

Local Public Priorities and Preferences for Public Land Management in the Northern Region

Rebecca Rasch and Sarah McCaffrey



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Abstract

Local land managers are tasked with balancing the needs and preferences of local and national publics. This report provides a snapshot of preferences for local public land management and the demographics of communities within 50 miles of U.S. national forests and grasslands in the Northern Region of the U.S. Forest Service. This information is important for managers because understanding the preferences of different user groups is essential as they seek to manage for multiple uses and balance distinct interests. This information can be used to: (a) inform project and forest planning, (b) craft relevant public engagement opportunities and (c) serve as a baseline for monitoring Forest Service contributions to social sustainability. These data can also help different public land user groups better understand one another and their distinct, sometimes conflicting, preferences. These data may also be useful to various external partners such as local nongovernmental organizations, State and local elected officials and their staffs, and State and other Federal land management officials.

Keywords: forest management preferences, public engagement, forest management priorities, forest planning, social sustainability, social impact analysis, social monitoring

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Cover photos: Row 1: Landscape on the Flathead National Forest, MT (Photo: USDA Forest Service); A duck takes off from Wade Lake in the Beaverhead-Deerlodge National Forest (Photo: Preston Keres, USDA Forest Service); Nez Perce National Historic Trail, Big Hole Valley, Beaverhead-Deerlodge National Forest, MT (Photo: Roger M. Peterson, USDA Forest Service); A moose on the Lewis and Clark National Forest, MT (Photo: Juniperus_scopulorum on Flickr). **Row 2:** Fishing on the Madison River in the Beaverhead-Deerlodge National Forest, MT; An all-terrain vehicle (ATV) in the Gravelly Mountain Range of Beaverhead-Deerlodge National Forest, MT; A mountain bike rider near Wade Lake in the Beaverhead-Deerlodge National Forest, MT; Paddle boarding on Wade Lake in the Beaverhead-Deerlodge National Forest, MT (All photos: Preston Keres, USDA Forest Service). **Row 3:** A ranch hand moves cattle in the Gravelly Mountain Range of Beaverhead-Deerlodge National Forest, MT (Photo: Preston Keres, USDA Forest Service); Prescribed fire in the Kootenai National Forest, ID/MT (Photo: U.S. Forest Service, Kootenai National Forest); A logging truck (Photo: Lance Cheung, USDA Forest Service); A fire crew working the Gold Hill Fire in the Kootenai National Forest, ID/MT (Photo: Kootenai National Forest)

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REGIONAL SUMMARY

Data reported here are from a regional household survey conducted in January-March of 2018 by the University of Montana Bureau of Business and Economic Research. The survey was mailed to a random sample of households located in census tracts within 50 miles of Forest Service lands in the Northern Region. It was completed by 1,152 respondents and the response rate was 36.2 percent. The 95 percent confidence interval for a proportion of 50 percent estimated from the survey is +/- 4.7 percent. For a detailed description of survey methods, see the Methods report (BBER 2018).

Who Are the Local Publics? The Northern Region manages forests and grasslands within or bordering six States: Montana, Idaho, Wyoming, North Dakota, South Dakota, and Washington. These lands share borders with national parks, BLM lands, and other forests managed by neighboring Forest Service regions. A wide array of individuals with diverse interests and needs reside in a complex mosaic of land ownership and both urban and rural settings. Accounting for the diversity of interests and values is needed to achieve broad-scale land management goals and also requires close communication and coordination among land managers and the public.

Understanding the priorities and preferences of local publics also is essential to fostering vibrant communities, a key responsibility of local land managers as outlined in the 2012 Forest Planning Rule. This regulation specifies how managers must comply with the National Forest Management Act (NFMA). Specifically, the 2012 Forest Planning Rule mandates that land management plans must/should contribute to social sustainability, defined as “the capability of society to support the network of **relationships, traditions, culture, and activities that connect people to the land and to one another and support vibrant communities**” (36 CFR 219.19).” (USDA 2012).

For the purposes of this report, local publics are defined as people living in census tracts within 50 miles of Northern Region Forest Service land boundaries. This area encompasses portions of six States: Montana, Idaho, Wyoming, North Dakota, South Dakota, and Washington. The 50-mile distance threshold is commonly used by demographers to approximate areas of social influence as it represents approximately a one-hour drive—a reasonable distance for a person to travel on a weekly or even daily basis. This travel could be for commuting or for recreation; the bulk of recreation visits to national forests are from people living within 50 miles of the area (USDA Forest Service 2016). The map (fig. 1) displays where local publics live.

Local land managers are tasked with balancing the needs and preferences of local and national publics. This report provides a snapshot of preferences for local public land management and the demographics of communities within 50 miles of U.S. national forests and grasslands in the U.S. Forest Service’s Northern Region. This information is important for managers because understanding the preferences of different user groups is essential as they seek to manage for multiple uses and balance distinct interests. This information can be used: (a) to inform project and forest planning, (b) to craft relevant public engagement opportunities, and (c) as a baseline for monitoring Forest Service contributions to social sustainability. These data can also help different public land user groups better understand one another and their distinct, sometimes conflicting, preferences. These data may also be useful to various external partners such as local nongovernmental organizations, State and local elected officials and their staffs, and State and other Federal land management officials.

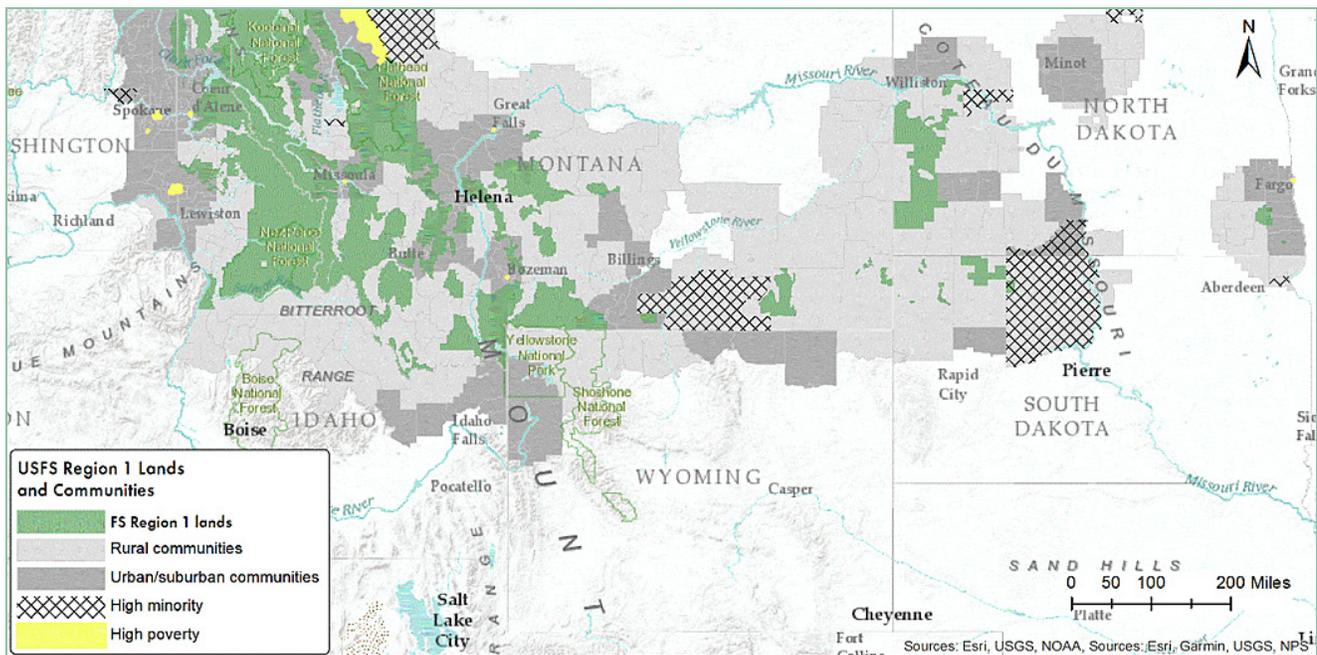


Figure 1—Communities and national forest lands in the Northern Region.

More populated areas (i.e. urban or suburban communities) are defined as census tracts located within counties with areas with more than 10,000 residents or with economic ties to nearby cities. Rural communities or less populated areas are defined as census tracts located within rural counties, i.e. those counties with areas of fewer than 10,000 residents and located far away from urban areas.

DEMOGRAPHIC PROFILE

Demographic data can be an important baseline means of understanding how quality of life and values and beliefs may vary amongst different members of the local public.

The Northern Region has over 2.4 million people living within 50 miles of Forest Service lands (and 1.9 million that are 18 years of age and older). Most of these individuals reside in more populated areas, i.e., counties which typically have areas with more than 10,000 residents or with economic ties to nearby cities (76%). There are also significant numbers living in less populated areas (24%) (fig. 2).



Figure 2—Urban and rural publics.

Close to half of households within 50 miles of Northern Region forests earn less than \$50,000 a year, which is slightly below the median national household income (fig. 3). The majority of residents have graduated high school, and one in four, over age 18, have completed a bachelor's degree, only slightly below the national average (fig. 4). Similar to national trends, income and educational attainment are correlated: those with a college degree are 2.7 times more likely to reside in households with an income of at least \$100,000, compared to those without a college degree.



Figure 3—Household income.

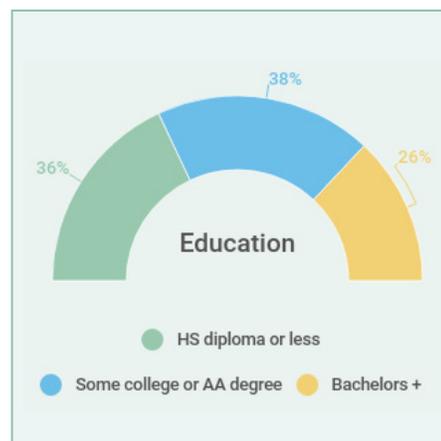


Figure 4—Educational attainment.

Over half of residents have lived in the area for at least 20 years, one in three have lived in the area for less than 10, and one in five have lived in the area for less than 5 years (fig. 5).

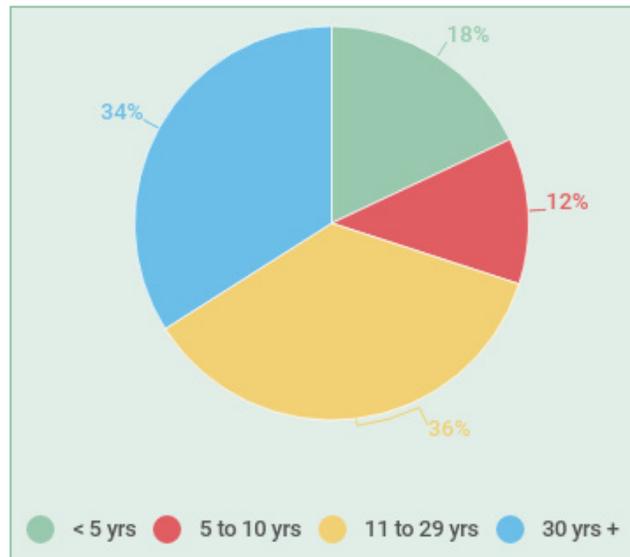


Figure 5—Tenure—years living in the area.

Environmental Justice and Vulnerable Populations: Elderly, Minorities, Poverty

Identifying socially vulnerable populations, including the elderly, minorities, and those living in poverty, is important for managers. These groups may have different attitudes and preferences for management actions and be differentially affected by them. These groups may also require specific outreach efforts to ensure their interests and needs are taken into account.

The map (fig. 1) also shows environmental justice areas, defined as census tracts with high minority (less than 50% non-Hispanic white) or/and high poverty populations (greater than 35 percent living below the poverty line) (Periman and Grinspoon 2014). Environmental justice areas are highlighted as managers are required to consider whether any proposed management actions may disproportionately affect the human health or environment of these populations.

Over half of the population in the area is over 50 years of age (fig. 6). Over 90 percent of residents identify as non-Hispanic white. However, there are some majority-minority communities as well. Native Americans are the largest minority group in the referenced area, comprising close to 4 percent of the total population (fig. 7).

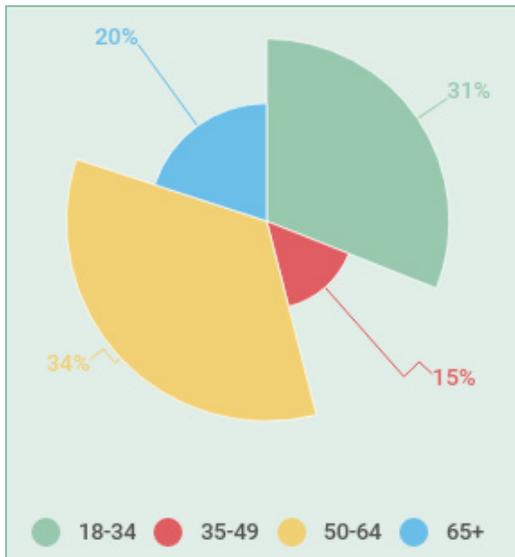


Figure 6—Age.

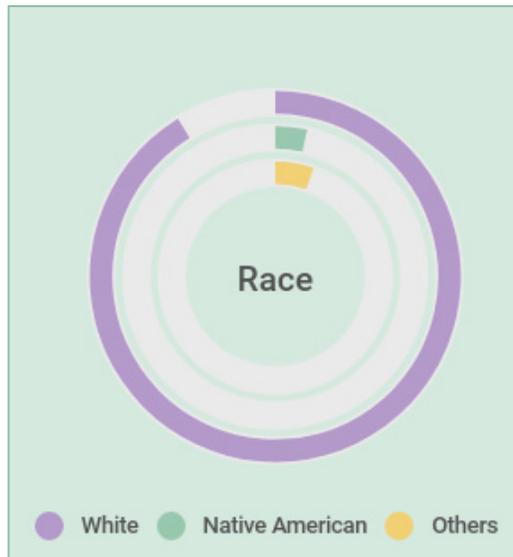


Figure 7—Diversity.

Overall, 15 percent of residents in the survey area live in poverty (fig. 8). For a family of four, poverty is defined as households with an annual household income of less than \$24,500. There are also several geographic areas that have high levels of minority residents and people living below the poverty line. Figure 1 displays census tracts (a proxy for community) with over 35 percent of residents below the poverty line or at least 50 percent of residents identifying as a minority race or ethnicity. Most areas with high minority populations are Native American reservations.



Figure 8—Poverty.

Demographic Profile: Management Considerations

Two of the most fundamental social predictors of well-being, according to the human development index (HDI) are income and education (UNDP 2018). As these two variables were only slightly below national levels, we can infer that most local publics in the Northern Region have a quality of life, at least on par, with most households across the Nation. However, a significant portion of local publics are part of populations that tend to be more socially vulnerable, including a significant proportion of older residents and those living in high minority and high poverty communities.

LOCAL PUBLIC PRIORITIES AND PREFERENCES FOR LOCAL, PUBLIC LAND MANAGEMENT

The following sections provide an overview of the survey data that address land management priorities and preferences of local publics. Where they are statistically significant and relevant, differences in priorities and preferences across demographics groups are described in order to provide managers with a more complete understanding of if and how priorities and preferences may be distributed across disparate publics.

The demographics used in the analysis included two items modeled as binary variables: (1) education (college-degree or higher vs. no college degree), and (2) those living in metropolitan area or micropolitan (area population between 10,000 and 49,999) area counties (i.e. more populated areas) vs. less populated areas. Three characteristics were modeled as continuous variables: (1) tenure (the number of years lived in the area,) (2) age, and (3) household income (eight income brackets ranging from “less than \$24,999” to “\$200,000 or more”).

Additionally, the statistical analysis accounted for the potential of differences in the perspectives of publics who think that supporting the timber industry is a top priority and publics who think that there is a lack of designated wilderness. These two positions were selected as they often feature prominently in forest planning public discourse. These differences, when found, are discussed to provide insight into how these two key groups may hold different or similar perspectives, preferences, and priorities for land management as compared to each other and to the broad array of local stakeholders who do not share these perspectives.

Local Public Priorities for Local Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty

The vast majority of respondents cited protecting water quality (89%), air quality (82%), and wildlife habitat (81%) as very or extremely important purposes of their local, Federal public lands (fig. 9). Providing scenic beauty was also very or extremely important to 75 percent of respondents. Individuals who felt there is not enough designated wilderness assigned a higher level of importance to all four of these public land priorities. People residing in lower income households assigned a higher level of importance to protecting water quality, air quality, and wildlife habitat. Those who have lived in the community longer assigned a lower level of importance to scenic beauty.

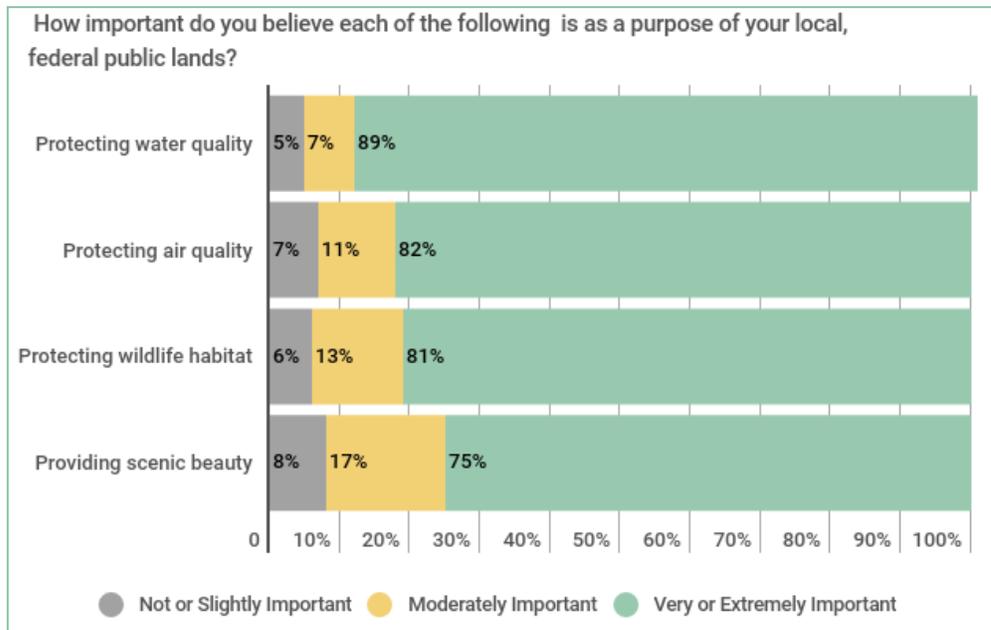


Figure 9—Protecting water quality, air quality, wildlife habitat, and providing scenic beauty.

Wild Places

Preservation of primitive or wilderness areas was also very or extremely important to most respondents, especially the notion that future generations will have primitive or wilderness areas (76%). Figure 10 displays the percent of respondents who cited primitive or wilderness areas as a very or extremely important purpose of their local, Federal public lands. Individuals residing in lower income households assigned a higher level of importance to preservation of primitive areas while those who listed supporting the timber industry as a top priority assigned a lower level of importance to preservation of primitive or wilderness areas.

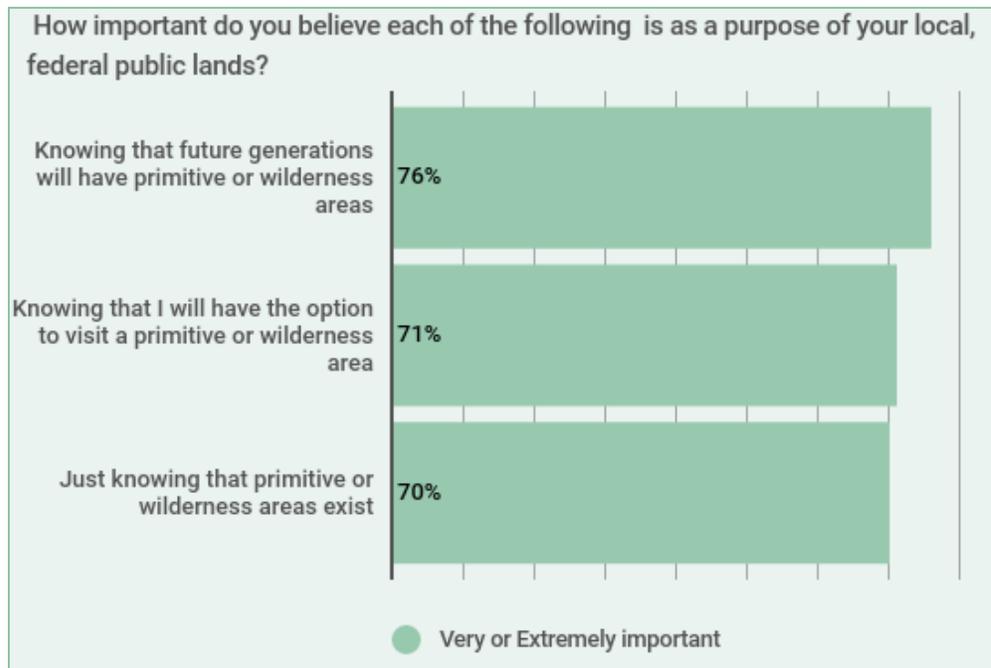


Figure 10—Wild places.

Recreational Opportunities

Seventy-two percent of respondents indicated that recreation opportunities were a very or extremely important purpose of local, Federal public lands (fig. 11). Both individuals who listed supporting the timber industry as a top priority and those who felt there is not enough designated wilderness assigned a higher level of importance to recreation opportunities. The most popular recreational activities, defined as activities that over 50 percent of local publics participate in on an annual basis, were: hiking/walking (88%), relaxing (87%), wildlife viewing (81%), driving for pleasure (80%), camping (74%), fishing (68%), and picnicking (62%).



Figure 11—Recreational priorities.

Economic Opportunities

Perspectives on how important it was for public lands to contribute income to various industries were fairly variable, both overall and by industry (fig. 12). Overall, roughly 44 percent of respondents believed that contributing income to the timber industry is a very or extremely important purpose of local, Federal public lands. Others believed that this was only slightly or not at all important (26%). Thirty-three percent believed that contributing income to the tourist industry is a very or extremely important purpose of local, Federal public lands, while 27 percent believed that this was only slightly or not at all important. Thirty-four percent of respondents believed that contributing income to the minerals industries was a very or extremely important purpose of local, Federal public lands, whereas 39 percent believed that this was only slightly or not at all important. Grazing opportunities were also noted as very important to a small minority of respondents.

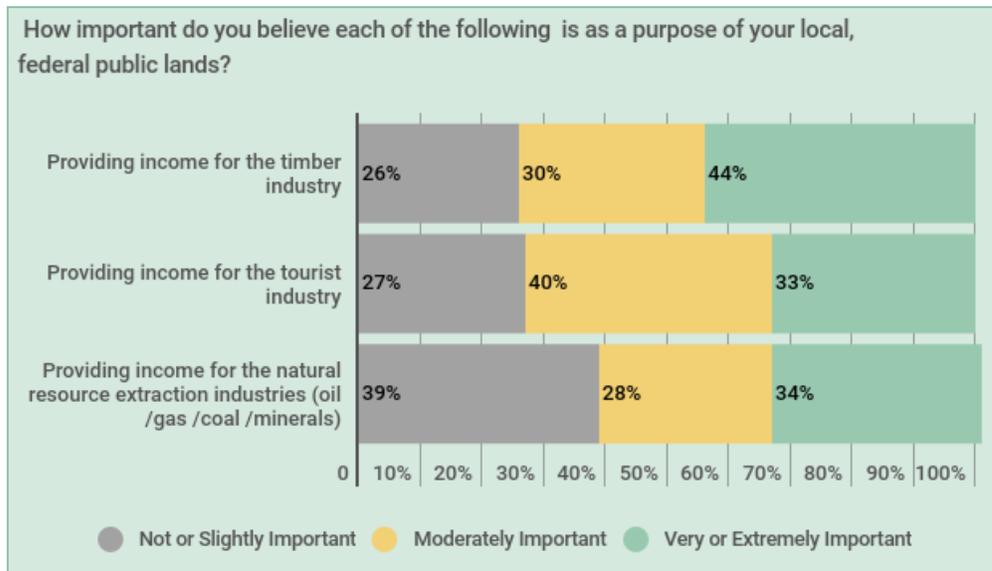


Figure 12—Economic priorities.

Individuals who had lived in the community longer assigned a higher level of importance to public lands contributing income to the timber industry. Conversely, college educated respondents and those who felt that there is not enough wilderness tended to assign a lower level of importance to public lands contributing income to the timber industry. People who indicated supporting the timber industry was a top priority assigned a higher level of importance to public lands contributing income to the tourism and minerals industries. Those who felt there is not enough wilderness assigned a lower level of importance to public lands contributing income to the minerals industries and a higher level of importance to public lands contributing income to the tourism industry.

Local Public Priorities: Management Implications

The vast majority—70 to 80 percent of respondents—indicated that clean air, clean water, wildlife habitat, scenic beauty, preservation of wilderness lands, and recreational opportunities are very or extremely important purposes of local, Federal public lands. Economic opportunities in timber, tourism, and minerals were very or extremely important to a smaller portion of respondents—44 percent, 33 percent and 34 percent, respectively. This suggests there is a broad base of support for projects focused on enhancing water quality, wildlife habitat, and recreation opportunities, while projects focused solely on contributing income to the timber, mining, or tourism industries are likely to garner less broad public support and interest in collaboration or participation.

Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

Most of the respondents support active forest management: 86 percent support or strongly support harvesting dead trees following natural wildfire, beetle kill, or other natural disturbance. Fifty-seven percent support increasing thinning of forests near communities, and 25 percent opposed such work (fig. 13). Individuals with a college degree were less supportive of harvesting dead trees following natural wildfire, beetle kill, or other natural disturbance, while those who listed supporting the timber industry as a top priority and those who have lived in the community longer were more supportive. Respondents who listed supporting the timber industry as a top priority were more supportive of forest thinning while those who felt there is not enough wilderness were less supportive of forest thinning near communities.

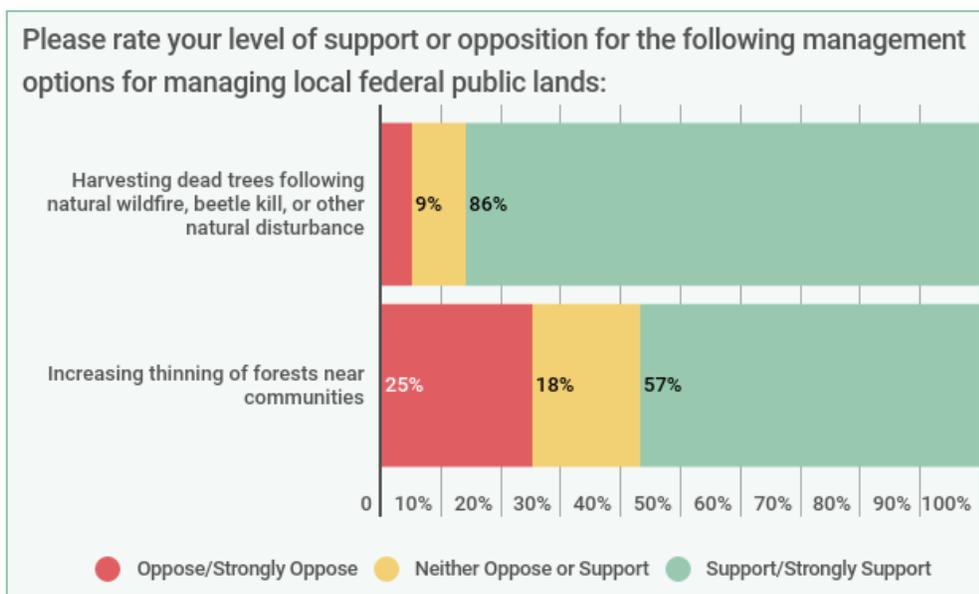


Figure 13—Preferences for timber harvest.

Three-quarters of respondents support using prescribed fire as a forest management tool. Seventy-three percent support using prescribed fire for fire prevention near communities, and 75 percent support using prescribed fire for maintaining forest health in areas farther away from communities (fig. 14). These findings are consistent with those found in similar studies in other parts of the country (McCaffrey and Olsen 2012). Older individuals were less supportive of using prescribed fire for maintaining forest health in areas farther away from communities but more supportive of forest thinning near communities.

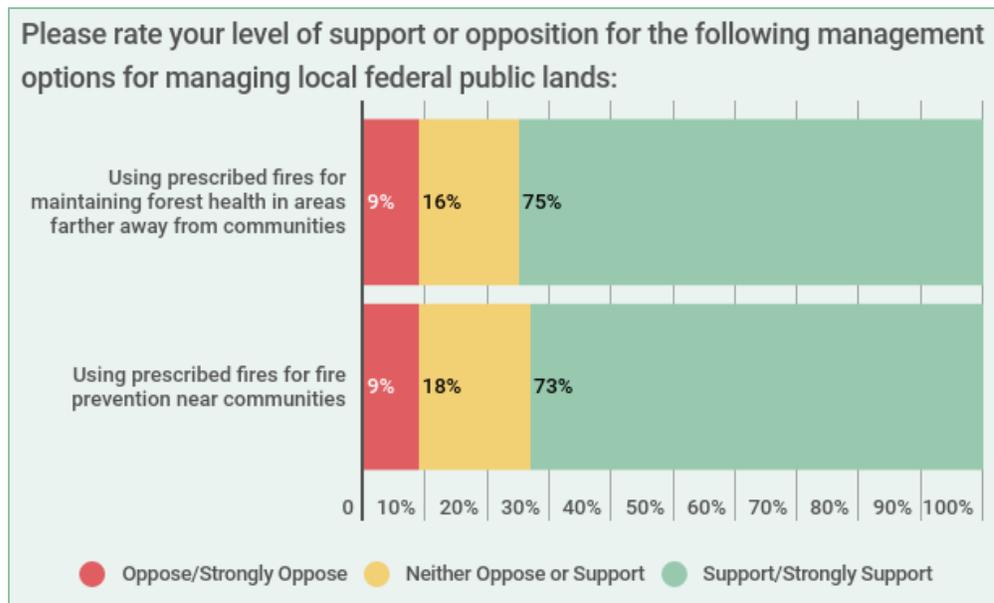


Figure 14—Preferences for prescribed fire.

Preferences related to the three fire management practices were variable. Nearly half of respondents (49%) felt that not enough wildfire mitigation work is being done, while 34 percent felt there were not enough suppression activities. Only a fraction (less than 6%) felt there is currently too much wildfire mitigation or suppression management. Those who listed supporting the timber industry as a top priority were more likely to believe that there should be more management to mitigate wildfires. Worth noting is that roughly one-quarter of respondents indicated they did not know if there was enough or too much wildfire mitigation or suppression activities (fig. 15).

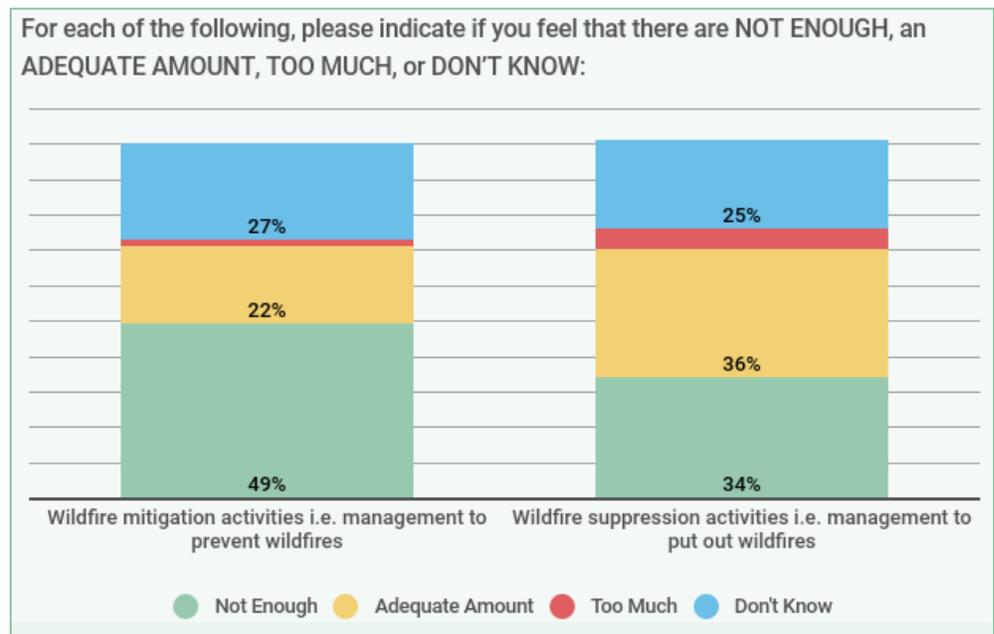


Figure 15—Preferences for wildfire management.

Notably, although 30 percent of respondents indicated that they opposed allowing natural wildfires to burn if those fires didn't threaten lives or property, 53 percent indicated they supported the practice. Individuals with a college degree were more supportive of allowing natural wildfires to burn if those fires don't threaten lives or property, while those who listed supporting the timber industry as a top priority were less supportive of allowing wildfires to burn (fig. 16).

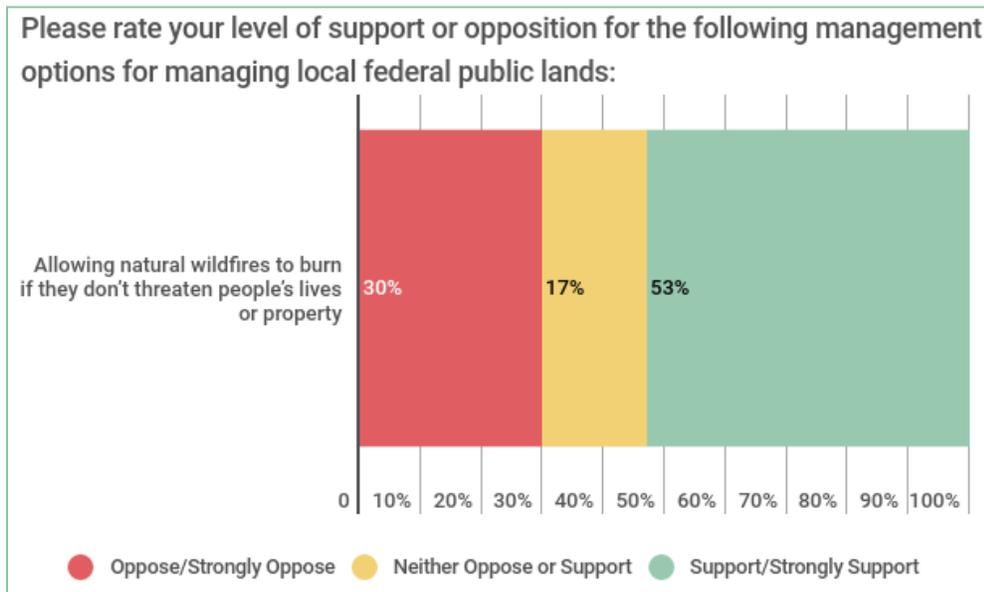


Figure 16—Preferences for natural wildfire management.

Enough Wilderness?

Although most respondents valued preserved wildlands, they held disparate views on whether there currently is enough designated wilderness: 40 percent felt the current level is sufficient, 30 percent felt there is not enough, and 16 percent felt there is too much. Individuals who indicated that supporting the timber industry was a top priority and older people were less likely to feel that there is not enough designated wilderness (fig. 17).

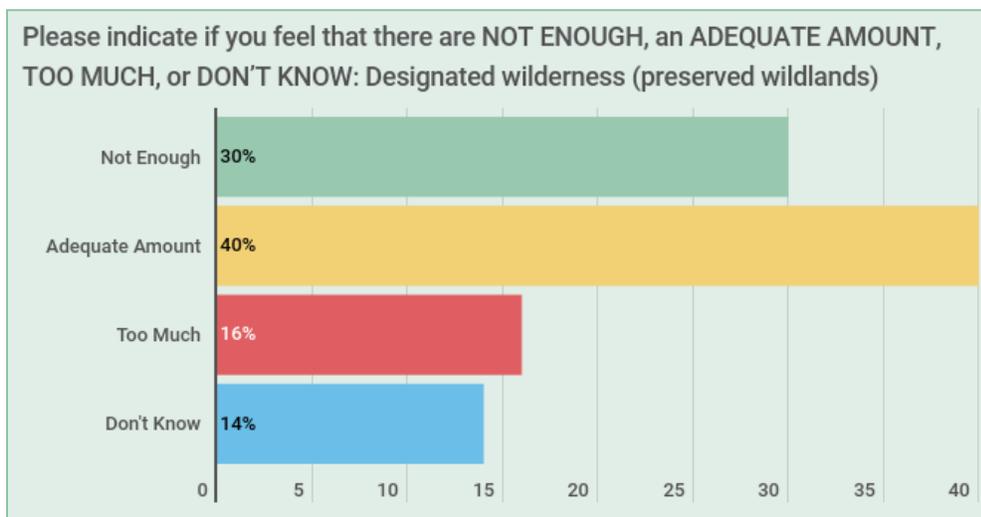


Figure 17—Enough wilderness?

Access

Although most respondents had no concerns over motorized and mechanized access, one-quarter (25%) felt that the current amount of ATV trails was insufficient, and 24 percent felt there are not enough wheelchair accessible sites. A smaller portion felt that more areas should be open to snow machines (13%) or that the current amount of mountain bike trails are insufficient (7%) (fig. 18)

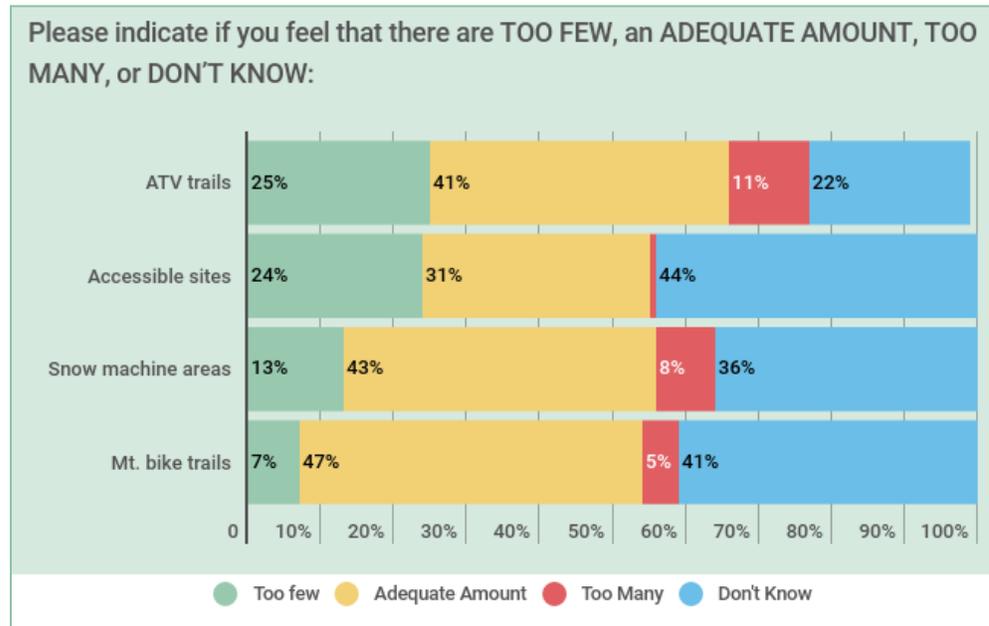


Figure 18—Access.

Those who felt supporting the timber industry was a top priority were more likely to believe that there are not enough ATV trails while college educated individuals were less likely to believe that there are not enough.

Lower income households and individuals who felt there is not enough wilderness were more likely to believe that there are not enough wheelchair accessible sites.

