec. 25, NE¼NE¼	40
27	Federal Power Commission 2225	Power Withdrawal	T. 39 N.	R. 44 E.	Portions of Secs. 1, 6, 7, 12, 13, 19, 19, 24, 25, 29, 30, 31, and 32	
36	Halliday Fen RNA	Administrative Site	T. 39 N.	R. 44 E.	Sec. 6, Lots 2-5, inclusive M&B	
17	Sullivan Mtn Lookout	Administrative Site	T. 39 N.	R. 44 E.	Sec. 16, NE¼SW¼	40
72	Sullivan Creek Recreation Area	Recreation Site	T. 39 N.	R. 44 E.	Strip of land 3 chains wide (1C on the south side and 2C on the South side) of Sullivan Creek through the following subdivisions: Sec. 25, NE¼SW¼, S½SW¼, N½SE¼; Sec. 26, SE1/14SE¼; Sec. 31, NE¼; Sec. 32 S½NE¼, N½NW¼, SE¼NW¼, N½SE¼; Sec. 33, NW¼SW¼, S½SW¼, N½SE¼ SW¼SE¼; Sec. 34, SE¼NE¼, N½SW¼, SW¼SW¼, N½SE¼; Sec. 35, N½NE¼, N½NW¼ SW14,NW¼; Sec. 36, SW¼SW¼	104.45
73	Sullivan Lake Recreation Area	Recreation Site	T. 39 N.	R. 44 E.	Sec. 31, Lots 3, 6 and 9; Sec. 32, Lots 1 and 2	
73	Sullivan Lake Reservoir Site	Water Reserve Wd	T. 39 N.	R. 44 E.	Sec. 30, Lots 3 and 4, E½NW¼, NW¼SW¼,	199.78

[61] Research Natural Area

Map #	Area Name	Area Type	Township	Range	Section (All legal descriptions are in the Willamette Meridian)	Acres
74	Sullivan Lake Administrative Site	Administrative Site	T. 39 N.	R. 44 E.	Section 29, Lot 3, SW14/SW¼; Sec. 30, Lots 6 and 7; S½SE¼; Sec 31, Lots4 and 5, N½NE¼, Sec. 32, W½NW¼	422
75	Sullivan Mtn Lookout	Administrative Site	T. 39 N.	R. 44 E.	Sec. 16, NE¼SW¼	40
71	Sullivan Creek Recreation Area	Recreation Site	T. 39 N.	R. 45 E.	Sec. 9, SE¼SE¼; Sec. 10, W½NE¼, SE¼NW¼, N½SW¼, SW¼SW¼, NW¼SE¼; Sec. 15, NW¼NW¼; Sec. 16, N½NE¼, SW¼NE¼, N½SW¼, SW¼SW¼, NW¼SE¼; Sec. 17, SE¼SW¼, S½SE¼; Sec. 19, Lot 8, NE¼NE¼, S½NE¼, E½SW¼, NW¼SE¼; Sec. 20, N½NW¼; Sec. 30, Lots 1, 2, 3, 4, and 6	132
64	Powersite Classification 373	Power Withdrawal	T. 40 N.	R. 36 E.	Portions of Sec. 3, 15, 22, 27, 34	485.85
76	Summit Lake Recreation Area	Recreation Site	T. 40 N.	R. 37 E.	Sec. 17, SE¼SE¼; Sec. 20 NE¼NE¼; Sec.21. NW¼NW¼	120
23	Elbow Lake Recreation Area	Recreation Site	T. 40 N.	R. 38 E.	Sec. 21, E½E½SW¼, W½SE¼	120
8	Cedar Creek Seed Orchard	Administrative Site	T. 40 N.	R. 42 E.	Sec. 10 W½SW¼, W½E½SW¼, SE¼NE¼SW¼, NE¼SE¼SW¼	140
3	Boundary Lake Recreation Area	Recreation Site	T. 40 N.	R. 43 E.	Sec. 1, Lot 5	70.95
26	Federal Power Commission 2144	Power Withdrawal	T. 40 N.	R. 43 E.	Portions of Secs. 2, 3, 10, 11, 14, 23, 26, and 35	
12	Crescent Lake Recreation Area	Recreation Site	T. 40 N.	R. 43 E.	Sec. 12, Lots 1-4 inclusive, E½NE¼NE¼SW¼, W½NW¼NW¼SE¼	142.15
47	Lime Creek Recreation Area	Recreation Site	T. 40 N.	R. 43 E.	Sec. 14, Lot 7, SE¼SE¼	76.45
36	Halliday Fen RNA	Administrative Site	T. 40 N.	R. 43 E.	Sec. 36, SE¼SE¼ M&B	
3	Boundary Lake Recreation Area	Recreation Site	T. 40 N.	R. 44 E.	Sec. 6, Lot 4	70.95
36	Halliday Fen RNA	Administrative Site	T. 40 N.	R. 44 E.	Sec. 30, NW¼SE¼, SE¼SW¼, S½SE¼; Sec. 31, Lots 2, 3, 4, NE¼NE¼, NE¼NW¼, NE¼SE¼, S½SE¼; Sec. 32, W½W½ M&B	
36	Halliday Fen RNA	Administrative Site	T. 40 N.	R. 44 E.	Sec. 31, W½NE¼, SE¼NE¼, SE¼NW¼, E½SW¼, NW¼SE¼	
69	Salmo RNA	Administrative Site	T. 40 N.	R. 45 E.	Portions of Sec. 9, 10, 11, 14, 15, 16, and 22	1,405

Approximate total acres withdrawn from mineral entry: 11,609 (Does not include the Salmo Priest Wilderness); M&B = Metes and Bounds

