GEM3 and Idaho Rangeland Resources Commission Statewide Survey: **Rangelands and Recreation Findings**

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Prepared for:
Idaho Rangeland Resources Commission

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Executive Summary

The Idaho Rangeland Resources Commission, in collaboration with researchers from Boise State University, Idaho State University, and the University of Idaho, and with support from the National Science Foundation Idaho EPSCoR Program, conducted a statewide telephone and web-based survey of Idaho residents regarding their opinions about sagebrush landscapes, rangelands, and public lands in Idaho. A total of 1,048 residents responded to the survey, including 786 web-based responses and 262 phone-based responses. The survey was designed to be representative of the state of Idaho, and all results are reported at the 95% confidence interval. The results of this study will be used to tailor educational efforts regarding Idaho's rangelands.

Use and Perceptions of Idaho's Public Lands

- The most common ways the survey respondents or a member of their household use sagebrush landscapes is by hiking (62%), camping (53%), and wildlife and bird watching (46%).
- Respondents approved most strongly of recreational uses of public lands, with 84% or more approving of hiking, wildlife and bird watching, camping, horseback riding, mountain biking, and guided recreation, while logging received the lowest approval rating (45%).

Perceptions of Rangelands and Rangeland Health

- A majority of respondents (51%) stated that the condition of Idaho's rangelands is "good" or "very good".
- Most respondents believe that cattle (70%) and sheep (68%) producers manage rangelands in a responsible manner, and 73% of respondents felt that ranches and farms are important to the preservation of wildlife habitat.
- Seventy-six percent of respondents agreed that livestock grazing should be kept as part of the management of public rangelands.
- Nearly one half (44%) of respondents felt that wildfire was a "significant" or "severe" problem for Idaho's rangelands, with an additional 31% stating it was a "moderate" problem.
- Sixty percent or more of respondents felt that reducing the risk of wildfire to communities, maintaining wildlife habitat, and preventing the spread of invasive species are "high" priorities for making decisions about public rangelands.
- When asked which agencies or groups were reliable with respect to information about rangelands, the US Forest Service, Idaho Department of Lands, the Bureau of Land Management, and ranchers were rated most reliable, with 79%, 75%, 74%, and 70% of respondents, respectively, rating them as either "very" or "somewhat" reliable. Environmental groups had the lowest reliability ratings, with only 53% of respondents rating them as "very" or "somewhat" reliable.

Perceptions of Recreation Problems and Management on Public Lands

- Sixty-five percent of respondents had used public lands in Idaho for recreation in the past 12 months.
- Respondents frequently believed their personal recreational use of public lands to have "somewhat" to "very" positive impacts on the environment (42%) and to have "neither positive nor negative" impacts on other public lands users (40%).
- Sixty percent or more of respondents felt that traveling off of designated trails, displacement of wildlife, overcrowding by recreationists, soil and vegetation disturbance, and traveling outside of recreational areas were "moderate" to "very serious" problems related to recreation on public lands.
- Respondents supported traffic-control solutions (e.g., seasons of use, single-use areas) more strongly than fee-based solutions (e.g., annual use pass, daily access fee). Seasons of use and single-use areas were the most strongly supported, with 73% and 67% of respondents, respectively, supporting those measures "somewhat" or "strongly". Lottery-based permits were the least supported measure, with 32% of respondents supporting this measure "somewhat" or "strongly".

Introduction

The Idaho Rangeland Resources Commission, in collaboration with researchers from Boise State University, Idaho State University, and the University of Idaho, and with support from the National Science Foundation Idaho EPSCoR Program (award number OIA-1757324), conducted a statewide survey of Idaho residents regarding their opinions about sagebrush landscapes, rangelands, and public lands in Idaho. Where applicable, results are compared with previous iterations of the study to see how public opinion about rangelands and public lands may be evolving given Idaho's continued population growth. A new question set regarding perceptions of recreation issues and management was also developed and included in the 2021 survey.

Telephone interviews and online survey questionnaires were conducted with 1,048 residents. The study was designed to provide results that are representative of the state of Idaho. Responses were weighted by age and gender, county, race/ethnicity, and level of education for representation. All results are reported at the 95% confidence interval. This weighting process helps better account for the possible differences in respondents completing the survey using different methods (i.e., mobile phone vs. landline vs. online).

The survey instrument was developed cooperatively by researchers from Boise State University, Idaho State University, the University of Idaho, the Idaho Rangeland Resources Commission, and Responsive Management, which was contracted to conduct the survey. The survey was divided into three parts to address each landscape type of interest (sagebrush landscapes, rangelands, and public lands). The results pertinent to the Commission's educational mission are reported in the following report sections. In addition, demographic questions were asked in order to assist with the analyses, as well as assess the level of sample representativeness. The final survey instrument is shown in Appendix A.

Methodology

Questionnaire Design, Sampling, and Response Rates

The study entailed a survey sample of the general Idaho population, which included both telephone and online samples. For both samples, respondents had to be 18 or older and a resident of Idaho to take the survey. The two sample groups received the same survey questions. Because a multi-modal approach was used, different questionnaires were created for telephone surveying and for online surveying, with slight wording differences to account for the different survey modes. The telephone and online survey questionnaires were developed cooperatively by researchers from Boise State University, Idaho State University, and the University of Idaho, the Idaho Rangeland Resources Commission, and Responsive Management. The study was reviewed by Boise State University's Institutional Review Board and met criteria under federal regulations and university policy (protocol number 090-SB20-130).

The sampling plan was designed to achieve a representative sample of Idaho residents aged 18 years old and older. Samples were developed with the goal of obtaining an accurate representation of adult Idaho residents, with 100 completed interviews in two oversampled counties of interest (Owyhee and Teton Counties), and 1,000 surveys overall.

The telephone sample used a probability-based selection process that ensured that each eligible respondent had an approximately equal chance of being selected for the survey. Respondents were contacted up to five times via phone for the telephone sample and up to three times via email for the online sample. The telephone sample was a randomly selected, statewide sample comprised of 70% cellular and 30% listed landline records.

Data collection was conducted in October and November 2021. A total of 1,048 surveys were completed for the study. Of the completed questionnaires collected, 25% (262) came from telephone interviews and 75% (786) came from online surveys. When reviewing the response rate table below, note that with reference to the online survey and those respondents originally contacted by phone who preferred to complete the survey online, an exact response rate cannot be calculated. Whereas telephone interviewers can ascertain whether a respondent is not an Idaho resident, refuses to participate, or cannot be contacted at the phone number provided, online surveying does not offer such nuance. In other words, some email addresses may no longer be in use, some respondents may refuse to participate, telephone respondents may request to take the survey online but never complete the survey, and some respondents may not be current Idaho residents, but there is not enough information to include these numbers in response rate calculations.

In the table below, the response rates are based on the number of completed surveys compared to the number of potentially reachable, eligible, and willing contacts, as well as respondents who terminated surveys before completion (Table 1). Of the refusals and incomplete surveys, 124 telephone surveys could not be completed due to language barriers.

Table 1. *Response rates for phone and online survey.*

Sample and Results	Phone	Online
Total Sample Used	4,387	1194
Completed Surveys	262	786
Disqualified (online surveys removed by researchers due to failure to correctly respond to attention checker question)	N/A	243
Ineligible (under 18 or nonresident)	56	N/A
Working Phone Number / Reachable contact	1423	N/A
Unreachable (disconnected numbers, busy signals, businesses, language barriers, etc.)	1346	N/A
Terminated Surveys	96	166
Refusal	1203	N/A
Response Rate	**15%**	**83%**

Data Analysis and Sampling Error

For analysis and statewide representation, county data was weighted to match county populations, including the two oversampled counties. Results were weighted by age and gender, county, race/ethnicity, and level of education. The weighting of data was performed using IBM SPSS Statistics, as well as proprietary software developed by Responsive Management. Data analysis was performed in R. Findings of the surveys are reported at a 95% confidence interval. More details on the weighting and error calculations can be found with the Detailed Methods Report in Appendix A.

Results

Demographic Profile of Respondents and Comparison to Census Data

Survey respondents came from all but three counties of Idaho (Camas, Clark, and Custer). Their distribution across counties matched well with the distribution of Idaho's population, except for where the survey intentionally over-sampled Owyhee and Teton Counties relative to their proportion of the state population (Fig. 1).

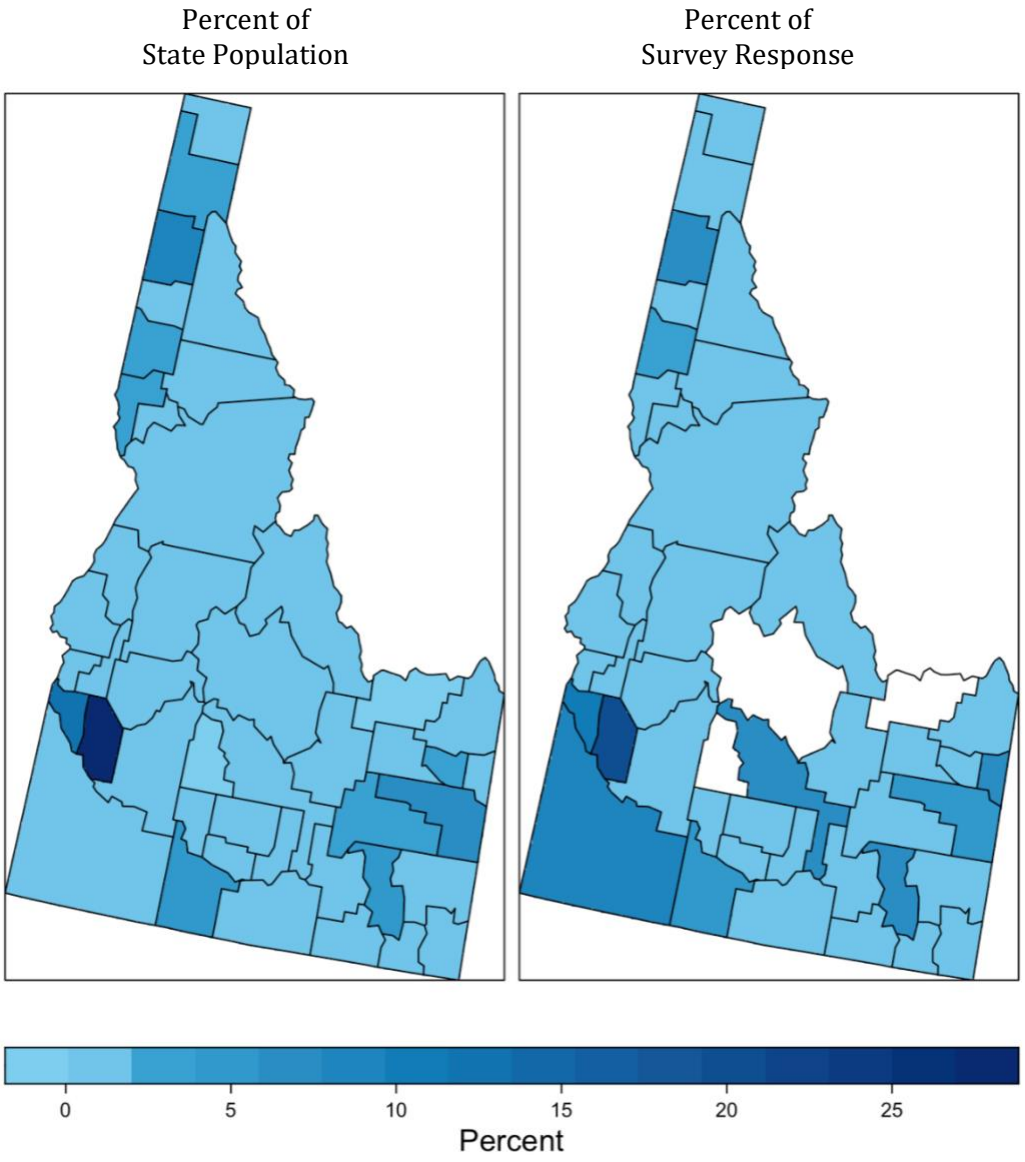

Figure 1. *Mapped comparison of survey responses (right) vs. population (left) by county. Counties without survey responses are in white (Camas, Clark, and Custer).*

Respondents had a mean age of 46.3 years (Fig. 2). While overall the age distribution of respondents aligned closely with recent U.S. Census Bureau estimates of the adult population of Idaho, there was a slight overrepresentation of those between the ages of 25 and 34 (18.3% of respondents, relative to 17.6% of the general population in the American Community Survey (ACS) data; Table 2), and a slight underrepresentation for those between the ages of 55 and 64[1]. This trend is similar to that found in the 2014 survey, where it was noted that "Younger individuals typically respond well to surveys on their wireless phones" while those in older age categories may have different behaviors with respect to wireless and smartphone usage.