Those who indicated that supporting the timber industry was a top priority were more likely to believe that there are not enough areas open to snow machines, while college educated publics and those who felt there is not enough wilderness were less likely to believe there are not enough areas open to snow machines.

Finally, respondents living in more populated areas are more likely to believe that there are not enough mountain bike trails while college educated individuals were less likely to believe that there are not enough.

Recreation Management

Respondents were divided on their preferences regarding various possible sustainable recreation management options. Roughly equal portions (about 40%) support or oppose camping fees and requiring permits to recreate in very popular areas. While the majority (60%) of respondents were not in favor of introducing parking fees, almost half (46%) would support maintaining underused trails less frequently (fig. 19).

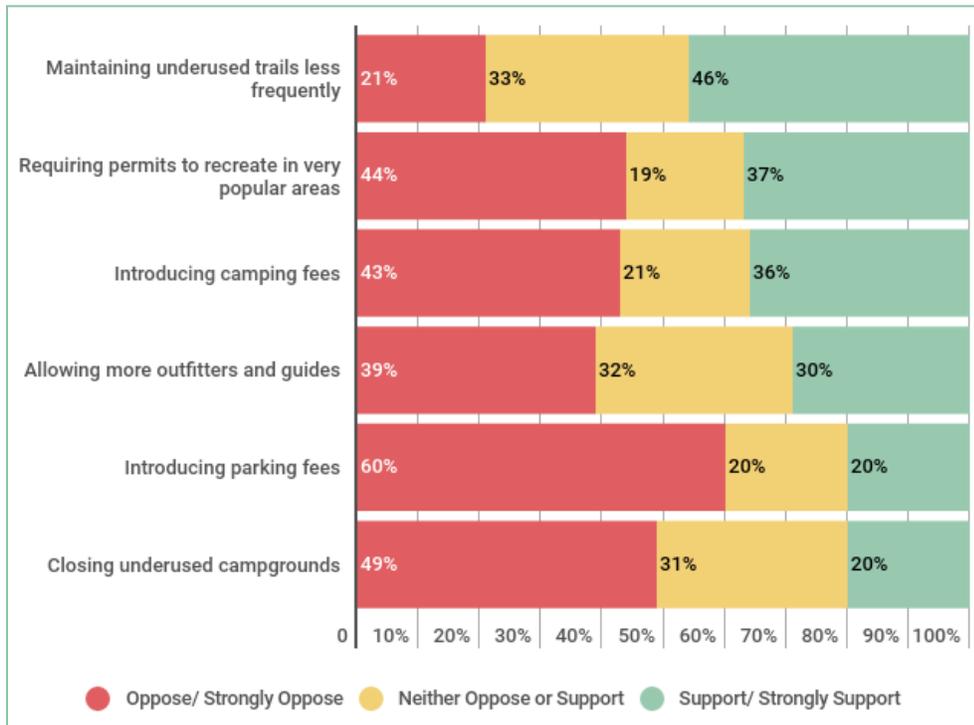


Figure 19—Recreation management.

Those living in more populated areas also were more supportive of maintaining underused trails less frequently, while those who have lived in the area longer were less supportive. Older and college-educated individuals were more supportive of requiring permits to recreate in very popular areas. College-educated respondents were also more supportive of introducing camping fees. Those living in more populated areas were more supportive of allowing more outfitters and guides, while older individuals were less supportive. College-educated respondents and those living in more populated areas were more supportive of closing underutilized campgrounds.

Safety

Primary safety concerns when respondents visited local public lands were: needing emergency services (64%), poor road conditions (58%), forest fires (54%), poor trail conditions (52%), and crime (52%) (fig. 20).

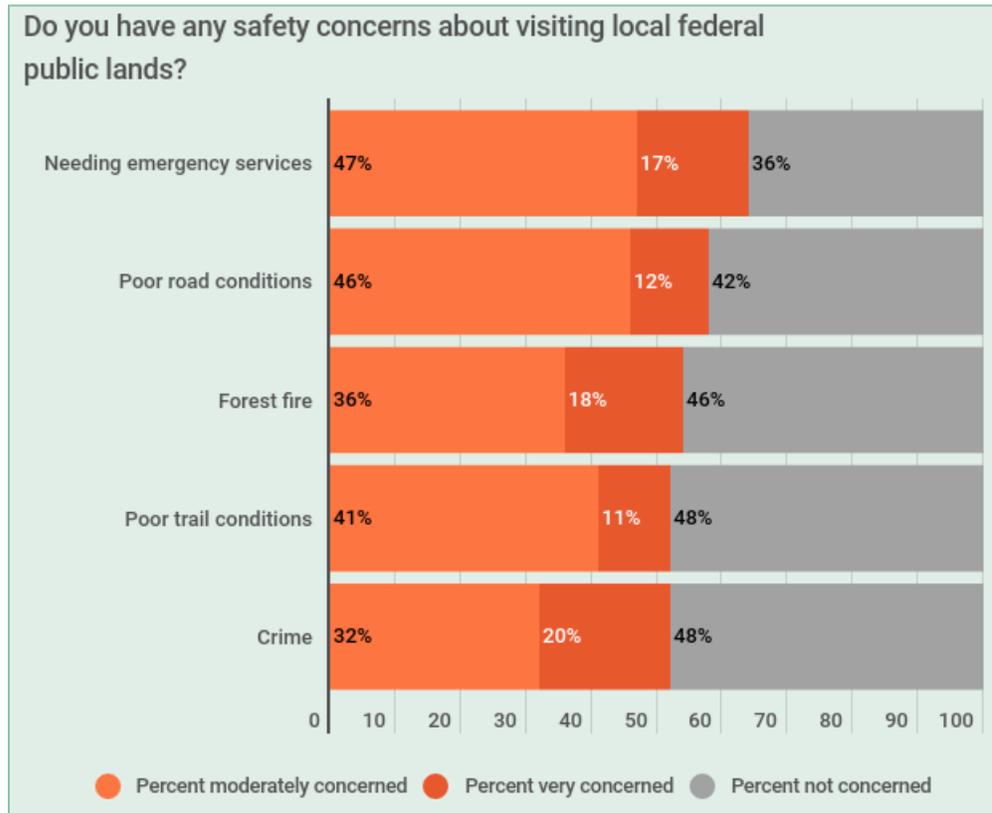


Figure 20—Safety concerns shared by over 50 percent of local publics.

Notably, while crime and forest fires were the top items that people were very concerned about, overall more people were concerned at some level about poor road conditions and needing emergency services.

Older individuals and those residing in lower income households were more likely to be concerned about needing emergency services, poor road conditions, forest fires and poor trail conditions. Older individuals also were more likely to be concerned about crime.

Local Public Preferences: Management Implications

A majority of local publics are in favor of active forest management including harvest of dead trees and prescribed fires. Respondents varied in their knowledge of, and preferences for wildfire management, designated wilderness, and motorized, mechanized, and wheelchair access to local, Federal public lands. It is notable that a large portion of respondents indicated “Don’t Know” in relation to preferences for various management actions; this could indicate either a lack of knowledge or a lack of preference.

Managers are likely to encounter broad support for prescribed burning projects and less widespread support for thinning projects. Projects focused on increasing accessibility for either wheelchairs or motorized equipment will likely receive support from special interest groups. Extensive communication and outreach may be required to obtain broader support for motorized and mechanized access projects, given either the lack of knowledge or lack of preference most local publics have regarding current access issues. Efforts to remove protections for preserved wildlands are likely to be unpopular with local publics. Recreation managers facing tight budgets may find more support for proposals to reduce trail maintenance or implement camping fees, compared to efforts to implement parking fees. Given the key concerns around poor road conditions, emergency services, and crime, investment in law enforcement and engineering staffs will be an important resource consideration.

Local Relationships

Trust in Decision Makers

Respondents were equally split in their trust of local land managers: close to one-third indicated they trusted managers (28%), one-third indicated they did not (34%), and one-third didn't have strong feelings either way (31%) (fig. 21). Those residing in lower income households tended to agree that they trusted managers.

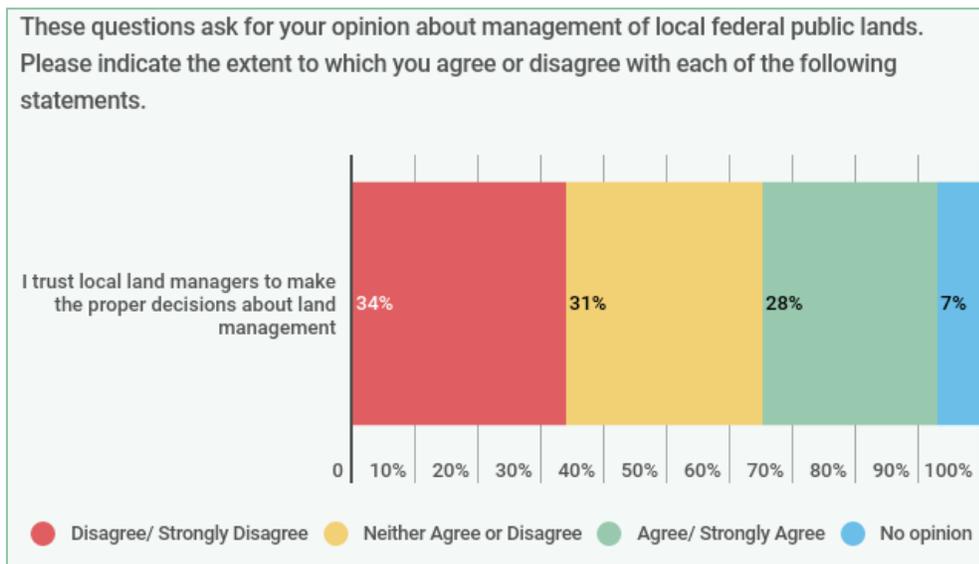


Figure 21—Trust in decision makers.

Quality of Decisions

Respondents also were fairly evenly split in their perspectives on the quality of land management decisions (fig. 22). Approximately one in three thought that decisions adequately balanced concerns of most people in their community and also balanced the concerns of both local communities and national publics (29% and 27%, respectively). A similar proportion of publics thought the opposite (31% and 34% respectively). Individuals from more populated areas and those residing in lower income households tended to agree that land management decisions balanced the concerns of both local communities and national publics.

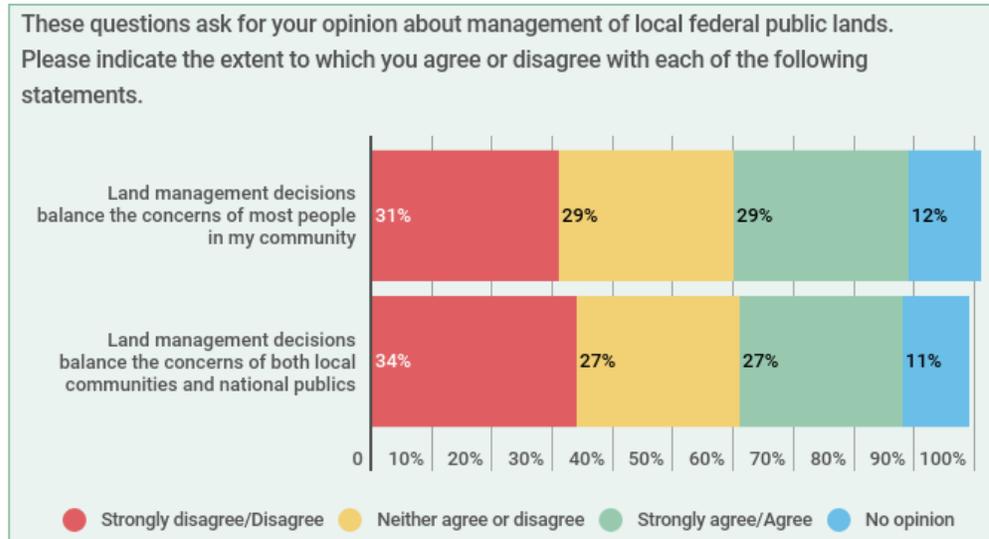


Figure 22—Quality of decisions.

Communication and Public Involvement

Respondents also varied on their perspectives on communication and public involvement (fig. 23). Individuals were slightly more likely to disagree (37%) than agree (26%) that land managers do a good job communicating with the public. They were slightly more likely to agree (35%) than disagree (25%), however, that people in the local community had been involved in decisions about land management.

Those residing in lower income households tended to agree that land managers do a good job communicating with the public. Those residing in lower income households, those in more populated areas, and those with a college degree tended to agree that people in their local communities had been involved in land management decisions.

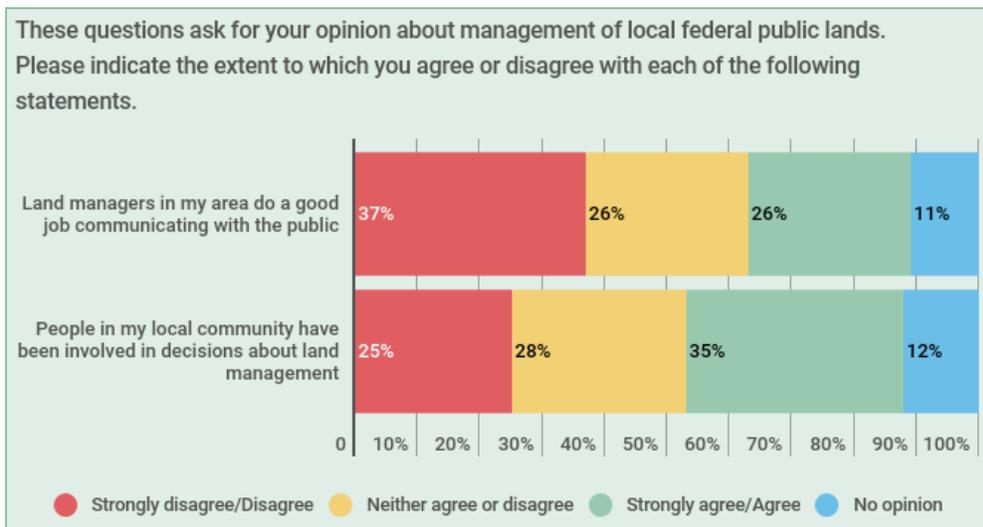


Figure 23—Communication and public involvement.

Visitor Relationships

Results indicate that forest visitors use a plethora of modes of transportation to access their favorite recreation area, cultural site, or hunting ground, including bikes, cars, ATVs, snowmobiles and skis. A majority (74%) indicated that during their typical experience visiting local Federal public lands they typically have pleasant interactions with other visitors (fig. 24). It is worth noting, however, that close to one in five respondents indicated they experience conflicts with other visitors who were using different modes of transportation (16%). Respondents who felt that there is not enough designated wilderness tended to agree that they had experienced conflicts with other visitors using different modes of transportation, while those in more populated areas tended to disagree. Individuals who had lived in the area longer and those who listed supporting the timber industry was a top priority tended to disagree that they had pleasant interactions with other visitors.

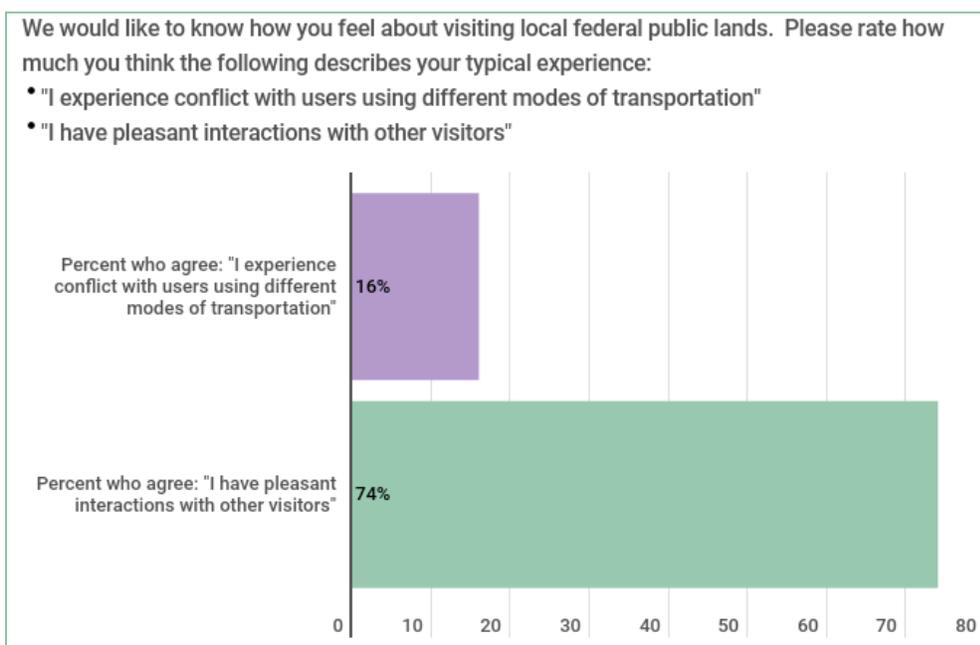


Figure 24—Visitor relationships.

Local Public Relationships: Management Implications

Healthy relationships between diverse publics and the agency are key to fostering vibrant communities. Overall, local publics have pleasant interactions with other visitors, although conflicts between users do occur, suggesting a need to consider strategies to mitigate potential conflicts between user groups. Of concern is that trust and confidence in local land management decision makers was low across local publics. Social science research has found that increased trust and confidence in land managers is associated with increased social acceptance and approval of forest management activities, including prescribed fire and forest thinning (McCaffrey et al. 2012; Shindler et al. 2014; Toman et al. 2011). Given that, efforts to improve communication and public involvement may help increase levels of trust and confidence in decision makers.

HOW CAN MANAGERS AND PUBLICS USE THESE DATA?

Inform Project and Forest Planning and Craft Relevant Public Engagement Opportunities

These data can help supplement managers' understanding of public values and perceptions obtained through the traditional outreach efforts of environmental planning processes (e.g. public meetings and comment periods). As this survey reached a much wider group than traditional project scoping efforts typically do, these results can provide insight into the values of people who are unlikely to ever show up to a public meeting or submit comments on an environmental impact statement, but who still value their local public lands and resources.

These data suggest that projects focused on protecting water quality, air quality, wildlife habitat, and preserved wildlands, as well as projects focused on enhancing or maintaining current recreation opportunities are likely to attract widespread support and public interest.

Managers may be able to encourage diverse participation in these projects through wide-reaching and inclusive outreach and engagement activities, which in turn could foster more positive relationships with a broad array of local publics. Projects focused on forest thinning, increasing wheelchair, mechanized (e.g. mountain bike trails) and/or motorized (e.g. ATV trails) access, or supporting private industries (e.g. minerals, timber) are likely to attract support primarily from a minority of publics adjacent to national forest lands and potential opposition from other publics. In these cases, extra efforts to engage the subset of interested publics, both those in favor and those opposed, early in the planning process would be particularly important.

Monitoring Contributions to Social Sustainability

The findings from this survey provide a baseline understanding of the key priorities and preferences of local publics in the Northern Region. Identifying key priorities and preferences can help managers focus on identifying how their planned actions are contributing to social sustainability. Specifically, when management actions conform to local public priorities and preferences, they are supporting “the

Key Takeaways

- The population around the Northern Region forests is made up of a range of urban and rural publics with varying levels of income and education.
- While mostly made up of non-Hispanic white individuals, there are several communities with majority Native American populations.

There is broad support for:

- efforts to protect clean water, clean air, and wildlife habitat;
- efforts to provide scenic beauty, preserved wildlands, and non-motorized recreation opportunities; and
- harvesting dead trees, prescribed fire, and active wildfire management.

There are varied levels of support for:

- increasing forest thinning,
- increasing designated wilderness,
- increasing wheelchair, mechanized, and motorized access, and
- fostering economic opportunities on public lands.

There are varied:

- levels of trust in land managers,
- perceptions about the quality of land management decisions, and
- perceptions on the quality of communication from and public involvement with land managers.

network of relationships, traditions, culture, and activities that connect people to the land and to one another and support vibrant communities” (36 CFR 219.19) (USDA 2012). As such, these actions can be considered contributions to social sustainability.

Actions that provide economic opportunities such as contributing income to the timber, tourism, and minerals industries or increasing wheelchair, mechanized, and/or motorized access can also be recorded as contributions to social sustainability. These actions may not directly benefit the majority of regional publics, but they may be providing benefits to a significant portion of members of a rural community. For example, some small communities are heavily dependent on the employment opportunities provided at mining operations located on their local Federal public lands. The information also provides baseline information that could facilitate tracking whether these actions are benefiting the most socially vulnerable publics including those in environmental justice communities or the elderly. Benefits to socially vulnerable populations are considered significant contributions to social sustainability, even though they may only affect a small portion of local publics.

These survey data can also serve as a baseline for monitoring contributions of social sustainability by fostering positive relationships. Managers can design communication and public engagement efforts to reduce conflicts among user groups, increase public trust in land managers and their decisions, and work to improve the quality of the communication and public involvement opportunities they provide. Future data collection efforts could then monitor changes to the perceived quality of land manager/community relationships to determine whether relationships have improved or declined.

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APPENDIX—SUPPLEMENTAL MATERIAL

Data by Forest Unit

Data reported here are from a regional household survey conducted January—March of 2018 by the University of Montana Bureau of Business and Economic Research. The survey was mailed to a random sample of households located in census tracts within 50 miles of Northern Region lands. It was completed by 1,152 respondents and the response rate was 36.2 percent (table A.1). For a detailed description of survey methods, see the Methods report (BBER 2018). The confidence intervals for a proportion of 50 percent estimated from the survey is approximately +/- 8 percent for forest-level data estimates.

Table A.1—Responses by Administrative Unit.

Unit name	Total survey respondents^a
Beaverhead–Dearlodge National Forests	349
Bitterroot National Forest	160
Custer–Gallatin National Forests	296
Dakota Prairie Grasslands ^b	49
Flathead National Forest	191
Helena–Lewis and Clark National Forests	377
Idaho Panhandle National Forests	367
Kootenai National Forest	200
Lolo National Forest	250
Nez Perce–Clearwater National Forests	359

^a The total survey respondents are from households located within census tracts within 50 miles of the unit boundary.

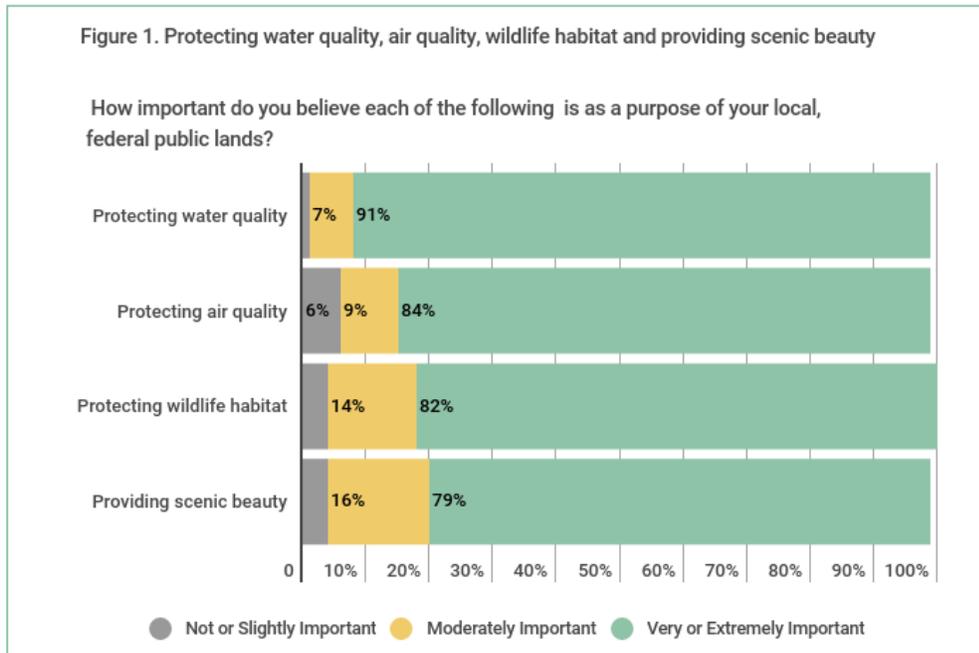
^b The sample size for the Dakota Prairie Grasslands was not large enough to produce reliable estimates at the unit level.

Beaverhead–Dearlodge National Forests

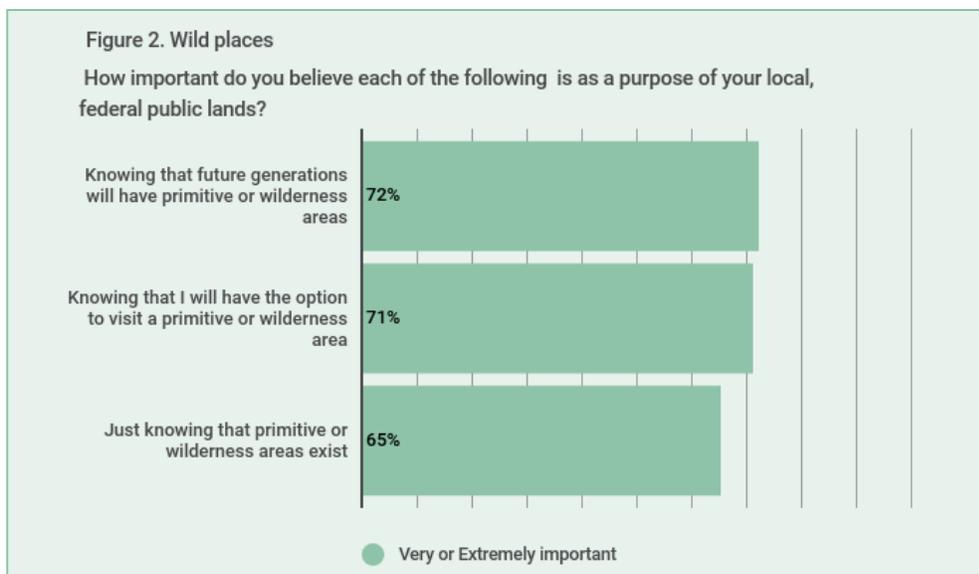
Total survey respondents: 349

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



Wild Places



Recreational Opportunities

Figure 3. Recreational priorities



79%

Percent of local public who cite recreation opportunities as a very or extremely important purpose of local, federal public lands.

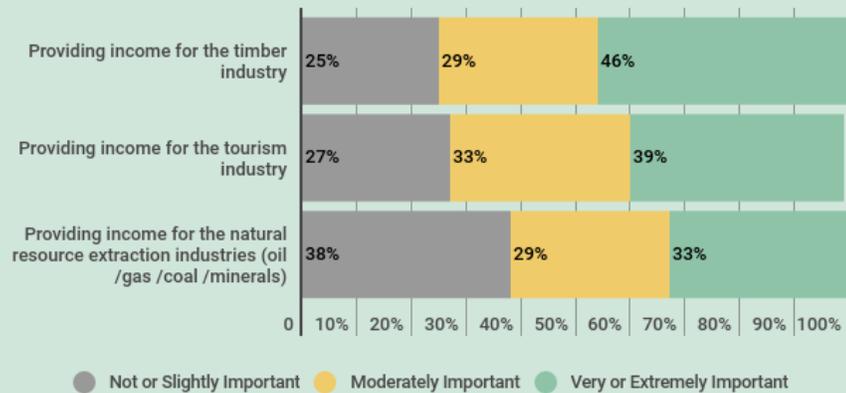
A majority of the local public participates in the following recreational activities on an annual basis: hiking/walking, relaxing, wildlife viewing, driving for pleasure, camping, fishing, hunting and picnicking



Economic Opportunities

Figure 4. Economic priorities

How important do you believe each of the following is as a purpose of your local, federal public lands?



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

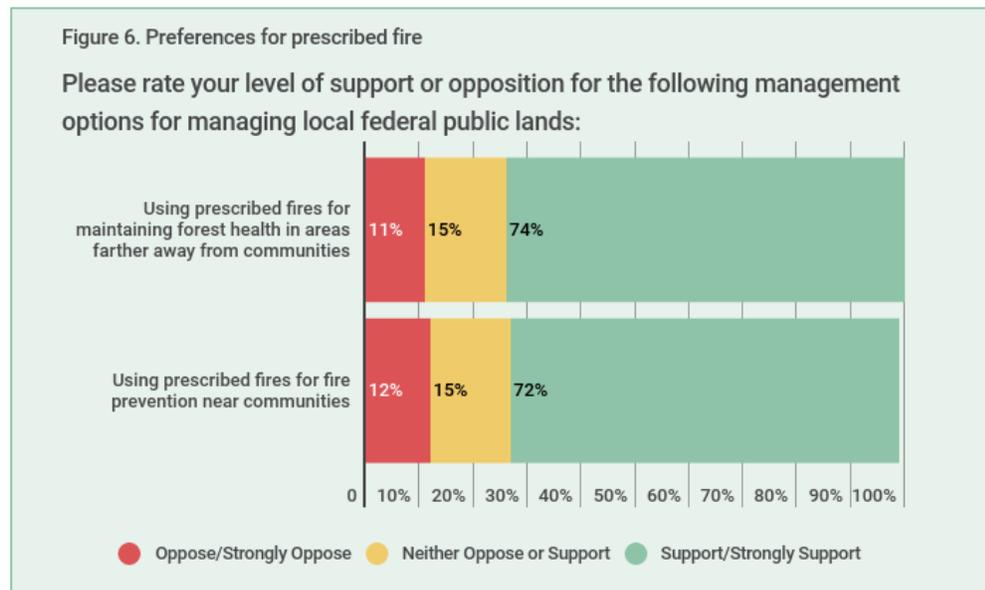
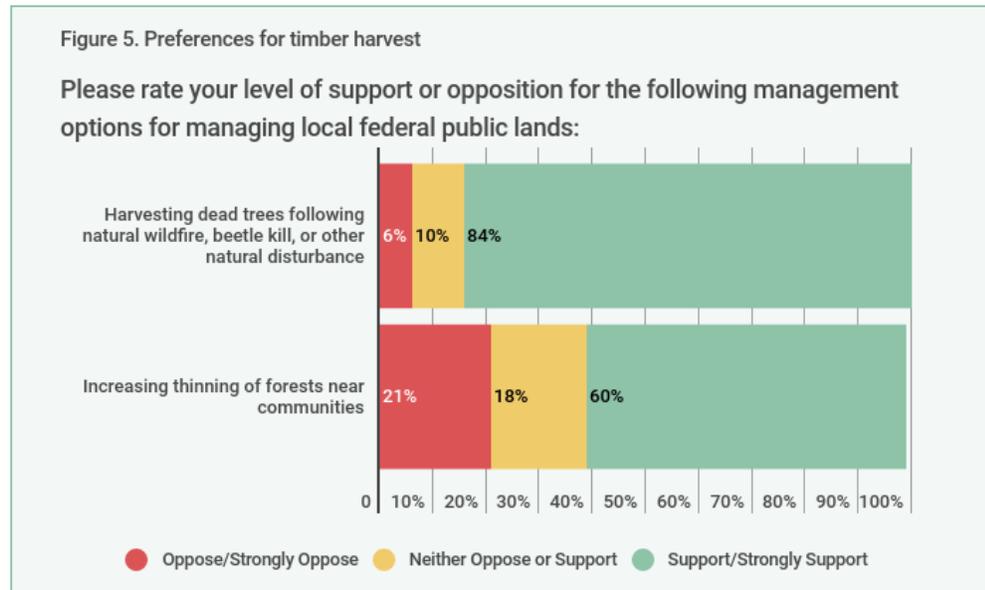


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

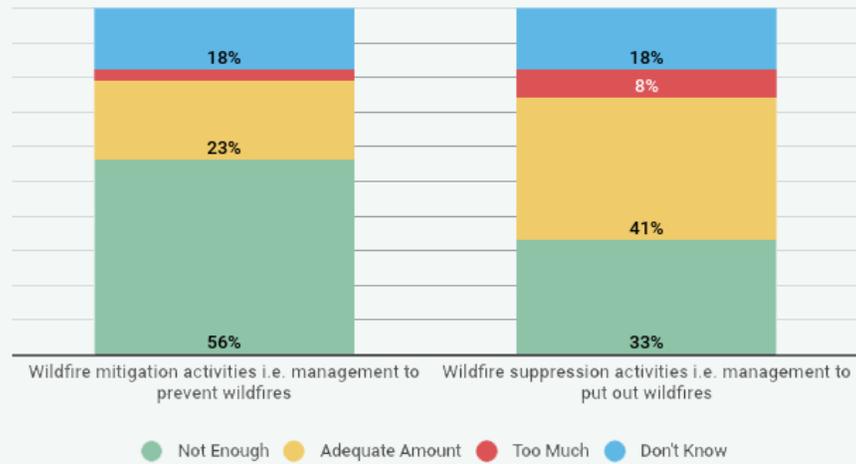
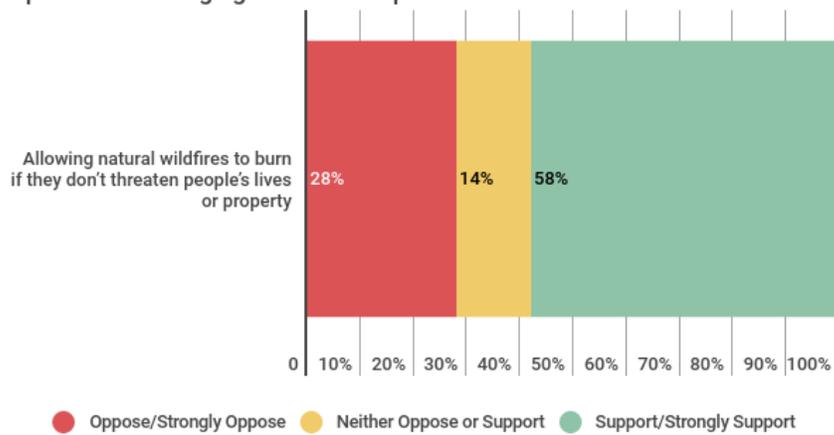
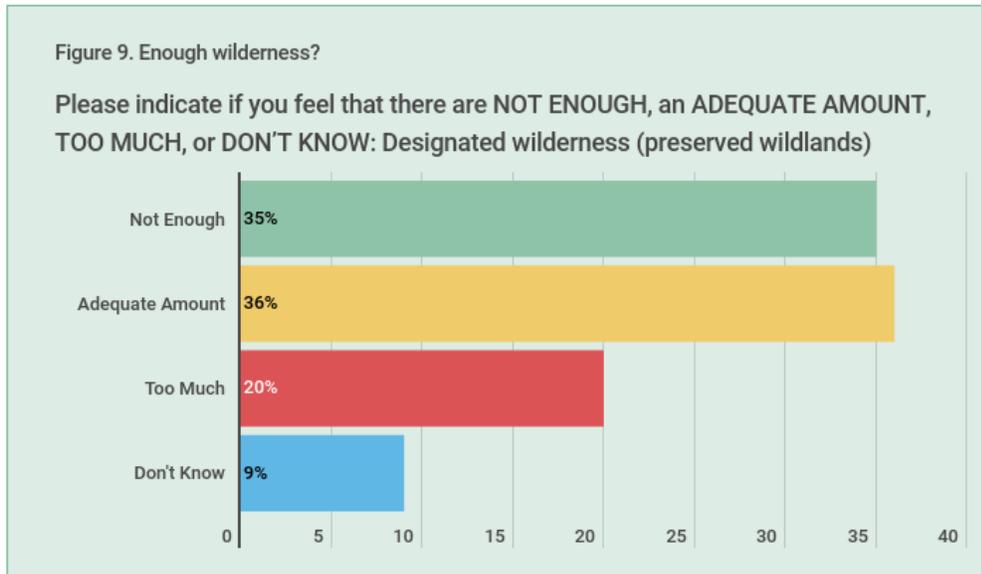


Figure 8. Preferences for natural wildfire management

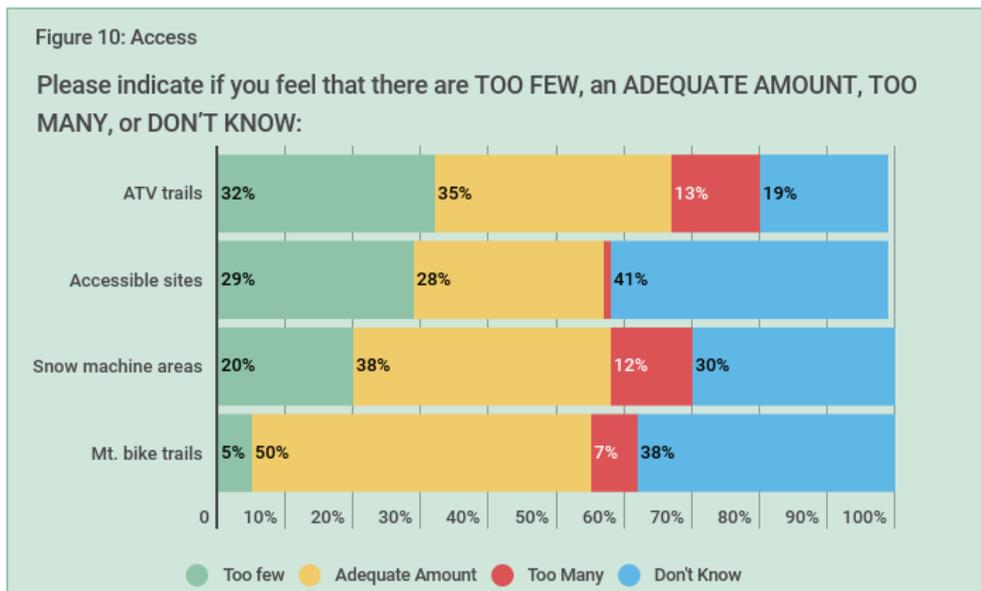
Please rate your level of support or opposition for the following management options for managing local federal public lands:



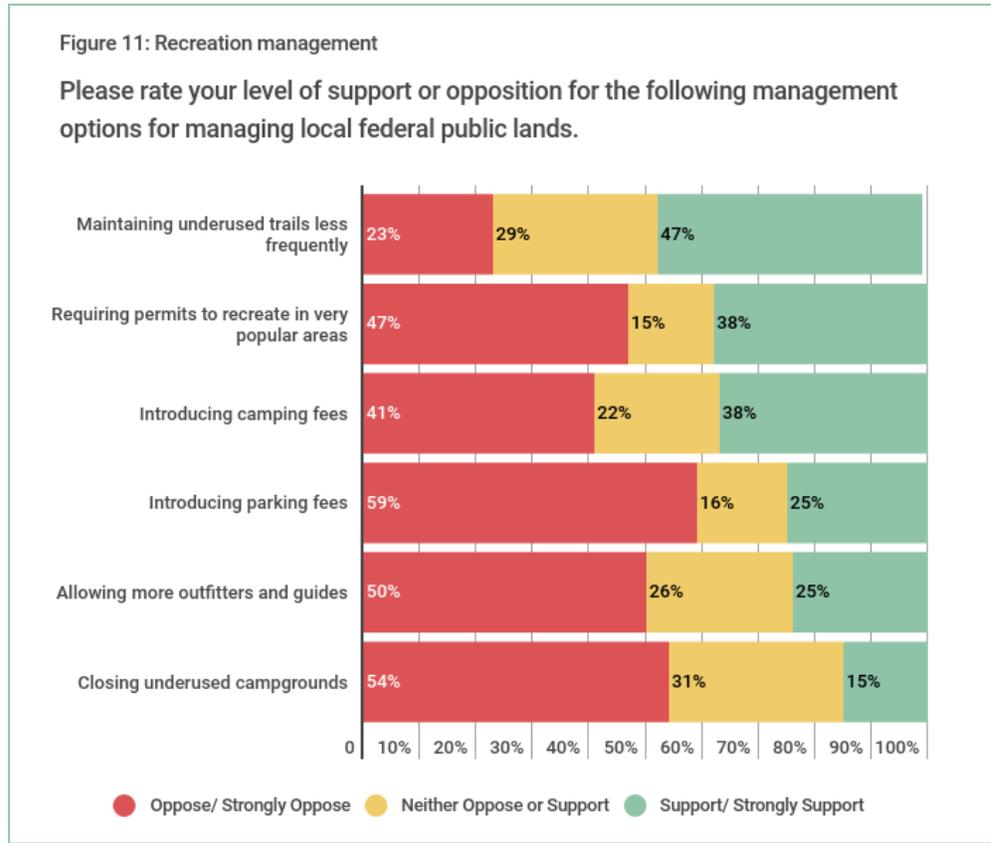
Enough Wilderness?