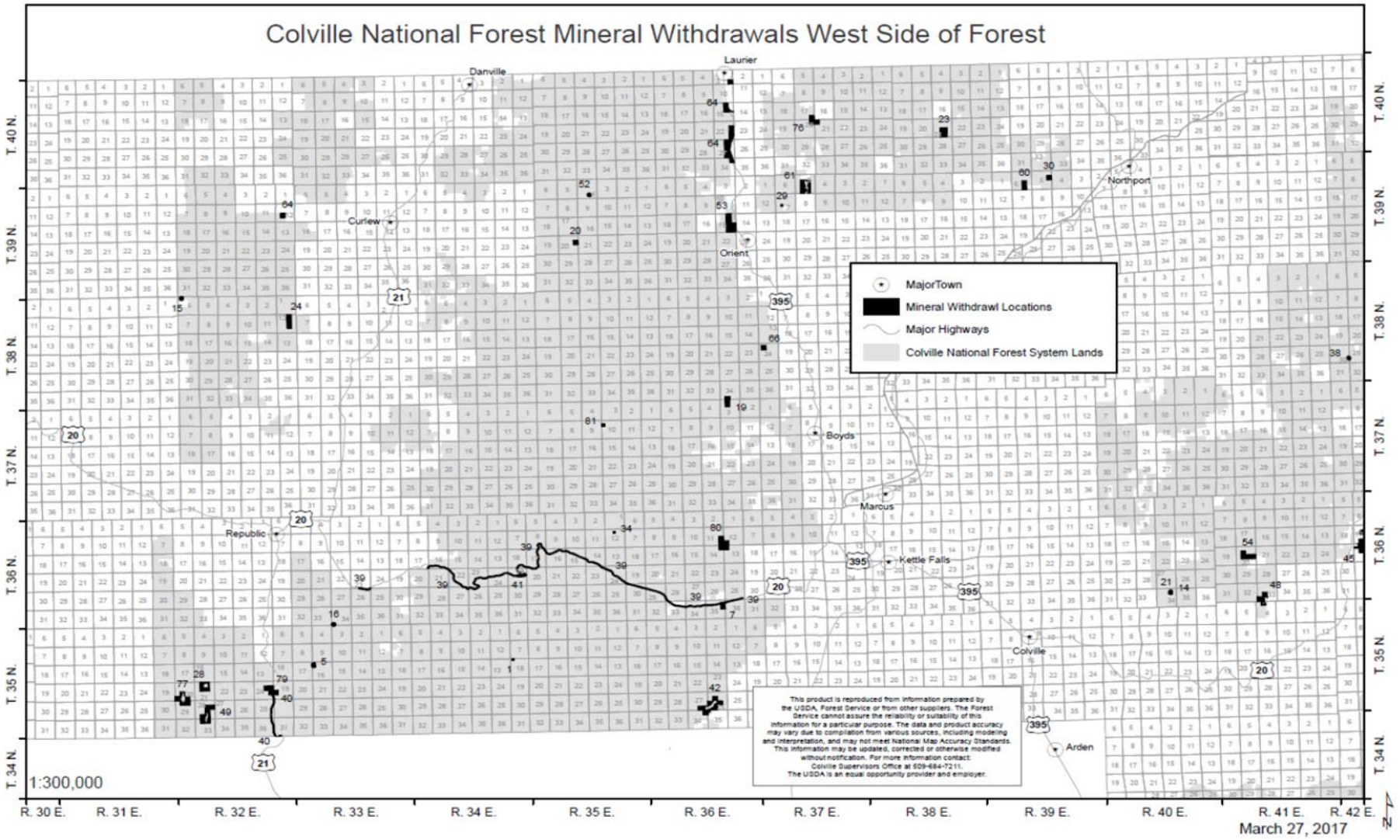

Figure J-2. Mineral withdrawals on the west side of the Colville National Forest

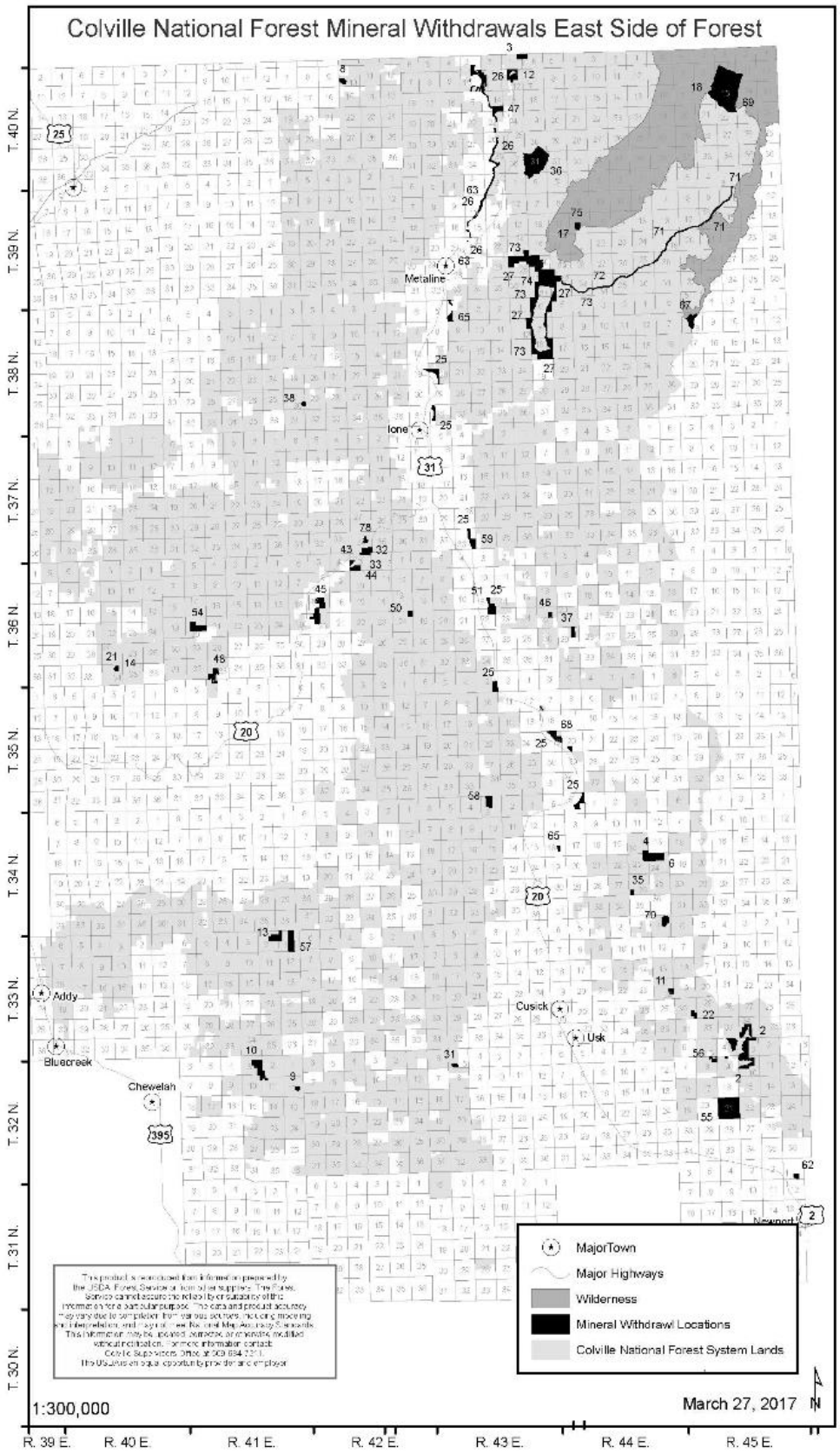

Figure J-3. Mineral withdrawals on the east side of the Colville National Forest