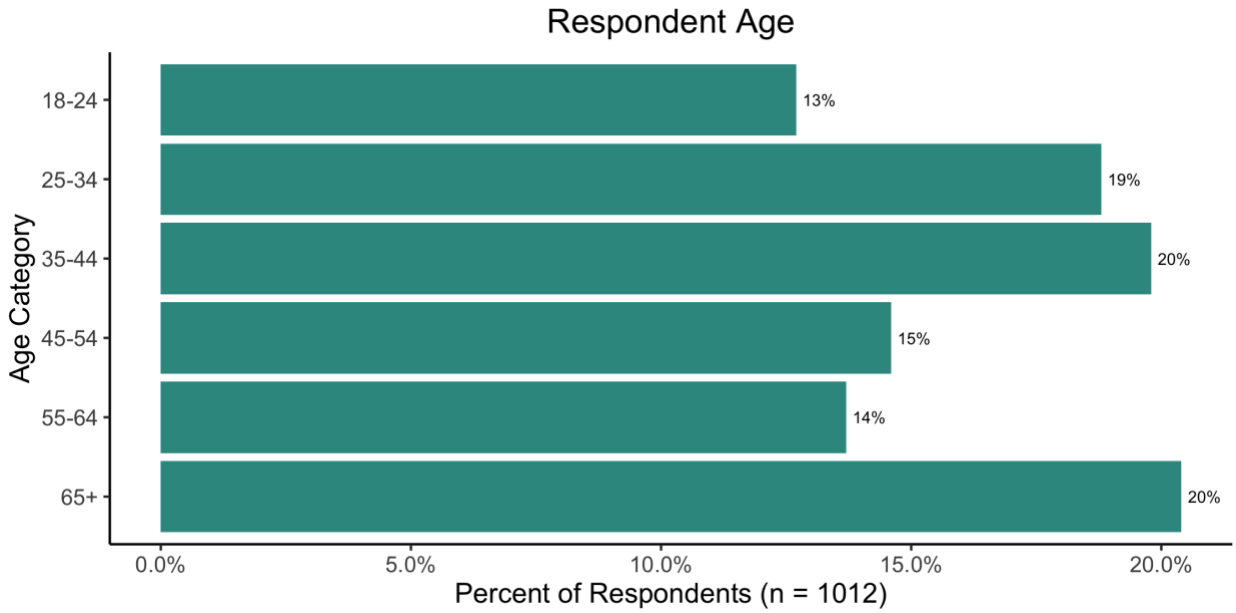

Figure 2. *Age distribution of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

[1] U.S. Census Bureau, 2021. *American Community Survey (ACS).* Census Surveys & Programs. Data retrieved 2 December 2021 from https://www.census.gov/programs-surveys/acs

Table 2. *American Community Survey (ACS) comparisons for age, educational attainment, and income in Idaho. Weighting and ACS comparisons are based on the 2017 ACS, due to disruptions in estimates related to COVID-19. The 2021 survey results were weighted by age and gender, county, race/ethnicity, and level of education. Both the unweighted and weighted percentages are reported here for comparison with the ACS data to demonstrate how this weighting scheme adjusted for improved representation of Idaho's population.*

		2017 ACS	2021 Unweighted	2021 Weighted
Age	18-24	12.7%	12.4%	13.0%
	25-34	17.6%	18.3%	18.0%
	35-44	16.8%	19.3%	17.0%
	45-54	15.6%	14.3%	16.0%
	55-64	16.6%	13.4%	17.0%
	65+	20.7%	22.3%	19.0%
Educational Attainment	Some high school, no degree	9.8%	4.4%	4.4%
	High school graduate or equivalent	27.4%	21.8%	24.9%
	Some college or Associate's degree	36.1%	41.2%	43.9%
	Bachelor's degree or higher	26.8%	32.5%	26.8%
Income	Less than $10,000	6.8%	8.1%	8.9%
	$10,000-$24,999	15.6%	13.8%	15.5%
	$25,000-$34,999	11.2%	12.3%	12.7%
	$35,000-$49,999	15.3%	18.1%	19.4%
	$50,000-$74,999	20.1%	19.7%	18.7%
	$75,000-$99,999	12.3%	11.8%	10.8%
	$100,000 or more	18.7%	16.1%	13.9%

Survey participants were slightly more likely to have attended some college or received a college degree relative to the general Idaho population, according to ACS data (Table 2). Approximately 41% of participants reported that they had some college experience or an Associate's degree, and approximately 32% reported having a Bachelor's degree or higher (Fig. 3).

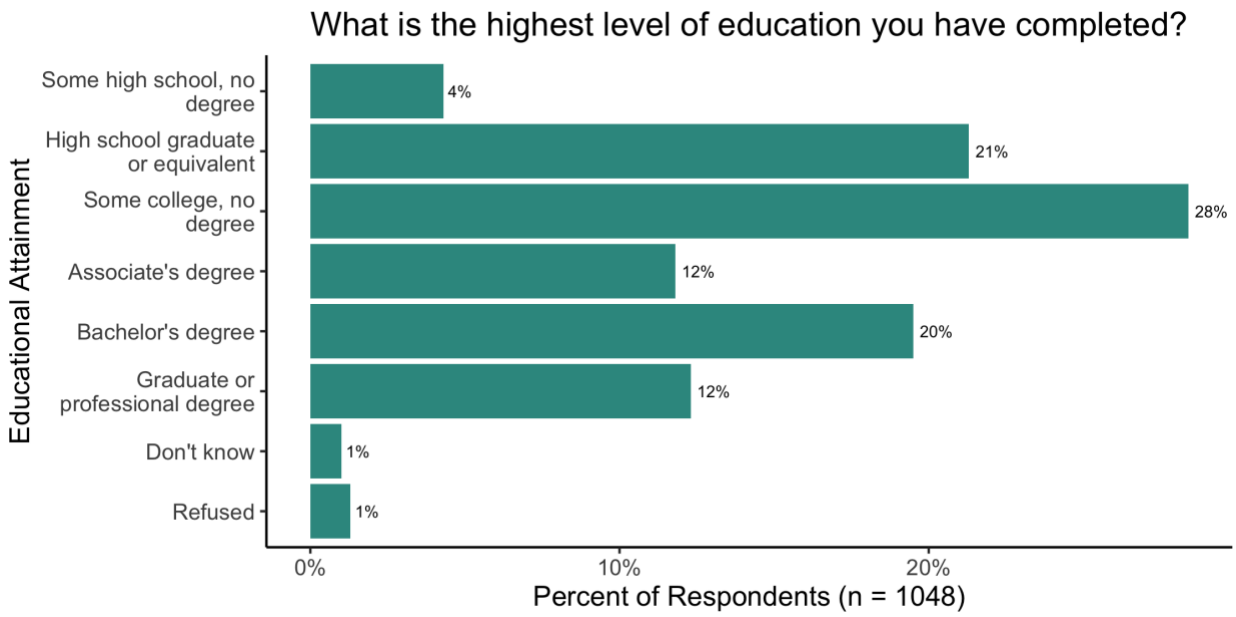

Figure 3. *Level of educational attainment of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Regarding household income, the sample closely matched the ACS estimates for the general population in Idaho (Table 2). The participants were slightly less likely to make over $100,000, relative to Census estimates (16.1% of respondents, relative to 18.7% of the general population), and were slightly more likely to make $10,000 or less (8.1% of respondents, relative to 6.8% of the general population; Fig. 4).

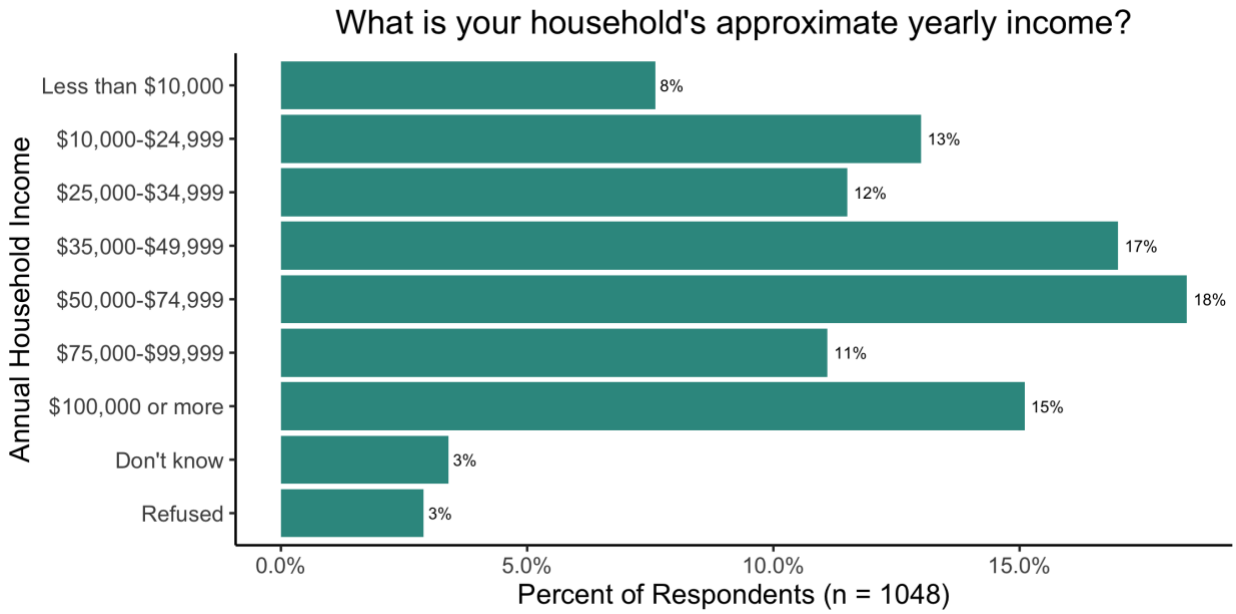

Figure 4. *Annual household income of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Most of the survey respondents were employed, either full time (40%) or part time (11%). Twenty percent were retired, and 12% identified as a homemaker (Fig. 5).