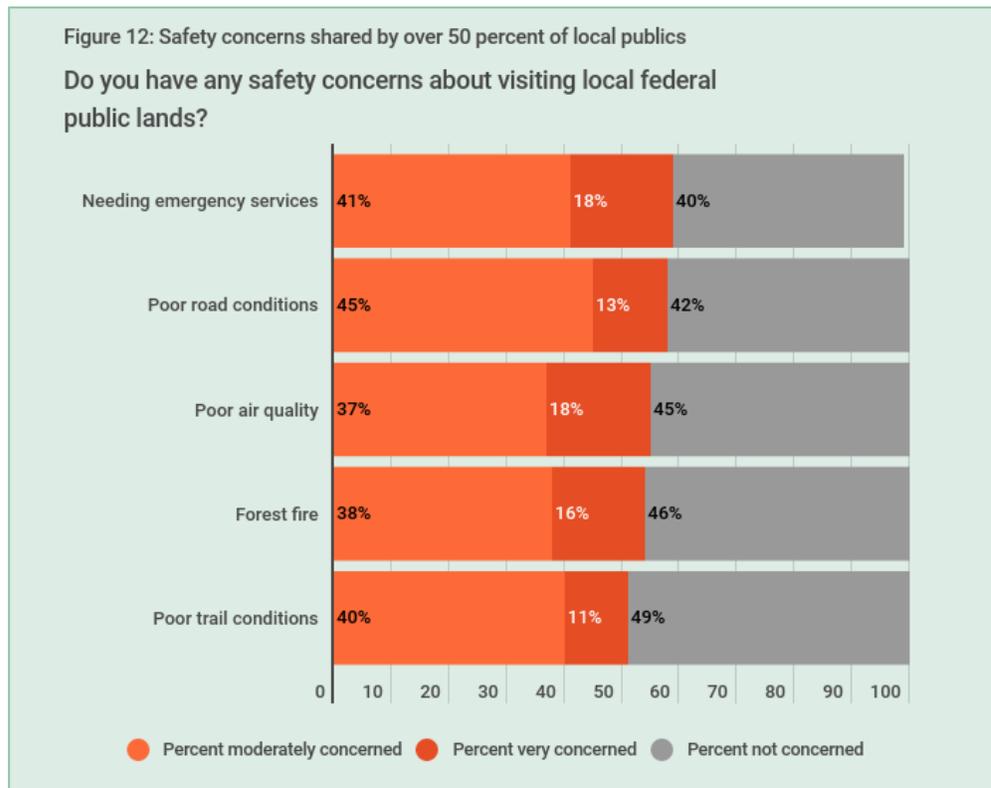
Access



Recreation Management

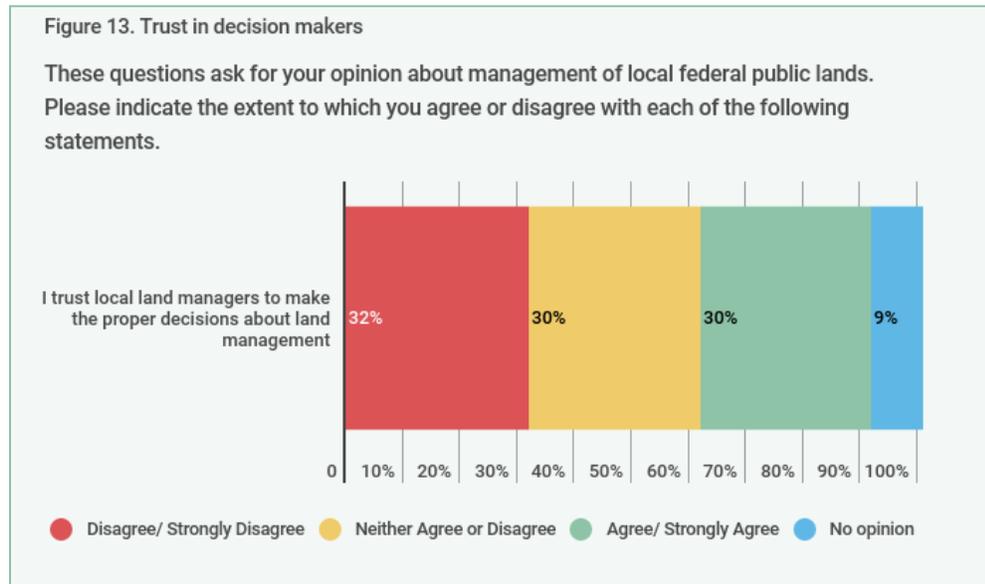


Safety

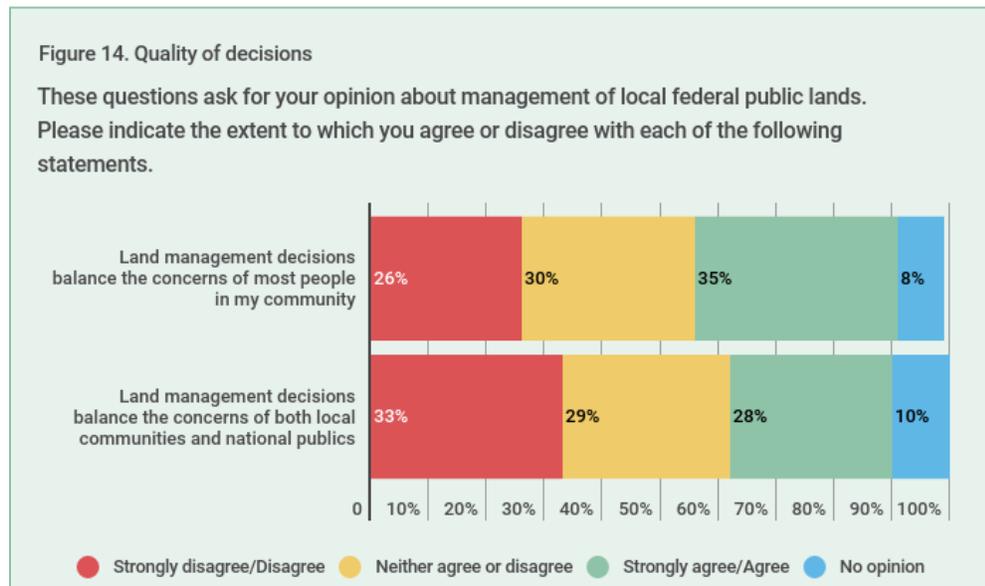


Local Relationships

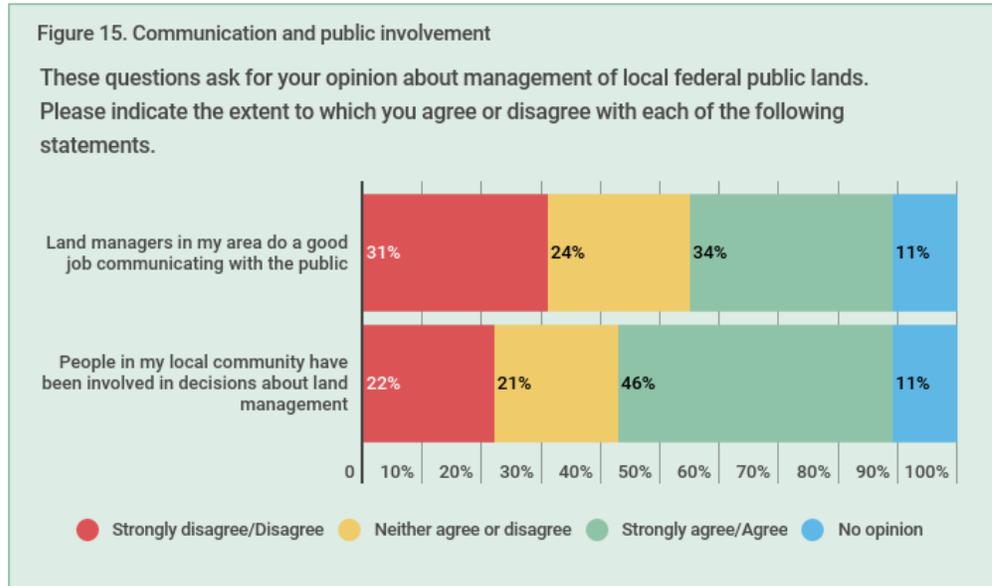
Trust in Decision Makers



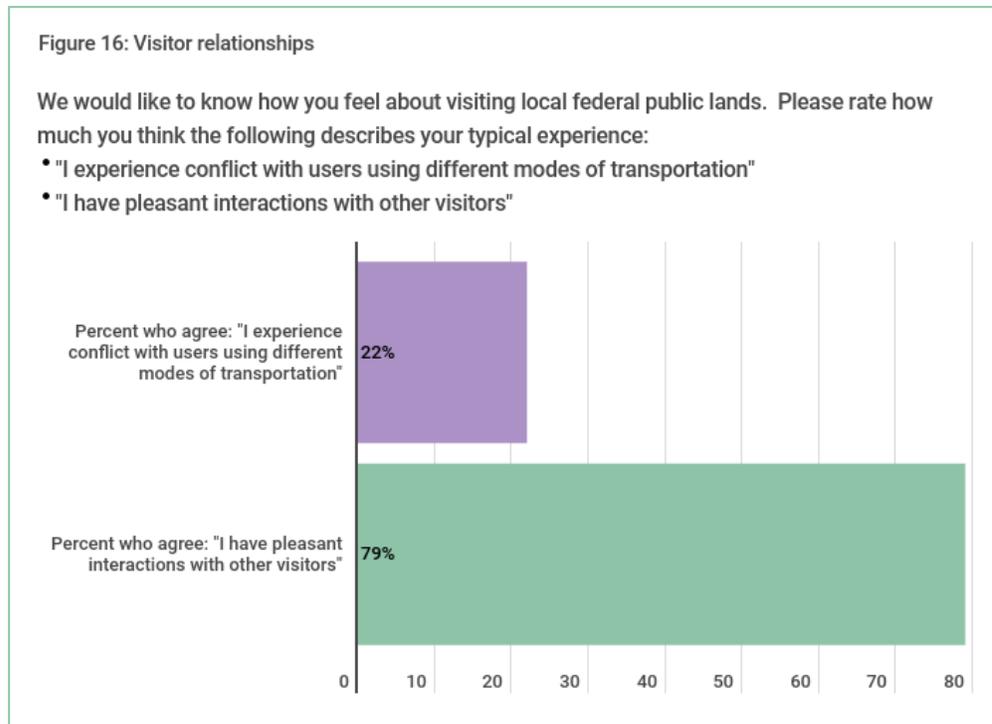
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

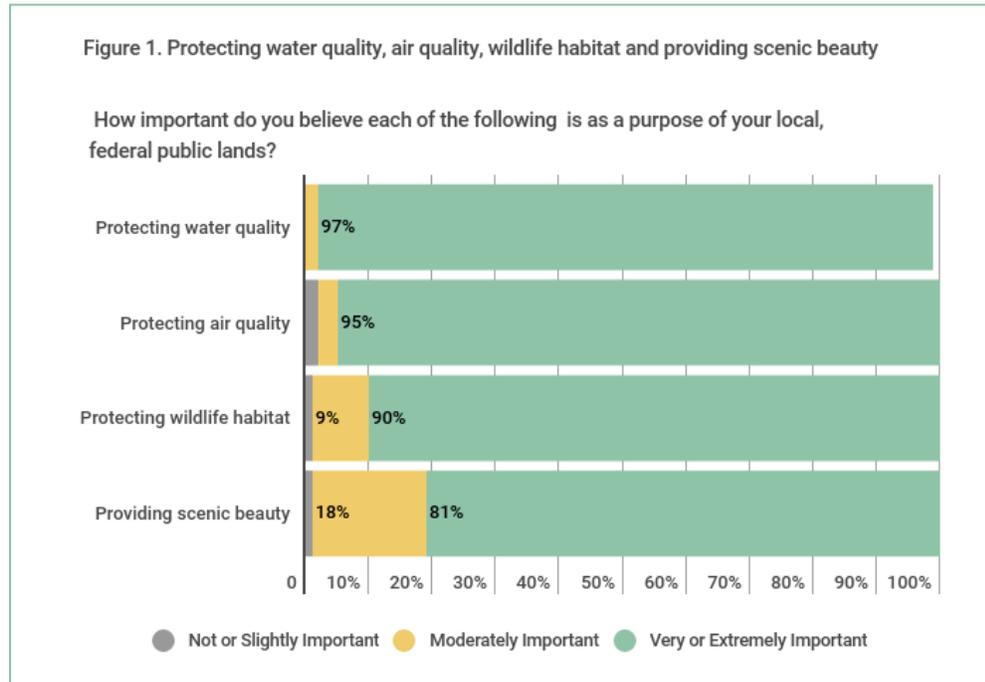


Bitterroot National Forest

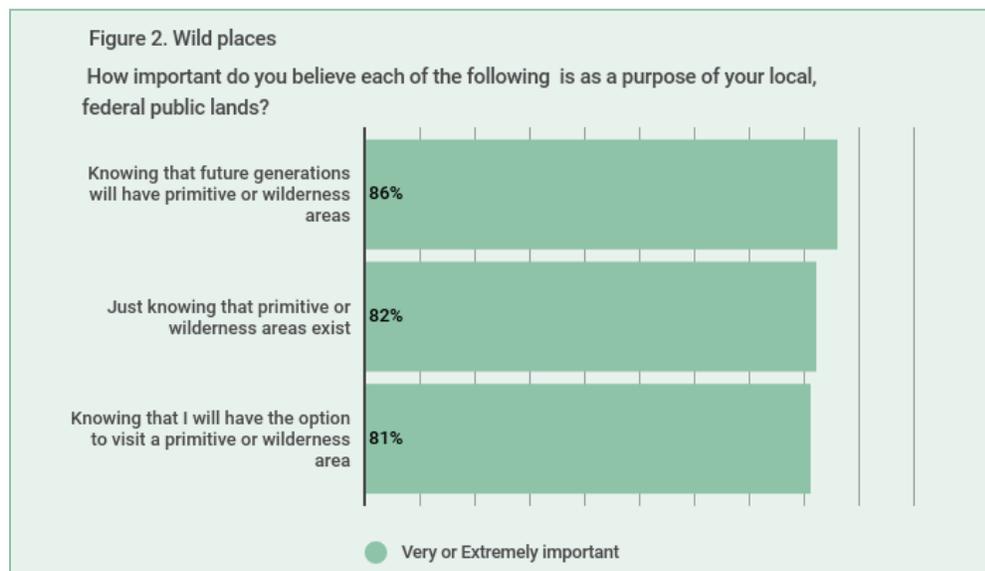
Total survey respondents: 160

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



Wild Places



Recreational Opportunities

Figure 3. Recreational priorities



76%

Percent of local public who cite recreation opportunities as a very or extremely important purpose of local, federal public lands.

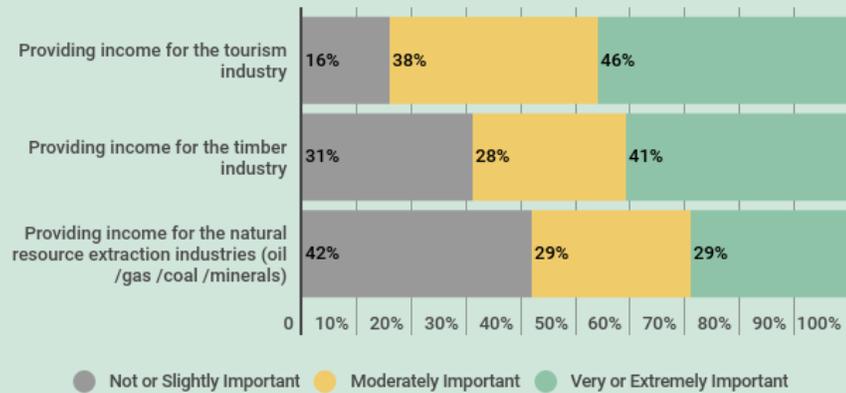
A majority of the local public participates in the following recreational activities on an annual basis: hiking/walking, relaxing, wildlife viewing, driving for pleasure, camping, fishing, picnicking and foraging.



Economic Opportunities

Figure 4. Economic priorities

How important do you believe each of the following is as a purpose of your local, federal public lands?



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

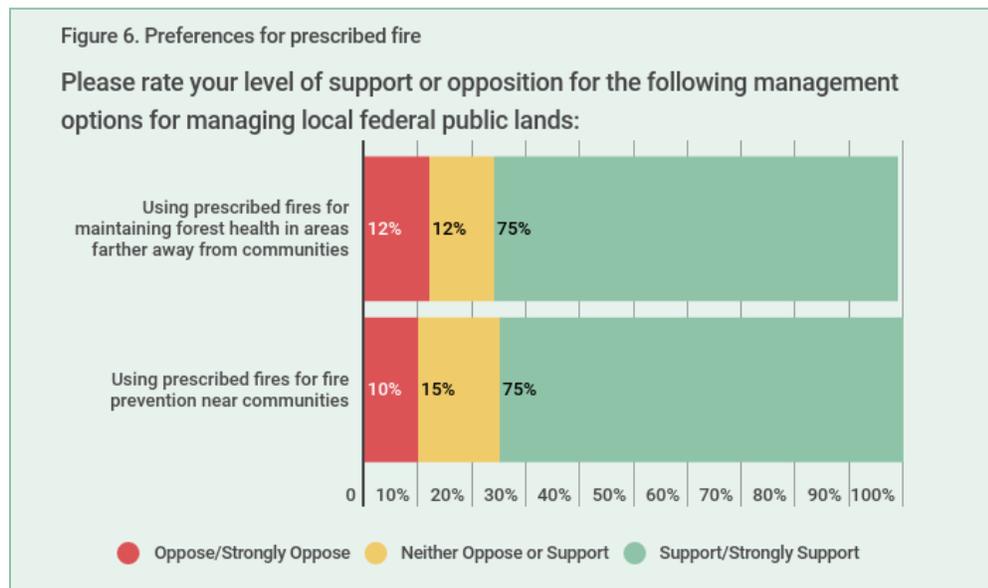
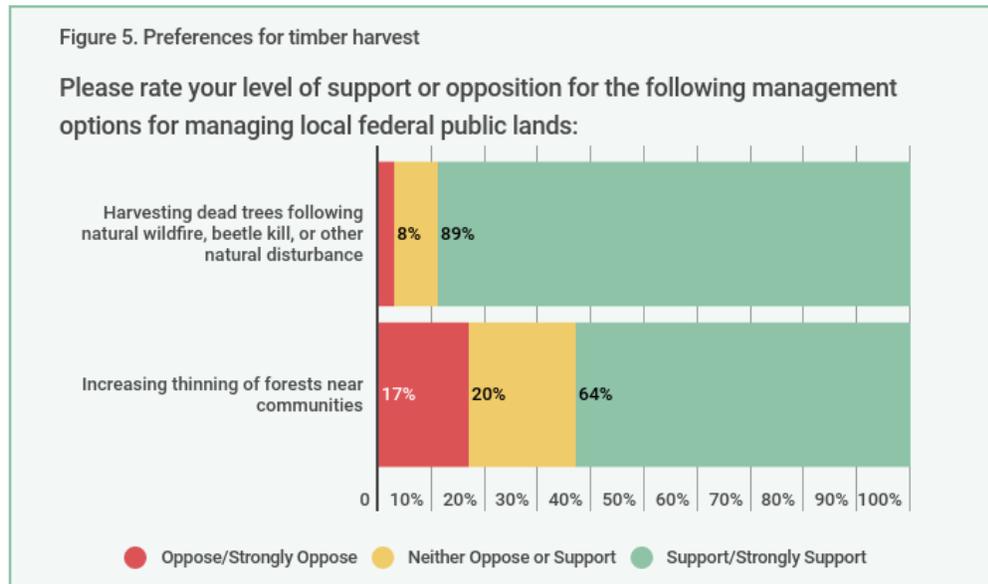


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

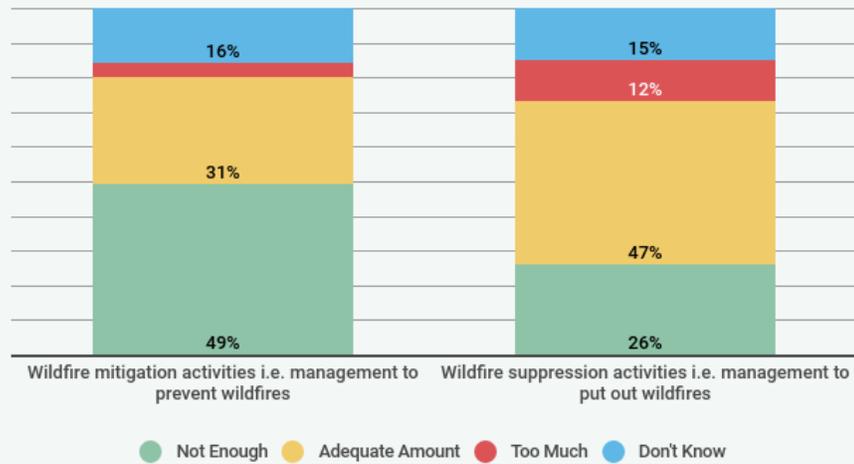
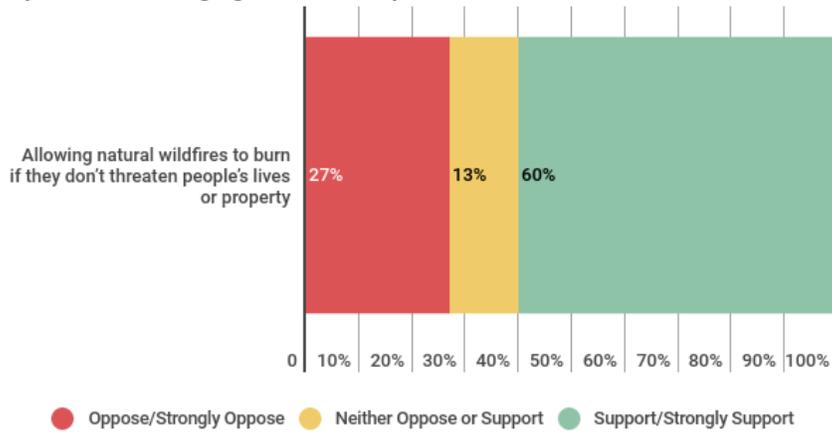
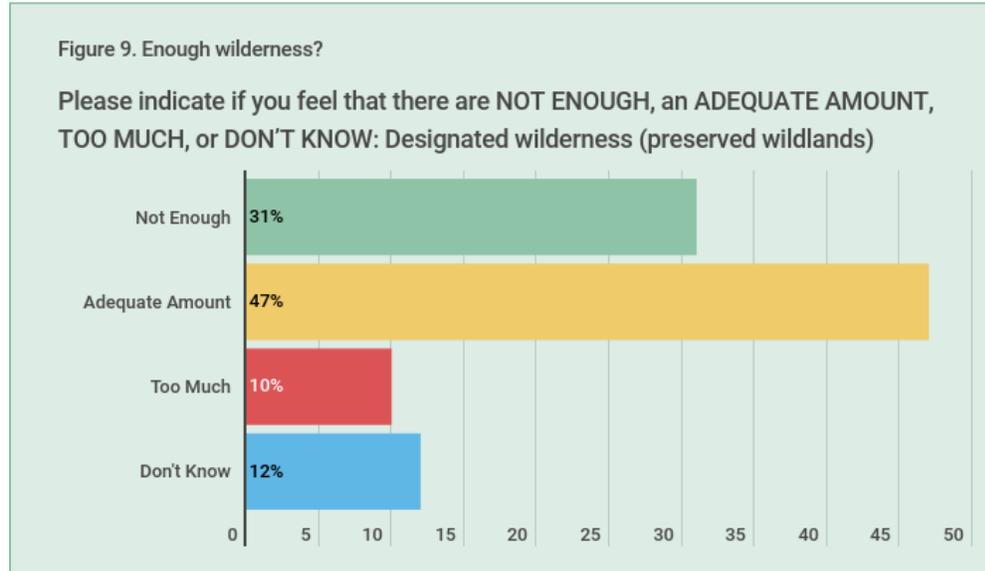


Figure 8. Preferences for natural wildfire management

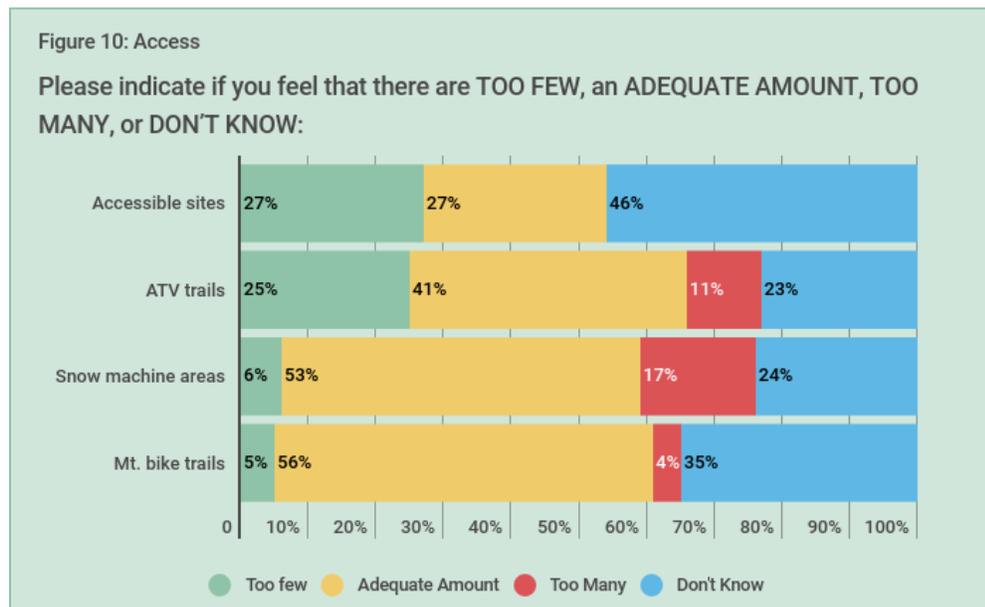
Please rate your level of support or opposition for the following management options for managing local federal public lands:



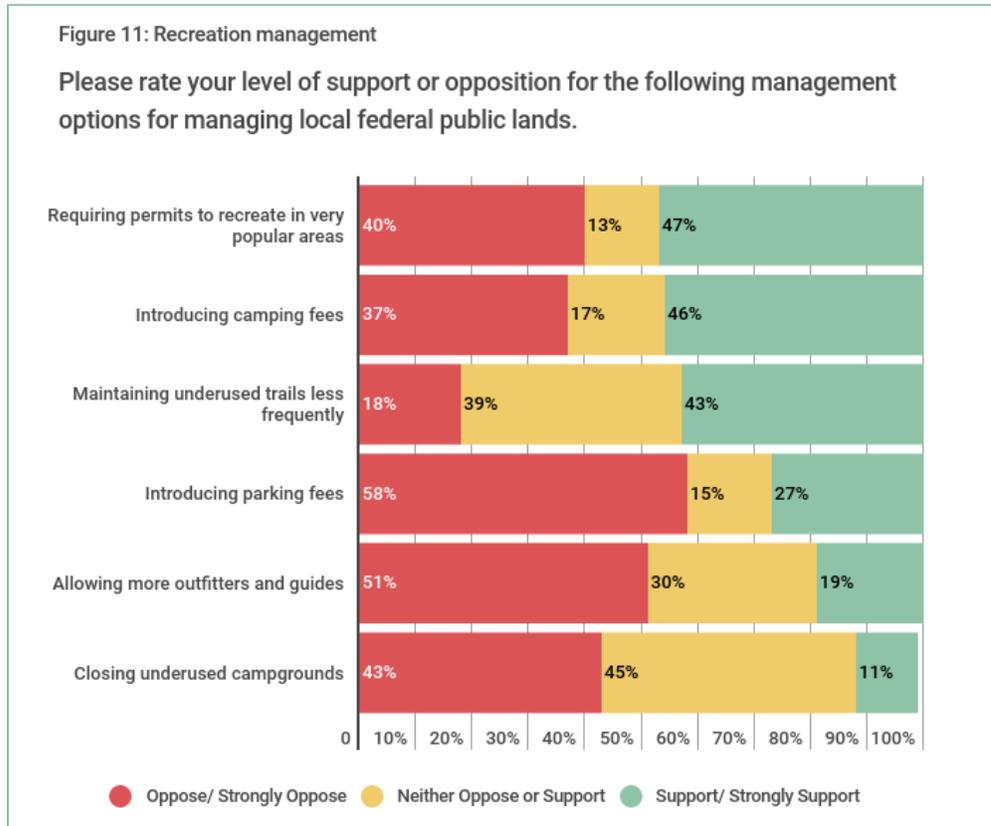
Enough Wilderness?



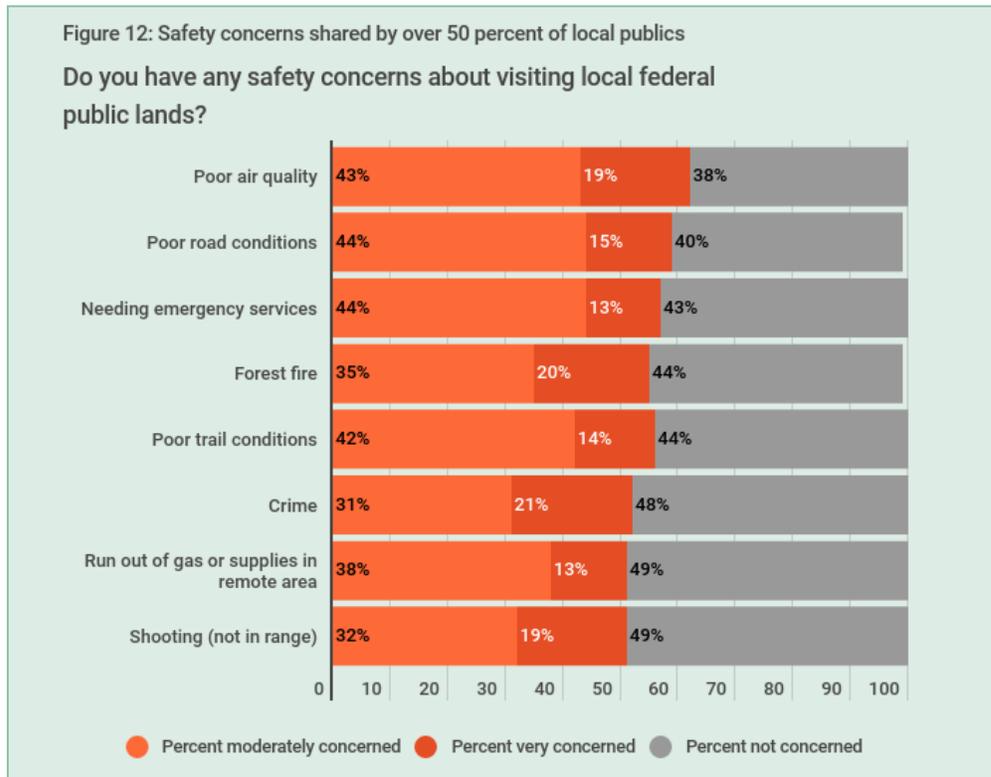
Access



Recreation Management



Safety

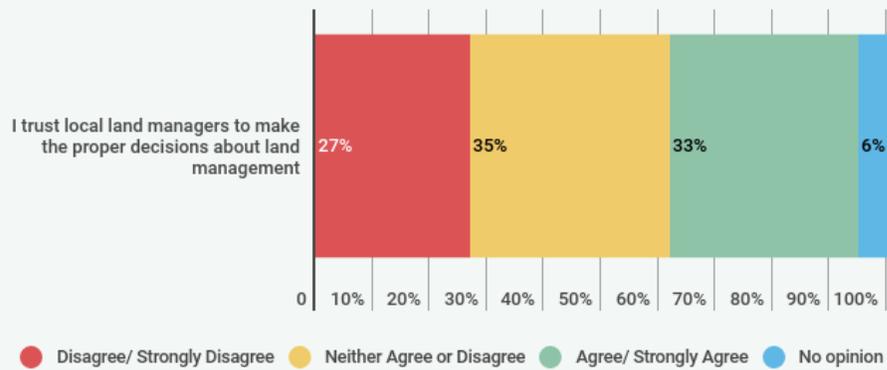


Local Relationships

Trust in Decision Makers

Figure 13. Trust in decision makers

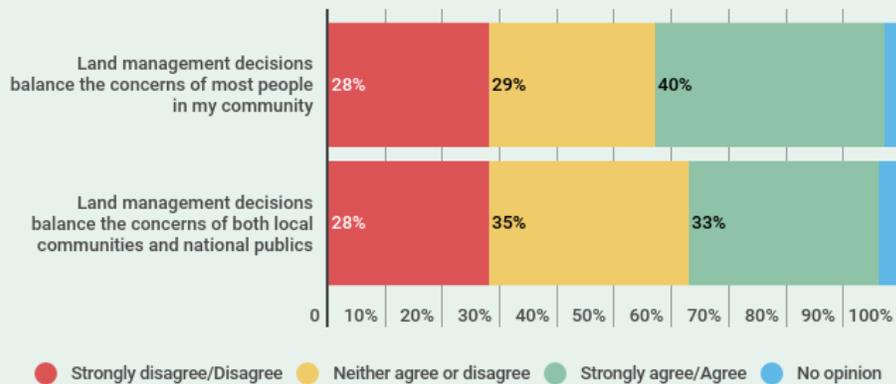
These questions ask for your opinion about management of local federal public lands. Please indicate the extent to which you agree or disagree with each of the following statements.



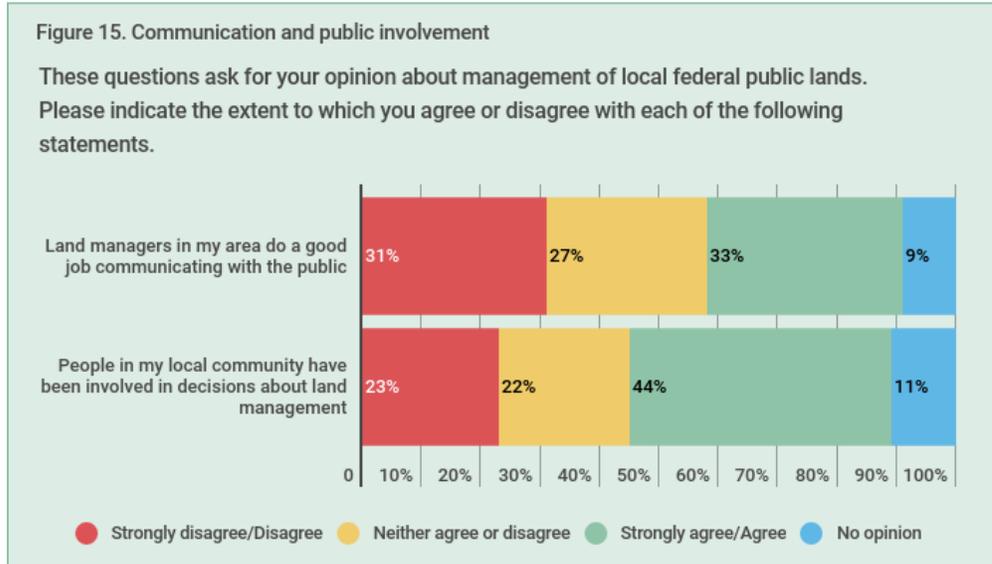
Quality of Decisions

Figure 14. Quality of decisions

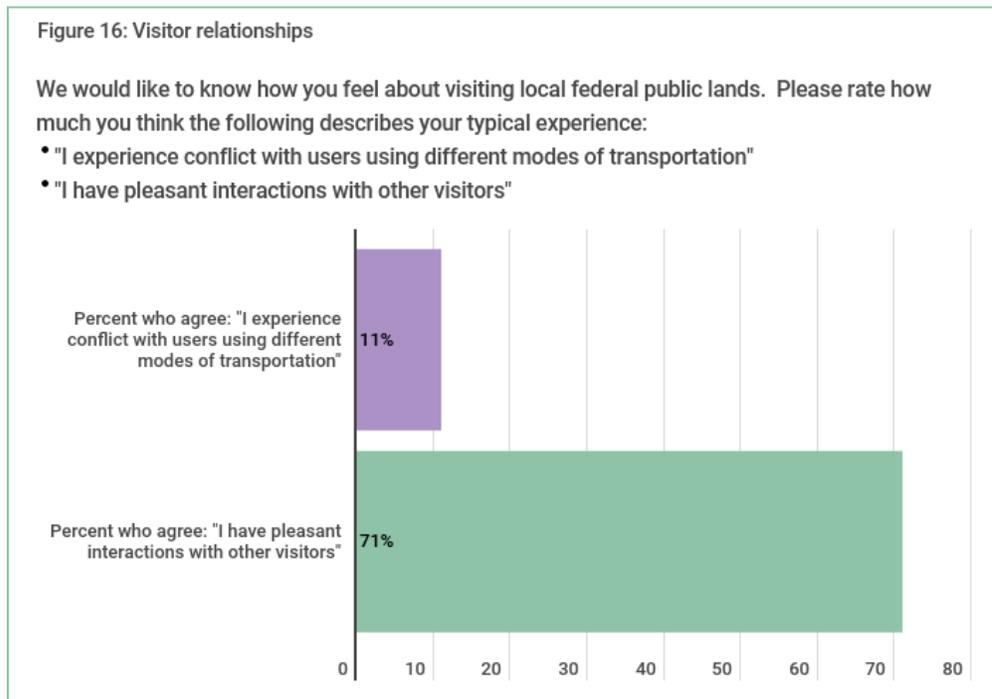
These questions ask for your opinion about management of local federal public lands. Please indicate the extent to which you agree or disagree with each of the following statements.