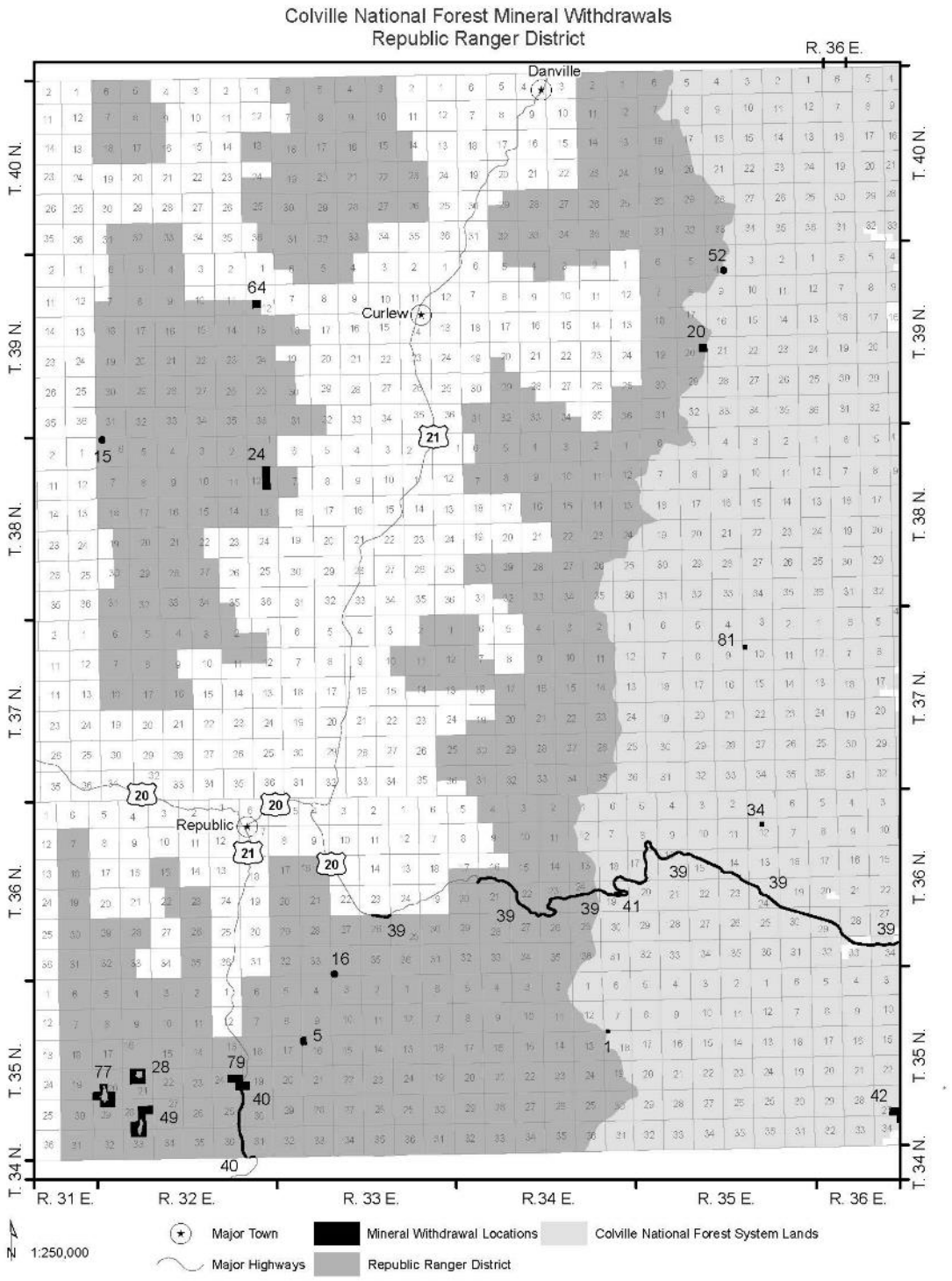

Figure J-4. Republic Ranger District mineral withdrawals

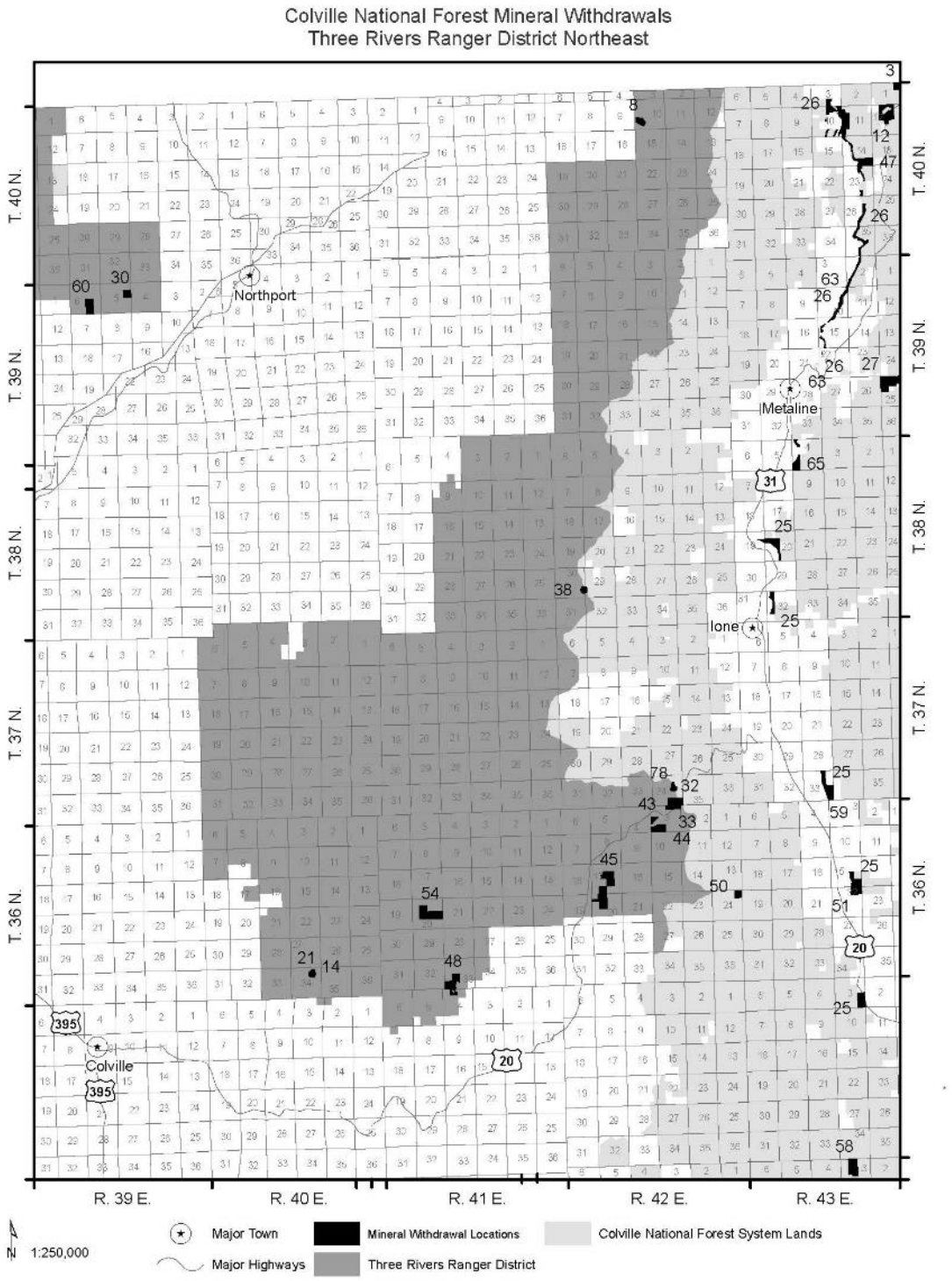

Figure J-5. Three Rivers Ranger District mineral withdrawals (Map 1 of 3)