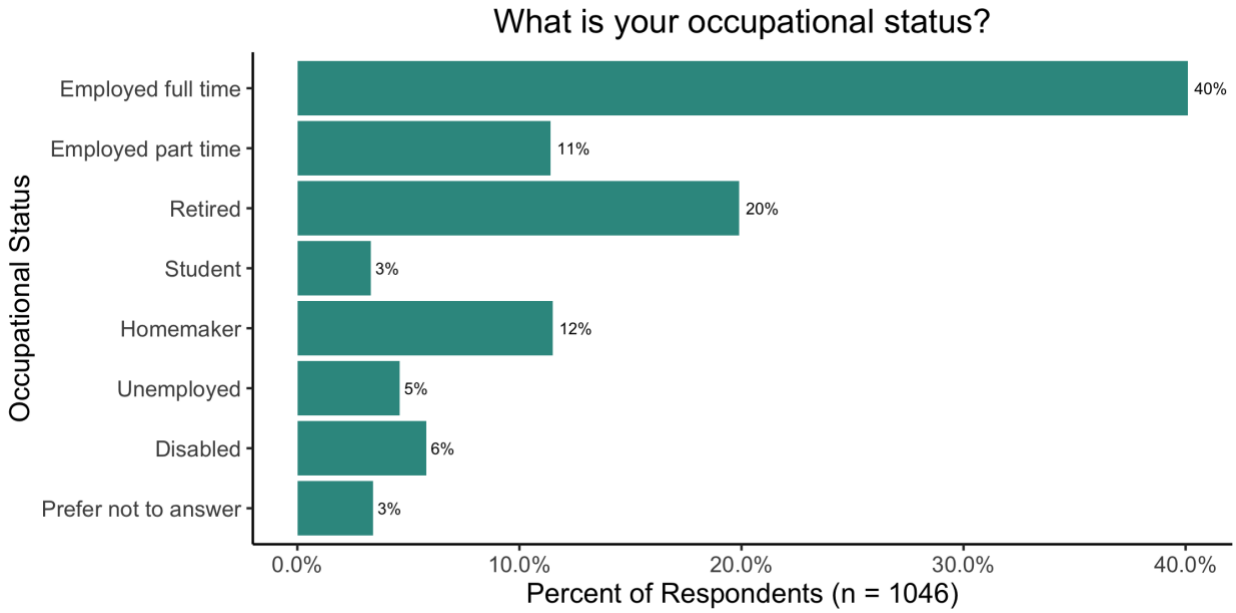

Figure 5. *Occupational status of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Survey respondents were more likely to identify as female (62%) than male (36%; Fig. 6). This is reflective of other studies which have found women to be more likely to respond to surveys, relative to men (e.g., Sax, Gilmartin and Bryant 2003; Rüdig 2010)[2,3].

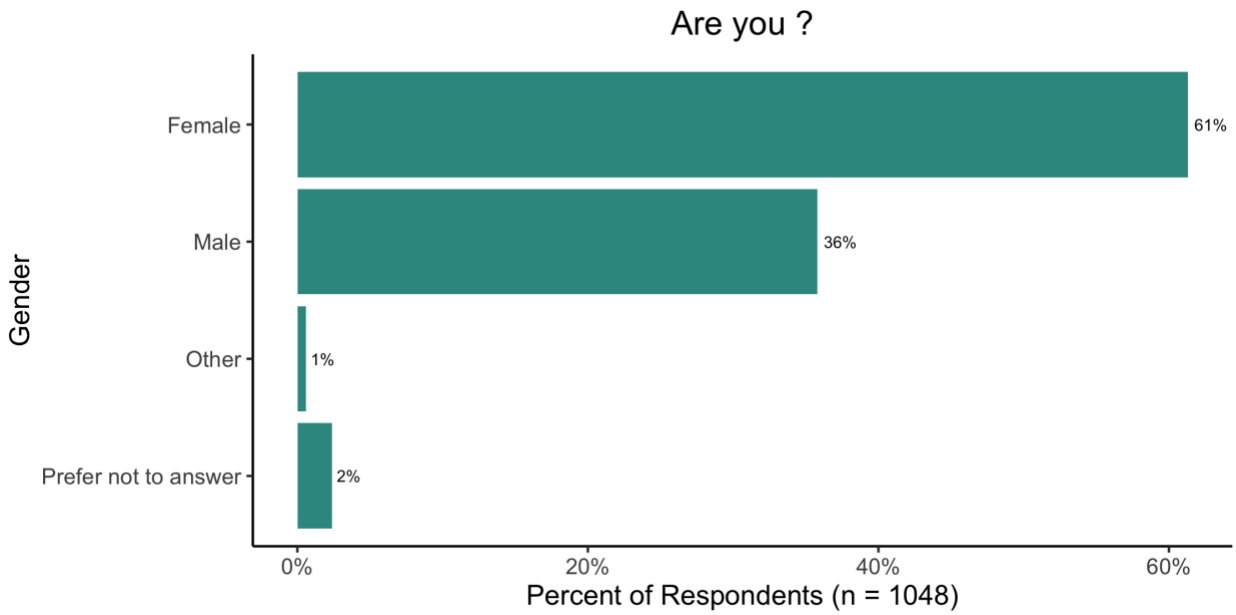

Figure 6. *Gender of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

[2] Sax, L.J., Gilmartin, S.K. and Bryant, A.N., 2003. Assessing response rates and nonresponse bias in web and paper surveys. *Research in Higher Education, 44*, pp.409–432.

[3] Rüdig, W., 2010. Assessing nonresponse bias in activist surveys. *Quality & Quantity*, *44*, pp.173–180.

Respondents were asked to identify their race and ethnicity. With respect to race, a large portion of survey participants identified as white (91%; Fig. 7). Seven percent identified as Hispanic or Latino/a, with the largest percentage of those identified as Mexican-American (4%; Fig. 8).

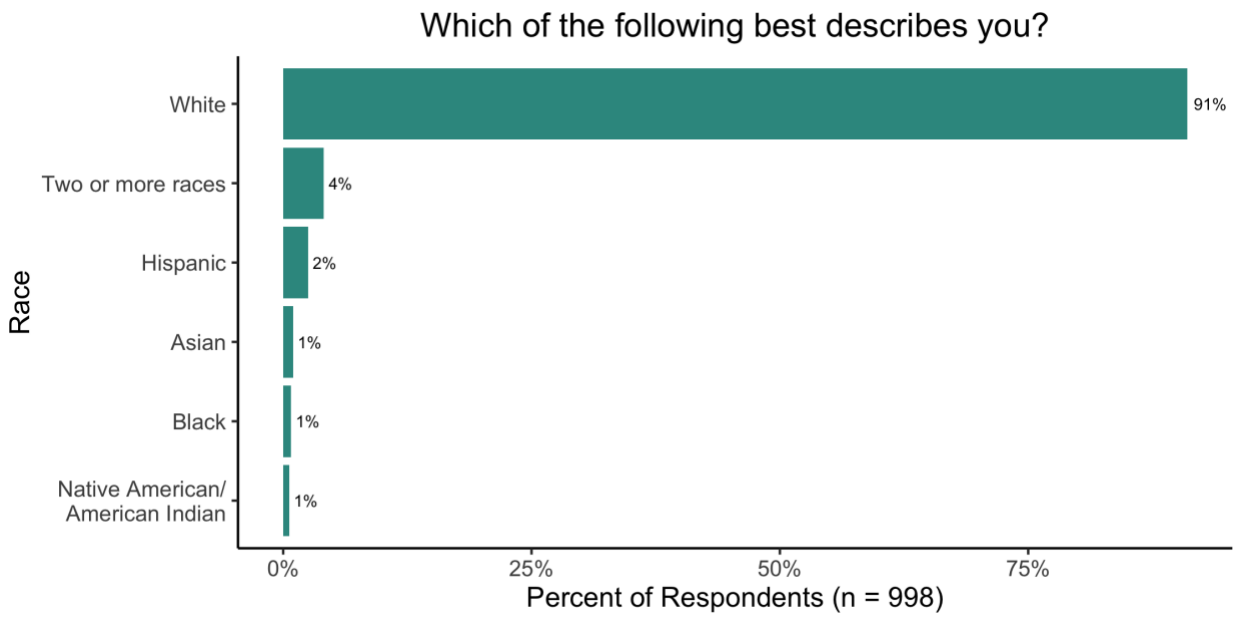

Figure 7. *Race of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

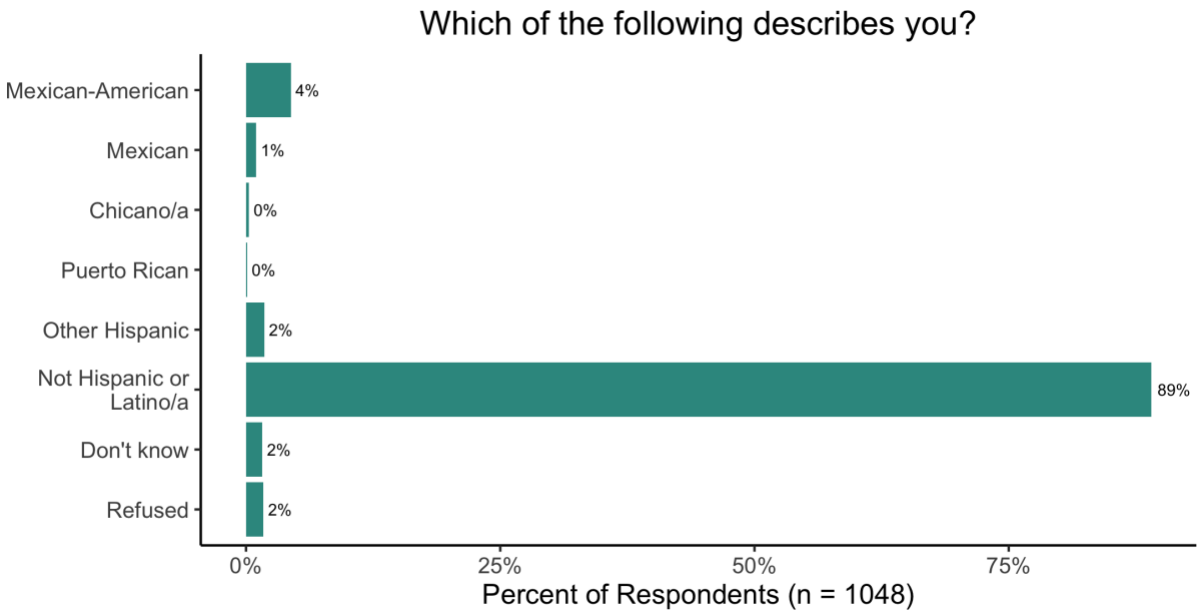

Figure 8. *Ethnicity of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Survey respondents were also asked to identify their political orientation on a scale from 1 (very conservative) to 7 (very liberal). The mean response was 3.5, and a large portion (52%) of survey participants reported holding moderate political views (3-5; Fig. 9).