Communication and Public Involvement



Visitor Relationships

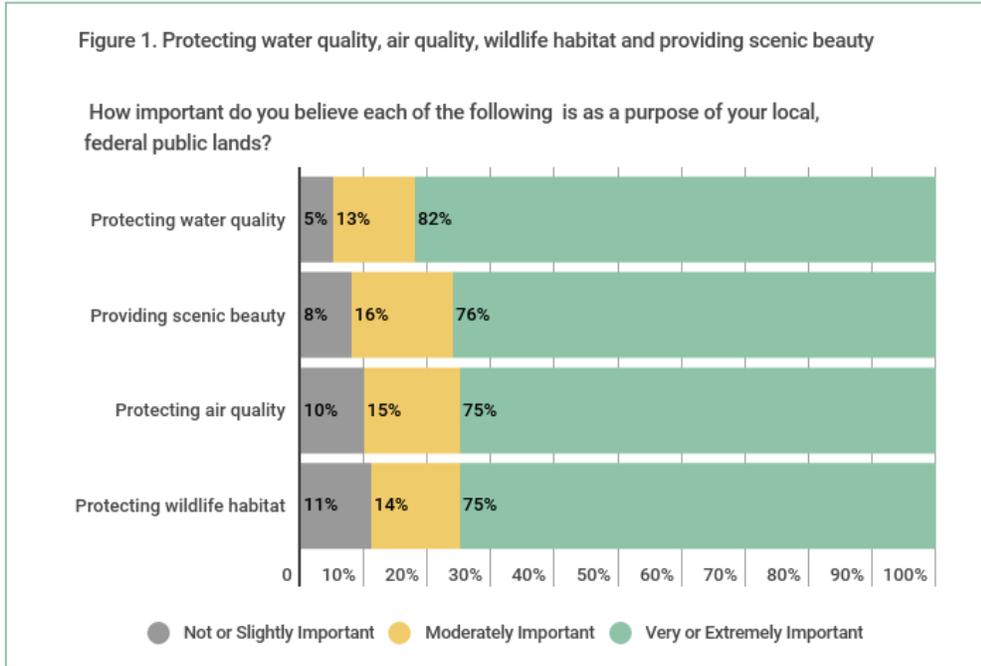


Custer–Gallatin National Forests

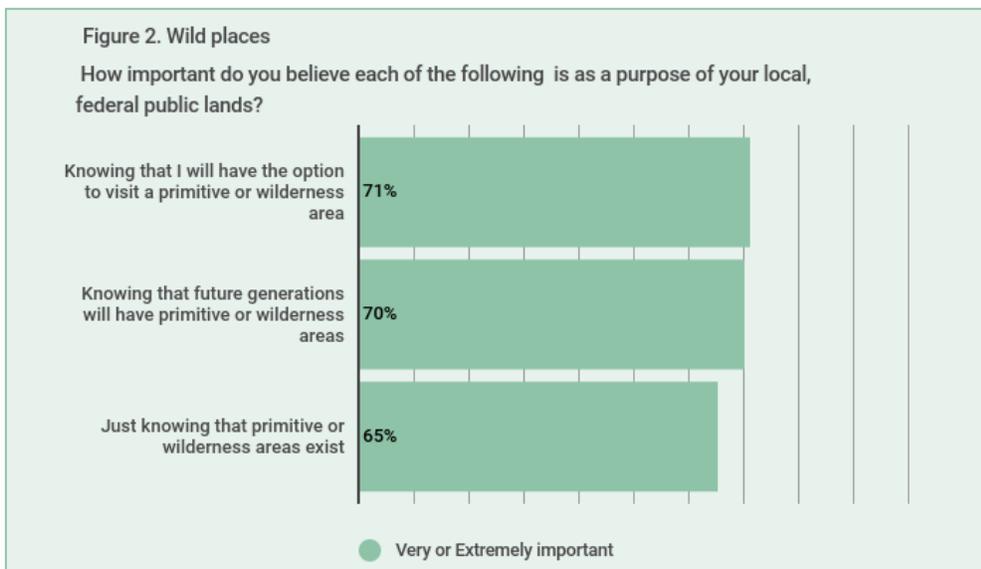
Total survey respondents: 296

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



Wild Places



Recreational Opportunities

Figure 3. Recreational priorities



72%

Percent of local public who cite recreation opportunities as a very or extremely important purpose of local, federal public lands.

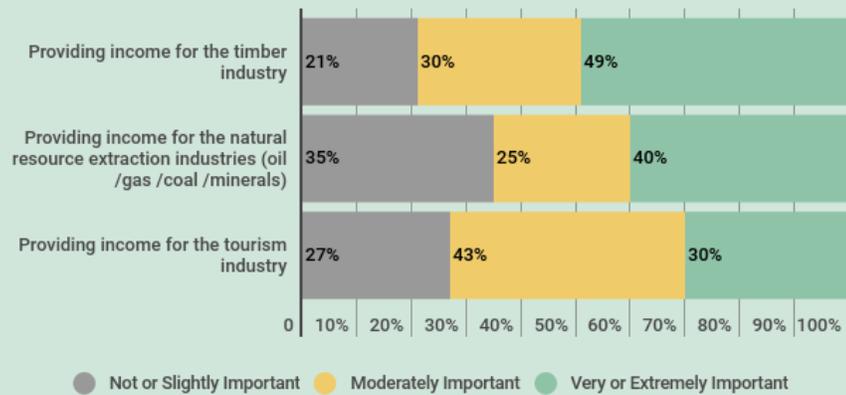
A majority of the local public participates in the following recreational activities on an annual basis: hiking/walking, relaxing, wildlife viewing, driving for pleasure, camping, fishing, picnicking and hunting.



Economic Opportunities

Figure 4. Economic priorities

How important do you believe each of the following is as a purpose of your local, federal public lands?



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

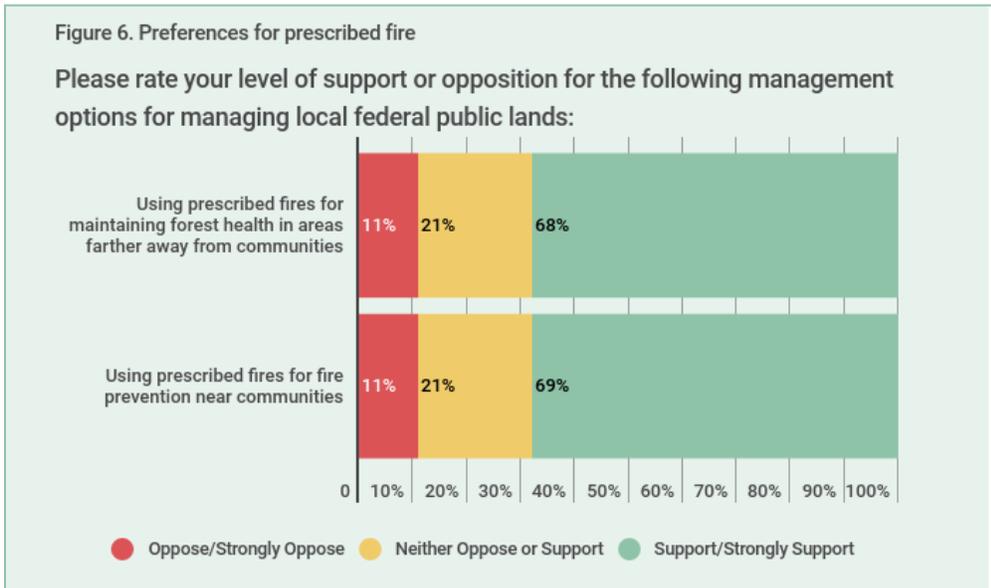
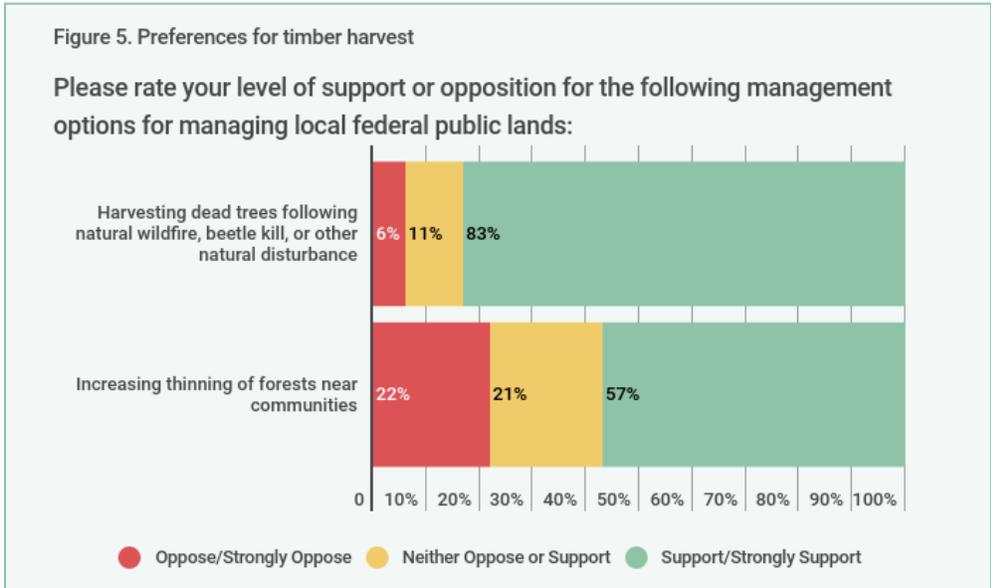


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

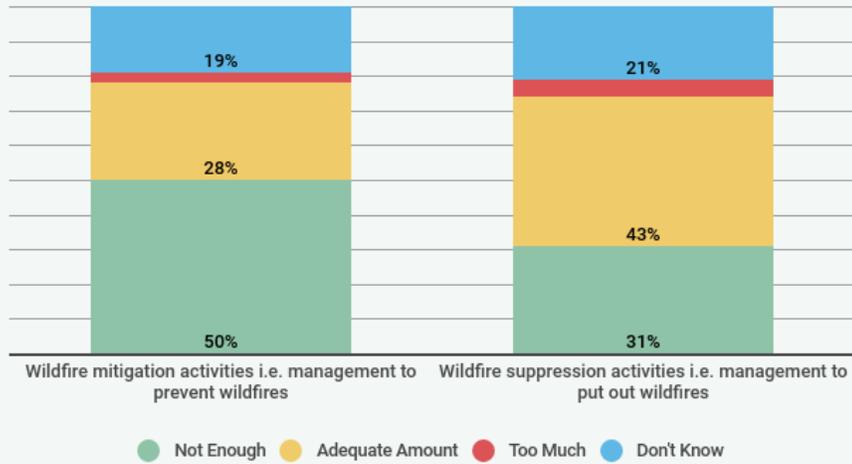
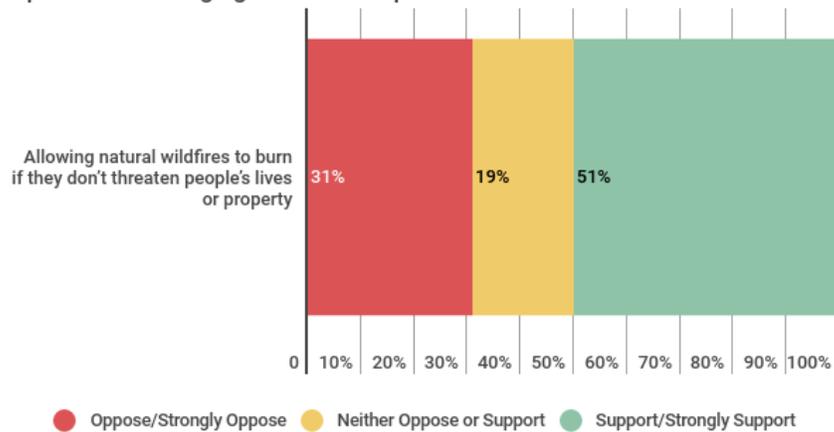
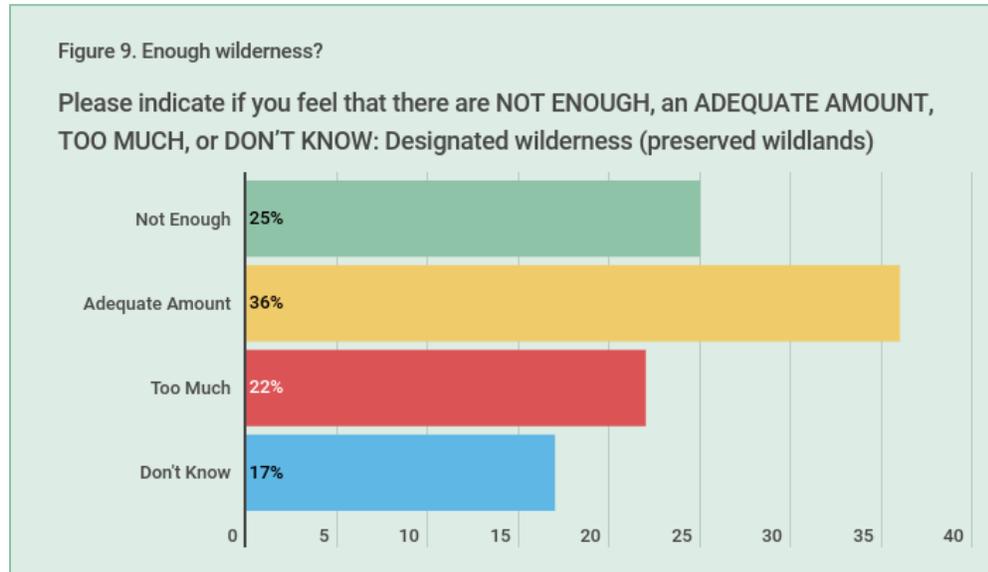


Figure 8. Preferences for natural wildfire management

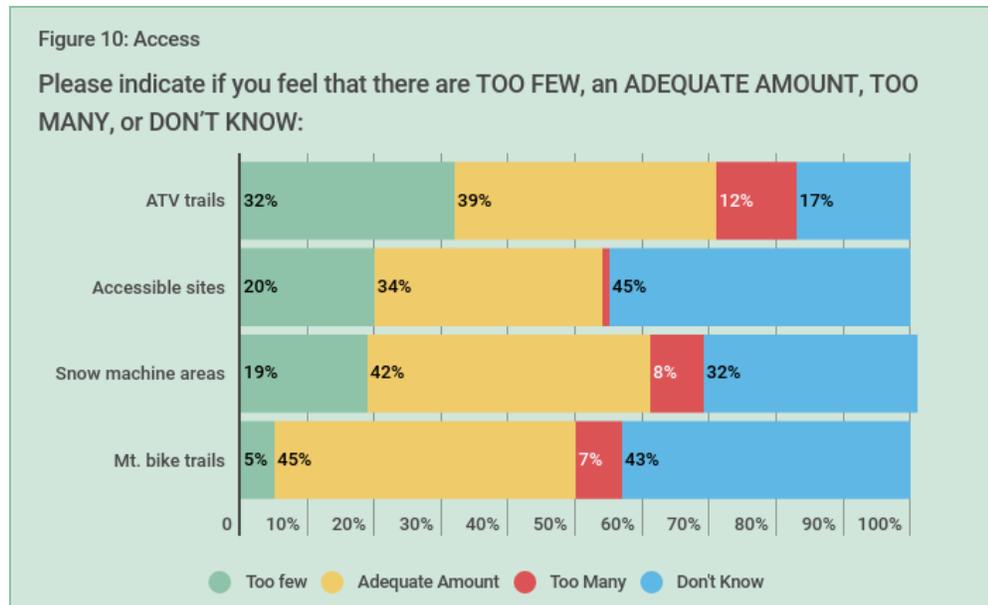
Please rate your level of support or opposition for the following management options for managing local federal public lands:



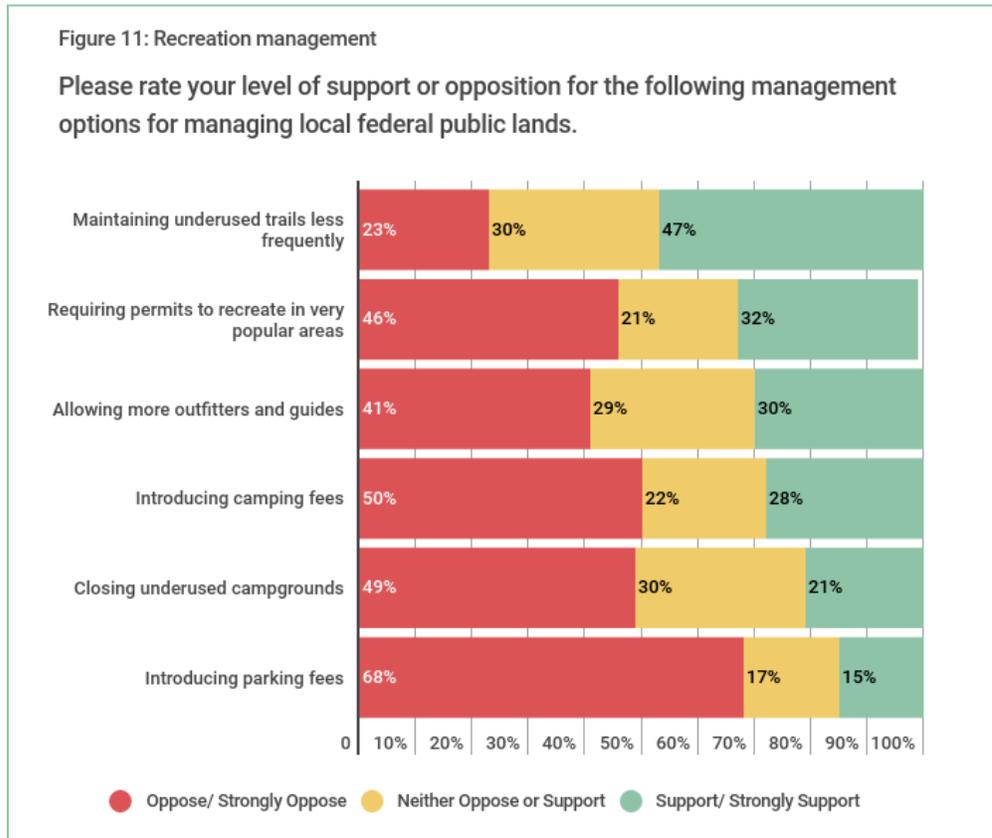
Enough Wilderness?



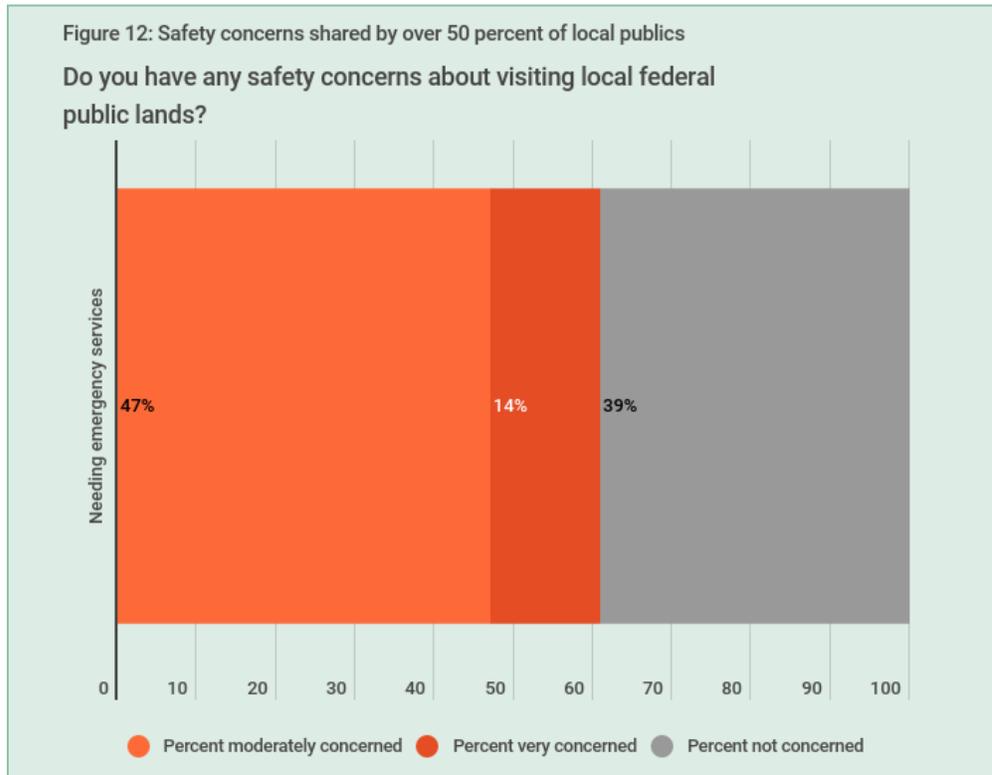
Access



Recreation Management

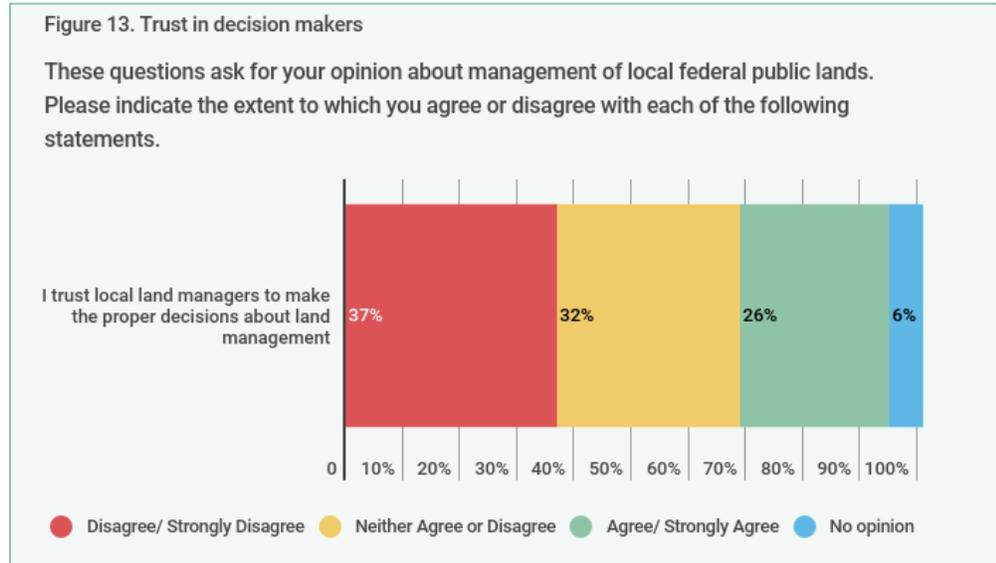


Safety

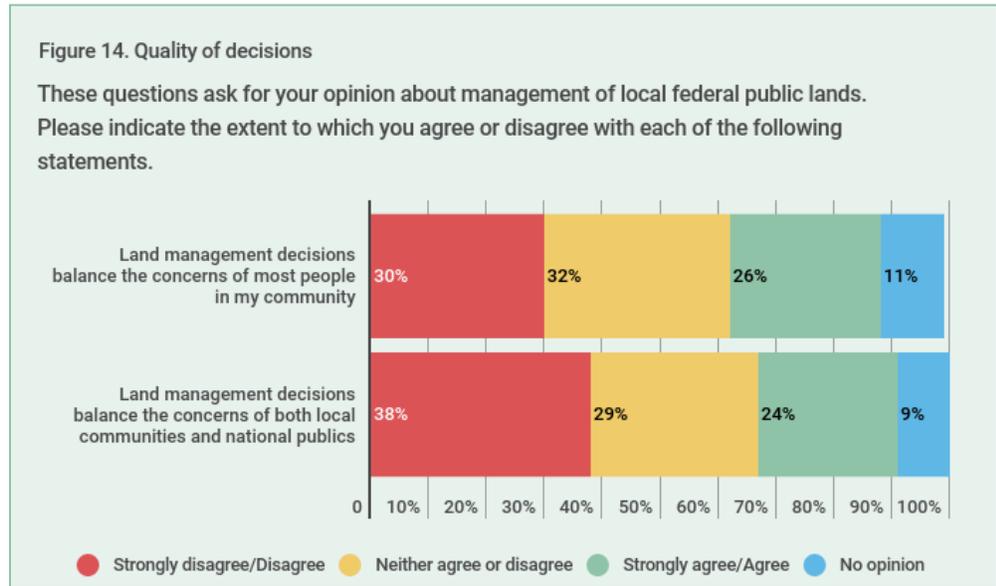


Local Relationships

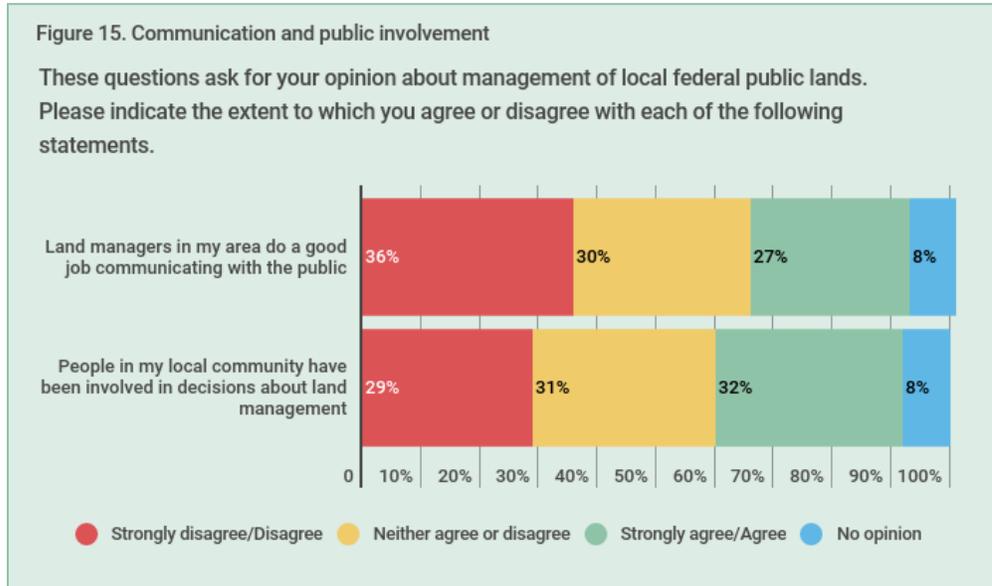
Trust in Decision Makers



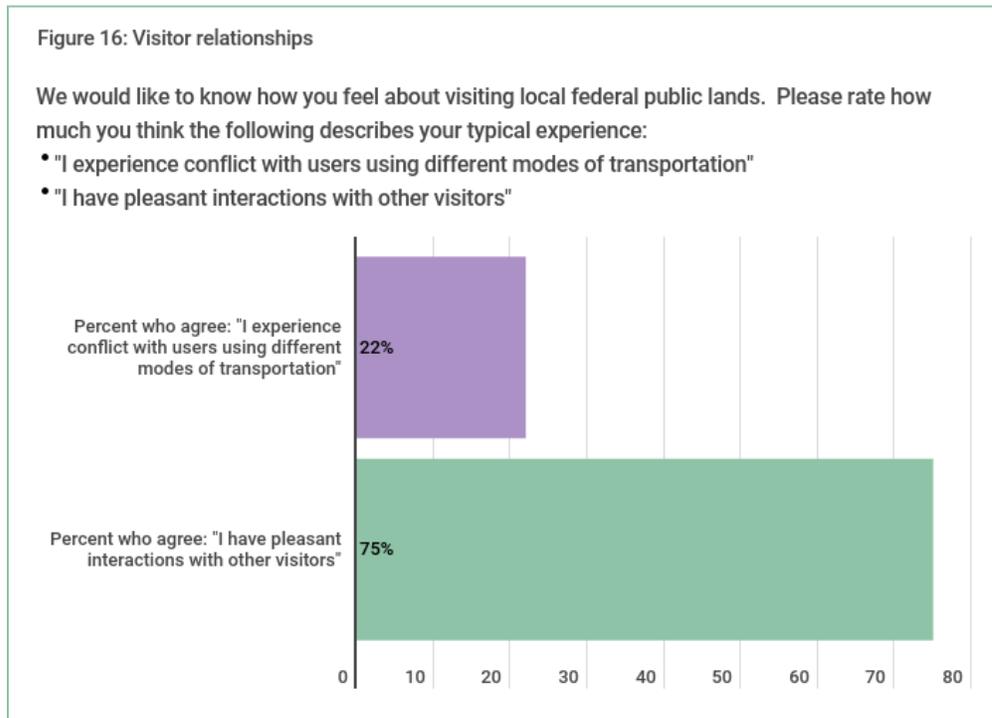
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

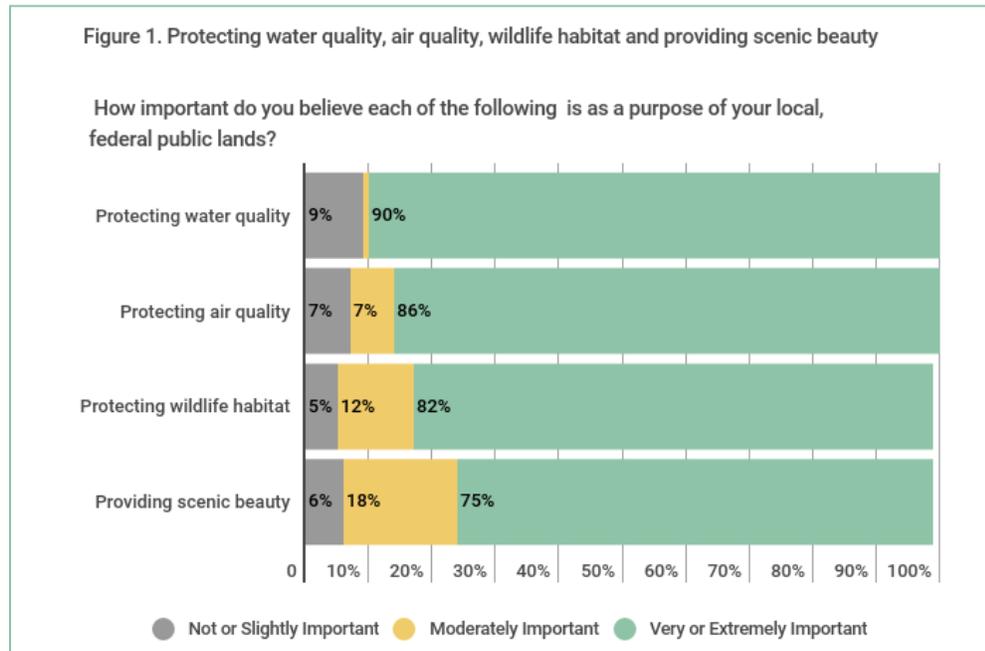


Flathead National Forest

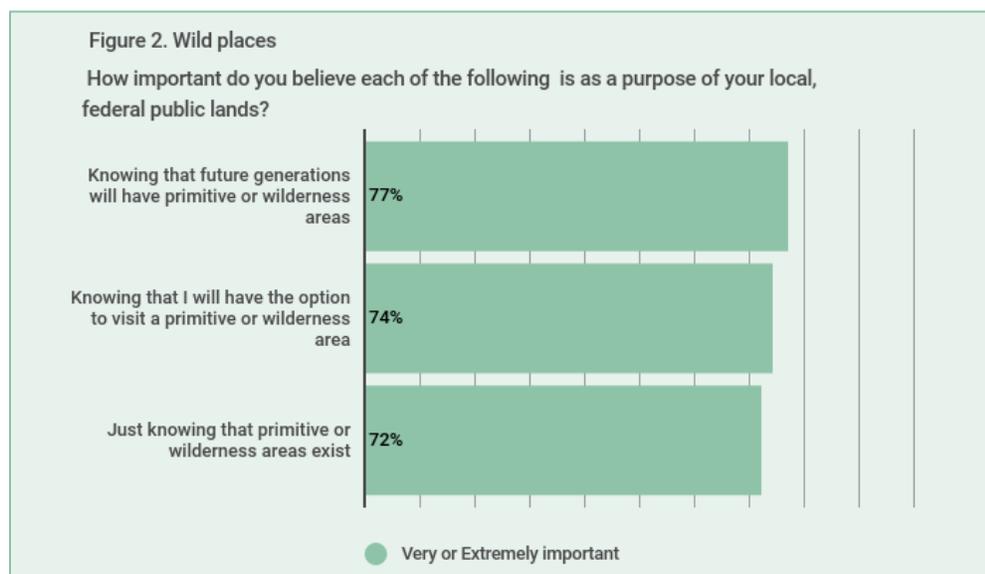
Total survey respondents: 191

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



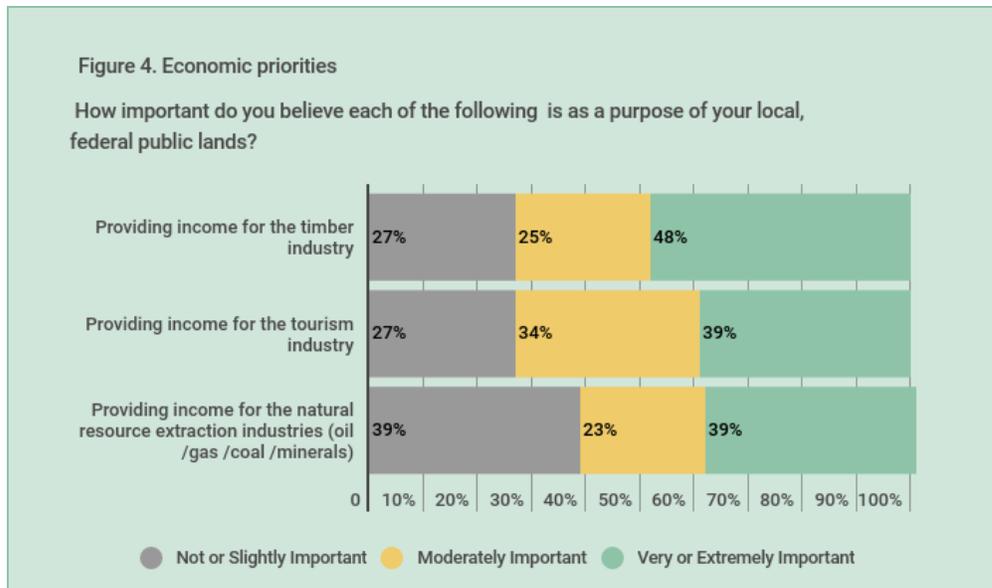
Wild Places



Recreational Opportunities



Economic Opportunities



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

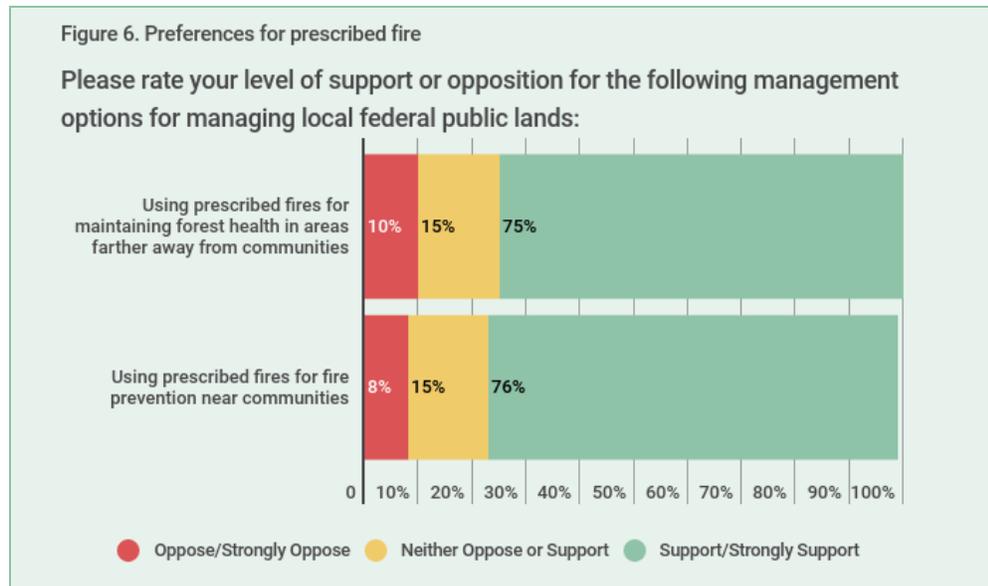
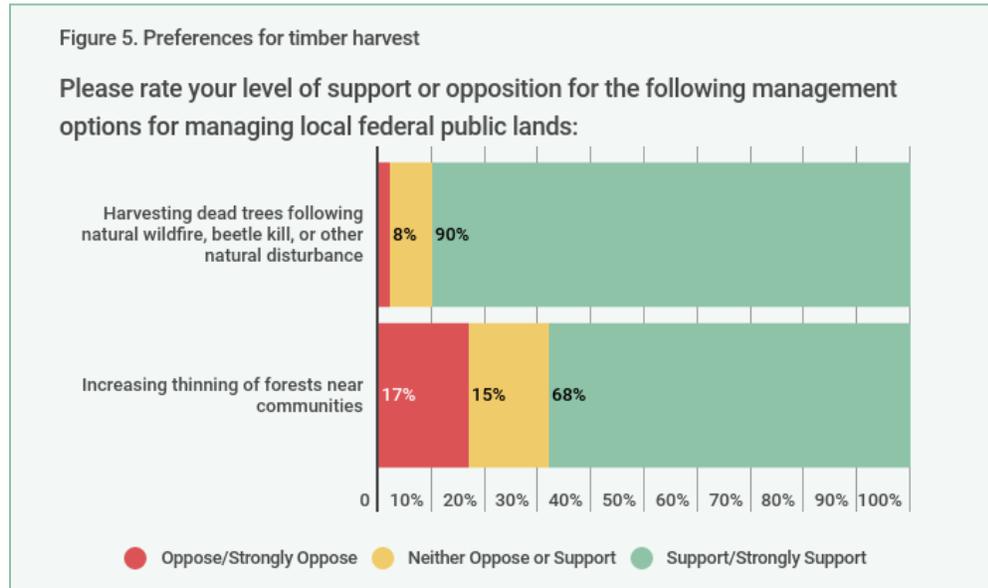


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

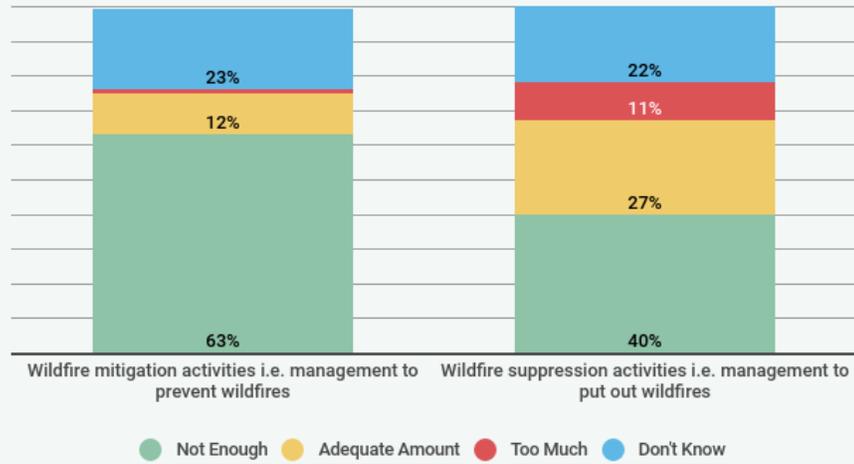
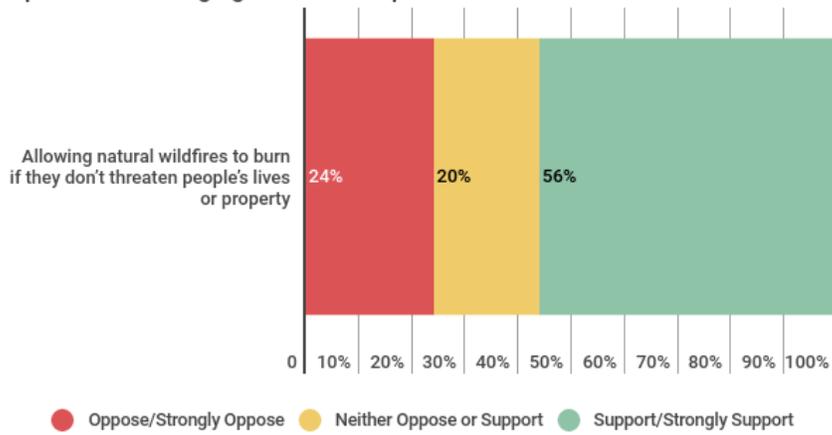
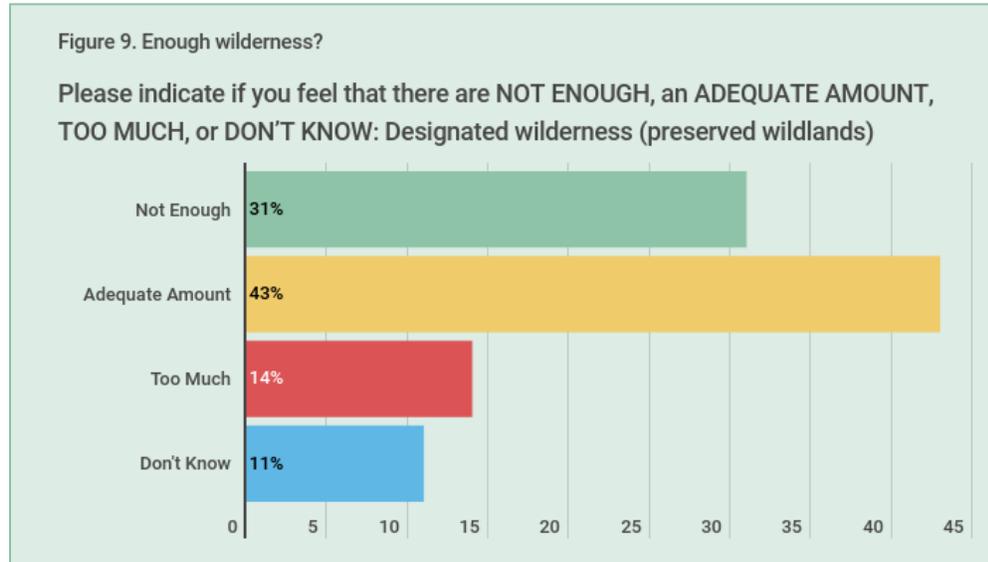