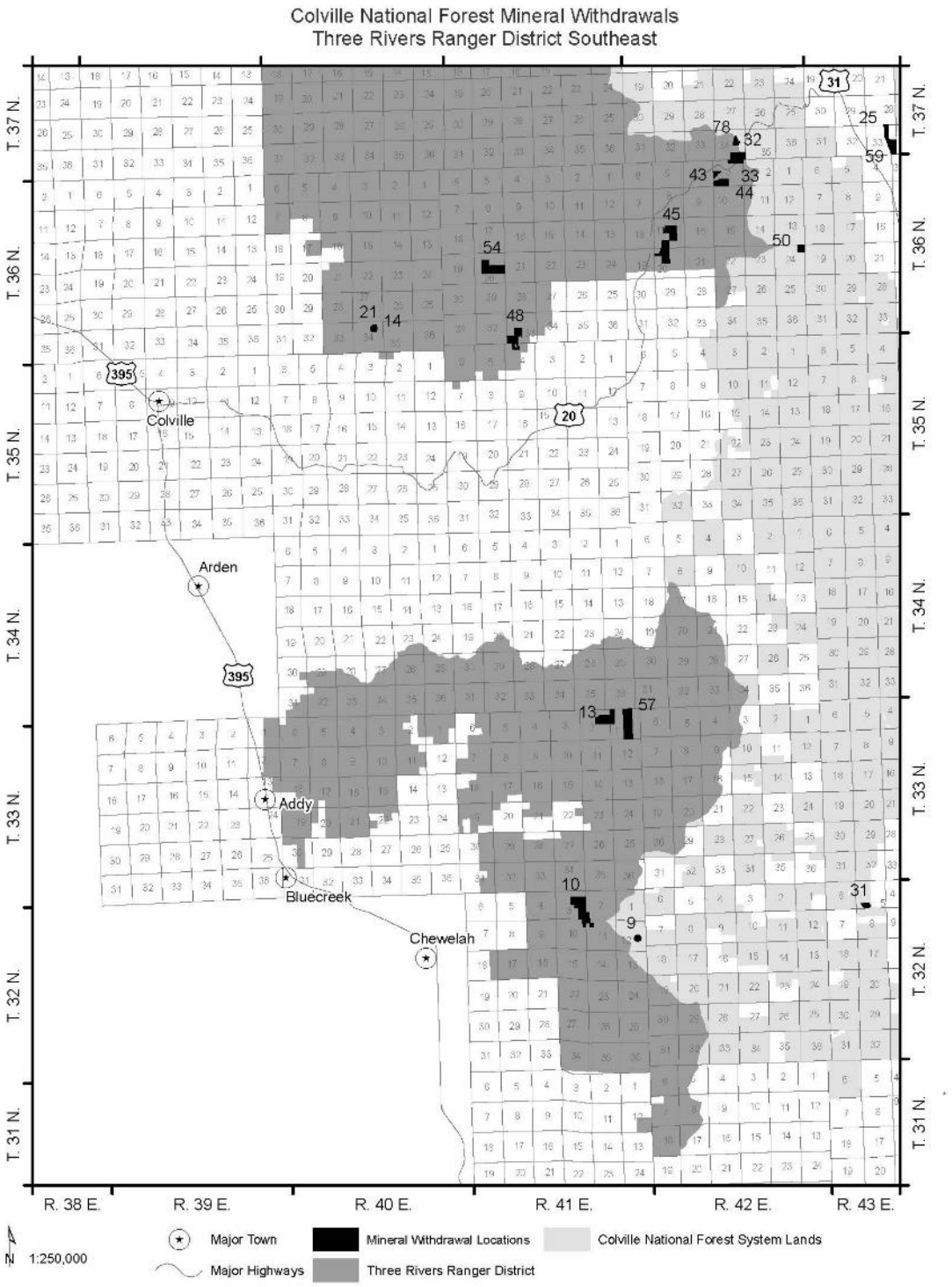

Figure J-6. Three Rivers Ranger District mineral withdrawals (Map 2 of 3)

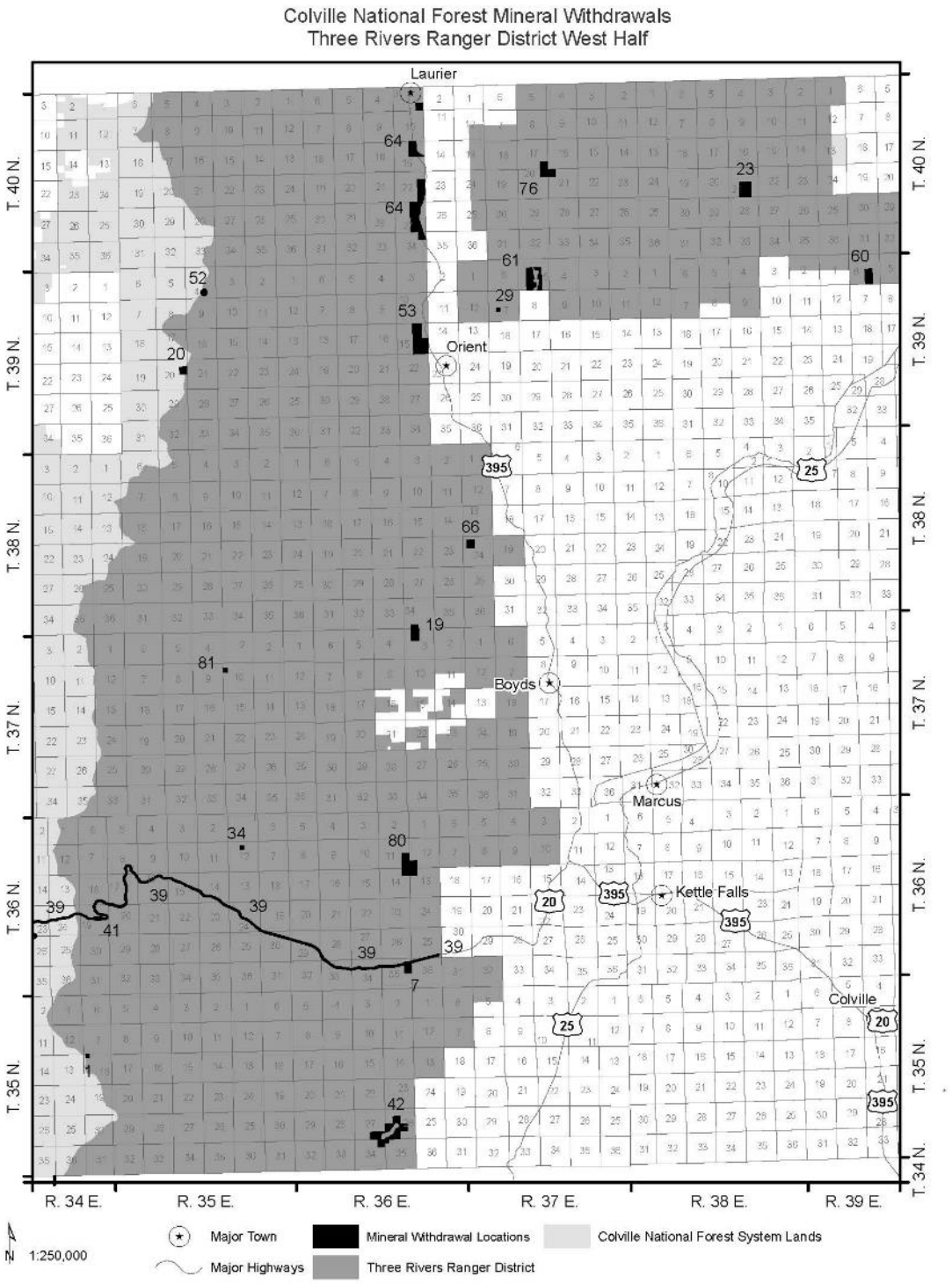

Figure J-7. Three Rivers Ranger District mineral withdrawals (Map 3 of 3)