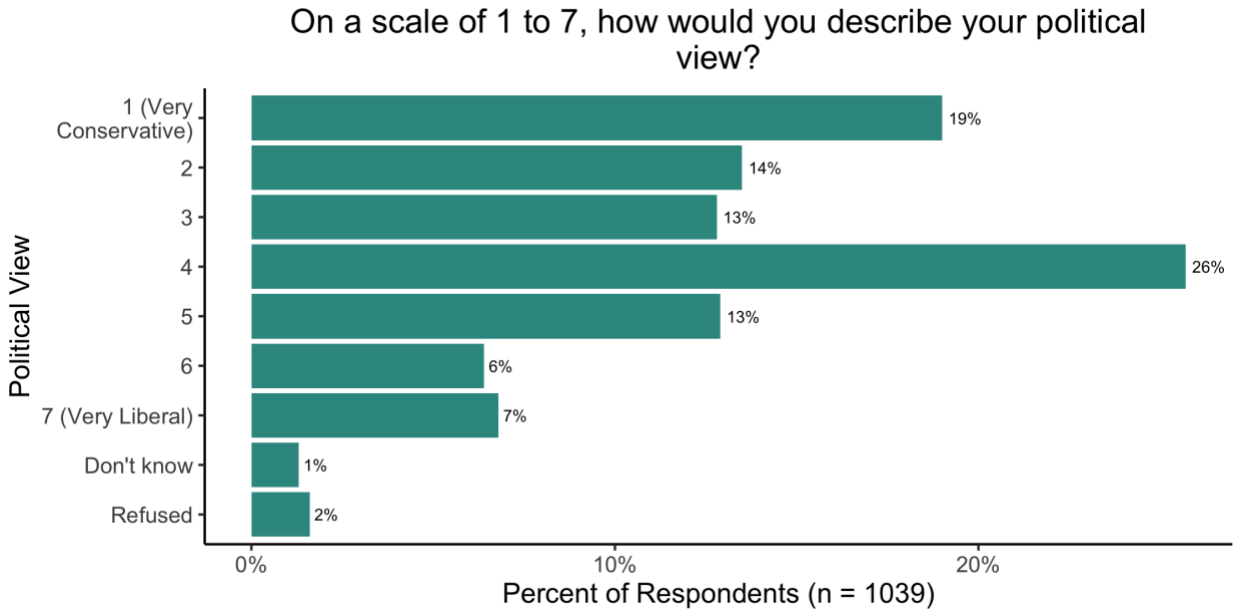

Figure 9. *Political view of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Residency in Idaho and in Sagebrush Landscapes

We asked respondents to report on how long they have lived in Idaho. Length of time in the state could be an important predictor of experiences with and feelings about the natural landscape and place attachment. The mean length of residence in Idaho was 25.9 years (median = 22 years), with a range of 0 to 87 years. Over half of the respondents (58%) had lived in Idaho for 20 years or more (Fig. 10). Fourteen percent have lived in Idaho for less than 5 years. By comparison, respondents to the 2014 IRRC survey had lived in Idaho for a mean of 46.6 years (median = 36 years), and only 5% had lived in Idaho for less than 5 years.

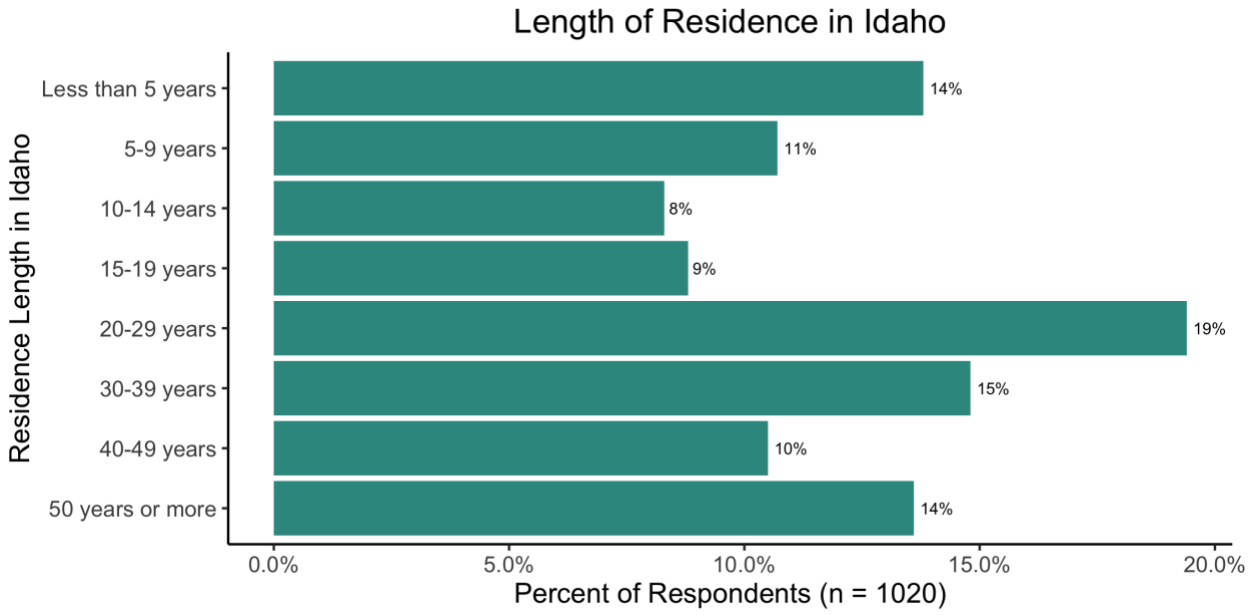

Figure 10. *Length of residence in Idaho of survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

As noted in previous reports, the percentage of lifetime spent in a place can also be an important predictor of opinions and preferences about local issues. We therefore calculated what percentage of respondents' lifetime had been spent in Idaho. While a majority (54%) had spent more than half of their lifetime in Idaho, 27% of respondents had spent less than 25% of their lifetime in Idaho (Fig. 11).

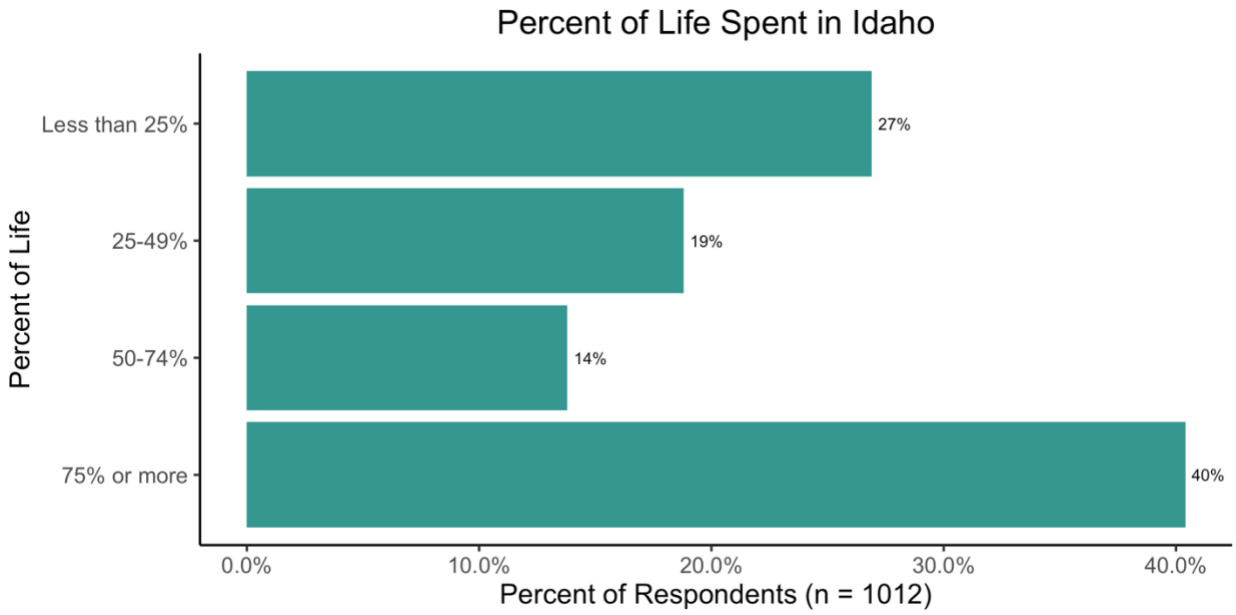

Figure 11. *Percent of lifetime spent in Idaho for survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

The proportion of respondents residing in more rural locations was somewhat similar to those residing in more urban locations (Fig. 12). Twenty-three percent of survey participants reported residing in a city (23%), and the same percentage (23%) reported residing in the suburbs. Fifty-two percent of respondents reported residing in a small town, in the countryside (but not on a farm or ranch), or on a farm or ranch.

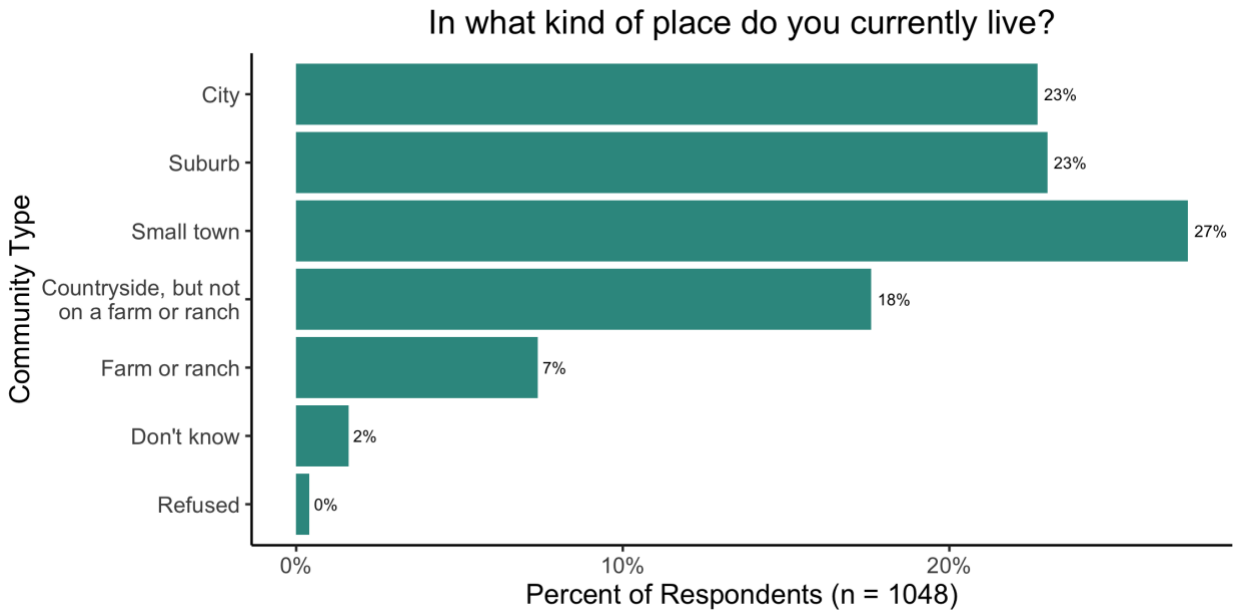

Figure 12. *Community type of respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Respondents were also asked about their history with living in a sagebrush landscape. When asked if they currently live in a sagebrush landscape, 37% responded yes, 54% responded no, and 9% responded by selecting "don't know" (Fig. 13). Findings were similar when asked if they spent their childhood living in a sagebrush landscape, with 38% of respondents saying that they had spent their childhood living in sagebrush, 56% reporting that they had not spent their childhood living in sagebrush, and 5% reporting "don't know" (Fig. 14). When asked how many years in total they had lived in a sagebrush landscape, 42% of survey participants reported having lived in sagebrush for more than 10 years, and 14% reported living in sagebrush between 5 and 10 years. Twenty-three percent of respondents reported having never lived in sagebrush (Fig. 15).