Figure 8. Preferences for natural wildfire management

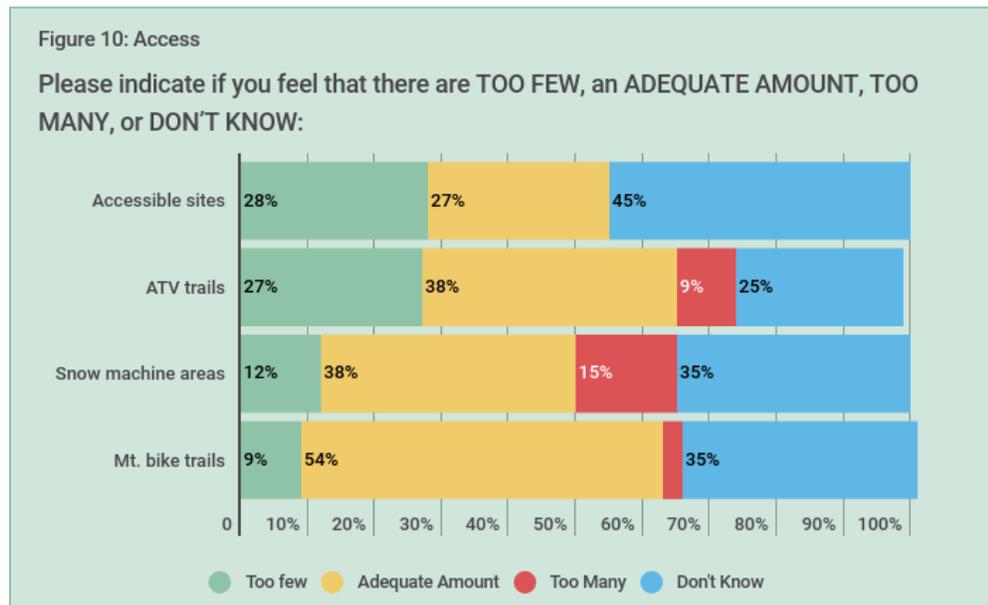
Please rate your level of support or opposition for the following management options for managing local federal public lands:



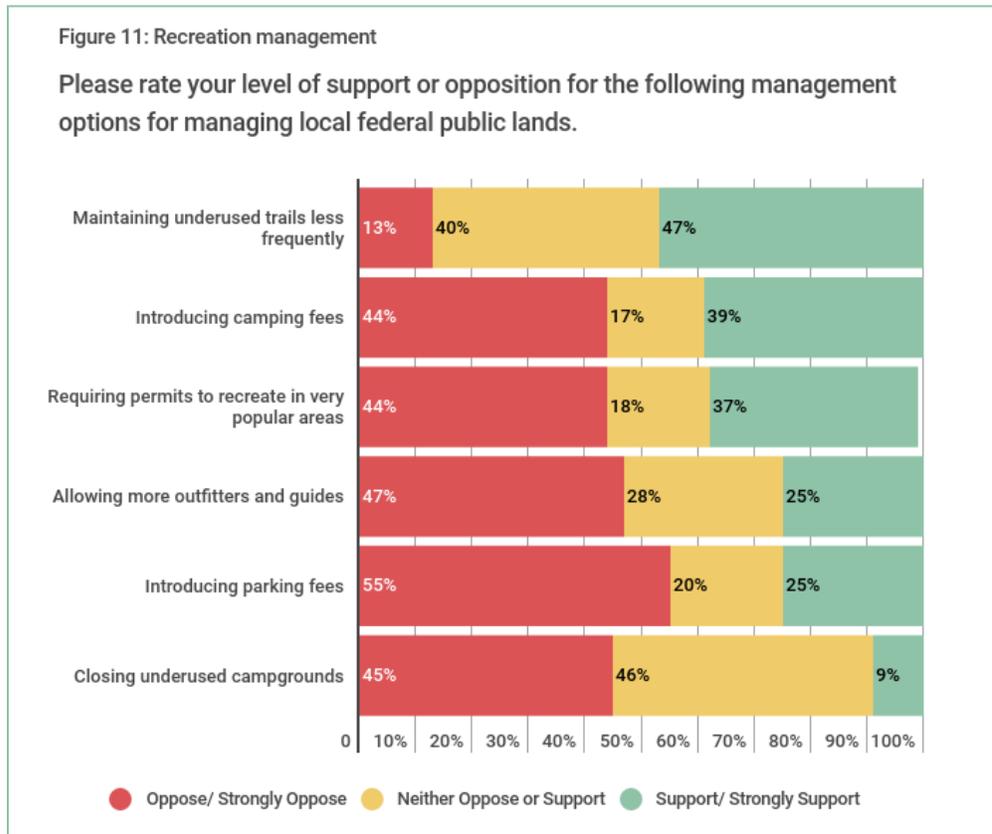
Enough Wilderness?



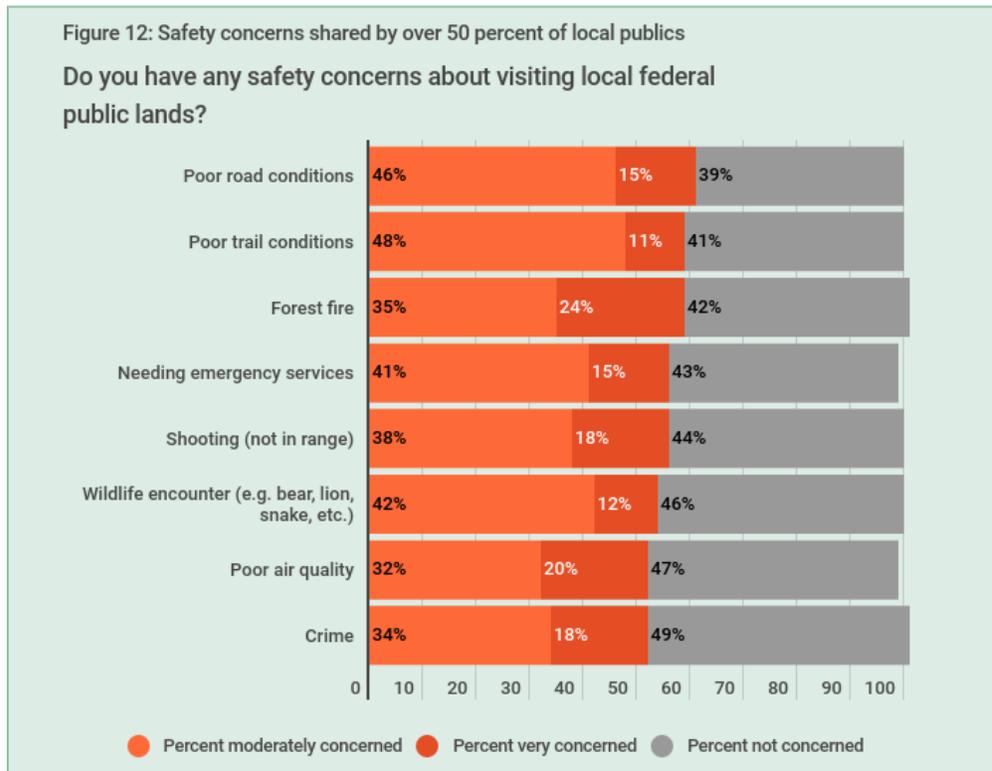
Access



Recreation Management

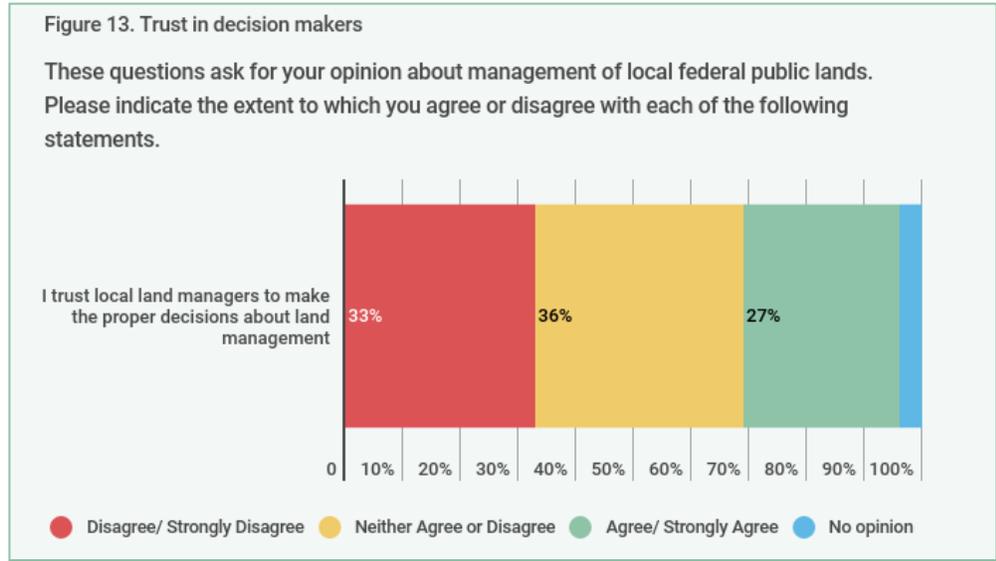


Safety

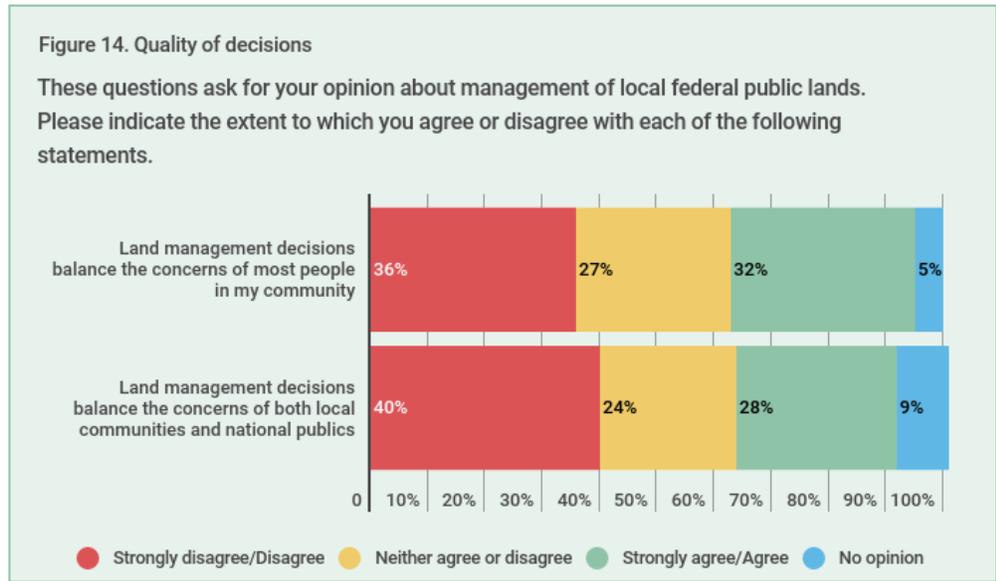


Local Relationships

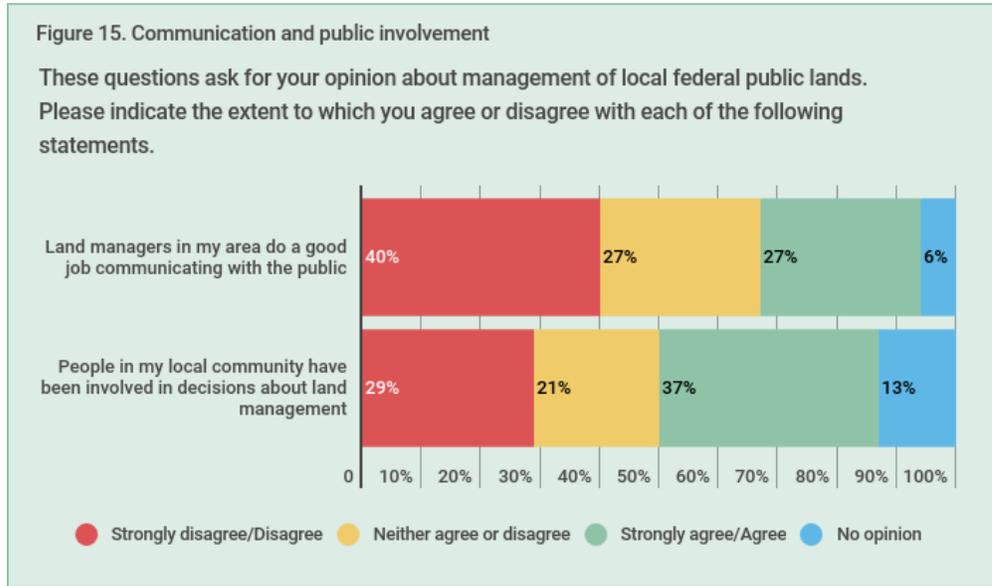
Trust in Decision Makers



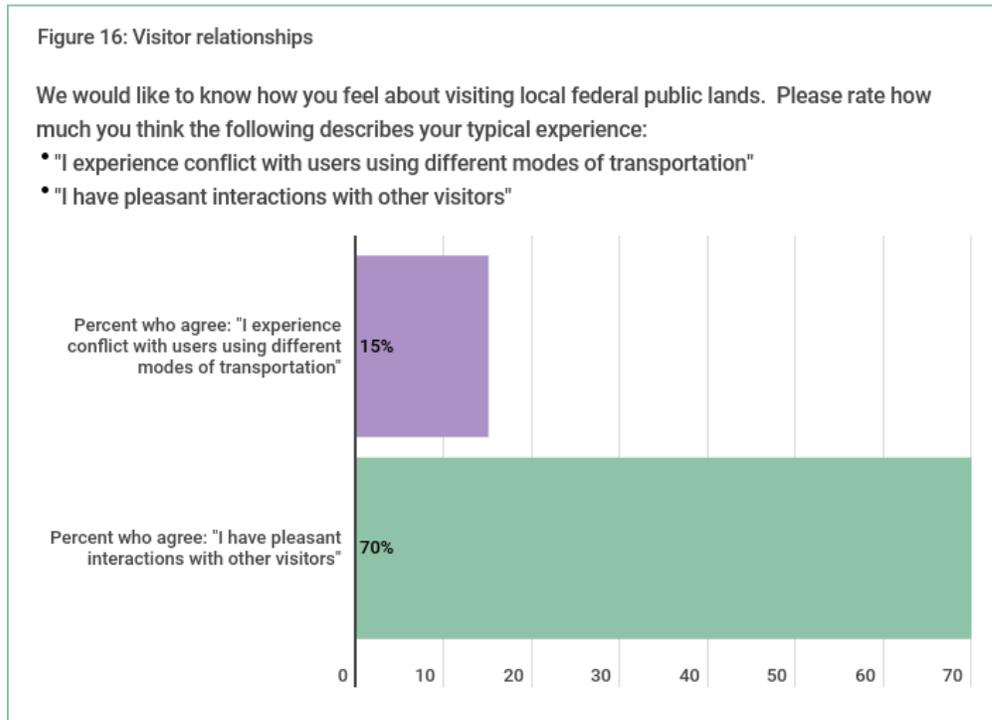
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

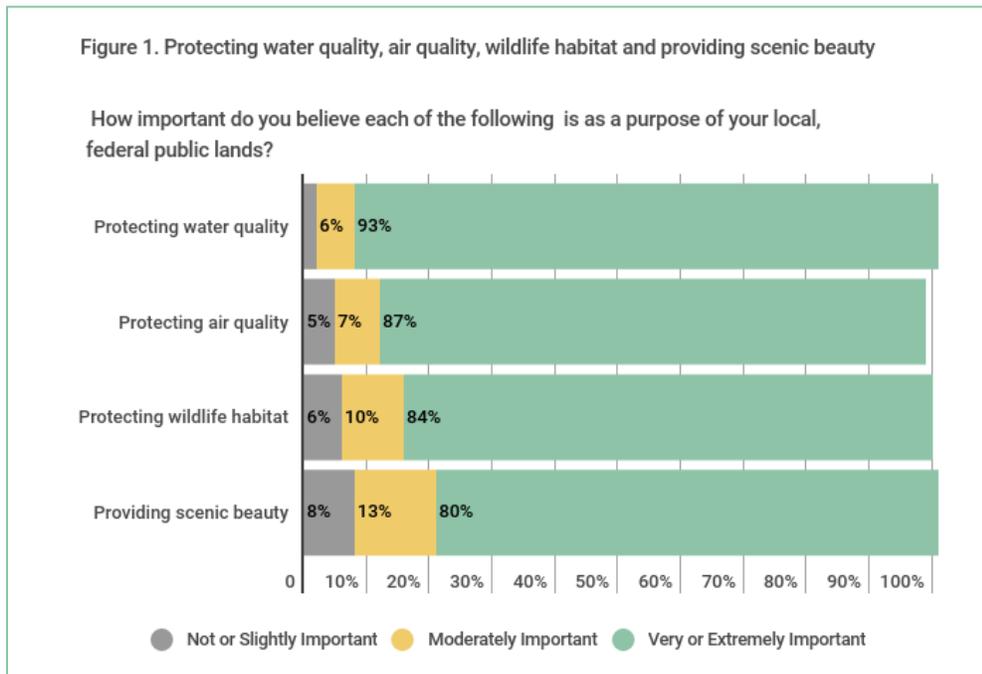


Helena-Lewis and Clark National Forests

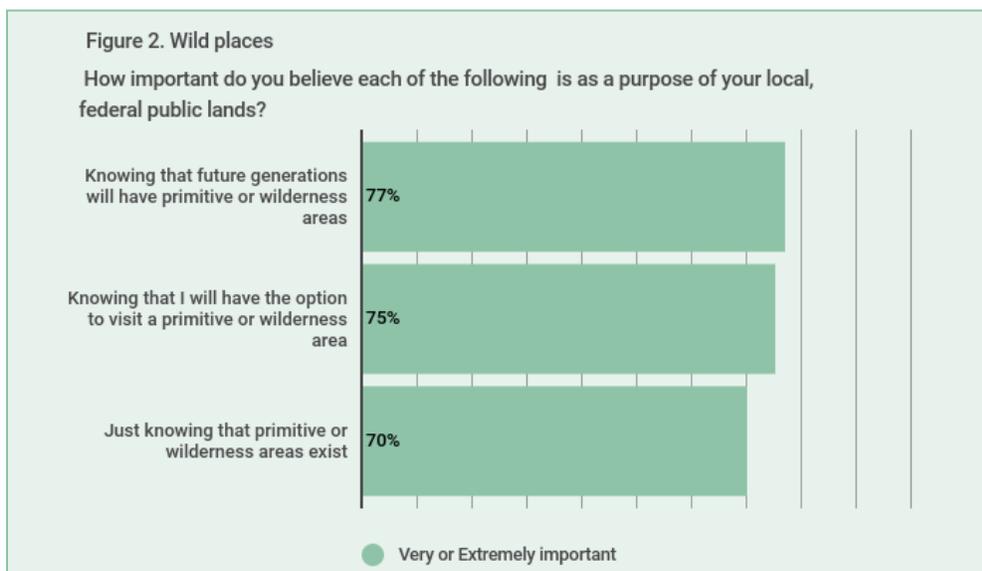
Total survey respondents: 377

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



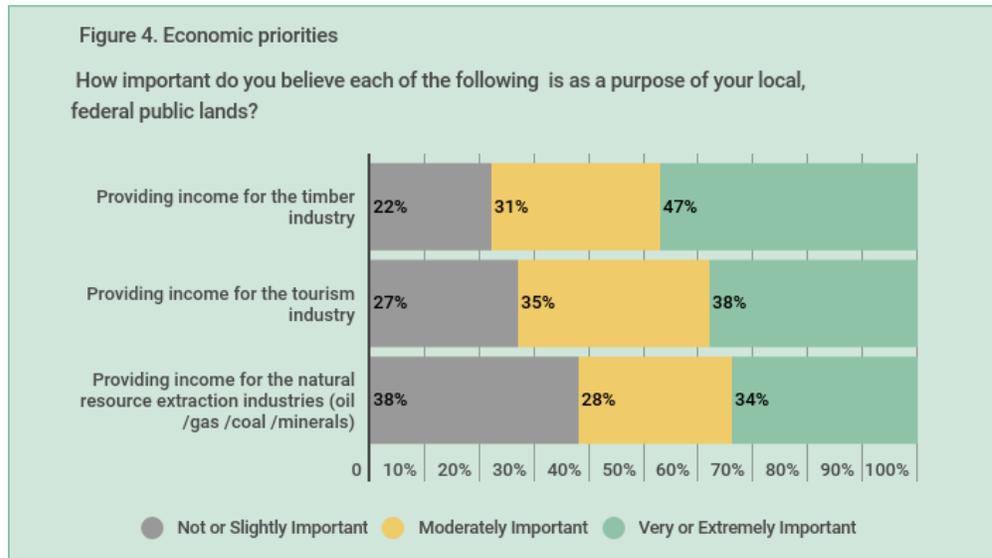
Wild Places



Recreational Opportunities



Economic Opportunities



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

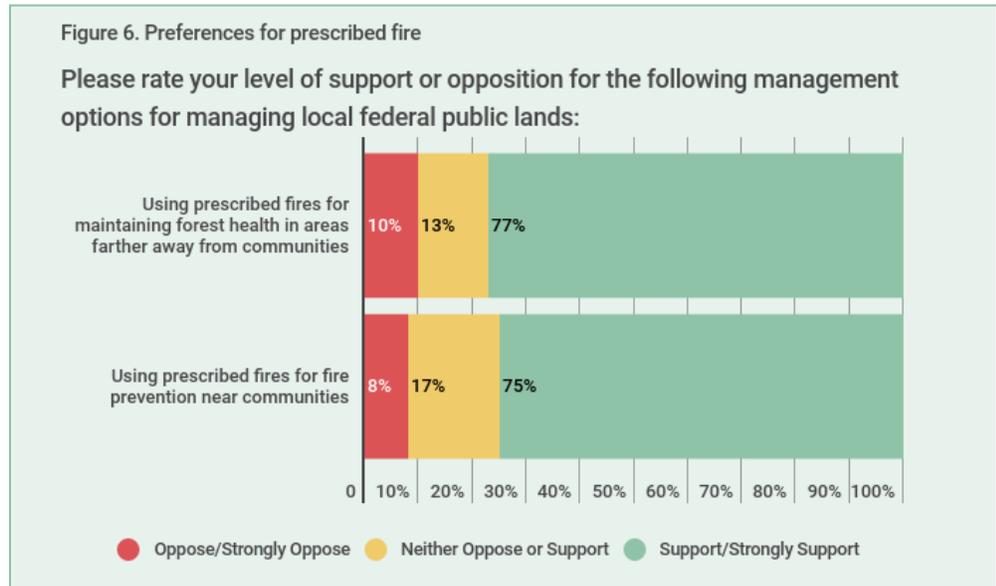
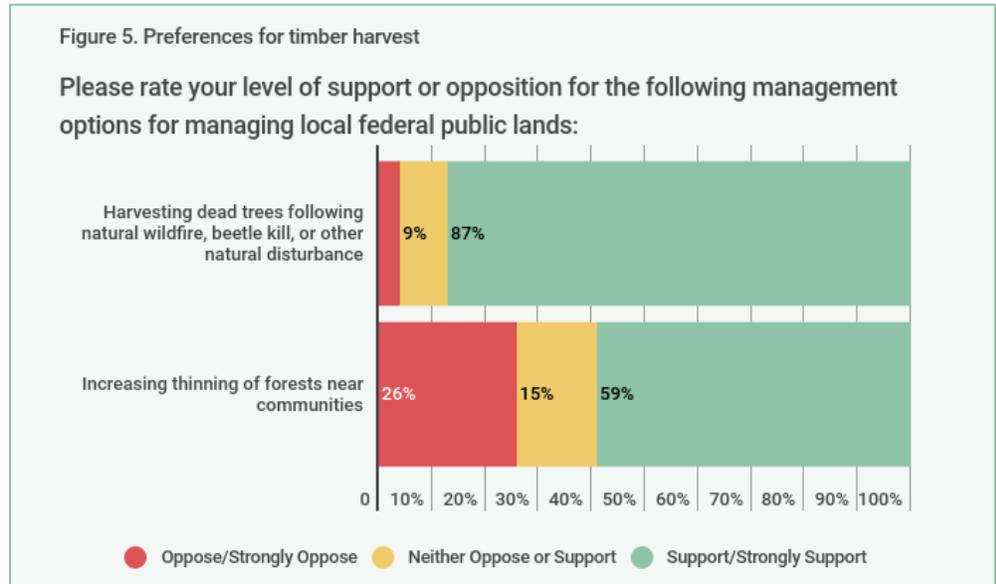


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

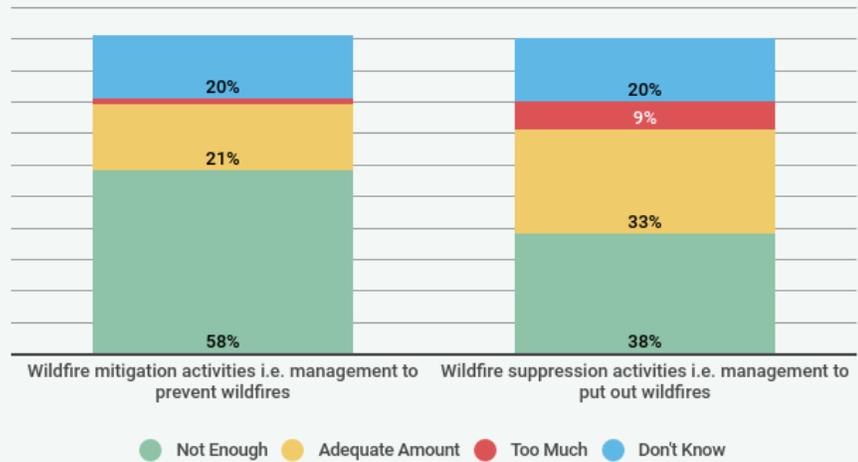
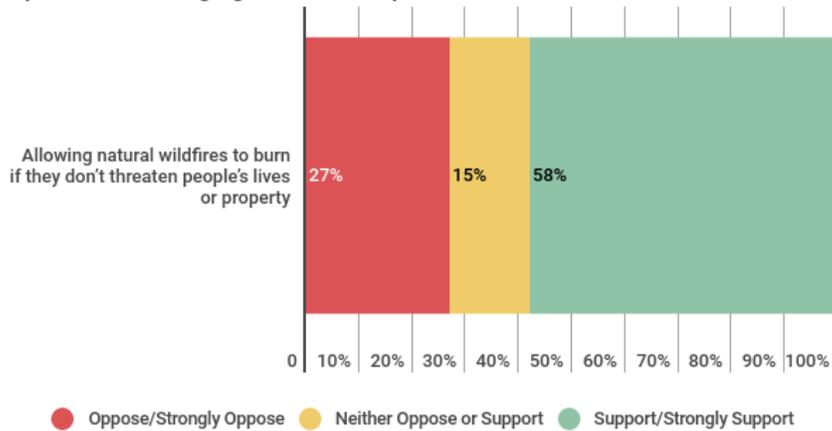
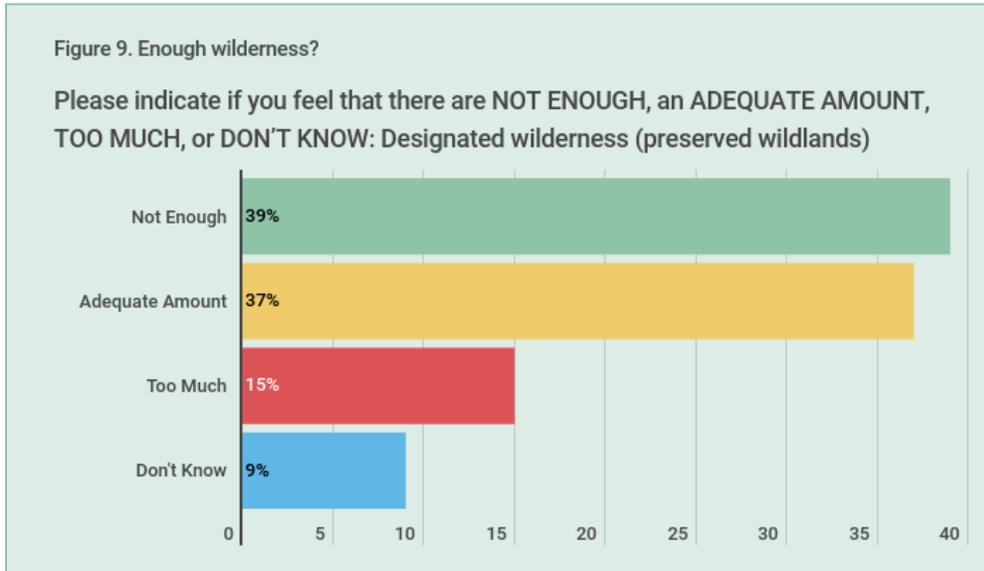


Figure 8. Preferences for natural wildfire management

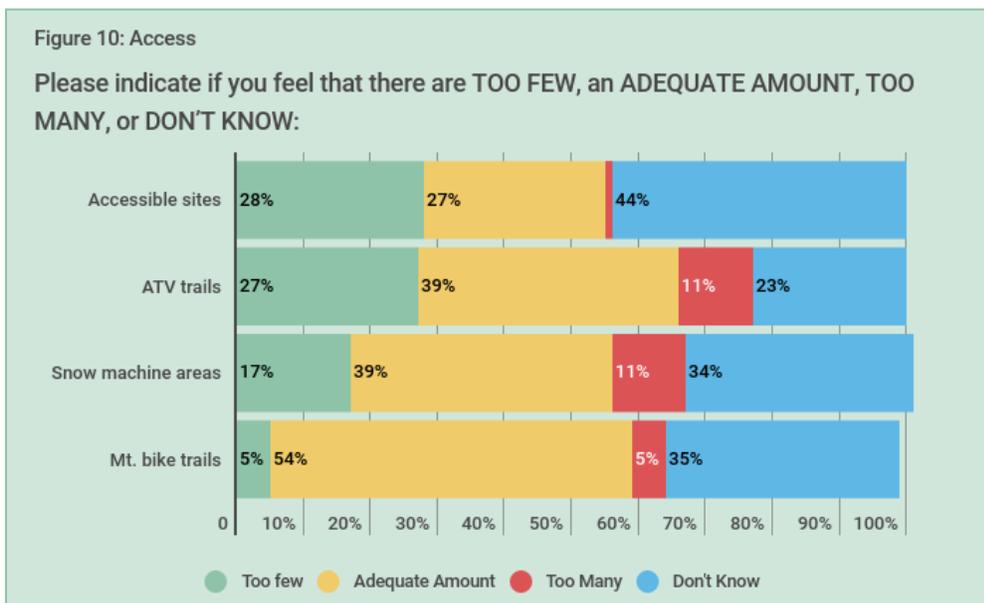
Please rate your level of support or opposition for the following management options for managing local federal public lands:



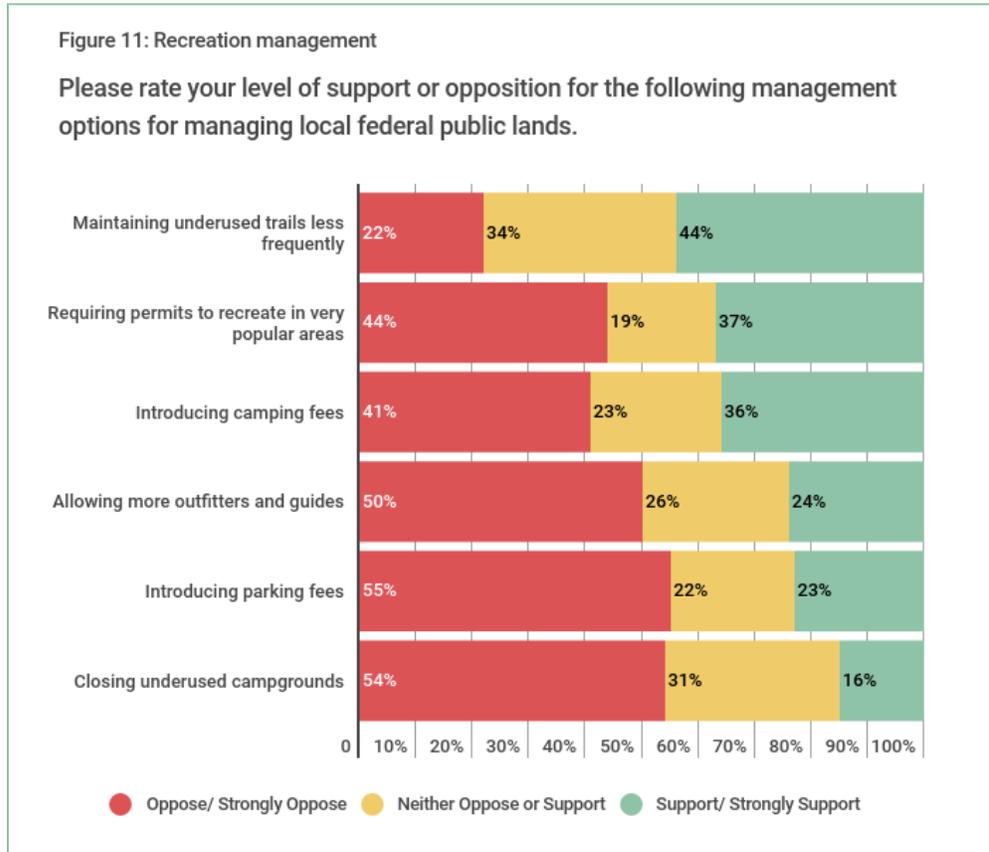
Enough Wilderness?