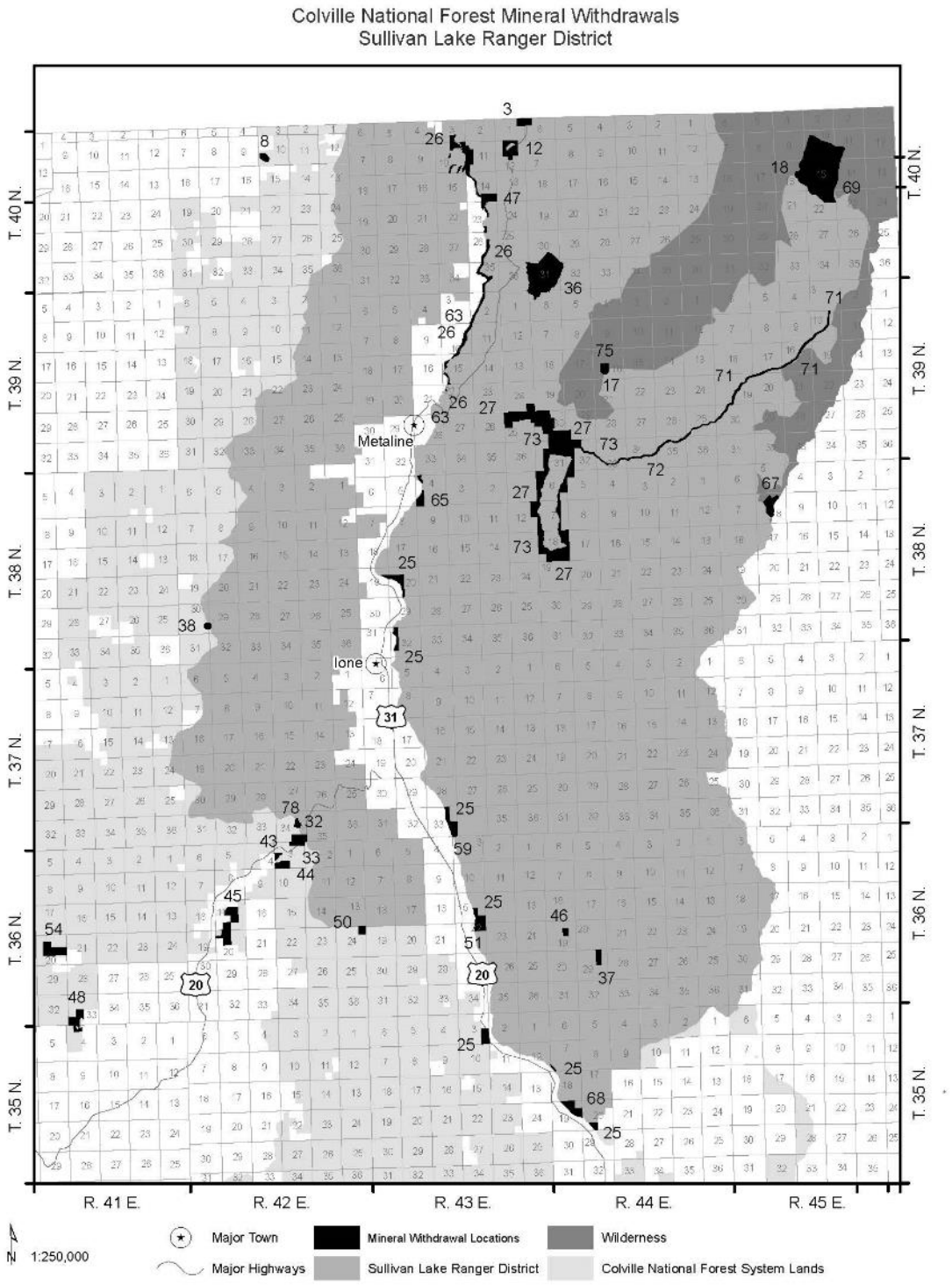

Figure J-8. Sullivan Lake Ranger District mineral withdrawals

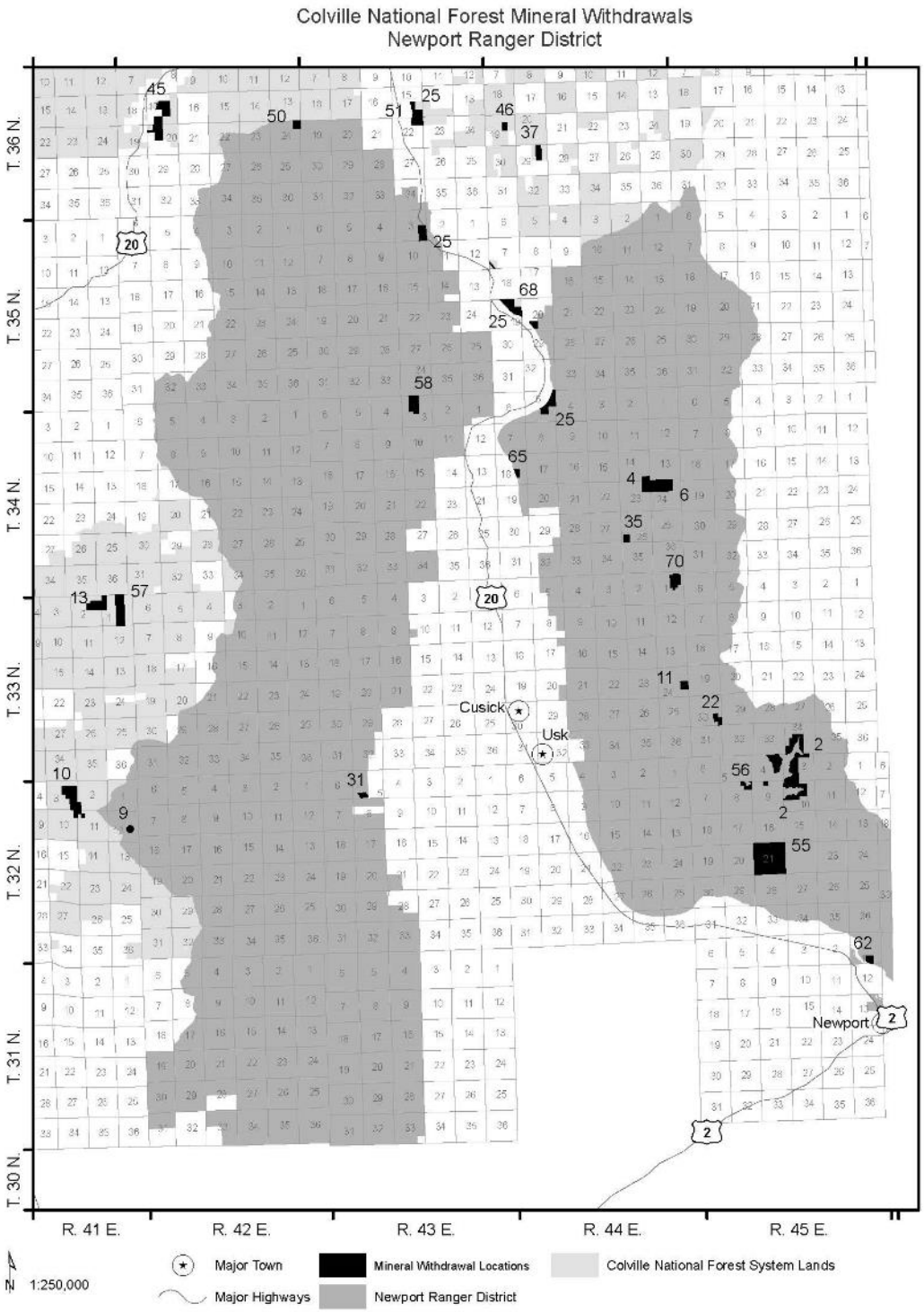

Figure J-9. Newport Ranger District mineral withdrawals

Appendix K. Wild and Scenic River Eligibility Determinations

Forest Service Handbook (FSH) 1909.12, Chapter 80 (2006) provides agency guidance on land management planning requirements under the 1982 Planning Rule for completing "a comprehensive evaluation of the potential for rivers in an administrative unit to be eligible for inclusion in the National [Wild and Scenic River] System." This direction also specifies when additional review of eligibility is needed in conjunction with revising land management plans when previous systematic inventories or suitability studies have been completed and documented. A systematic inventory of eligible rivers was completed in 1990 and documented as part of the 1988 Colville National Forest Land and Resource Management Plan.

A subset of the 2019 forest plan revision team met to review the assessment of significance and the identification of outstandingly remarkable values (ORV) for each river segment identified during the evaluation completed in 1990 as part of the 1988 forest plan process. This team consisted of the Forest Natural Resources Program Manager (responsible for fisheries, wildlife, and botany resources), Forest Heritage Program Manager (responsible for cultural, historic, and paleontological resources), Hydropower Coordinator (responsible for hydrologic resources), and the Forest Recreation Program Manager (responsible for recreation and scenery resources). The team concluded that a geologist was not required since no geologic events had occurred since the evaluation was initially completed in 1990. This team reviewed whether circumstances had changed that would warrant additional review of existing eligibility determinations for each river segment identified in 1990. In addition, the team also made new determinations of significance for Big Sheep Creek, from the forest boundary to the United States/Canada border, which was acquired by the forest in 2015. The team used the same area of consideration, the Columbia River and Tributaries Region (all of eastern Washington and a portion of southwestern Washington), while making its assessment of eligibility for Big Sheep Creek and its review of changed circumstances as the interdisciplinary team used in 1990.

The team concluded that while some resource conditions had changed on several river segments since 1990, no circumstances had changed that would warrant additional review of the eligibility determinations made as part of the 1988 forest plan process.