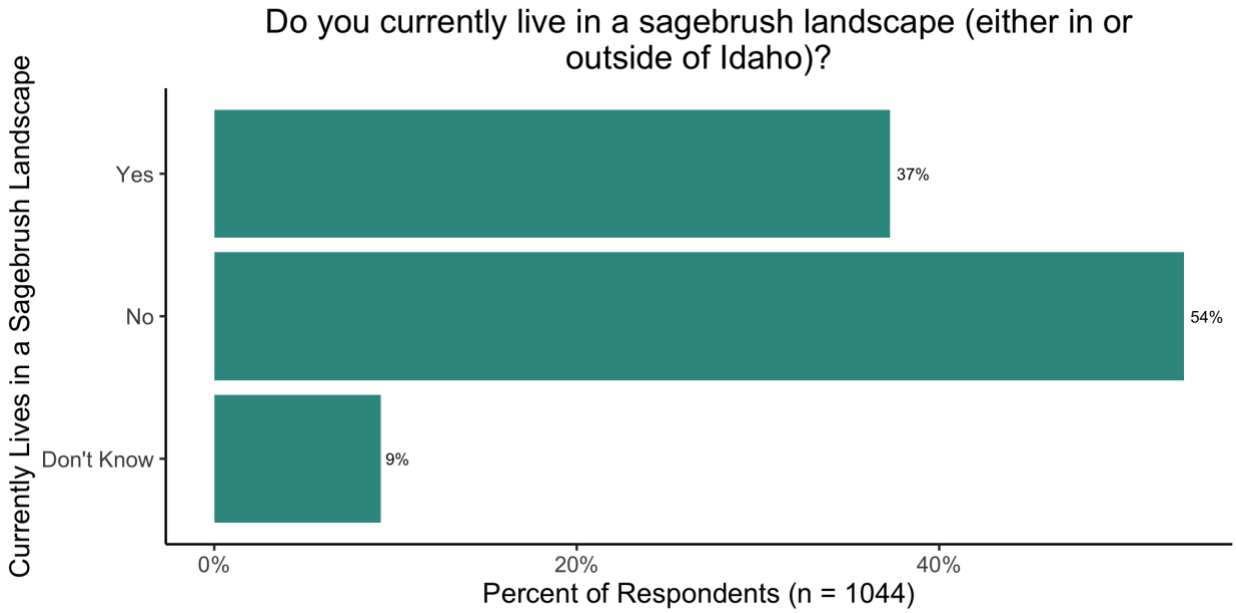

Figure 13. *Percentage of survey respondents currently living in a sagebrush landscape. The number of people who responded to this question is shown in parentheses as "n = ".*

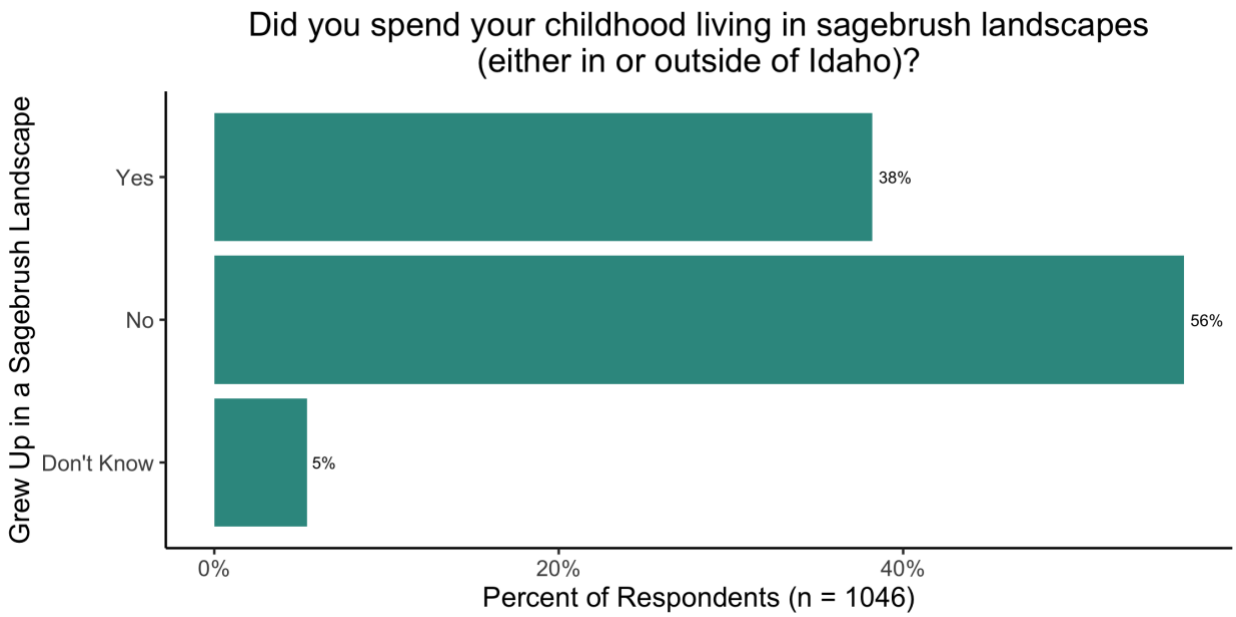

Figure 14. *Percentage of survey respondents who grew up in a sagebrush landscape. The number of people who responded to this question is shown in parentheses as "n = ".*

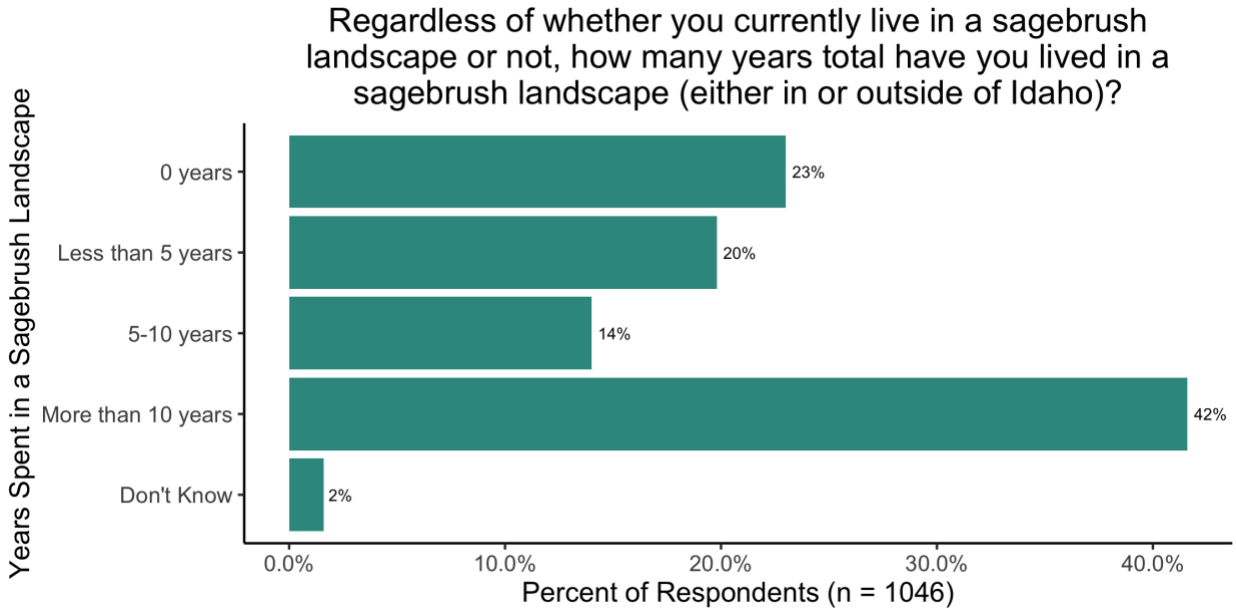

Figure 15. *Survey respondents' length of residency in a sagebrush landscape. The number of people who responded to this question is shown in parentheses as "n = ".*

Activities on Idaho's Public Lands

Use of Sagebrush Landscapes

Idaho residents use sagebrush landscapes in a variety of ways. When asked how often they engaged in different activities in the past 12 months, respondents most frequently engaged in hiking (62%), camping (53%), and wildlife and bird watching (46%). For each of the ten activities that were asked about, at least 13% of respondents had engaged in the activity at least once in the previous 12 months (Fig. 16).

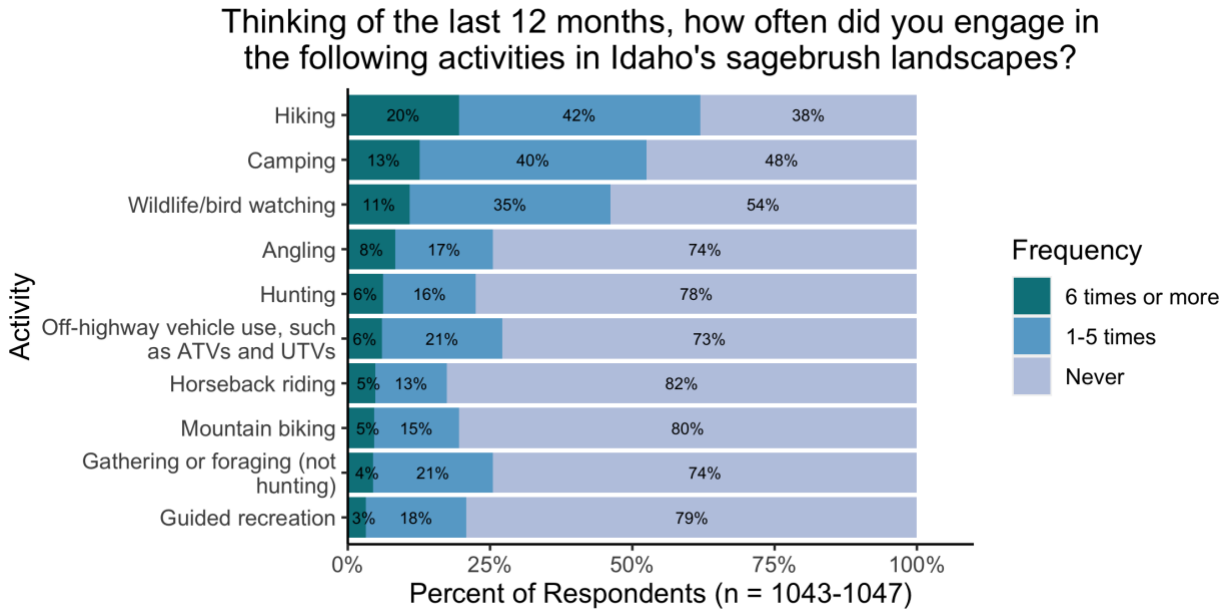

Figure 16. *Respondents' use of Idaho's sagebrush landscapes in the previous 12 months. The number of people who responded to this question is shown in parentheses as "n = ".*

In addition to respondents' uses of sagebrush landscapes, a question was included in 2021 to better understand the perceived economic benefits that Idaho's sagebrush landscapes provide to the state, local communities, and to respondents' own households (Fig. 17). Thirty-seven percent of respondents indicated that the economic benefits provided to the state of Idaho are "very" important to them, while 23% felt the economic benefits provided to their community were "very" important to them. When asked about the economic benefits provided to their household, 38% of respondents stated that those benefits were "slightly" to "very" important to them. Respondents tended to identify the economic benefits from sagebrush landscapes to be of greater importance at the state and community level than to their own households, which can likely be attributed to the varying ties of individual households to direct economic benefits from these landscapes.