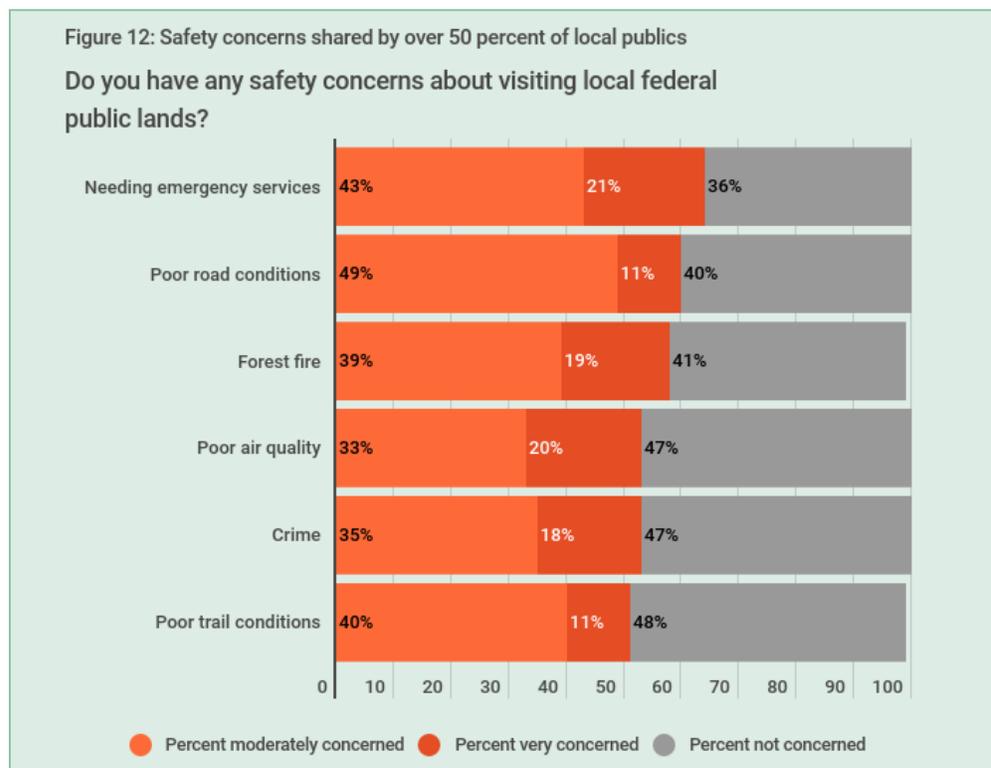
Access



Recreation Management

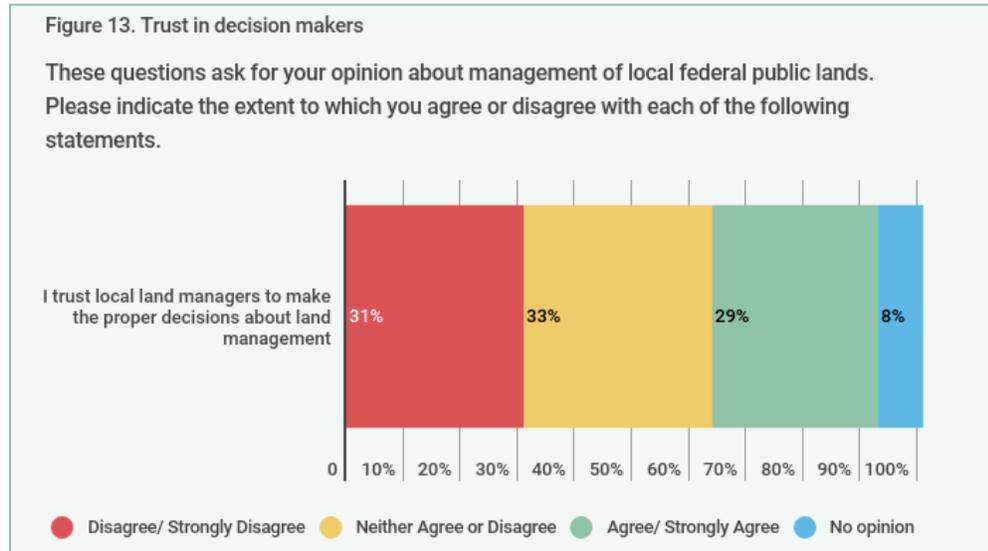


Safety

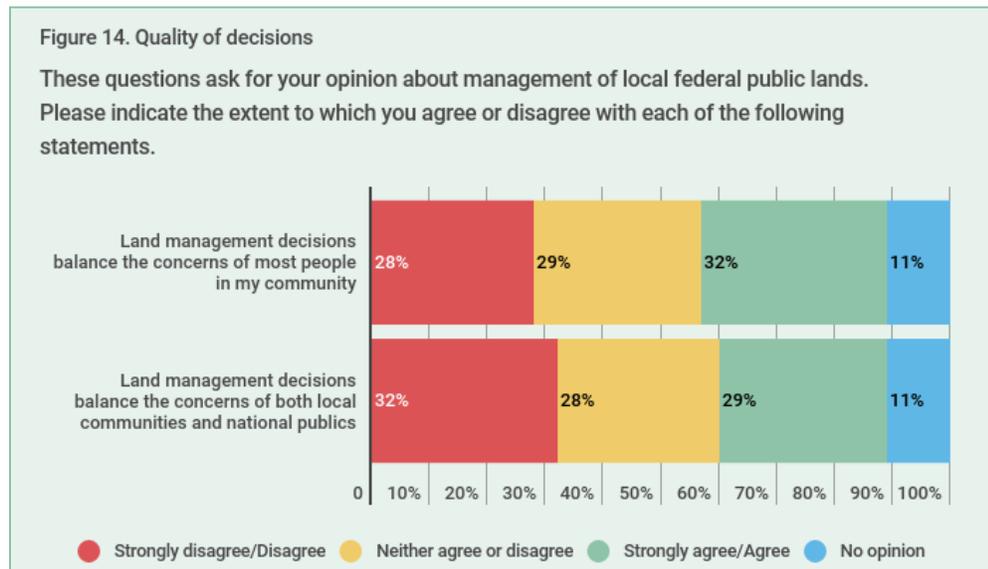


Local Relationships

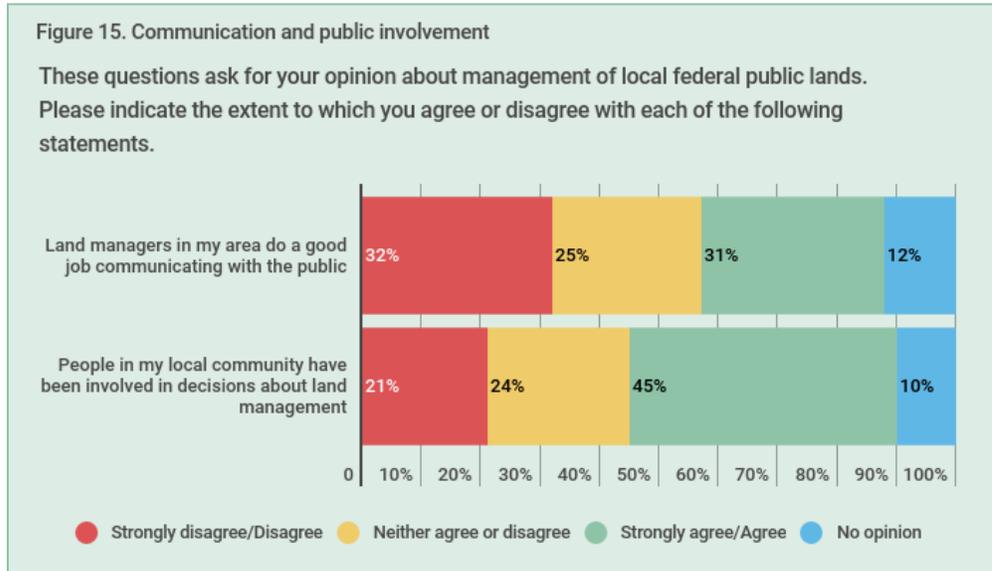
Trust in Decision Makers



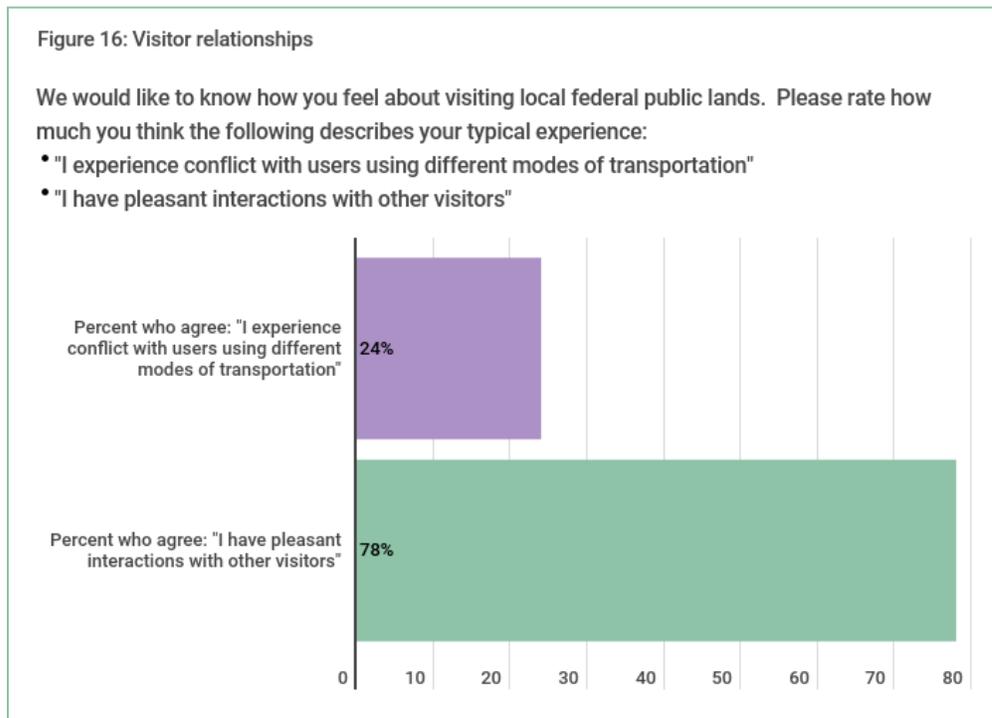
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

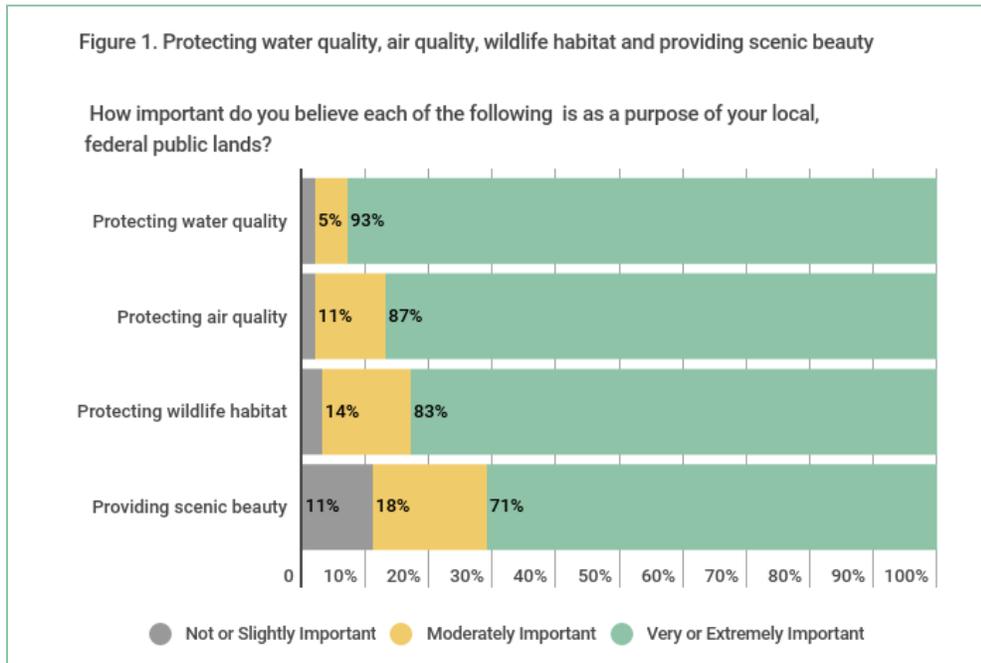


Idaho Panhandle National Forests

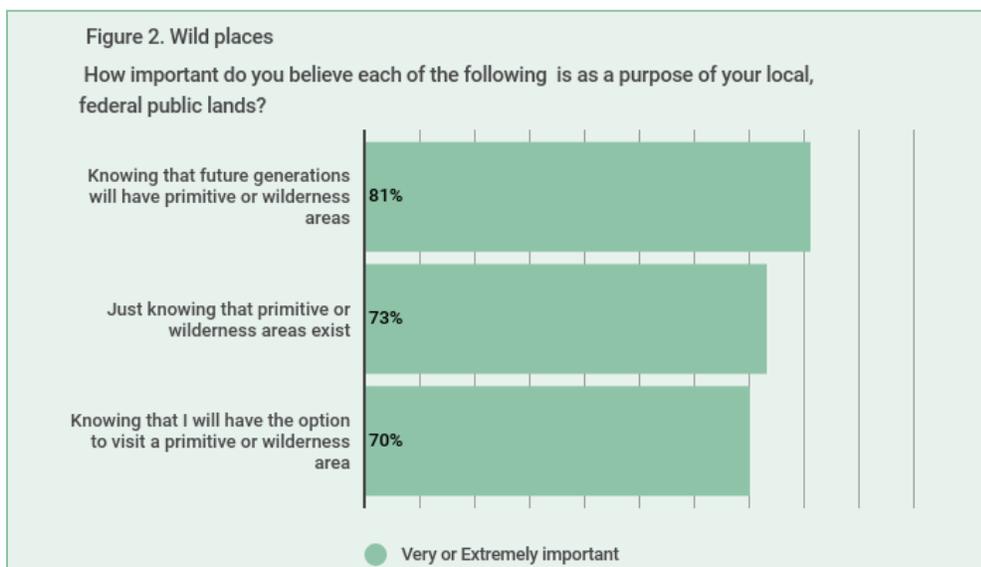
Total survey respondents: 367

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



Wild Places



Recreational Opportunities

Figure 3. Recreational priorities



66%

Percent of local public who cite recreation opportunities as a very or extremely important purpose of local, federal public lands.

A majority of the local public participates in the following recreational activities on an annual basis: hiking/walking, relaxing, wildlife viewing, driving for pleasure, camping, fishing, picnicking and foraging.



Economic Opportunities

Figure 4. Economic priorities

How important do you believe each of the following is as a purpose of your local, federal public lands?



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

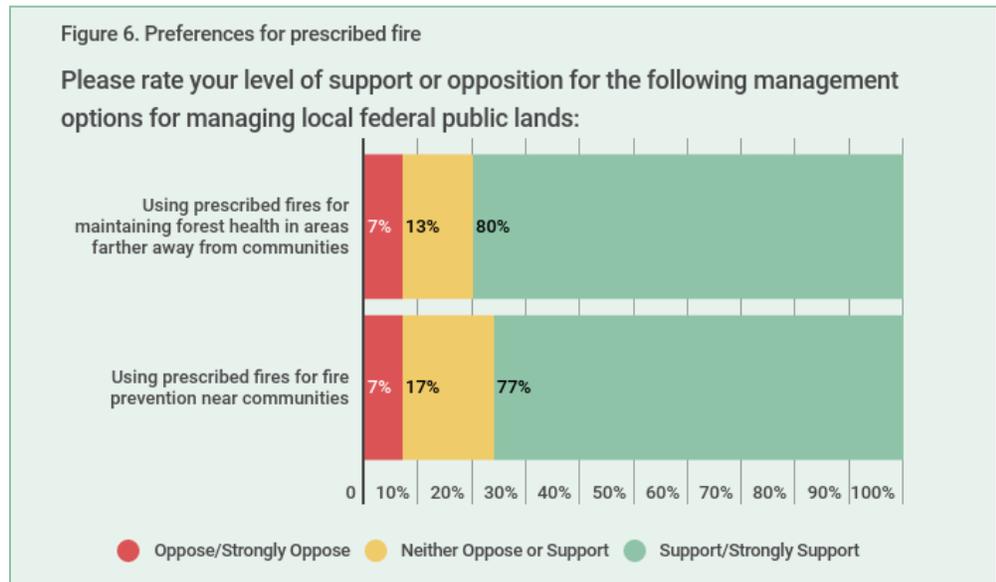
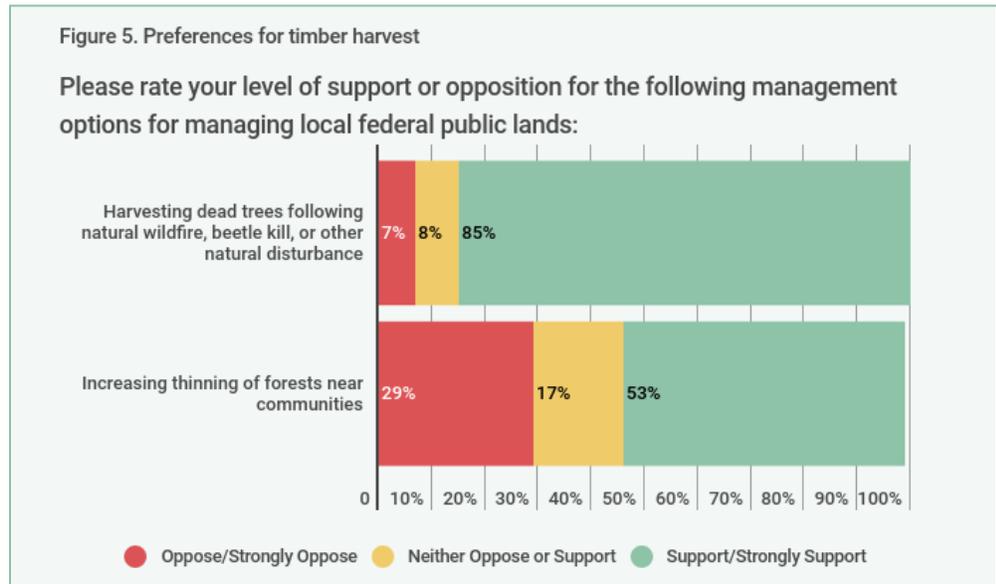


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

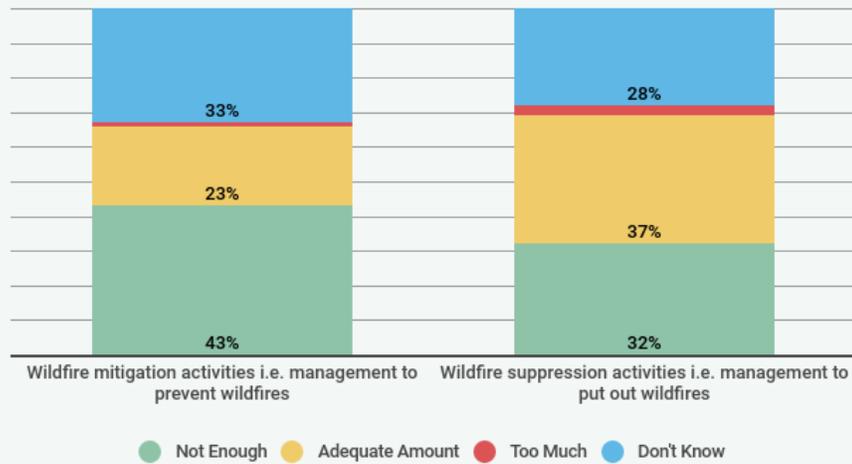
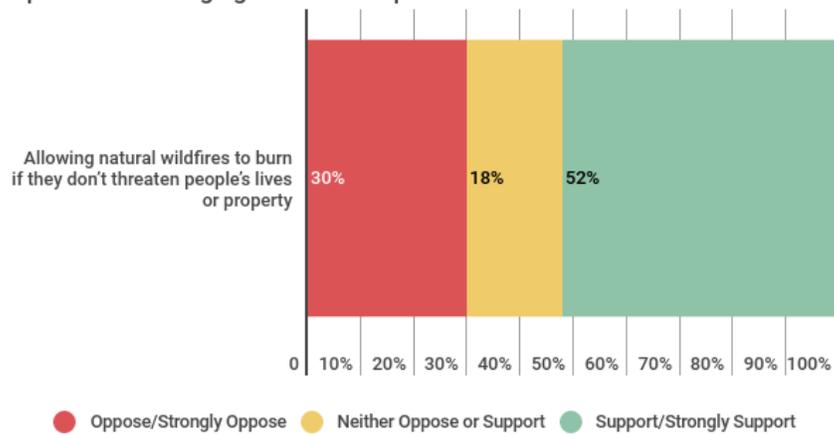
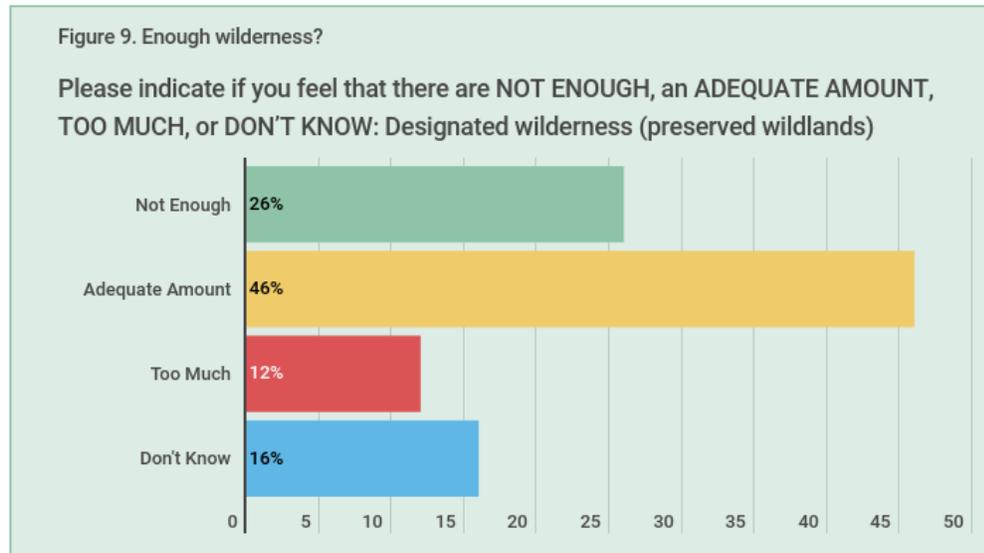


Figure 8. Preferences for natural wildfire management

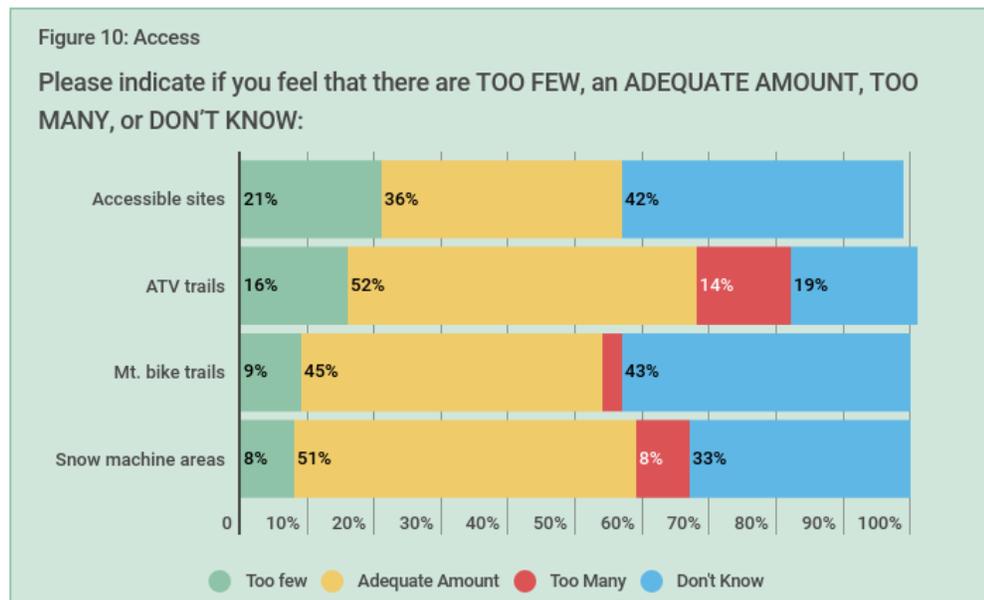
Please rate your level of support or opposition for the following management options for managing local federal public lands:



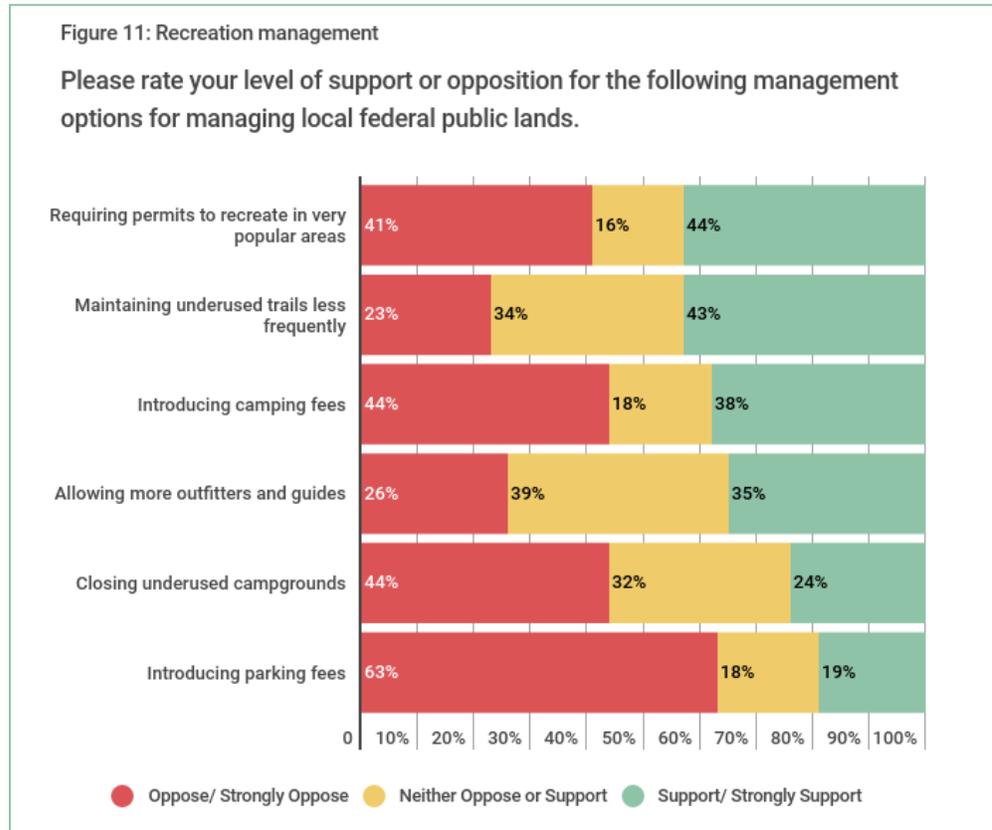
Enough Wilderness?



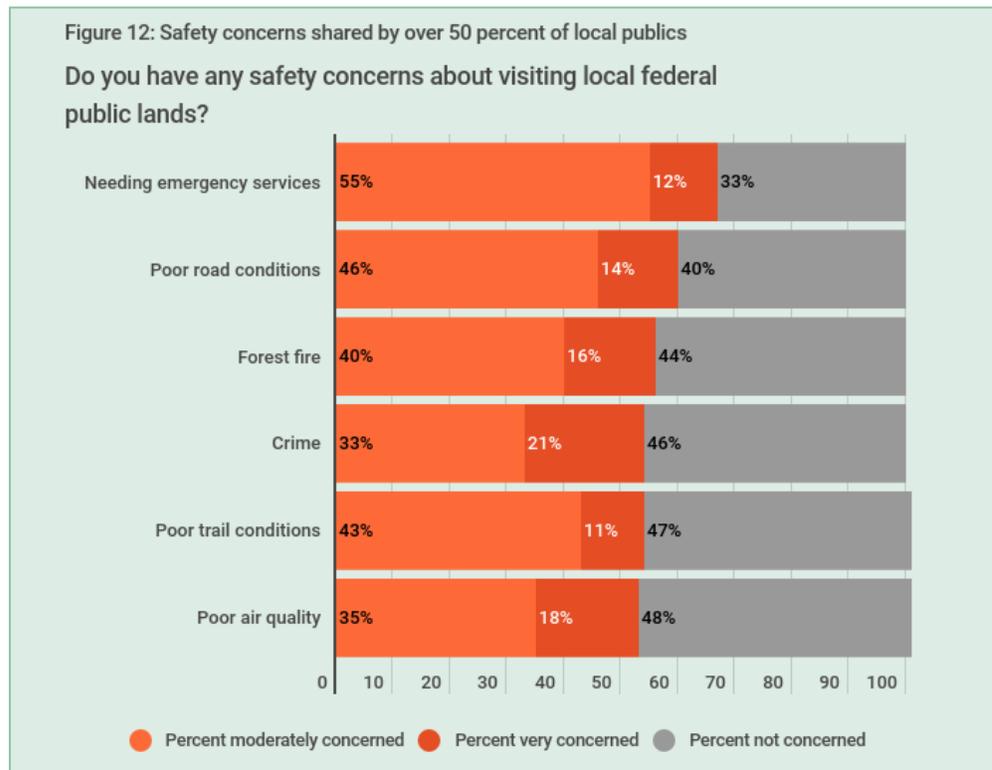
Access



Recreation Management

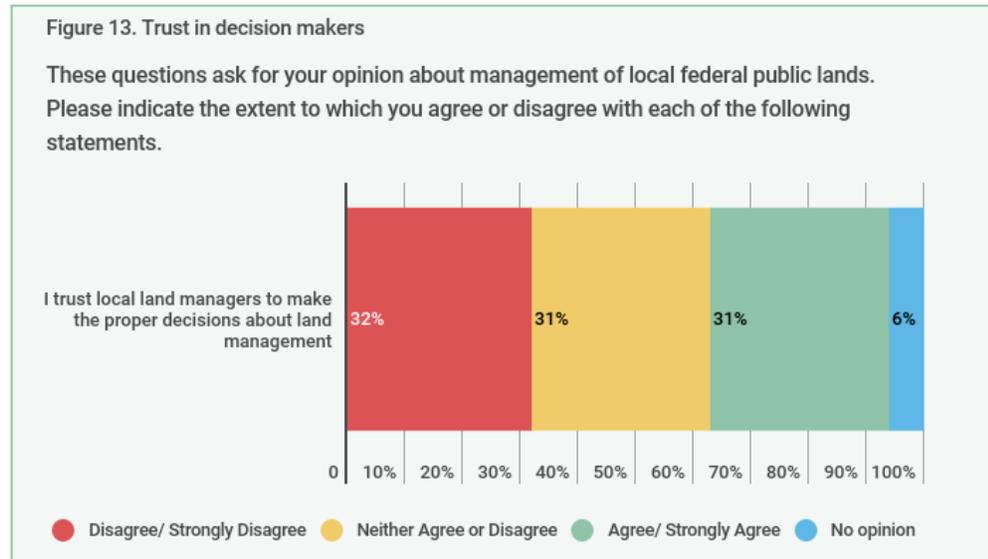


Safety

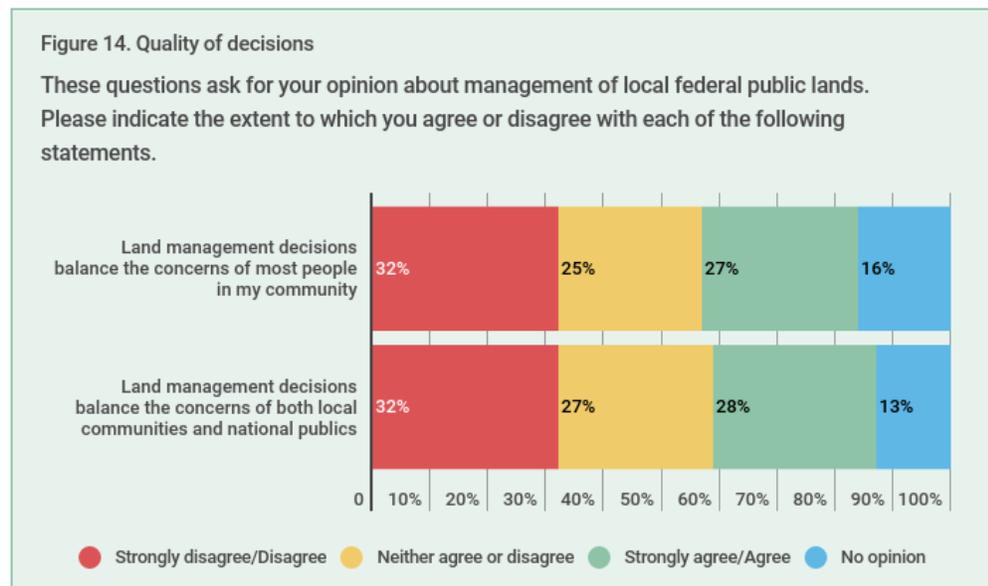


Local Relationships

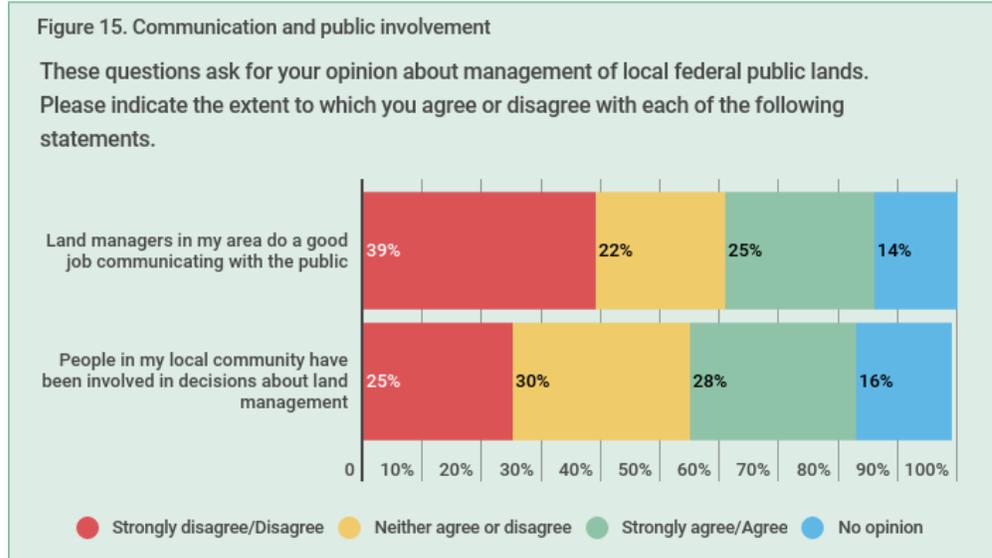
Trust in Decision Makers



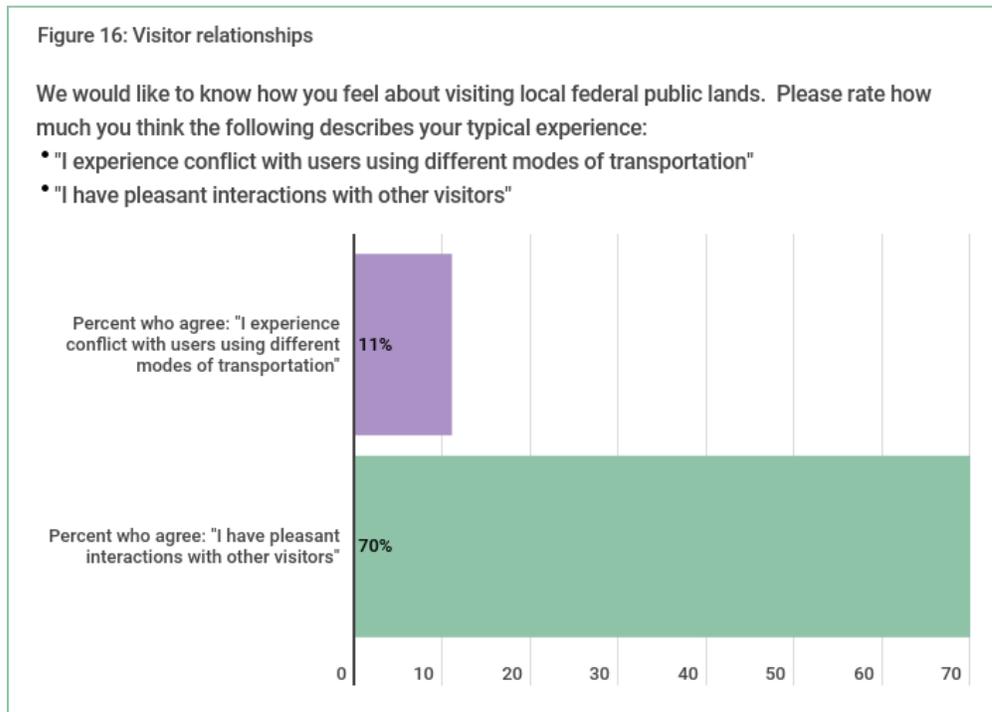
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

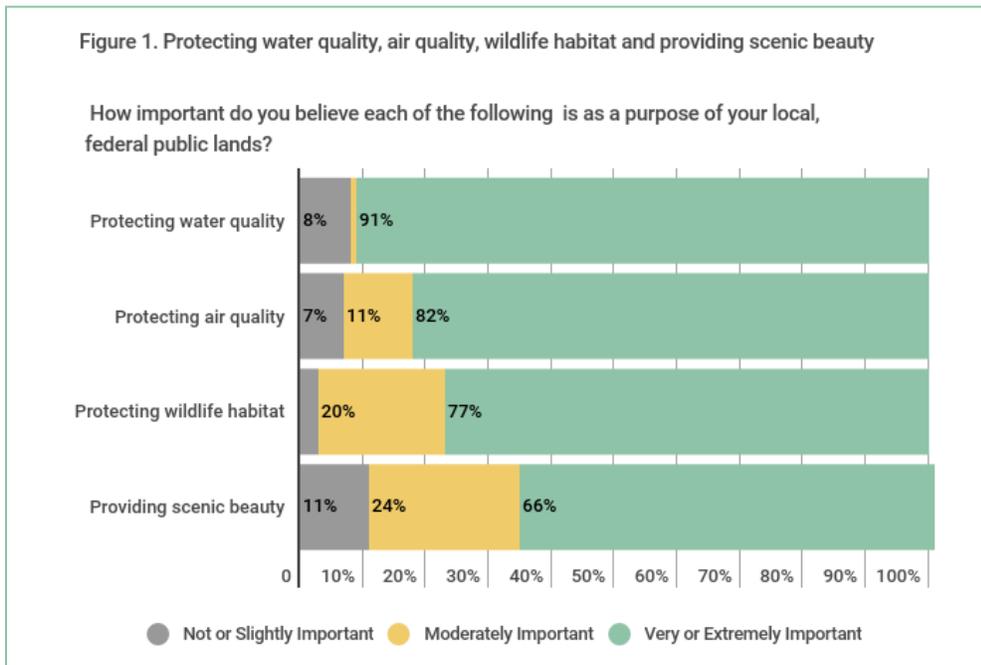


Kootenai National Forest

Total survey respondents: 200

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



Wild Places



Recreational Opportunities

Figure 3. Recreational priorities



79%

Percent of local public who cite recreation opportunities as a very or extremely important purpose of local, federal public lands.

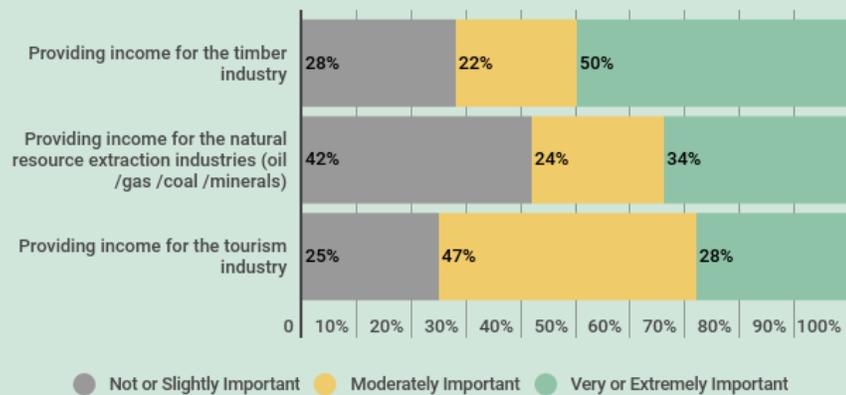
A majority of the local public participates in the following recreational activities on an annual basis: hiking/walking, relaxing, wildlife viewing, driving for pleasure, camping, fishing, picnicking, foraging and hunting.