One exception to the above statement is Sullivan Creek below Sullivan Lake to its confluence with the Pend Oreille River. The review team determined the removal of Mill Pond Dam in conjunction with critical habitat listing, the potential for new whitewater floating opportunities, and the planned implementation of 8-10 years of stream restoration work on Sullivan Creek could further change circumstances on Sullivan Creek which would warrant an additional eligibility review when the planned restoration work is completed. The team did not feel that the unrecovered reach of river associated with the Mill Pond Dam removal and reclamation area warranted that the significance determinations made in 1990 be changed to an ORV at this time. However, the team recommends the forest reviews whether circumstances change enough on Sullivan Creek to change its existing eligibility determination upon completion of all planned restoration work.

The addition of several miles of Big Sheep Creek reinforced the significance determinations made in 1990. Big Sheep Creek offers plenty of quality scenery, recreational opportunities (fishing, camping, swimming, and floating), unique geologic deposits on canyon walls, quality fish habitat (deep pools), and some cultural resources. However, none of the team members felt the resource values associated with the additional

miles of stream changed the initial ratings from significant to outstandingly remarkable. Therefore, Big Sheep Creek was not determined to be eligible for a wild and scenic river designation.

Table K-1 lists all of the river segments evaluated for eligibility during the 1990 forest plan process and reviewed for changed circumstances as part of the 2019 forest plan. The shaded column reflects those resource conditions that have changed since the 1990 assessment. All columns to the right of the shaded column reflect the significance and ORV determinations made by the interdisciplinary team in 1990. If a resource value was not updated in the shaded column, then the determination made in 1990 was retained by the 2019 forest plan wild and scenic river review team. Resource ratings are defined as: S = significant resource value, N = non-significant resource value, I = insufficient data.

Table K-5. Wild and scenic river eligibility determinations

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Big Sheep	Change: The portion of Big Sheep Creek from the Forest Boundary to approximately ¼ mile south of the Canadian Border was acquired in 2015. There is a dam below the Forest Boundary at the falls. It is not known whether the large flats contain items of archaeological significance. Do not evaluate further no ORVs identified.	Sheep Creek - It was determined that the portion of big sheep located on national forest had significant cultural value. this stream will be dropped from further evaluation because it does not have any orvs and such a small section is located on national forest.	S Small Section only good located on Private	N	N	S Lower part deposits on Canyon walls on private land. Sign on upper part, Low gradient, meandering deep pools	I Large flats may contain archeological	S	S	Majority on private land