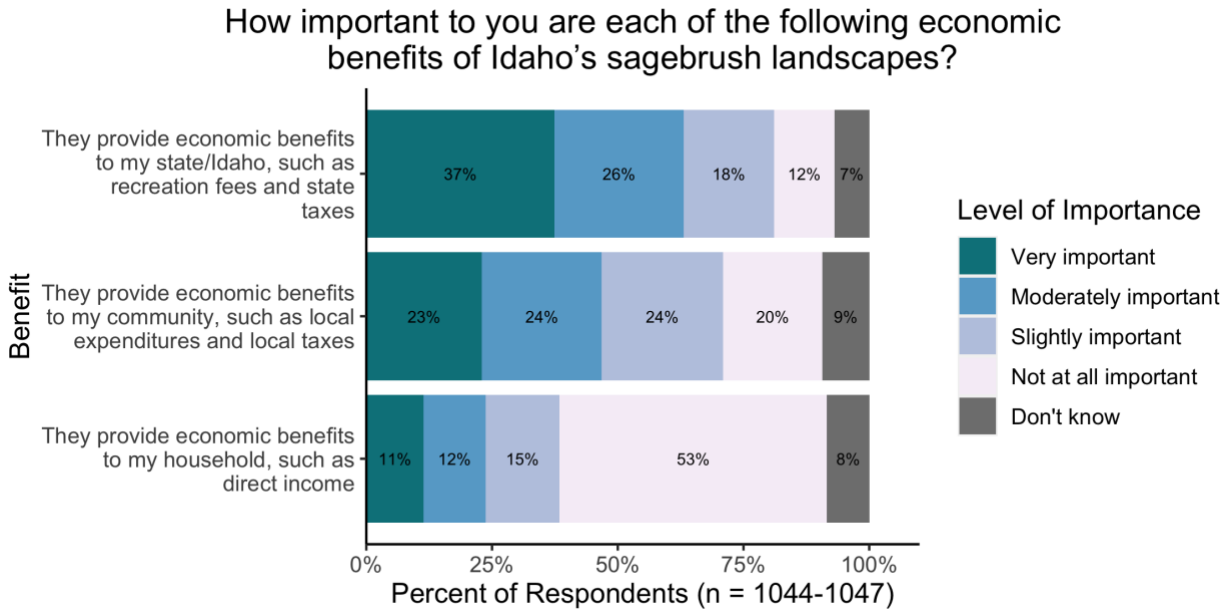

Figure 17. *Perceptions of economic benefits from use of Idaho's sagebrush landscapes. The number of people who responded to this question is shown in parentheses as "n = ".*

Respondents who did report direct household-level economic benefits in the previous question were asked to report the specific activities within sagebrush landscapes that contributed to those benefits in the previous 12 months (Fig. 18). Aside from being unsure about the specific activities in sagebrush that contributed to their household's economic benefit (34%), respondents most frequently gained economic benefits through guided recreation (33%), livestock production (30%), food production beyond livestock (29%), and gathering or foraging (24%).

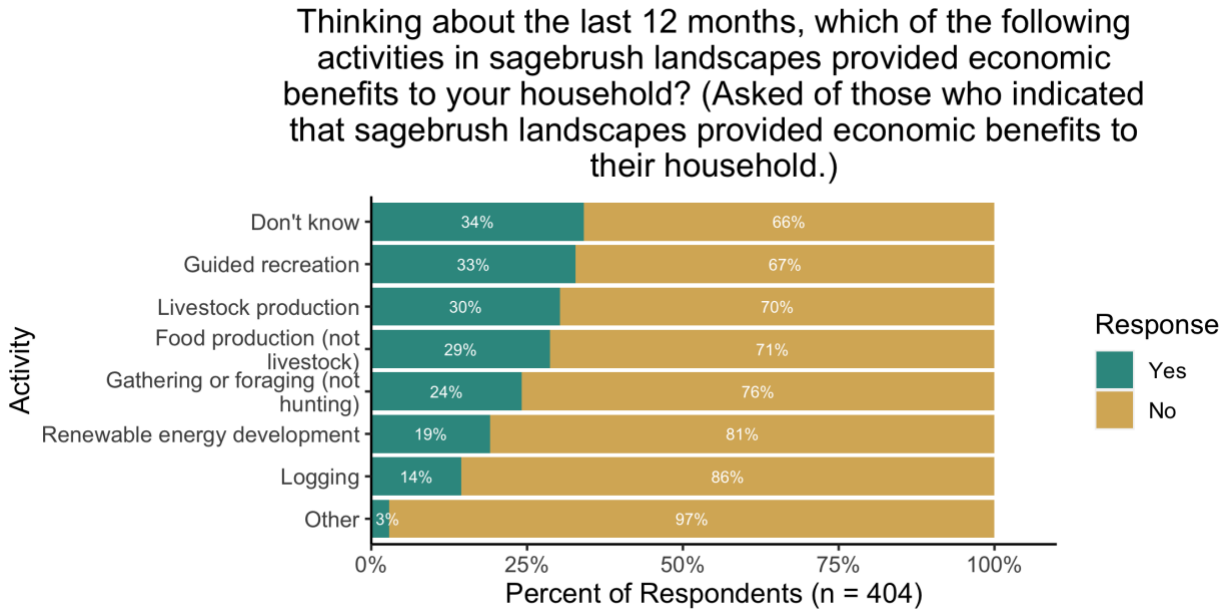

Figure 18. *Activities contributing to the economic benefits of Idaho's sagebrush landscapes. The number of people who responded to this question is shown in parentheses as "n = ".*

Perceptions of Activities on Idaho's Public Lands

Respondents were asked whether they approve, disapprove, or are unsure about specific uses that occur on public lands (Fig. 19). Recreational uses had the highest approval rates, including hiking (95%), wildlife and bird watching (94%), camping (92%), horseback riding (90%), mountain biking (84%), and guided recreation (84%). These were followed by hunting (73%), angling (73%), livestock production (61%), off-highway vehicle use (52%), renewable energy development (51%), and logging (45%).

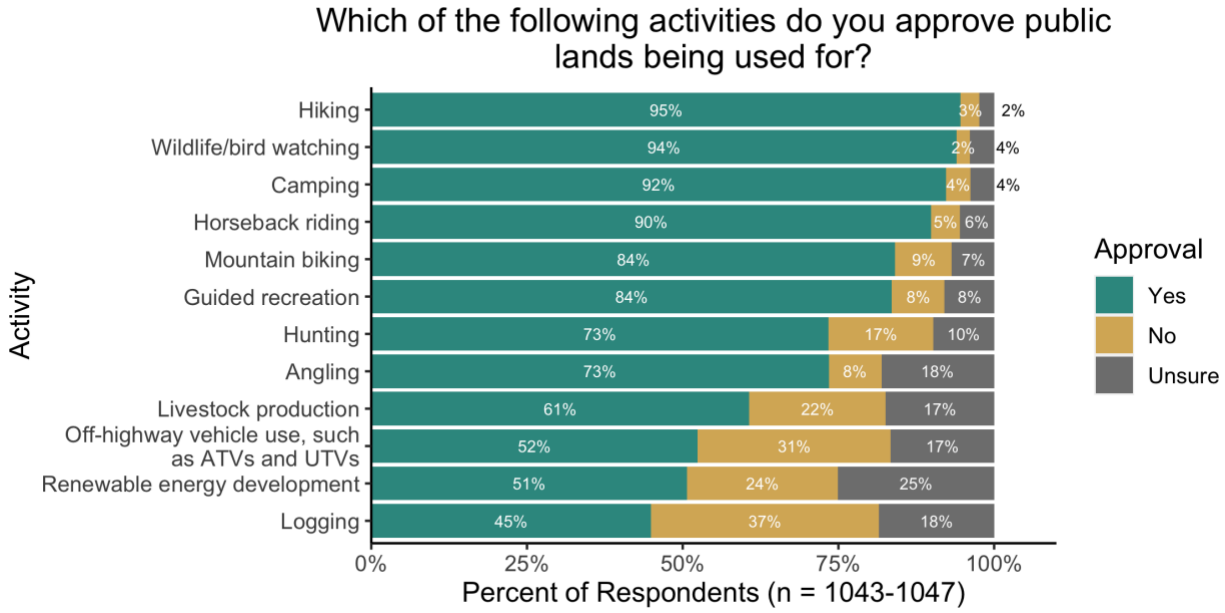

Figure 19. *Approval of specific uses of public lands. The number of people who responded to this question is shown in parentheses as "n = ".*

We made several wording changes to these use categories compared to how these questions were asked on the Idaho Rangeland Resources Commission survey in 2014 (Table 3). We separated "hiking" and "camping," as well as "hunting" and "angling," which were previously combined in 2014. While the approval ratings for hunting and angling were the same in 2021 (both 73%), separating them allowed us to detect that disapproval of hunting (17%) is over twice as high as it is for angling (8%). More people are unsure of their opinion on angling (18%) than for hunting (10%).

In 2014, the Idaho Rangeland Resources Commission survey asked about approval of "energy development and transmission" on public lands. In response to respondents' comments that this category was too broad and unclear, we changed it in 2021 to refer to "renewable energy development," which is a burgeoning issue on rangelands in Idaho and

elsewhere[4,5]. Approval of renewable energy development on public lands in 2021 (51%) was lower than approval of energy development and transmission in 2014 (62%) and 2010 (75%).

For all public land uses that were also asked about in previous years, approval decreased from 2014 to 2021, while uncertainty about them increased (Table 3). Disapproval rates for most recreational activities remained the most stable. Disapproval increased only slightly for camping and hiking (from 1% to 3-4%), mountain biking (from 8 to 9%), guided recreation (from 7% to 8%), angling (from 4% to 8%), and off-highway vehicles (from 29% to 31%). The change in disapproval from 2014 to 2021 was more pronounced for hunting (from 4% to 17%), livestock production (from 7% to 22%), energy development (from 14% to 24%) and logging (from 21% to 37%).

These patterns reflect broader trends in western U.S. residents' views that have also been found in other studies. Surveys by Manfredo et al. in 2004 and 2018 detected that Idahoans had shifted away from beliefs that wildlife should be used and managed primarily for the benefit of people (9.5% decrease in people holding this view)[6], consistent with the decline in support for hunting found in IRRC surveys between 2010-2021 (Table 3).

However, the wording of the question regarding approval of livestock on public lands changed from "livestock grazing" in 2010 and 2014 to "livestock production" in 2021. Due to the expected significance of this wording change to people's responses about their approval of these activities, we conducted a follow-up survey to inquire about approval of "livestock grazing" specifically. The results from this follow-up survey are presented in Appendix D of this report.

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[4] Sayre, N.F., McAllister, R.R., Bestelmeyer, B.T., Moritz, M. and Turner, M.D., 2013. Earth stewardship of rangelands: coping with ecological, economic, and political marginality. *Frontiers in Ecology and the Environment*, *11*(7), pp.348-354.

[5] Kreuter, U.P., Iwaasa, A.D., Theodori, G.L., Ansley, R.J., Jackson, R.B., Fraser, L.H., Naeth, M.A., McGillivray, S. and Moya, E.G., 2016. State of knowledge about energy development impacts on North American rangelands: An integrative approach. *Journal of Environmental Management*, *180*, pp.1-9.

[6] Manfredo, M.J., Sullivan, L., Don Carlos, A.W., Dietsch, A.M., Teel, T.L., Bright, A.D. and Bruskotter, J., 2018. America's wildlife values: the social context of wildlife management in the US. *Colorado State University, Fort Collins, USA*.

Table 3. *Approval of specific uses of public lands by year.*

		2010	2014	2021
Energy Development[1]	Yes	75%	62%	51%
	No	18%	24%	24%
	Unsure	7%	14%	25%
Guided Recreation	Yes	95%	90%	84%
	No	4%	7%	8%
	Unsure	1%	3%	8%
Livestock Grazing[2]	Yes	89%	90%	61%
	No	9%	7%	22%
	Unsure	2%	3%	17%
Logging	Yes	77%	71%	45%
	No	19%	21%	37%
	Unsure	4%	8%	19%
Mountain Biking	Yes	90%	90%	84%
	No	9%	8%	9%
	Unsure	1%	2%	7%
Off-Highway Vehicle Use	Yes	67%	65%	52%
	No	31%	29%	31%
	Unsure	2%	7%	17%
Hiking & Camping[3]	Yes	99%	98%	94%
	No	1%	1%	4%
	Unsure	0%	1%	3%
Hunting & Angling[4]	Yes	97%	95%	73%
	No	2%	4%	13%
	Unsure	1%	1%	14%

[1] Language changed in 2021 from "Energy development and transmission" to "Renewable energy development".