Economic Opportunities

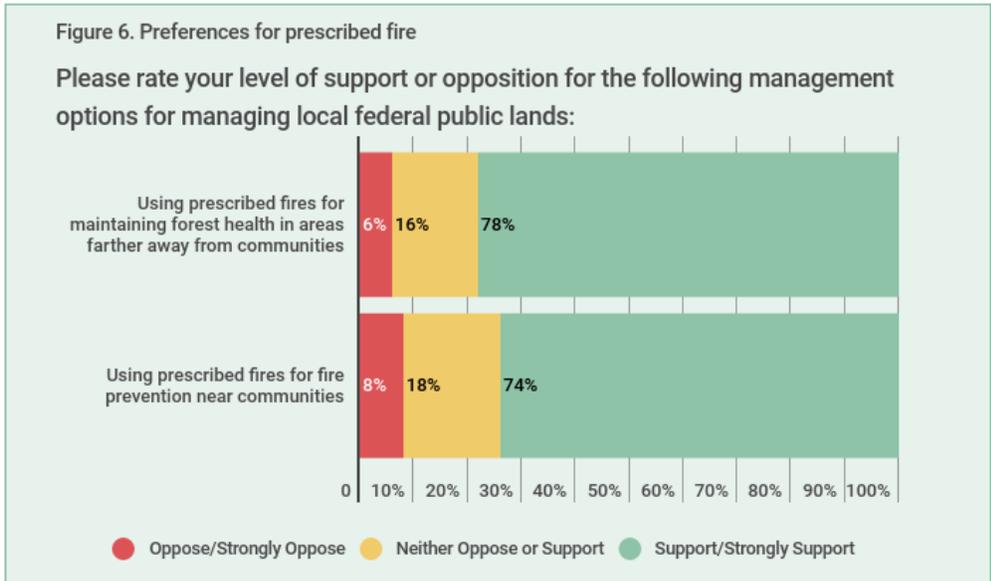
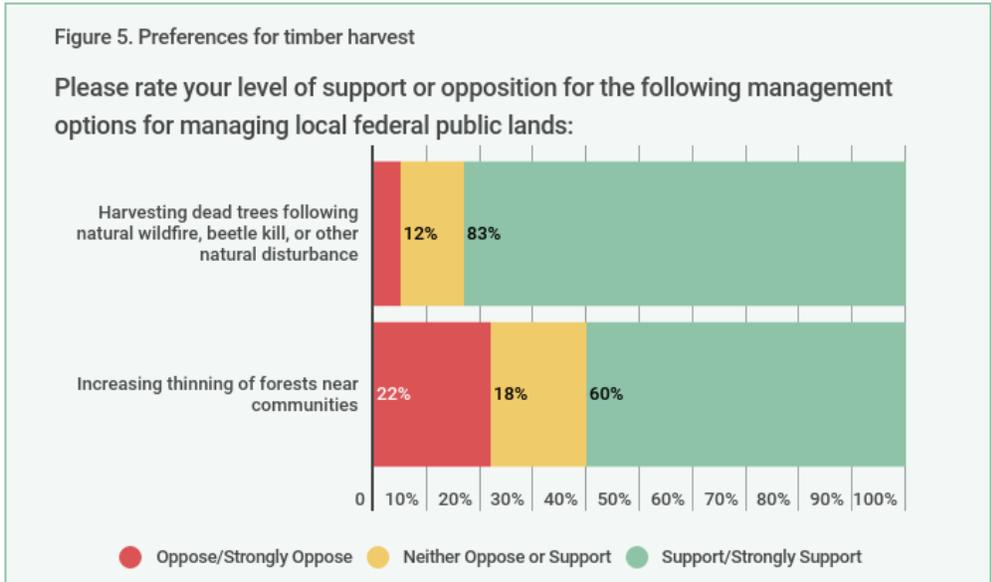
Figure 4. Economic priorities

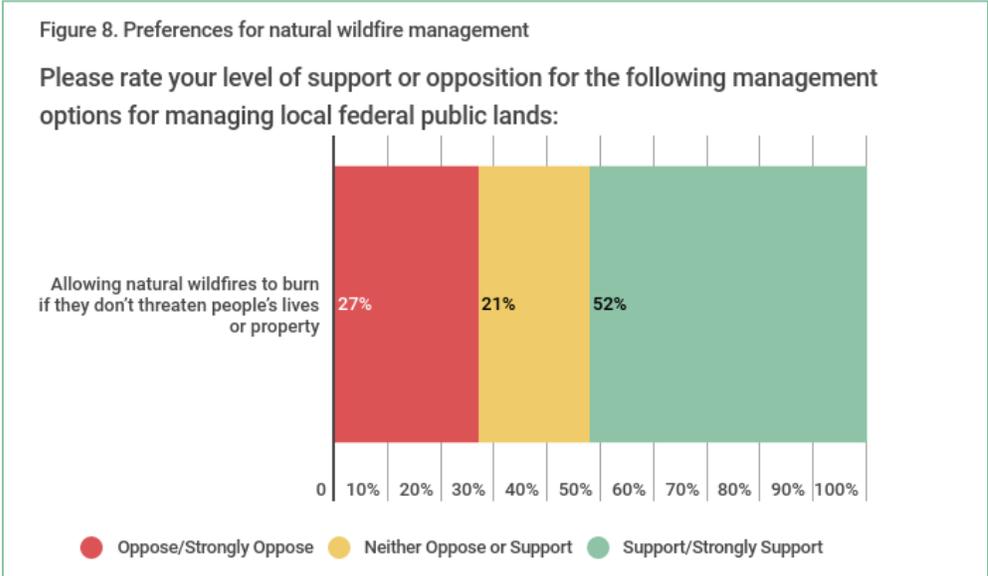
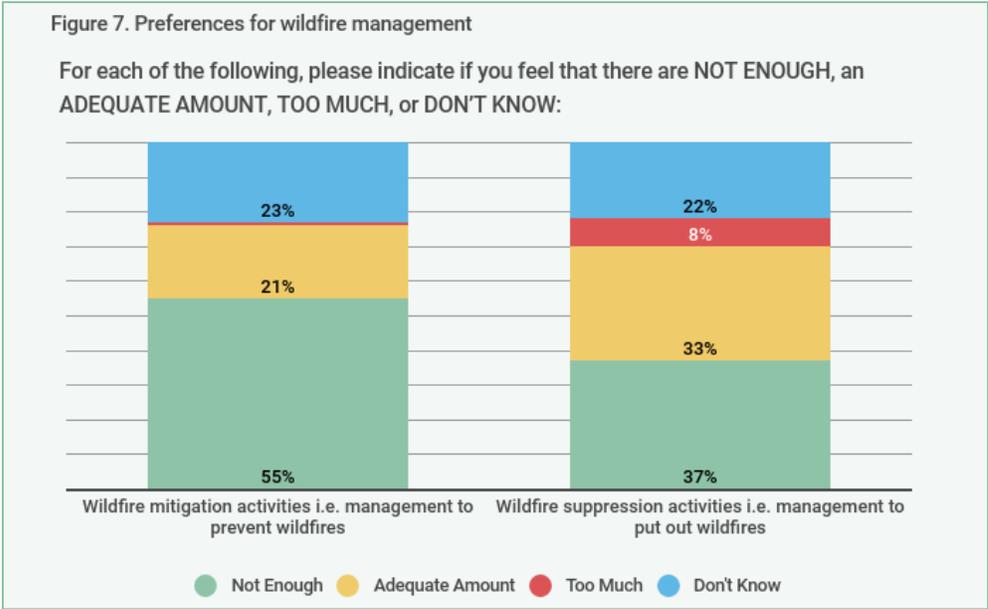
How important do you believe each of the following is as a purpose of your local, federal public lands?



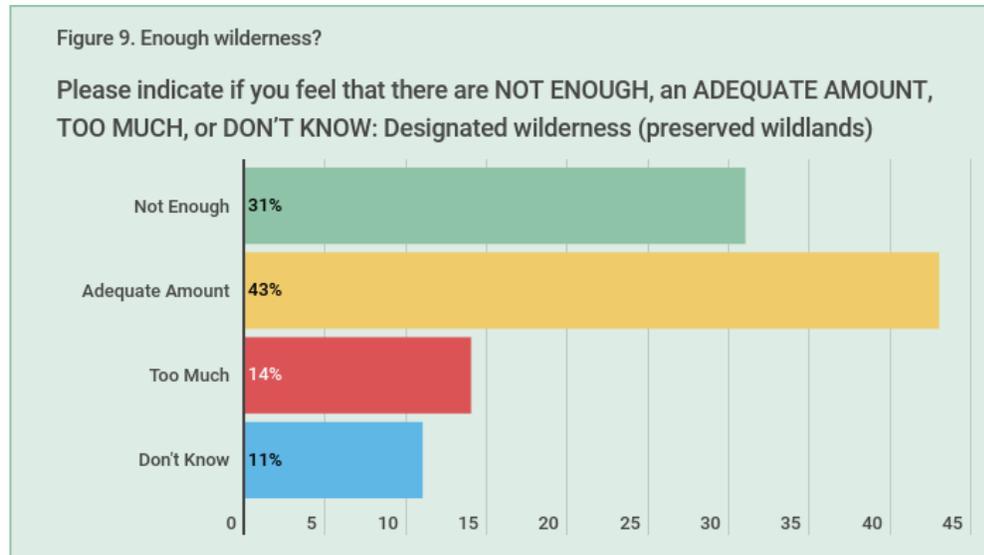
Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

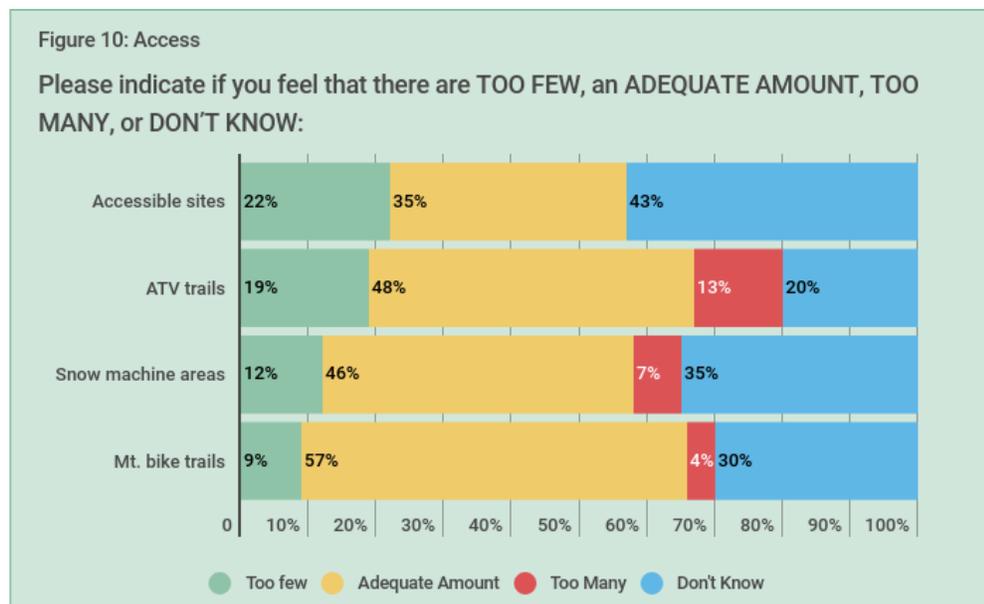




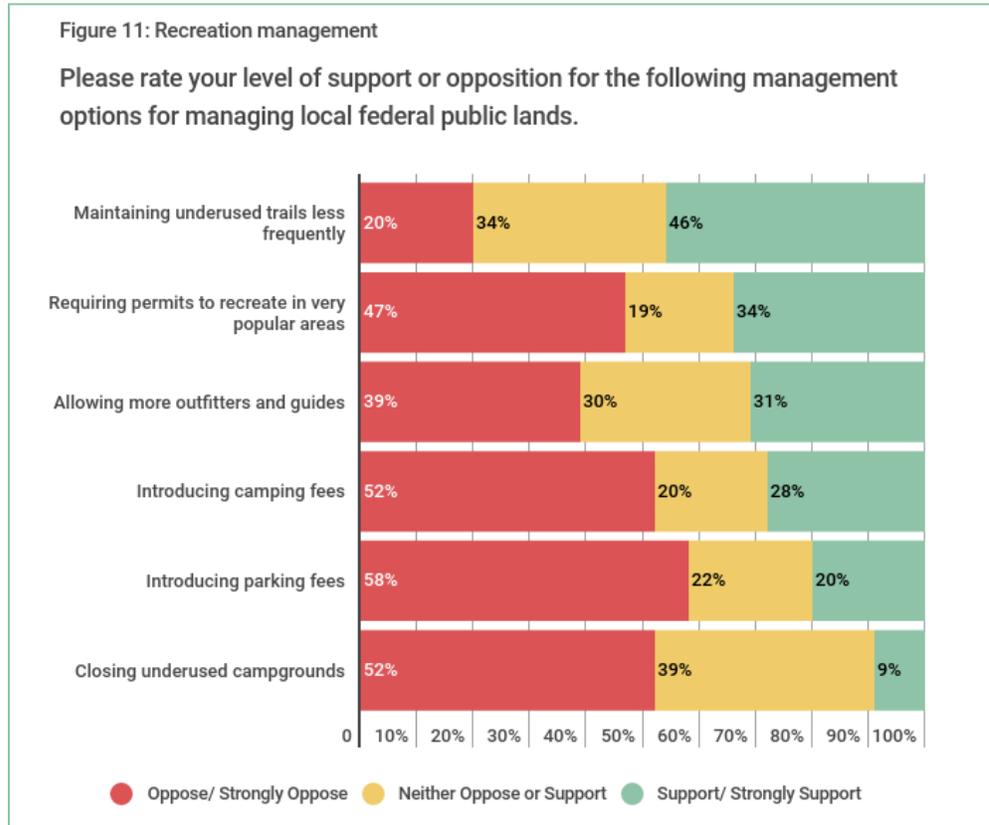
Enough Wilderness?



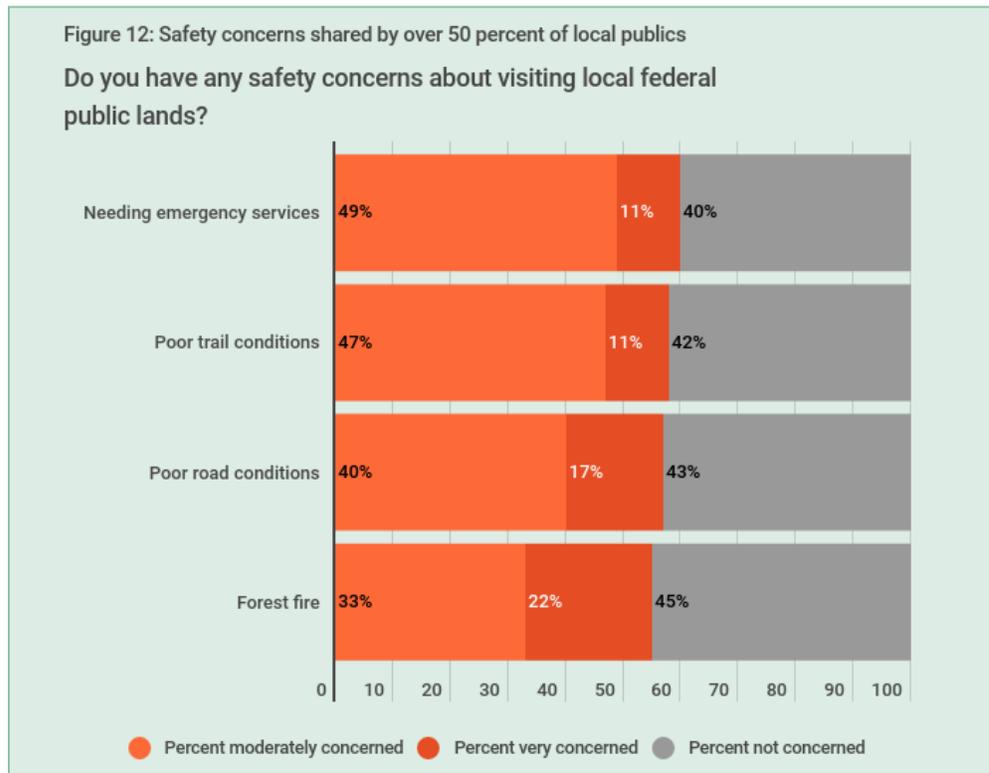
Access



Recreation Management

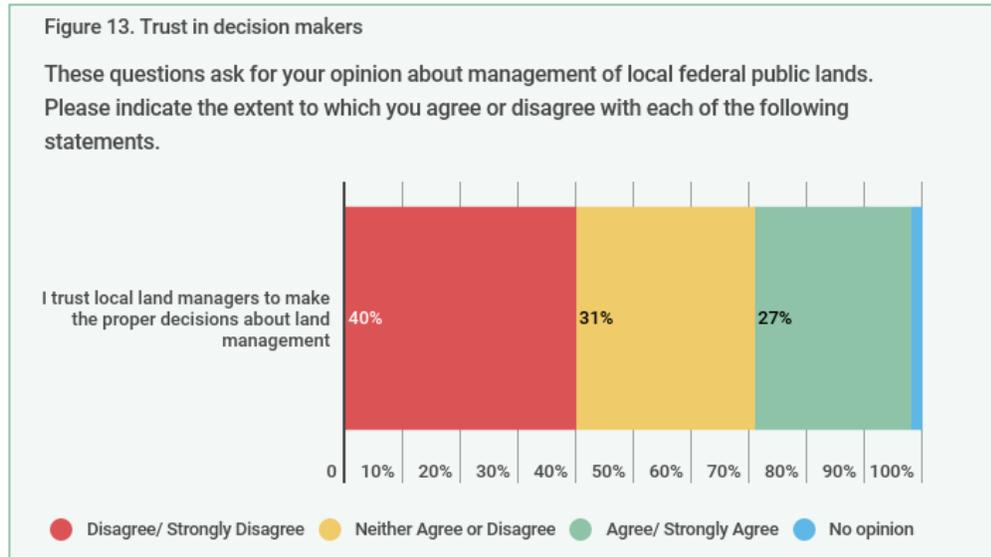


Safety

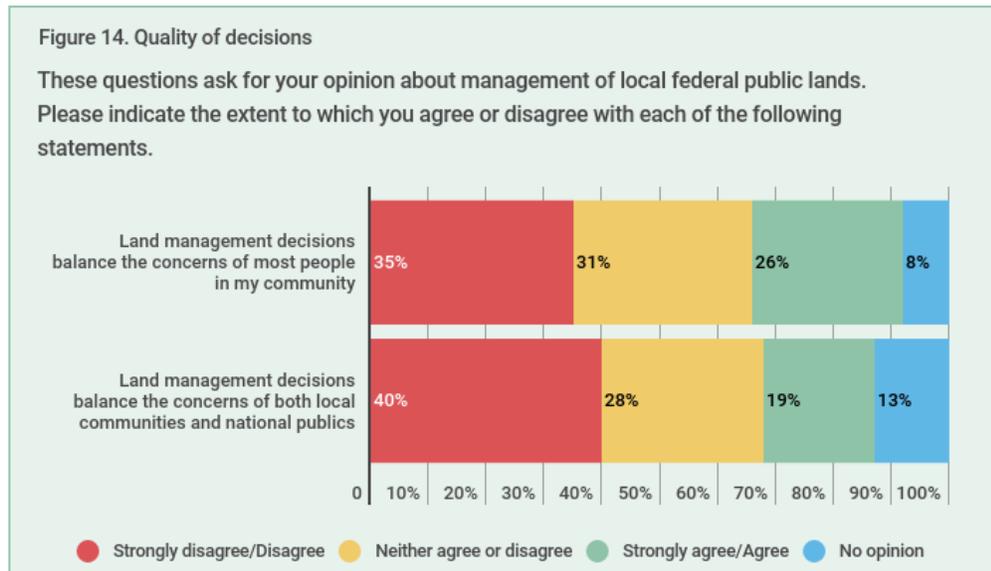


Local Relationships

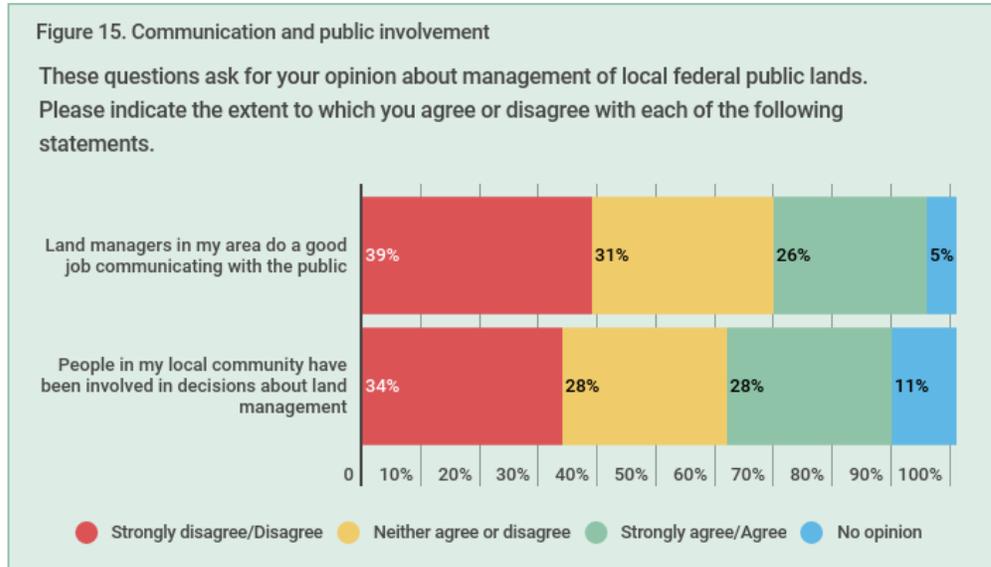
Trust in Decision Makers



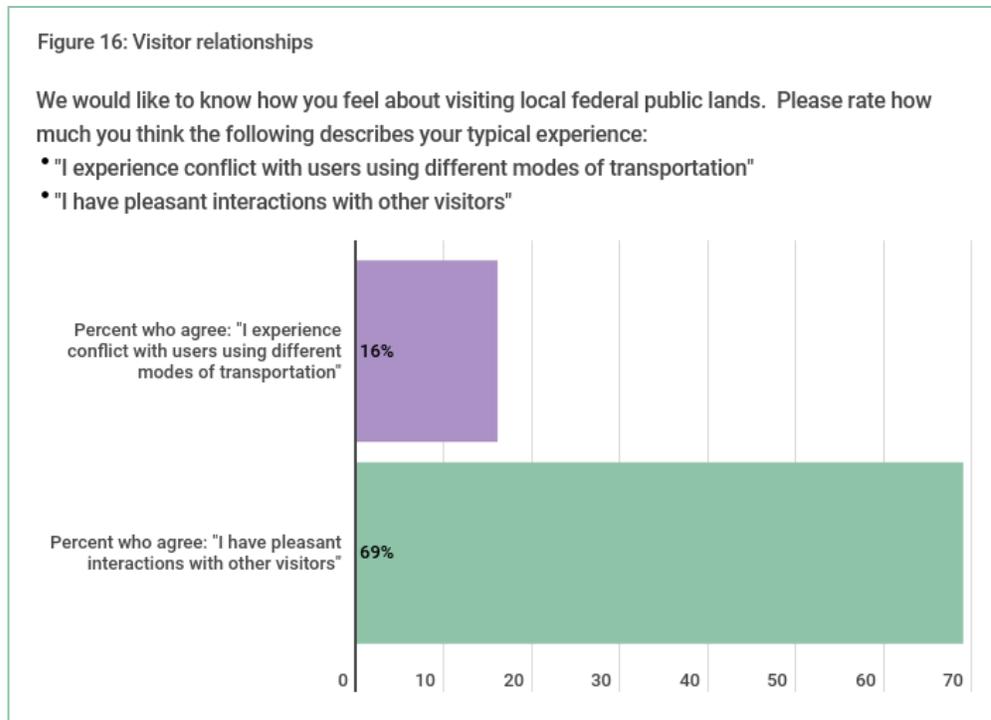
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

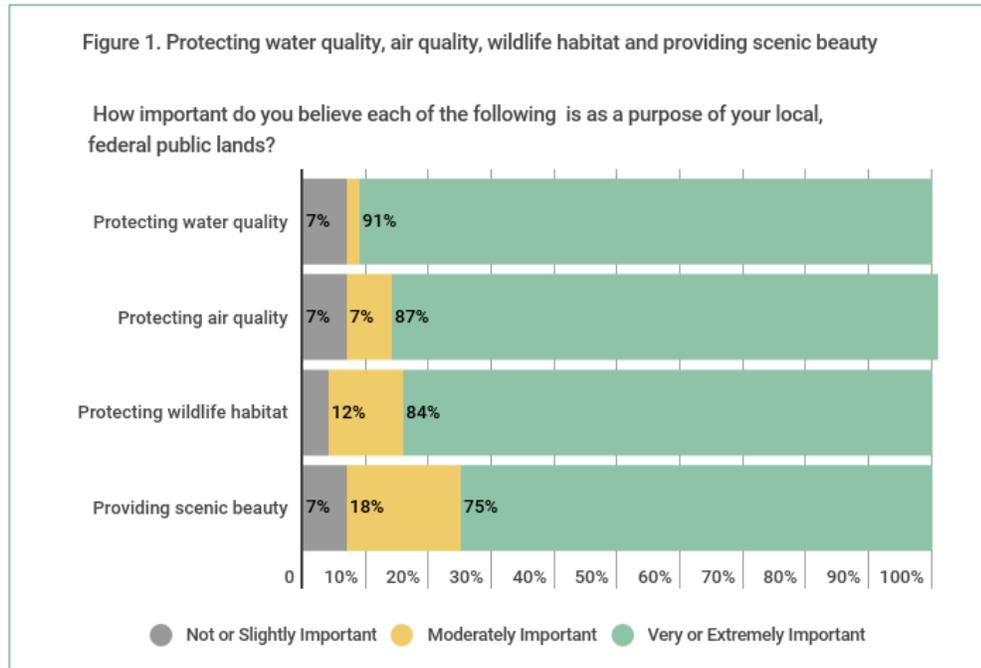


Lolo National Forest

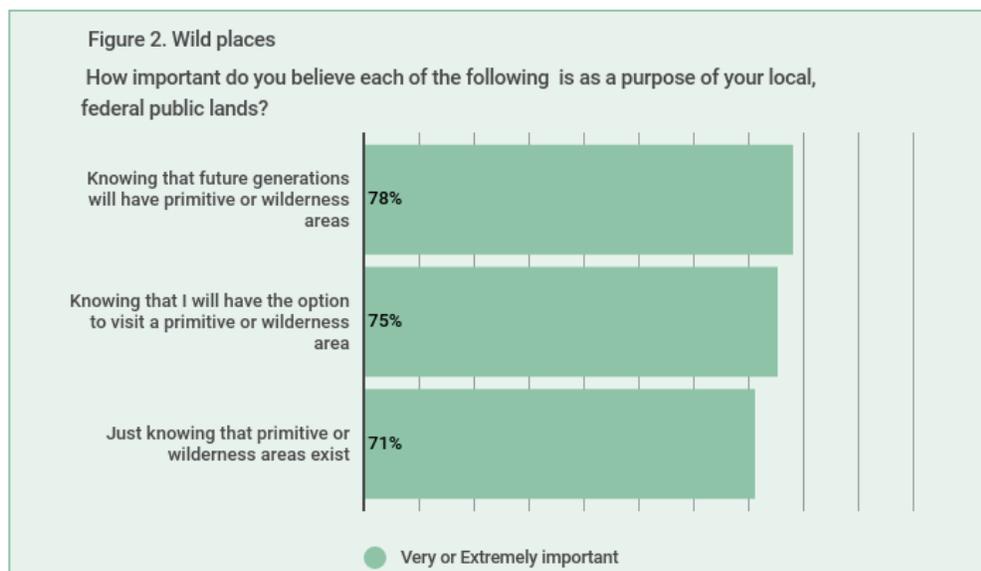
Total survey respondents: 250

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



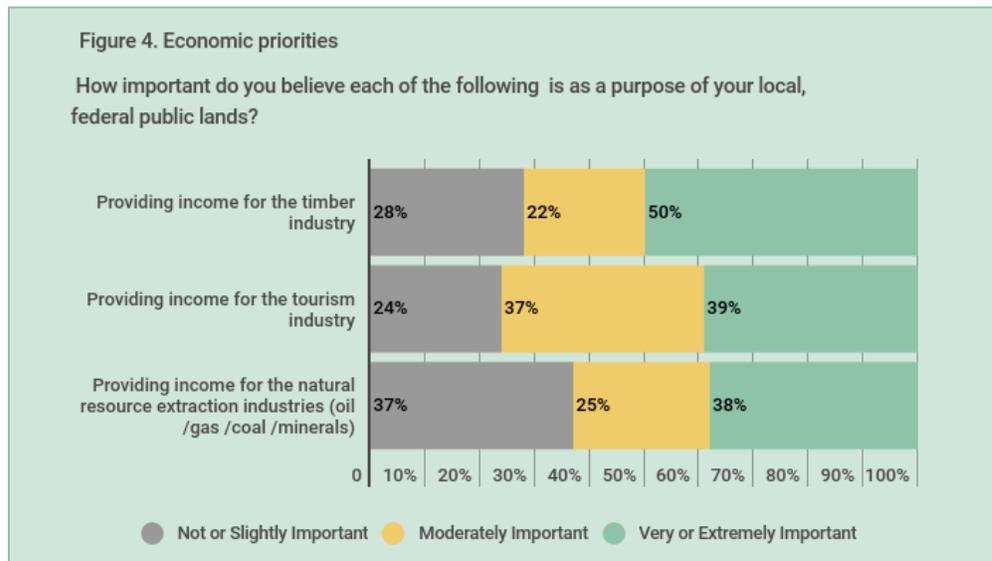
Wild Places



Recreational Opportunities



Economic Opportunities



Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

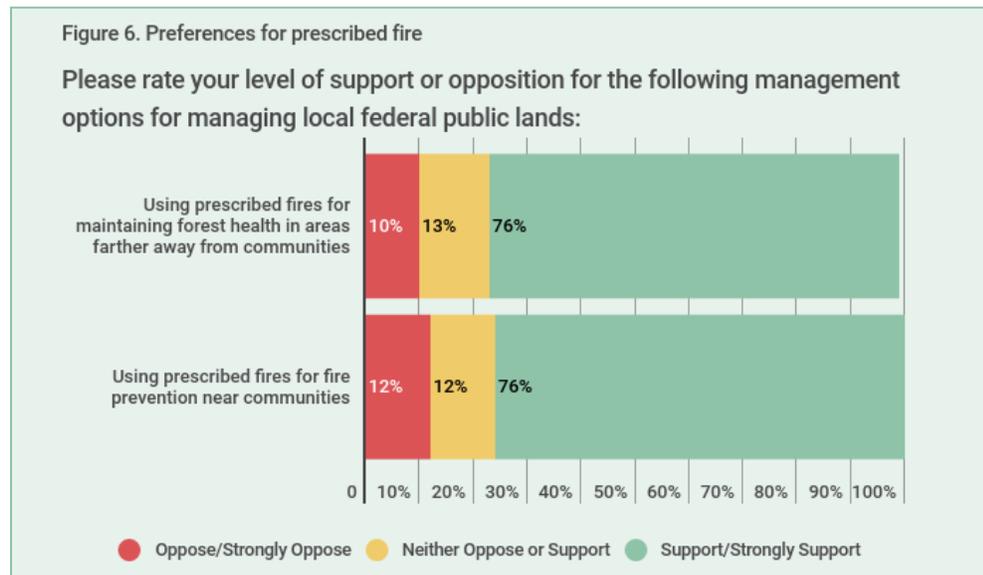
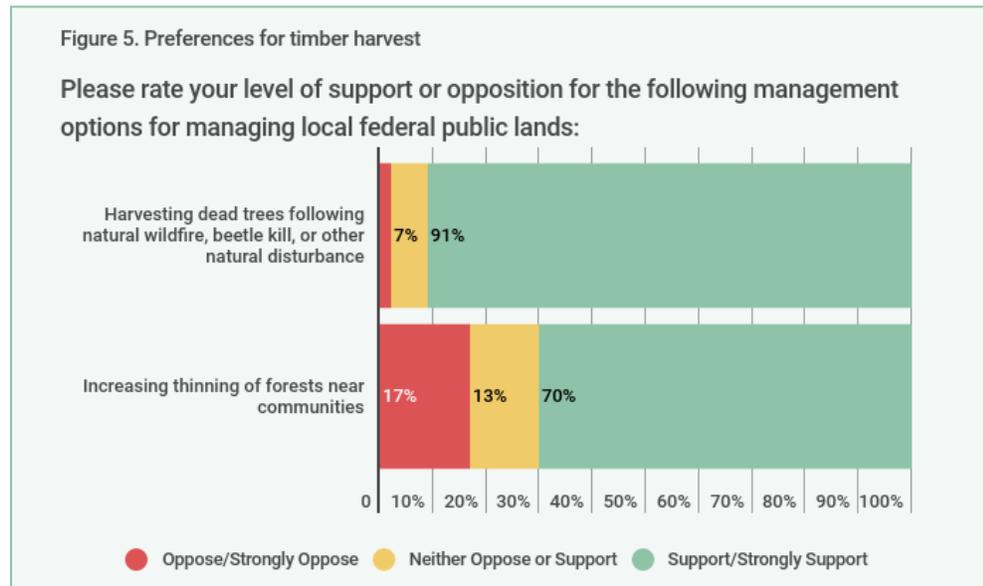


Figure 7. Preferences for wildfire management

For each of the following, please indicate if you feel that there are NOT ENOUGH, an ADEQUATE AMOUNT, TOO MUCH, or DON'T KNOW:

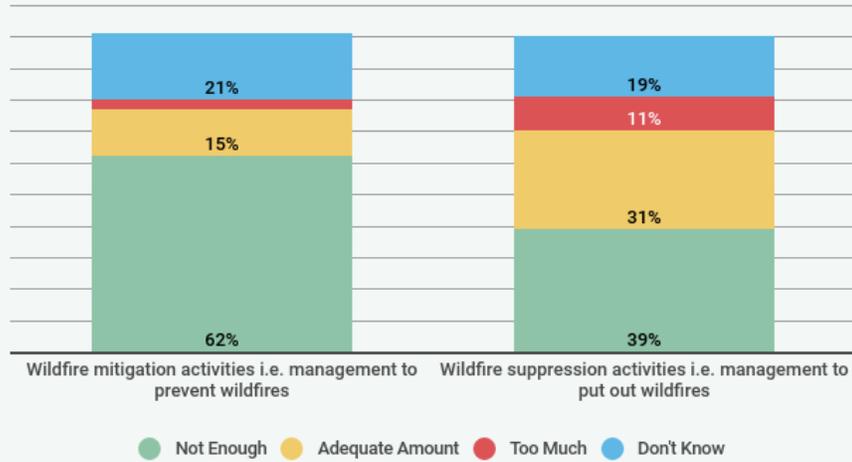
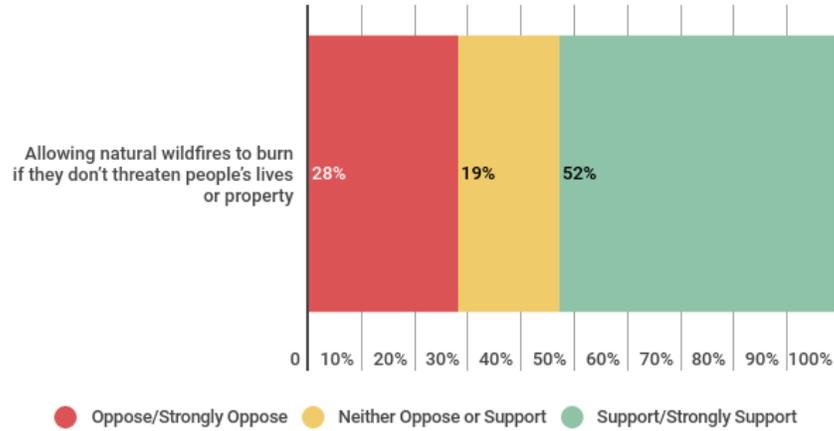
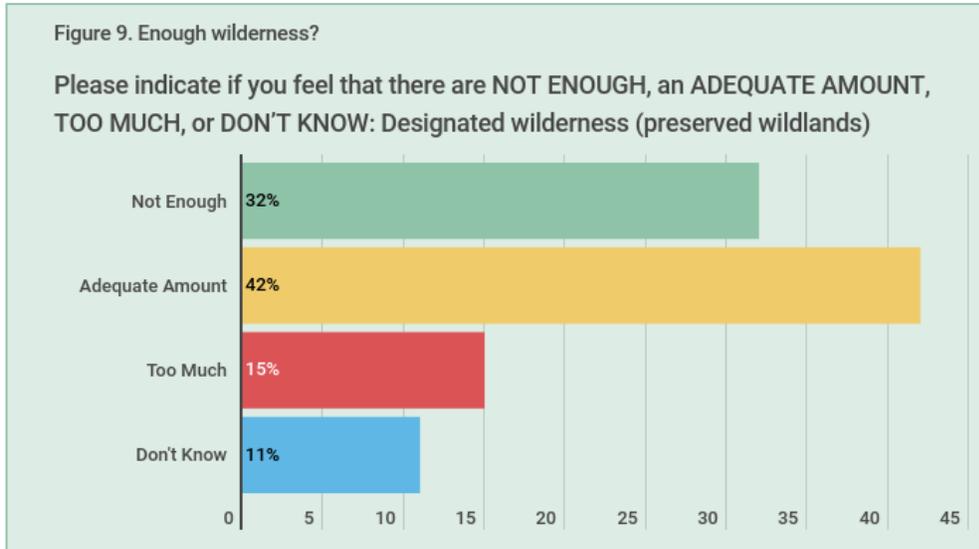


Figure 8. Preferences for natural wildfire management

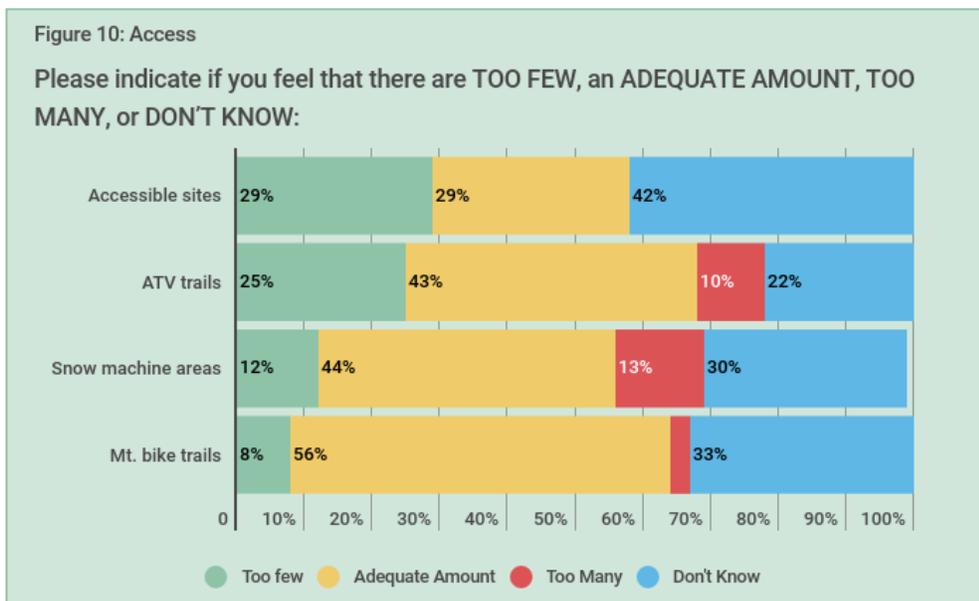
Please rate your level of support or opposition for the following management options for managing local federal public lands:



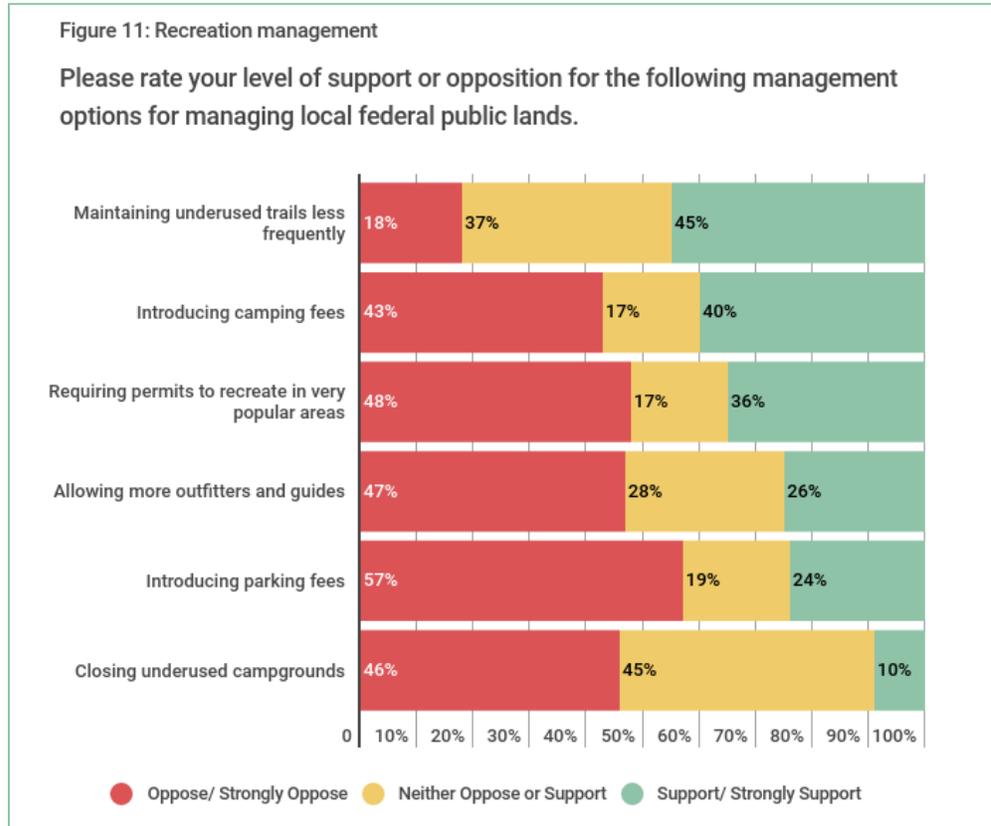
Enough Wilderness?