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
American Fork Big Sheep	Change: It is not known whether the large flats contain items of archaeological significance. Do not evaluate further no ORVs identified.	American Fork of Big Sheep - Geology was determined to be nonsignificant because the glacial features found are fairly common throughout the forest. cultural is significant due to the potential for archaeological resources. this river is dropped from further consideration since there are no ORVs.	N	N	N	I	I Large flats may contain archeological	N	N	
East Fork Crown	No change	East Fork of Crown - Ecological is significant due to sensitive plants/cultural is nonsignificant because there are no known sites. drop from evaluation.	N	N	I Sensitive plants - river related	N	I No known sites	N	N	
Flat	No change	Dropped in Round 1	N	N	N	N	N No known sites / homestead > 1/4 mile	N	N	
Pepoon Creek and Lake	No change	Dropped in Round 1	N	N	N	S Steep cliffs, lake, scarps - significant	N No known sites / mining area	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
South Fork Deep	No change	Dropped in Round 1	N	N	N	S glacial lake at headwaters	S Townsites / Mining / homesteads	N	N	
Rocky	No change	Dropped in Round 1	N	N	N	N	S Early logging homesteads	N	N	
Meadow	No change	Dropped in Round 1	N	N	S Sensitive plants	N Lake glacial	N	S/N Fishing / camping / wildlife viewing	S/N	All significant features are at lake which is not free flowing. Man-made dam @ Meadow Lake, hunting, fishing, sightsee, wildlife viewing
Smackout	No change	Dropped in Round 1	N	N	N	N Small falls	N Survey done	N	N	Small check dams and cows
Silver	No change	Dropped in Round 1	S Westslope cutthroat upper reaches	N	N	N	S Mines / cabins	N	S	
South Fork Currant	No change	Dropped in Round 1	N	N	N	N	S Homesteads / logging	N	N	
Hartbauer	No change	Dropped in Round 1	N	N	N	N	N No known sites	N	S	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Trout	No change	Trout Creek - Geology is nonsignificant, cultural is significant and a determination needs to be made on ecological. decided to drop unless information becomes available on ecological resource because it is likely that the rating would not be greater than significant.	N stocked fish - rainbow	N Unique lizard (uncommon to area)	I No biological / ecological survey	I Hoodoo Canyon @ head - geologic, unique setting	I	S Fishing / camping	S	
South and North Fork Sherman	Change: Growden Dam was removed. Still has dam at the bottom. Road still affects stream. Do not evaluate further no ORVs identified.	Dropped in Round 1	S South Fork only	N	N	N	S Pre and historic travel	S Fishing / camping	N	Growden / channel straightening along highway, fish, sightsee
Canyon	No change	Dropped in Round 1	I OR S Fairy shrimp in Donaldson Draw - NE WA unique	N	N	S Significant due to cliffs and outcroppings	N	N	N	
Barnaby	No change	Dropped in Round 1	N	N	N	N	I/N Large flats may contain archeological	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Hall	No change	Dropped in Round 1	N	N	N	N	N Map - CCC Camp	N	N	
North and South Fork Deadman	No change	Deadman N&S - With a significant rating for ecological that gave deadman five significant resource ratings but no orvs. it was decided to go ahead and drop it from further evaluation because resource specialists had been instructed to take a closer look at the ratings on these rivers and none felt that change was in order.	S Good population of native trout / good habitat, significant	N None	I Tributaries - sensitive plant species in riparian along stream edge, Merkel and Hoodoo Canyon	N	S Pre and historic travel	S Fishing / camping	N	
North and South Fork Boulder	Change: South Fork Boulder Road has been closed to vehicle traffic since landslide in 1998. Do not evaluate further no ORVs identified.	Boulder N&S - Fisheries were rated nonsignificant on the north fork and significant on the south fork. cultural was rated significant. it was dropped because no ORVs and only 3 sig. values.	I/N Maybe significant on S Fk (rainbow), N Fk - road building	N	N	N S Fk. - Unique due to glacial outwash along creek	I	S Fishing / camping	N	
East Deer	No change	Dropped in Round 1	N Low population native rainbow	N	N	N	I/N	N	N	Diversion dam

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
North, South, Middle Fork Little Boulder	Change: Fisheries Significant now, but not enough to make it more. Do not evaluate further no ORVs identified.	Little Boulder N/S/Middle - Fisheries rated nonsignificant. cultural significant. dropped-1 s and no ORVs.	N Native rainbow / low population	N	N	N	I Structures and trails on map	N	N	
Pierre	No change	Dropped in Round 1	I/N	N	N	I/S Lake glacial - significant	S Mining related	S Fishing / camping	N	
Deep	No change	Dropped in Round 1	N	N	N	S Significant - headwaters Summit Lake	S Large flats may contain archeological / mining / homestead	N	N	
South Fork Lone Ranch	No change	Dropped in Round 1	N	N	N	N	N Mining and structures	N	N	
Lambert	No change	Dropped in Round 1	N	N	N	N	N Mining / homesteads	N Fishing / camping	N	
West Fork Trout	Change: Bowe Meadow is now in Forest Service ownership. Do not evaluate further no ORVs identified.	Dropped in Round 1	N Native redband trout, low population, possibly significant.	N	N	N or I	N	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Tonata	Change: 1 of 2 dams has been removed. Do not evaluate further no ORVs identified.	Dropped in Round 1	S Native redband trout, significant population, further evaluation.	N	N	N or I	I/N Townsite / structure	N	N	1 Wier
Scatter	No change	Dropped in Round 1	N Only brook trout	N	N	N Unknown	N Steep valley	N	N	
Sanpoil	Change: 10 Mile Campground removed. Do not evaluate further no ORVs identified.	Sanpoil - Cultural was rated significant due to prehistoric use. The San Poil had 4 S ratings. This river has also been modified for about 1/3 of its length on national forest - rip rap and fill slopes. Dropped from further evaluation.	N Rainbow trout, popular fishing habitat, good fishing off national forest	N Golden eagle nesting habitat on rim (unique)	N Unique plant species - not river related, clams, typical of ninebark	S Breaks and rocky outcroppings, significant due to rock formations, down cut	S/ORV Major prehistoric use	S Fishing / camping	S	Some rip rap @ Ten Mile Campground. Free flowing values noted on W. water plan