[2] Language changed in 2021 from "Livestock grazing" to "Livestock production".

[3] Hiking and camping were asked about separately in 2021, so this reflects an average of those responses. Due to rounding, this column may not sum to 100%.

[4] Hunting and angling were asked about separately in 2021, so this reflects an average of those responses. Due to rounding, this column may not sum to 100%.

In 2021, we asked a new question about how various factors should be prioritized when making decisions about public rangelands (Fig. 20). These factors were asked about as independent questions, so respondents did not necessarily need to rank the prioritization of them relative to each other. This question also involved a split sampling approach, where all respondents were asked about the "economic well-being" and "recreational opportunities" items and were then randomly assigned at least one of the remaining three statements.

"Reducing the risk of wildfire to communities" was ranked as a high priority by the highest percentage of respondents (70%), followed by "maintaining wildlife habitat" (66% high priority) and "preventing the spread of invasive species, such as cheatgrass" (60% high priority). Respondents were split in considering "the economic well-being of local communities" as a high priority (44%) or a medium priority (42%). "Recreational opportunities and access" received the lowest priority ranking overall, with 31% of respondents considering this a high priority and 47% a medium priority in decision-making about public rangelands. However, respondents agreed that all of these factors should be given at least some priority in decision-making, with very few respondents assigning any of them a "no priority" rating (0-2%), and relatively few considering them to be "low priority" (4-14%).

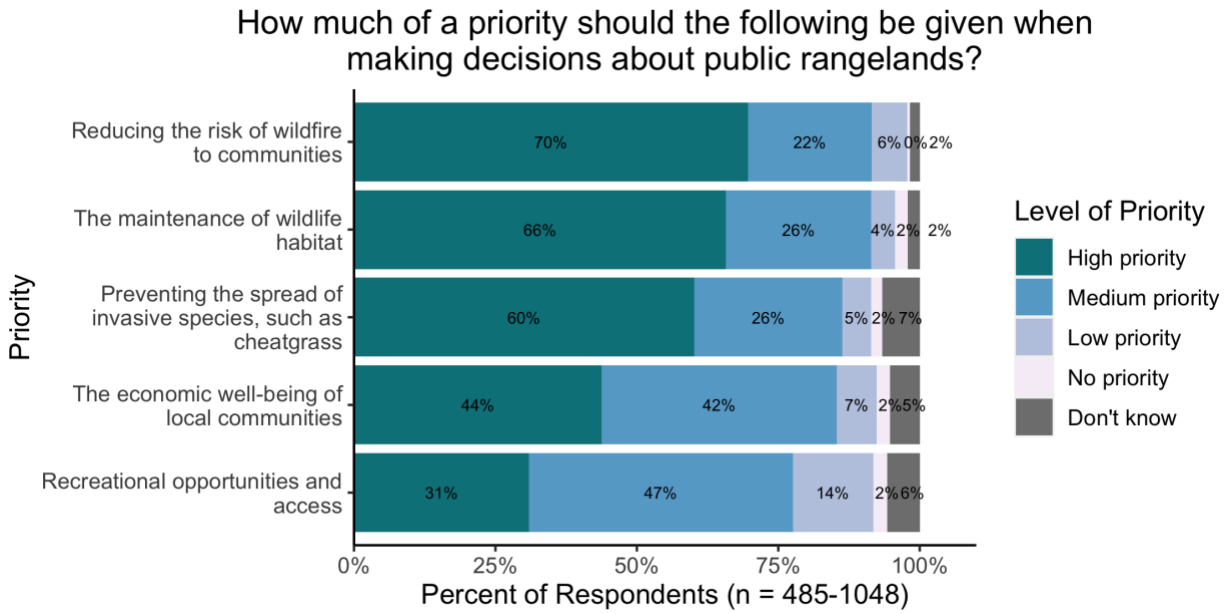


Figure 20. *Perceptions of priorities for decision-making on Idaho's public lands. The number of people who responded is shown in parentheses as "n = ". The range of numbers reflects that three of the questions were only asked of a subset of respondents.*

Perceptions of Rangelands and Rangeland Health

One of our primary objectives with this survey was to document the perceptions and views of Idaho's residents on rangelands and rangeland health. This section of the survey began with a general question about the condition of Idaho's rangelands, in which respondents were asked to rate the general condition of Idaho's rangelands on a scale from "very poor" to "very good" (Fig. 21). A slight majority of respondents (51%) stated that rangelands in Idaho are in either "very good" or "good" condition, while only 5% stated that rangelands are in "poor" or "very poor" condition. Fourteen percent of respondents reported that they did not know the condition of Idaho's rangelands. These results are comparable to the results from the same question on the 2014 survey, where 57% of respondents rated rangeland conditions as "good" or "very good" and 6% of respondents rated conditions as "poor" or "very poor" (Table 4).

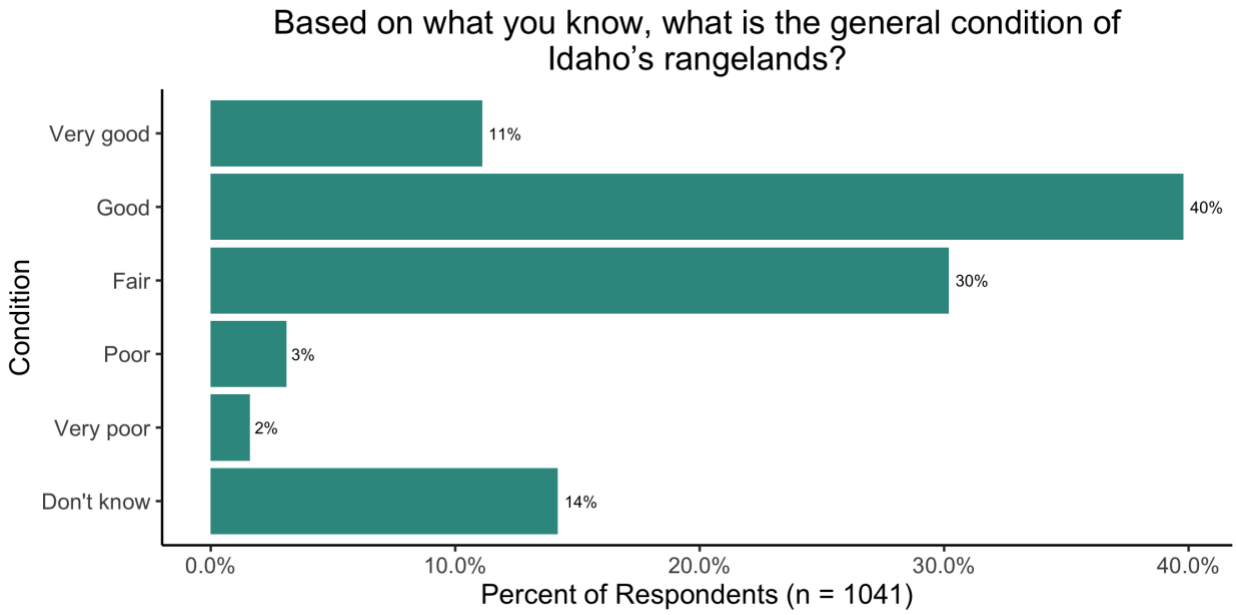


Figure 21. *Perceived condition of Idaho's rangelands. The number of people who responded to this question is shown in parentheses as "n = ".*

Table 4. *Condition of Idaho's rangelands by year. "Very poor" was not included as a response option in 1997 and 2001.*

Condition	1997	2001	2010	2014	2021
Very poor	-	-	1%	2%	2%
Poor	7%	7%	5%	4%	3%
Fair	41%	42%	21%	19%	30%
Good	41%	41%	50%	42%	40%
Very good	4%	3%	10%	15%	11%
Don't know	7%	7%	13%	18%	14%

We also asked respondents how much of a problem they felt wildfire is on Idaho's rangelands (Fig. 22). Forty-four percent of respondents perceived wildfire to be a "severe" or "significant" problem, a number consistent with the 43% of respondents who felt this way in 2014 (Table 5). Nearly one third of respondents (31%) perceived wildfire to be a "moderate" problem on Idaho's rangelands, while 14% stated it was either a "minor" problem or "not a problem at all". These results are consistent with the 2014 survey.

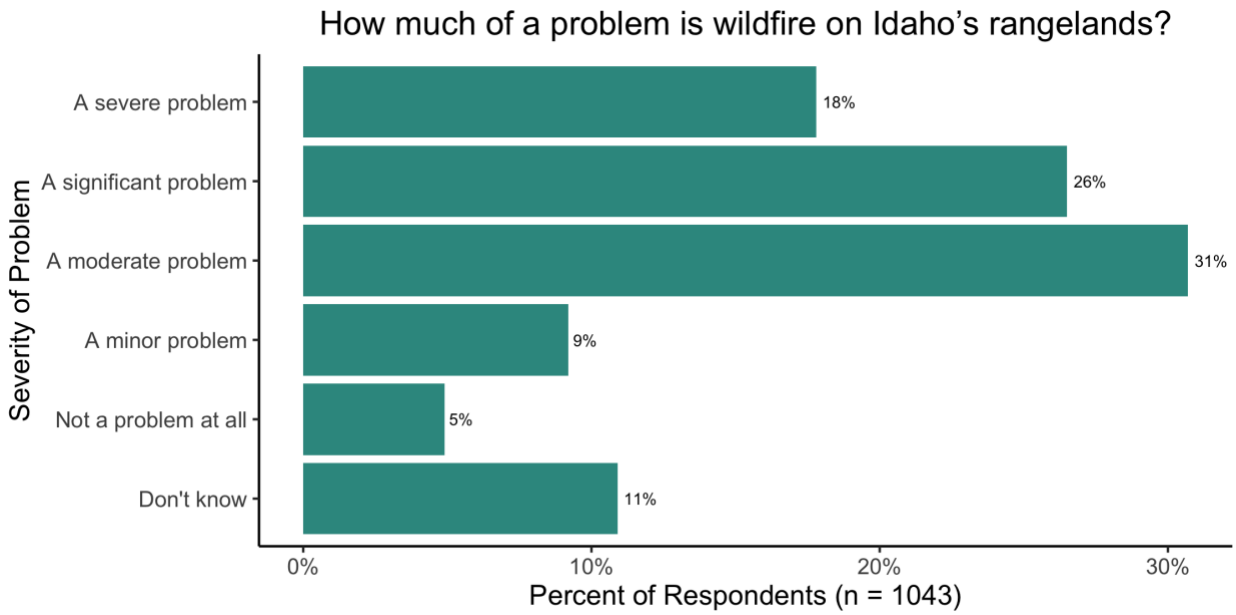


Figure 22. *Perceptions of wildfire as a problem on Idaho's rangelands. The number of people who responded to this question is shown in parentheses as "n = ".*

Table 5. *Perceptions of wildfire as a problem on Idaho's rangelands by year.*

Severity of Problem	2014	2021
Not a problem at all	4%	5%
A minor problem	11%	9%
A moderate problem	33%	31%
A significant problem	30%	27%
A severe problem	13%	18%
Don't know	8%	11%

We asked respondents the extent to which they agreed or disagreed with a variety of statements focused on the role of rangelands and ranches in conservation and how well ranchers manage their land, measured on a scale from "strongly disagree" to "strongly agree" (Fig. 23). A majority of respondents "strongly" or "somewhat" agreed that ranches and farms are important to the preservation of wildlife habitat (73%), that livestock grazing should be kept as part of the management of public rangelands (76%), and that cattle producers manage rangelands in responsible manner 70%, while at least 11% of respondents stated they did not know how much they agreed with these statements. Additionally, 68% of respondents stated they "strongly" or "somewhat" agreed that sheep producers managed rangelands in a responsible manner, with 22% stating that they did not know. Sixty percent of respondents agreed with the statement that ranches are important to threatened and endangered species habitat. Finally, a comparable percentage of respondents either agreed or disagreed with the statement that ranchers should pay more than they do now to graze livestock on public lands, with 40% stating they "strongly" or "somewhat" agreed and 37% stating they "somewhat" or "strongly" disagreed.