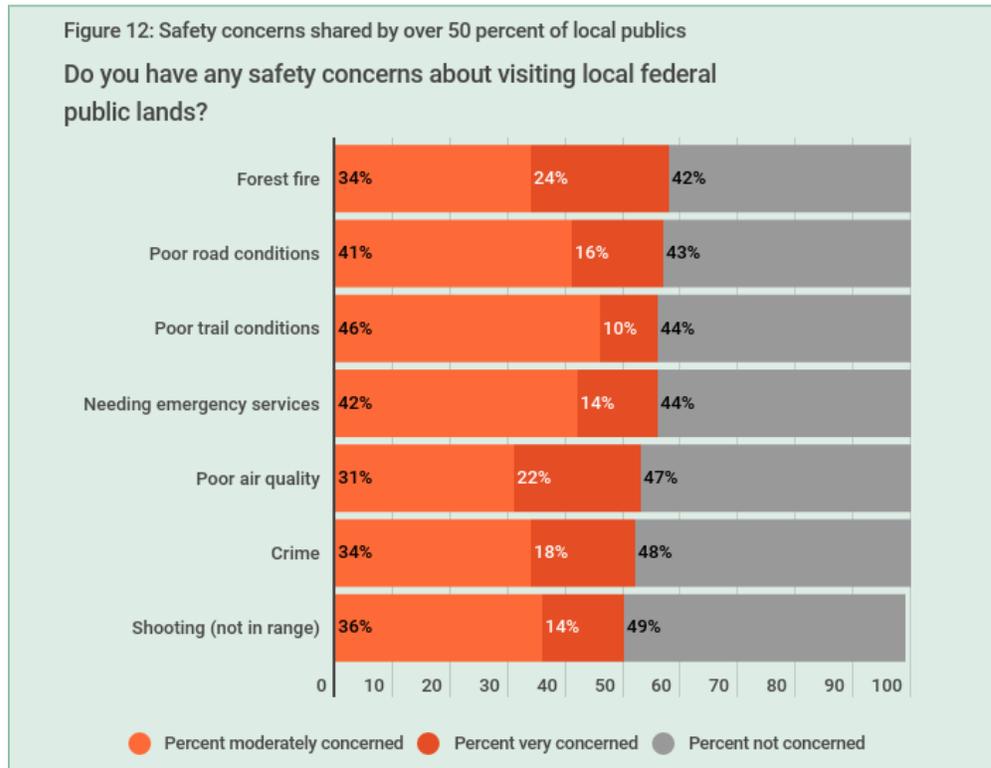
Access



Recreation Management

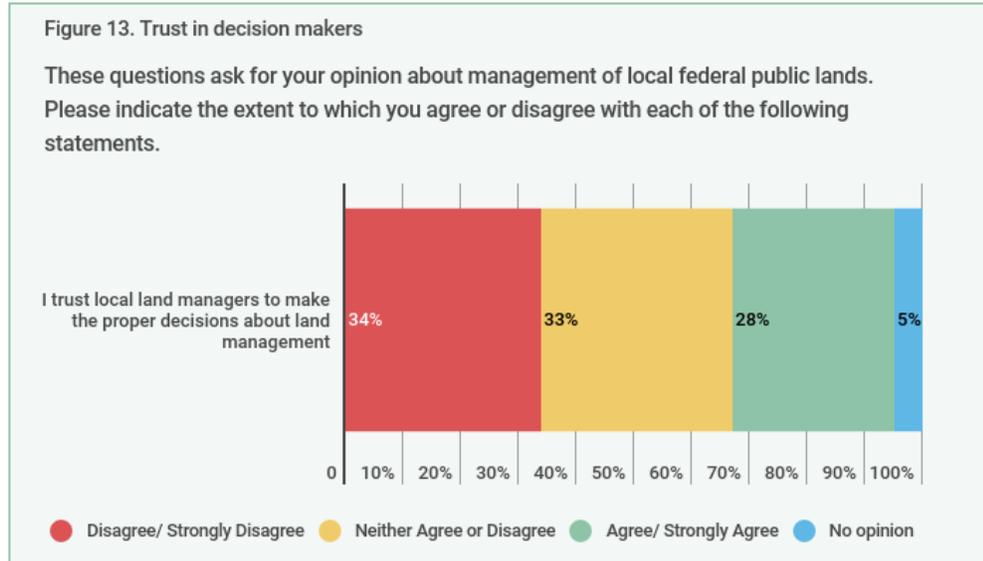


Safety

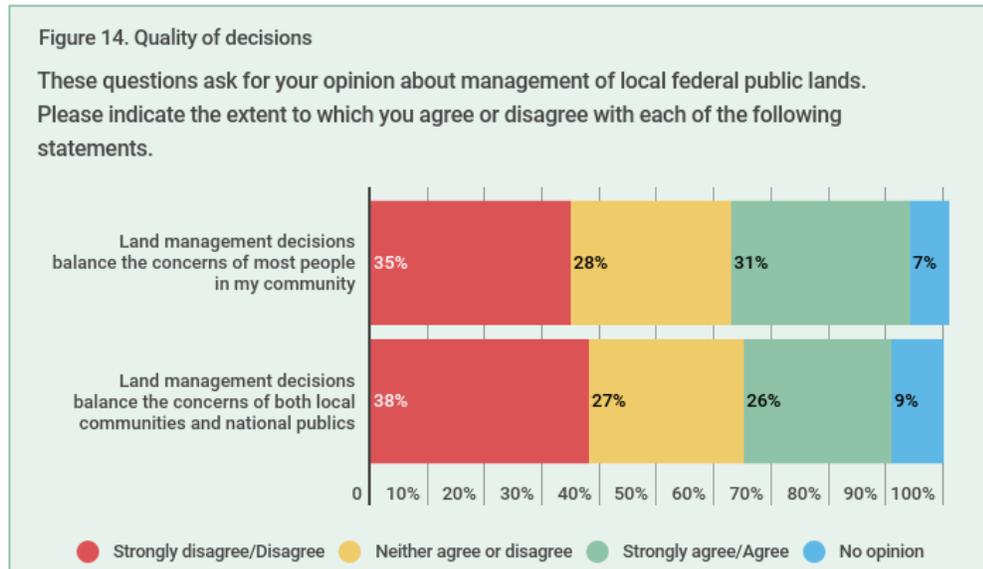


Local Relationships

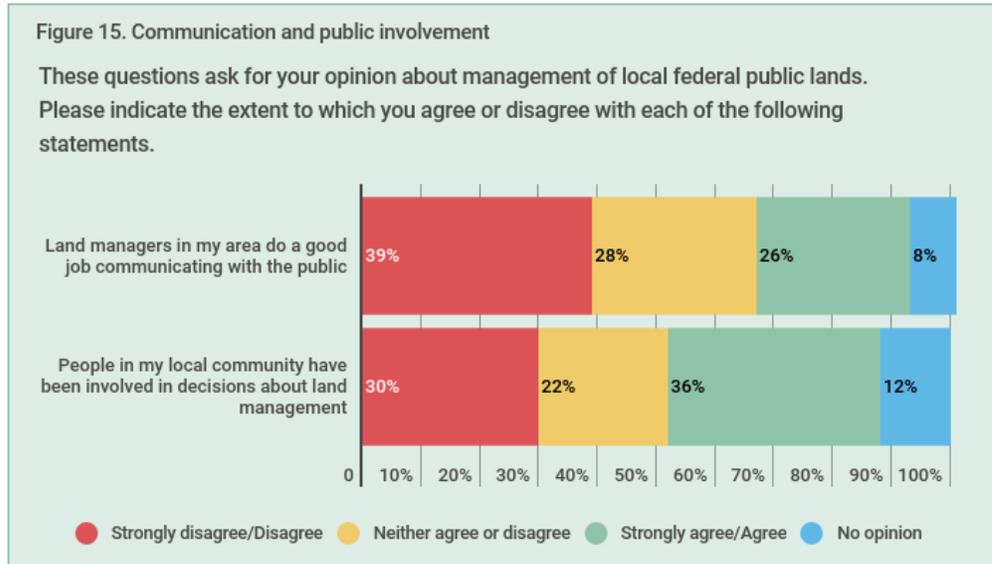
Trust in Decision Makers



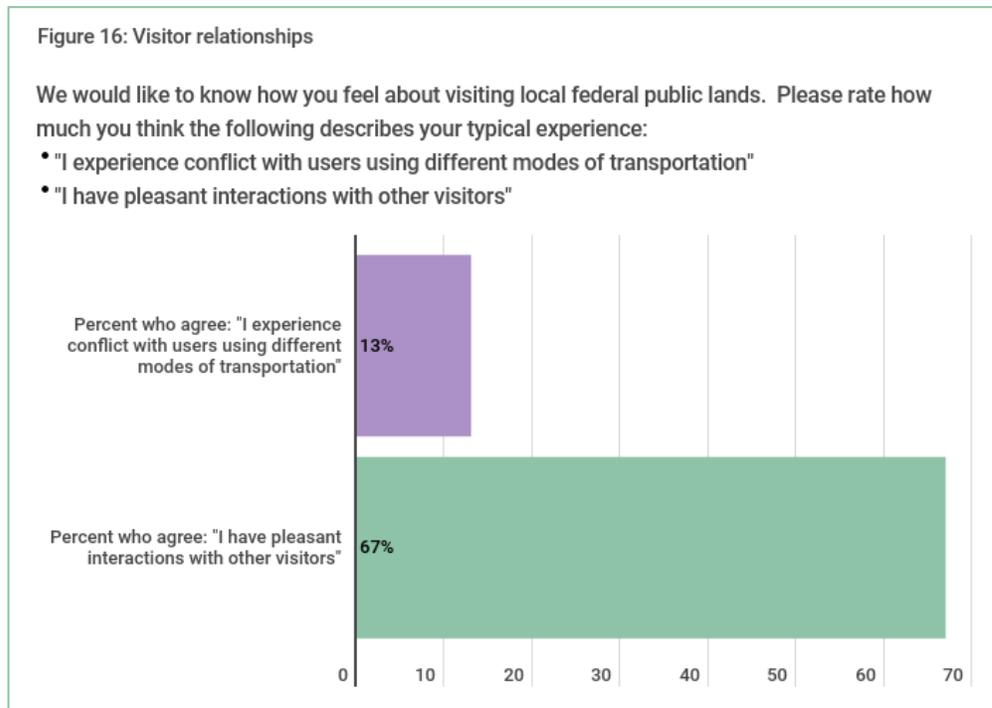
Quality of Decisions



Communication and Public Involvement



Visitor Relationships

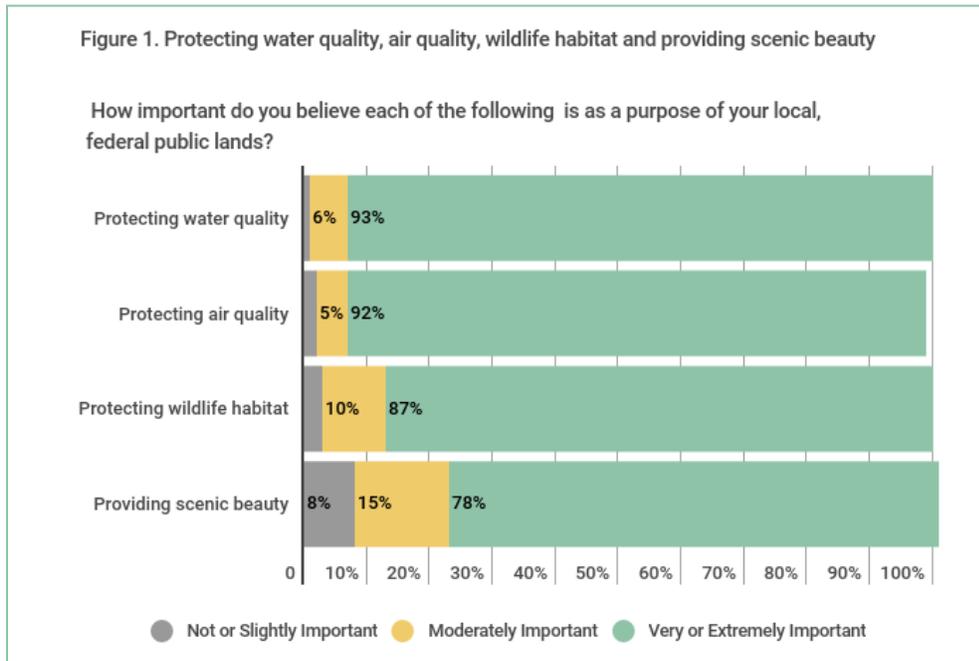


Nez Perce-Clearwater National Forests

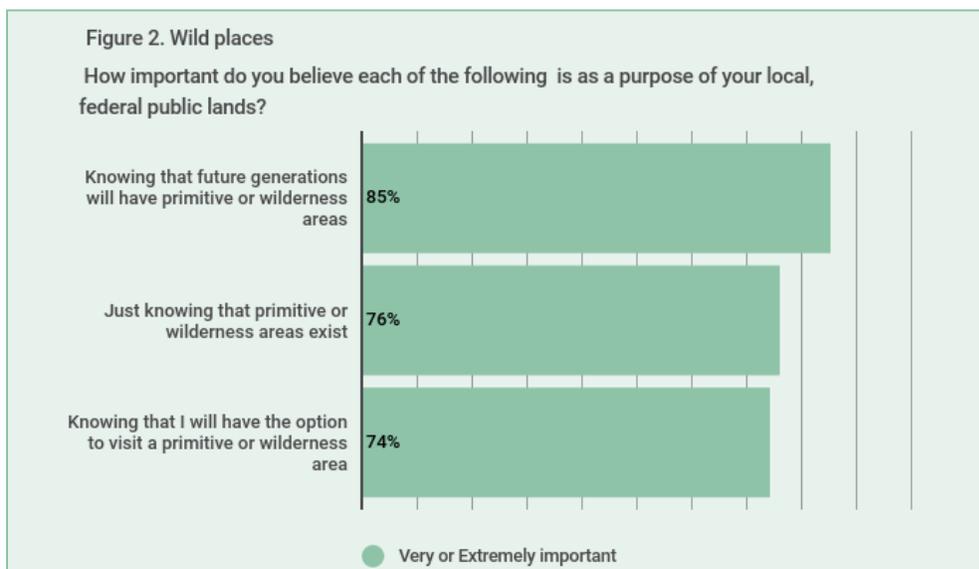
Total survey respondents: 359

Local Public Priorities for Local, Public Land Management

Clean Air, Water, Wildlife and Scenic Beauty



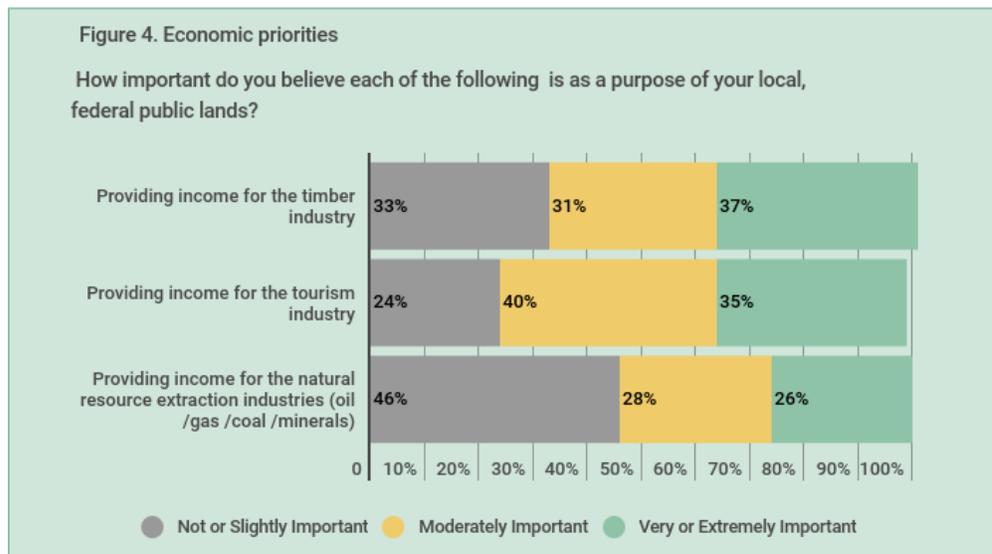
Wild Places



Recreational Opportunities

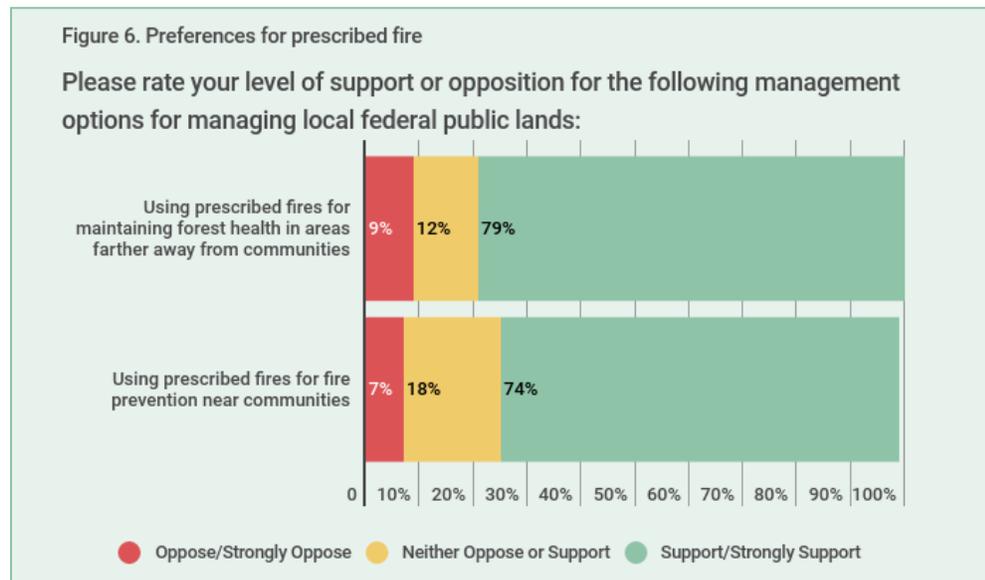
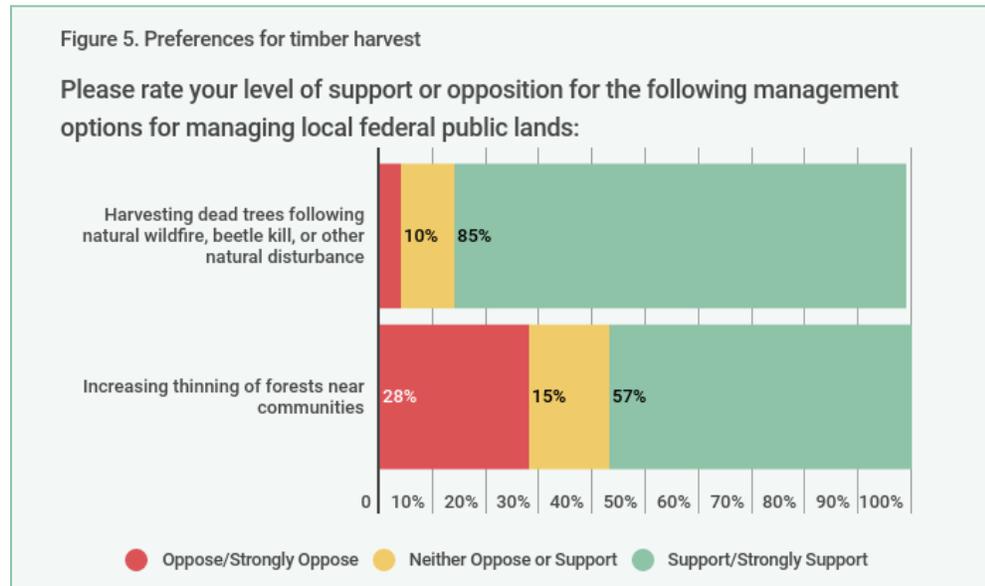


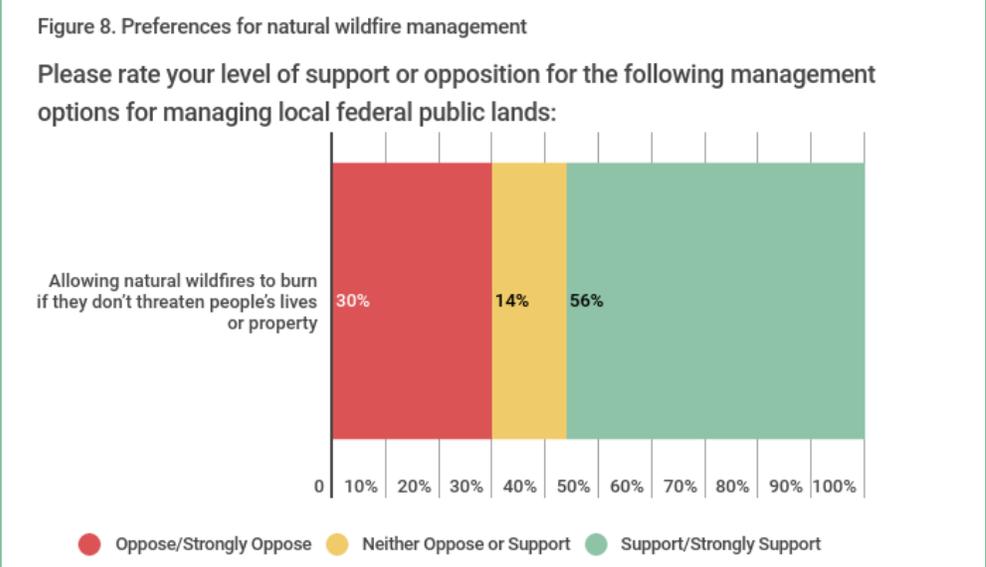
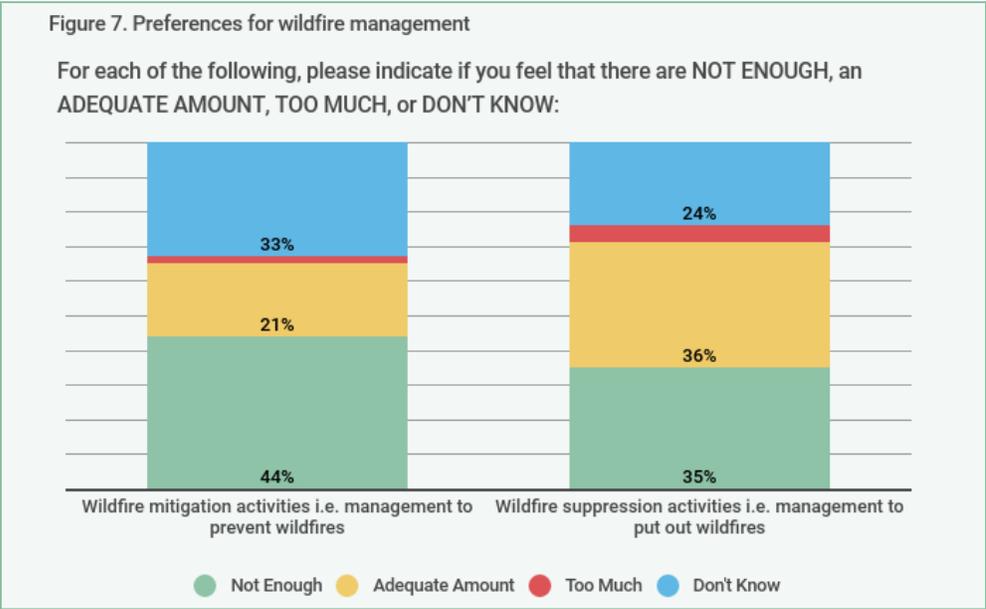
Economic Opportunities



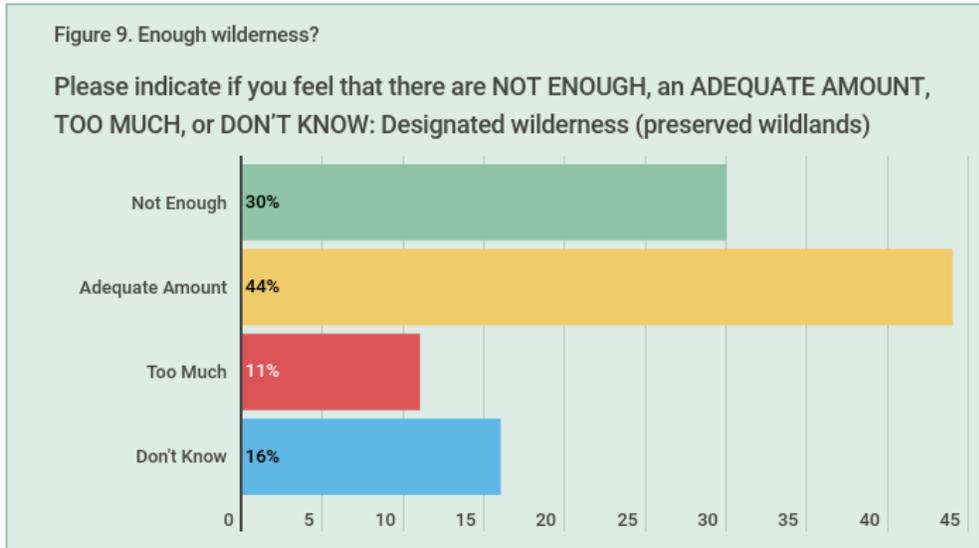
Local Public Preferences for Local, Public Land Management

Vegetation and Wildland Fire Management

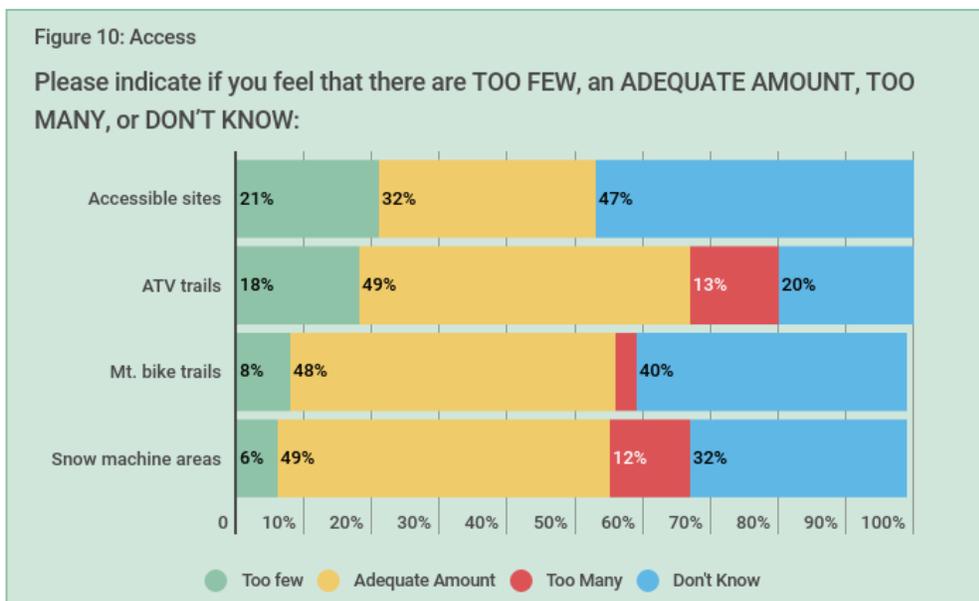




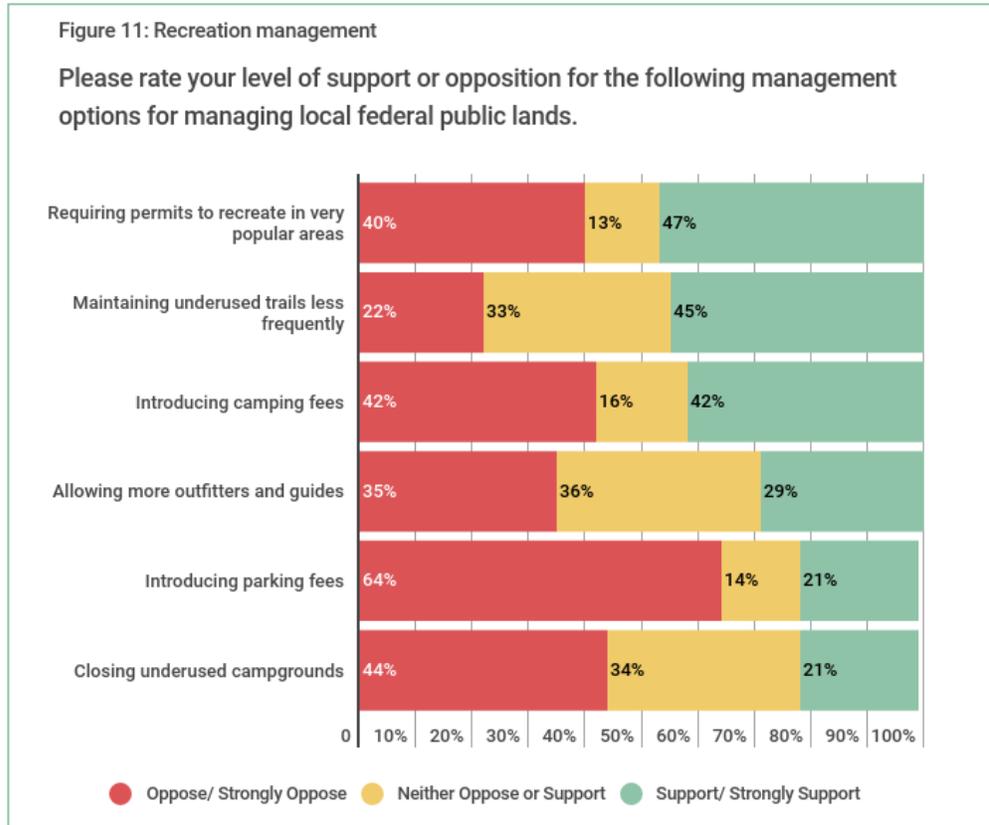
Enough Wilderness?



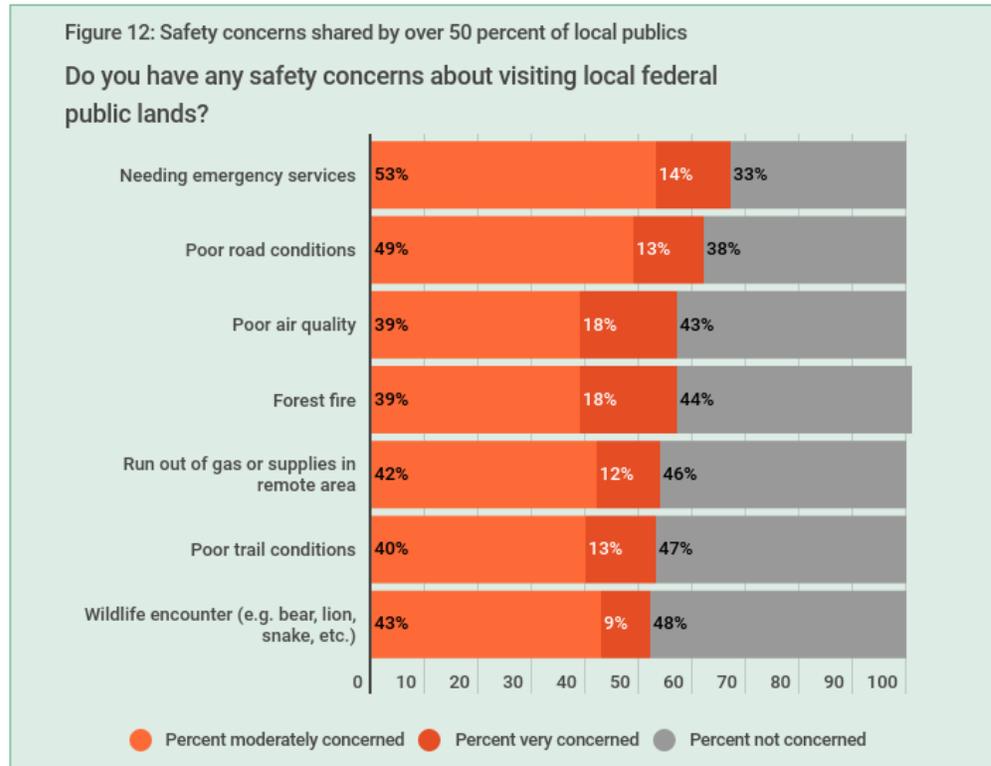
Access



Recreation Management

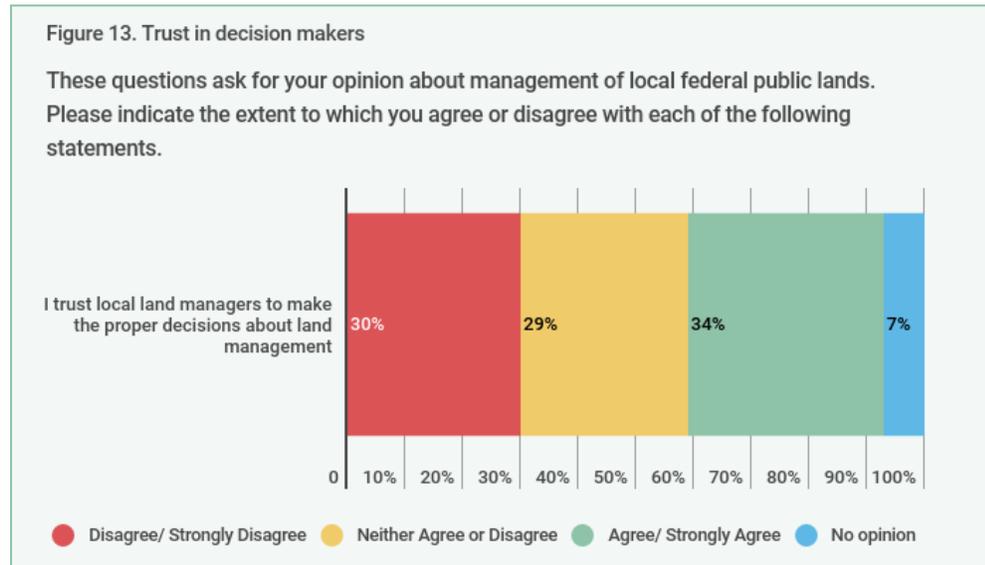


Safety

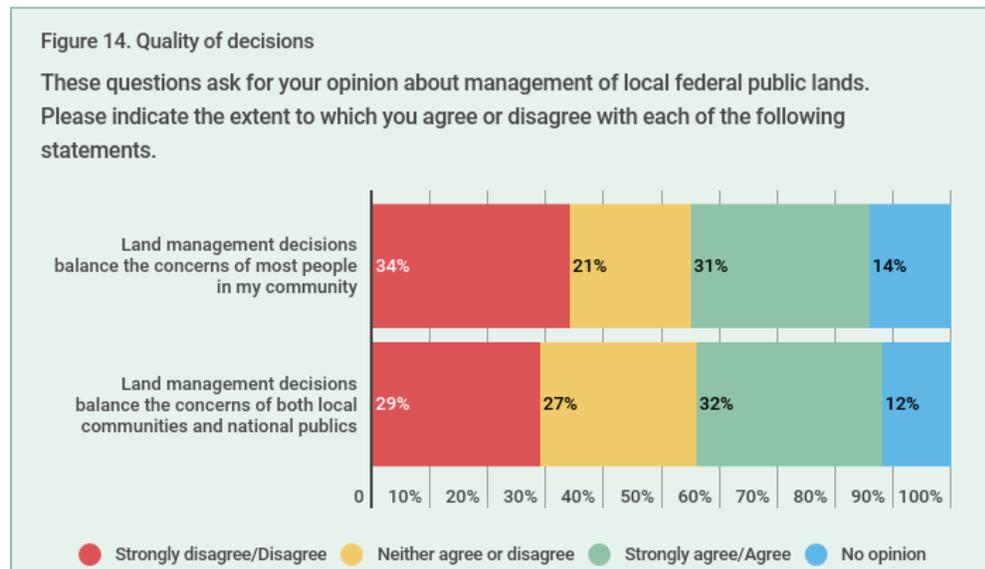


Local Relationships

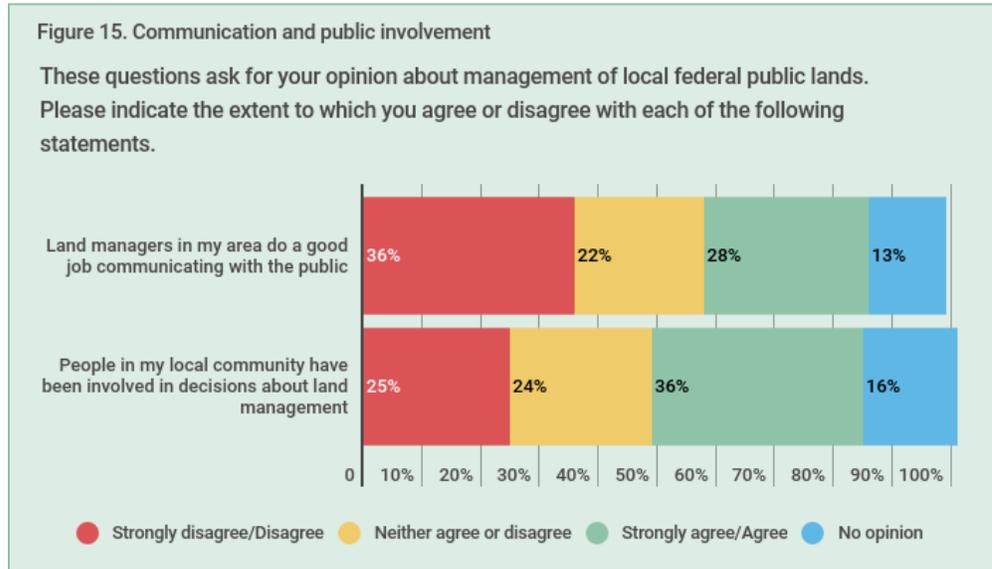
Trust in Decision Makers



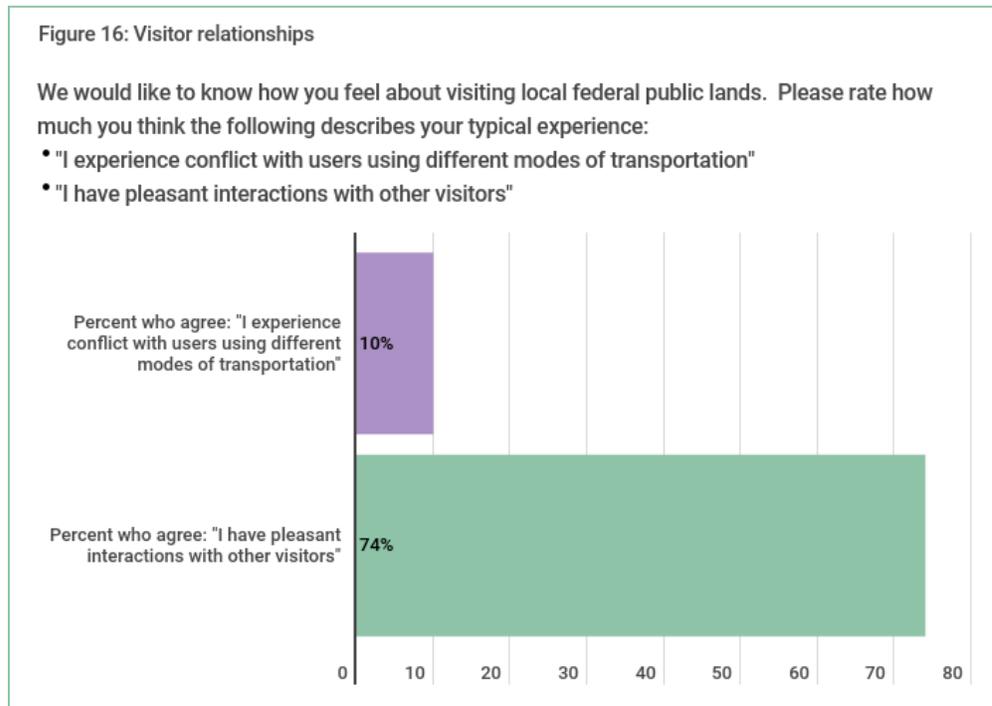
Quality of Decisions



Communication and Public Involvement



Visitor Relationships



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