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Nine Mile	No change	Dropped in Round 1	N Upper portion beaver dams eastern brook trout not native	N None (beaver)	S Ecological unique interp. / scientific value, unique plant species related to basaltic geology, ecological potential for ORV or sig.	S Varied examples of landforms / geology diversity of streams / gorge (cut down) / scientific value, basaltic geology, geological potential for ORV or sig., Ninemile Falls	S	N Falls / fishing / camping	S	
13 Mile	No change	Dropped in Round 1	N None	N	N	N	N Cairns / sheep camp not within 1/4 mile	N	N	2 segments
North Fork Sanpoil	Existing dams and Kinross gold mill site and leach pond. Do not evaluate further no ORVs identified.	Dropped in Round 1	N	N	N	N	N Homestead > 1/4 mile	N	N	
North Fork O'Brien	No change	Dropped in Round 1	N	N	N	N	N Mining and structure on map not within 1/4 mile	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
South Fork O'Brien	No change	Dropped in Round 1	N	N	N	N Refrigerator Canyon unique	N Structure on map not close to river	N Fishing / camping	N	
Cottonwood	Change: Meadow restoration 2006. Do not evaluate further no ORVs identified.	Dropped in Round 1	N	N	N	N or I	I/N Large flats, known Ethno area	N	N	
Six Mile	No change	Dropped in Round 1	N	N	N	N	I/N No known	N	N	
South Fork Chewelah	No change	Dropped in Round 1	N	N	N	N	S Mining and structure on map	N	N	
North Fork Chewelah	No change	Dropped in Round 1	N	N	N	N	S Homesteads	S Heavy camping and fishing	N	
Bayley	No change	Dropped in Round 1	N	N Unique wetlands at headwaters	N	N or I Bear Canyon	I/N Large meadows may contain archeological	N	N	
North Fork Mill	No change	Dropped in Round 1	N	N	N	N Jump Off Joe Bluffs (maybe sign.)	S Homesteads	N	N	
Middle Fork Mill	No change	Dropped in Round 1	N	N	N	N	S Homesteads	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
South Fork Mill	No change	Dropped in Round 1	N	N	N	S Glacial deposits lake bed sediments near guard station significant	S Homesteads /mining	N	N	
Little Pend Oreille	No change	Little Pend Oreille - Five significant ratings but the lakes do not meet free flowing criteria and they are located on private land. drop from further evaluation.	N Stocked	S Osprey, moose	N Stream off FS N.C. List = aquatic site biol diversity	S Chain of glacial lakes (significant)	S Pre and historic travel	S Managed for high quality fishing, swim	S	Lakes, boat, fish, swim camp, lakes free flowing? , Lakes on non-FS land, no ORV values
Handee	No change	Dropped in Round 1	N	N	N	N	S Homestead / LG flats	N	N	
North and Middle Fork Calispel	No change	Dropped in Round 1	S	N	N	N	S Homesteads / cairns	S Fishing / camping	N	
Winchester	No change	Dropped in Round 1	N	N	N	N	S Sawmill / log flume / homesteads	N	N	Small dam
Smalle	No change	Dropped in Round 1	N	N	N	N	N	S View / fishing	N	
East Fork Smalle	No change	Dropped in Round 1	S Native cutthroat	N	N	N	N	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
North and South Fork Tacoma	No change	Tacoma Creek - Archaeologist determined that tacoma creek was significant rather than ORV; it is of interest and significance locally but not outside of our geographic area. dropped.	N Eastern brook trout	N	N	N	ORV? Homesteads	S Fishing / camping	N	Small dam at Conger Pond on S Fk., fish, camp
Cusick	No change	Dropped in Round 1	N	S Goose nesting	N	N	N	N	N	
Ruby	Change: Fish habitat restoration. Do not evaluate further no ORVs identified.	Dropped in Round 1	N	N	N Some water hemlock	N Parker Lake maybe	S Homesteads / logging	N	N	
South Fork Lost	Change: Road obliteration along South Fork. Do not evaluate further no ORVs identified.	Dropped in Round 1	N	N	S Rufus Meadows @ head	N Glacial outwash	S Mines and sawmill	N	N	
Lost	No change	Dropped in Round 1	S Native cutthroat / rainbow populations	N Grey wolf and osprey sightings / not stream related	N	S Drains Nile and Frater - significant	I/N None known	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Marshall Lake and tributaries	No change	Dropped in Round 1	N	N	N	N	N	N	N	Lake - not included - not free flowing, subsurface outflow, fish, boat, camp
Bead Lake	No change	Dropped in Round 1	N Record ling cod for WA State	N	N	N Large glacial lake naturally dammed - Significant, Unusually clear turquoise water	N	N	N	Lake - not included - not free flowing, subsurface outflow, fish, boat, camp
Skookum Lake	No change	Dropped in Round 1	N	N	N	N	N Old FS trails on map	S Fishing / camping	N	Lake - not included - not free flowing, subsurface outflow, fish, boat, camp
Browns Lake	No change	Dropped in Round 1	N Non native brown trout	N	N	N Glacial lake seeps out - significant	S Ethno use	N Fishing / camping	N	Lake - not included - not free flowing, subsurface outflow, fish, boat, camp
North Fork Little Skookum	No change	Dropped in Round 1	I/S	N	N	N	N	N	N	
Split	No change	Dropped in Round 1	N	N	N	N	N FS trails on map	N	N	
Half Moon	No change	Dropped in Round 1	N	N	N	N	N Kalispel use area?	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Cee Cee Ah	Change - Major restoration - Native fish project. High priority traditional use area. Do not evaluate further no ORVs identified.	Dropped in Round 1	S	N	N	N	S Kalispel use area?	N	N	
Mill	No change	Dropped in Round 1	S Westslope cutthroat	N	N	N	S CCC camp? Arch?	N	N	Traded out of most
East and West Fork LeClerc	Change: Major restoration, bull trout present, but population status unknown, Dam and barrier removals. The west branch goes dry. There is mixed ownership. Do not evaluate further no ORVs identified. High priority traditional use area.	Le Clerc Creek - Specialist reviewed their previous ratings in more depth but determined that none of the resource values rated met ORV standards. Dropped.	S Real good habitat	S Grizzly / wolf sightings	N	N	S Early logging dist.	S Fishing / camping	N/S	West Branch most, real good habitat, significant
Dry Canyon Breaks	No change	Dropped in Round 1	N	N	N	N Dry most of the time	N	N	N	Dry in summer
Big Muddy	No change	Dropped in Round 1	N	N	N	N or I	N A few homesteads	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Little Muddy	No change	Dropped in Round 1	N	N	N	N or I	S Homesteads	N	N	
Cedar and Jim	No change	Dropped in Round 1	N	N	N	N or I	N Mining	N	N	Domestic diversion
Linton	No change	Dropped in Round 1	N	N Goats not on river	N	N	N	N	N	
South Fork Flume	No change	Dropped in Round 1	N	N Goats not on river	N	N	N or I	N	N	
Middle Fork Flume	No change	Dropped in Round 1	N	N Goats not on river	N	N Cliffs, Maybe unique geological	N or I	N	N	
Flume	No change	Dropped in Round 1	N	N	N	N	S	N	N	Flume / logging community, small hydro potential
Sweet	No change	Sweet Creek - Cultural rated nonsignificant and it is doubtful that geology would be rated greater than significant. Only A 2 mile segment is located on national forest - drop from further evaluation.	N	N	N	I	I	N	N	
Peewee and Fence	No change	Dropped in Round 1	N	N Goats not on river	N	S Sinkhole 1/4 mile / Peewee Falls (significant)	N	N	S	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Maitlen	No change	Dropped in Round 1	N	N	N	N or I	N Structure on map	N	N	
Harvey	No change	Dropped in Round 2 but could not find reason - probably because of straightened inlet, and dry channel. It has 5 significants, so it should probably have been treated like Sullivan Creek.	S Kokanee spawning	S Bald eagle use, grizzly sighting	S Unique plant and animal species at Bunchgrass (headwaters) Proposed RNA	S Flows underground before Harvey, Sullivan Lake	S Early logging	S Fishing / camping	S	2 old splash dams, straightened inlet, Sullivan Lake Dam, fish, sightsee, camp
Sand	No change	Dropped in Round 1	N	N	N	N or I	N	N	N	
Sullivan	Change: Dam removal, fish population, habitat restoration, and grizzly core habitat. Opportunity for quality white water floating. Evaluate further after restoration work is complete.	*Sullivan Creek - Has all significant resource ratings and a determination needs to be made on fisheries. need to consider what segments meet free-flowing requirements and if it is eligible, what classification.	S Redband	S	S Sensitive plants	S Significant due to volcanic and metamorphic geology	S Pre and historic use	S Fishing / camping	S	Channel straightened at outlet, fish structures / mill pond dam, camp, fish, sightsee
North Fork Sullivan	No change	Dropped in Round 1	I Maybe native fish	N	N	N	N	N	N	Metaline Falls Da
Slate	Very scenic with Rock cliffs etc., but road along creek. Do not evaluate further no ORVs identified	Dropped in Round 1	N Some brook / cutthroat	S Grizzly / big horn sheep / wolf / moose	S Halliday Fen - unique and sensitive plants	N or I	S Mining / cabins	N	N	

River Reach	2019 Identified Changes/ Updates	1990 Status	Fisheries	Wildlife	Ecological	Geological	Cultural	Recreation	Scenery	Comment
Lime	No change	Dropped in Round 1	N Bull trout?	N	N	N Unique due to glacial lake	S Mining / cabin	N	N	
South Fork Salmo	Added as an eligible wild river in 1990. No change since then.	*S. Fork Salmo - Presently has 6 significant resource ratings and 1 ORV rating. Need To review ratings with specialists and dept. of fisheries. determine whether it is eligible and what classification.	ORV Bull trout, redband trout	S Grizzly, caribou, grey wolf - related to remoteness	S Old growth	S Maybe significant due to rock walls	I Cabin and tr	S Trail / wilderness	S	Hike, camp, fish