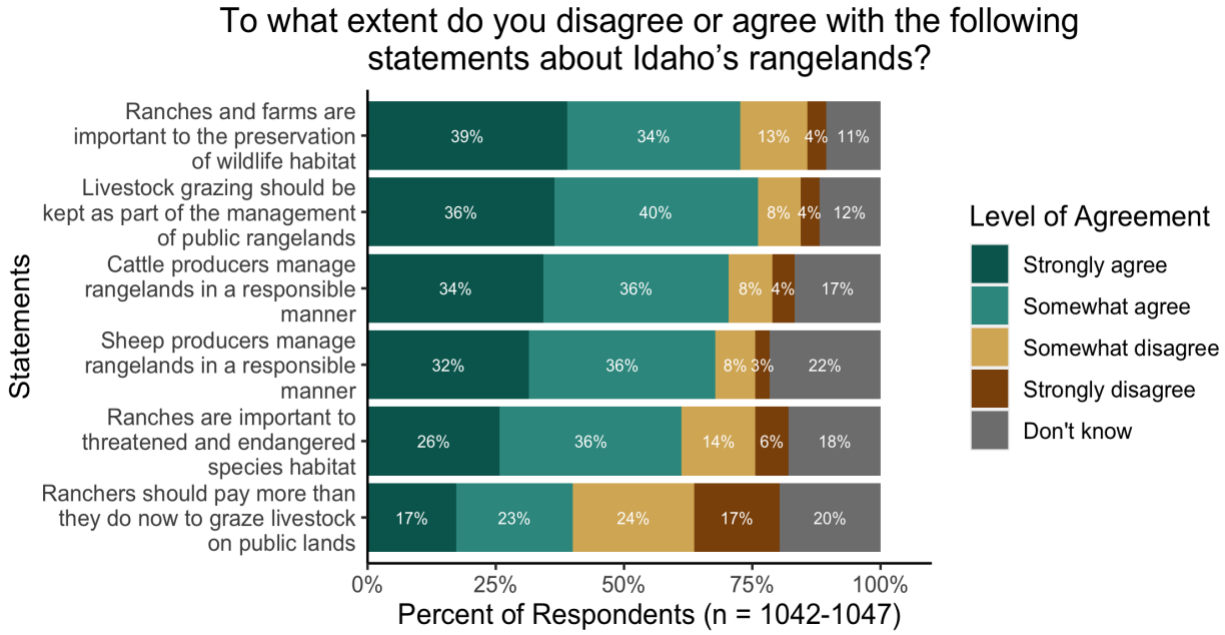


Figure 23. *Level of agreement with statements regarding rangelands. The number of people who responded to these questions is shown in parentheses as "n = ".*

On average, 69% of survey respondents either "strongly" or "somewhat" agreed that cattle and sheep producers manage rangelands in a responsible manner (Table 6). This number is about 10% lower than the percentage of respondents in 2014 who agreed that producers were responsible rangeland managers. However, the percentage of respondents who "somewhat" or "strongly" disagreed that producers are responsible managers remained more stable (10% in 2014, compared to 12% in 2021). The reduction in agreement about responsible management was thus largely due to an increase in "don't know" responses, up from 11% in 2014 to an average of 20% in 2021. From when the question was first asked in 1997, there has been a steady increase in respondents "strongly" agreeing that producers are responsible and a steady decrease in respondents "strongly" disagreeing that they are responsible managers of rangelands.

Table 6. *Level of agreement that cattle and sheep producers manage rangelands in a responsible manner by year.*

Level of Agreement	1997	2001	2010	2014	2021[1]
Strongly disagree	11%	8%	5%	3%	4%
Somewhat disagree	19%	13%	10%	7%	8%
Somewhat agree	40%	39%	42%	48%	36%
Strongly agree	22%	29%	30%	31%	33%
Don't know	8%	11%	14%	11%	20%

[1] Cattle and sheep producers were asked about separately in 2021, so this reflects an average of those responses. Due to rounding, this column does not sum to 100%.

When asked whether they had encountered livestock on Idaho's rangelands, 63% of respondents stated that they had (Fig. 24).

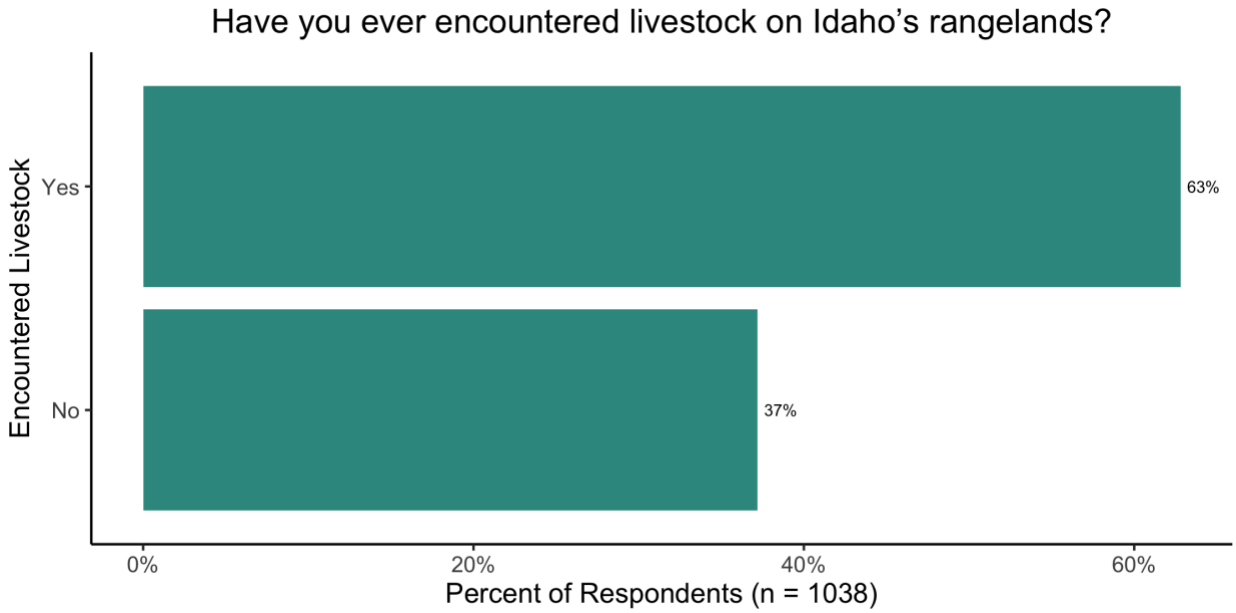


Figure 24. *Encounters with livestock on Idaho's rangelands. The number of people who responded to this question is shown in parentheses as "n = ".*

Of those who had encountered livestock, 36% described the experience as "positive", 59% described it as "neutral", and 5% rated it as "negative" (Fig. 25). We cannot directly compare these results to the 2014 survey because of a change in the response options. In 2014, respondents were only given the choice to rate their encounters with livestock as positive or negative. In 2021, we chose to use the wording from the 2010 survey response options, which allowed respondents to rate their encounters with livestock as positive, neutral, or negative. Keeping this in mind, significantly fewer people rated their encounters with livestock as positive in 2021 when compared to 2014 (36% versus 68%, respectively; Table 7). Overall, an overwhelming majority (95%) of respondents rated their encounters with livestock as "positive" or "neutral" in our 2021 survey, which is a slight increase from the 91% of respondents who rated their encounters as "positive" or "neutral" in the 2010 survey.

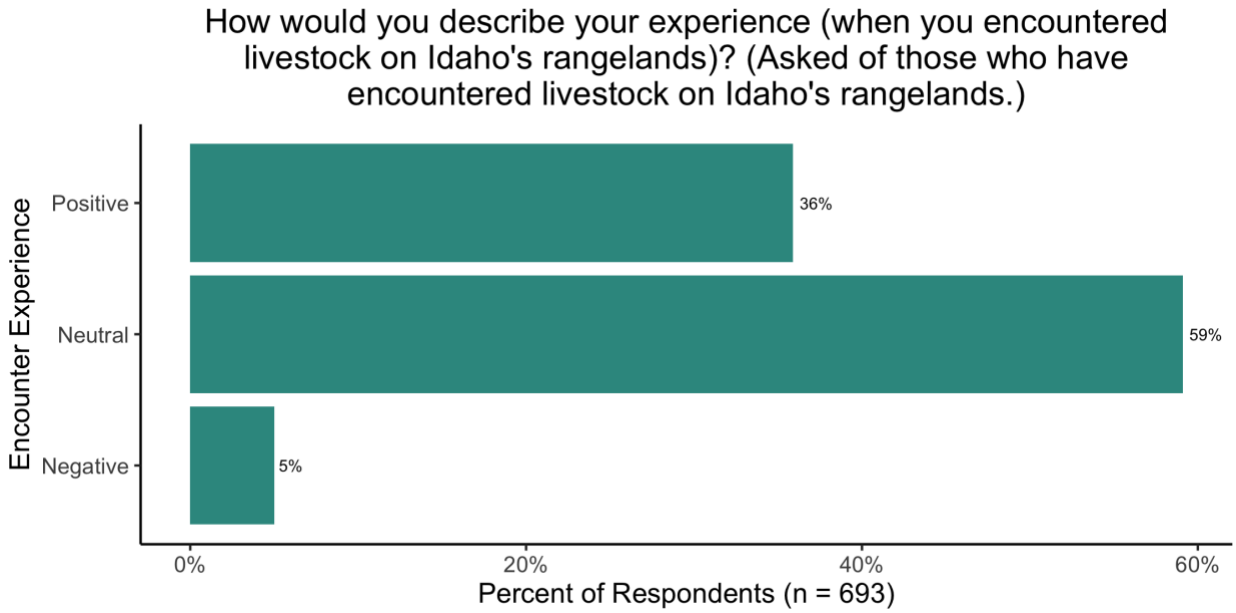


Figure 25. *Perceptions of encounters with livestock on Idaho's rangelands. The number of people who responded to this question is shown in parentheses as "n = ".*

Table 7. *Perceptions of encounters with livestock on Idaho's rangelands by year.*

Encounter Experience	2010	2014[1]	2021
Negative	9%	10%	5%
Neutral	46%	-	59%
Positive	45%	68%	36%

[1] The 2014 results are not directly comparable to 2010 and 2021 due to a phrasing shift that did not include a "neutral" option.

We asked respondents to rate how reliable or unreliable six different sources of information about Idaho's rangelands are on a scale that ranged from "very unreliable" to "very reliable" (Fig. 26). The sources were the U.S. Forest Service, Idaho Department of Lands, Bureau of Land Management, ranchers, scientists, and environmental groups. Overall, of the respondents who did not respond with "don't know," a majority found each of the six information sources to be reliable. Seventy percent or more respondents reported that the U.S. Forest service (79%), Idaho Department of Lands (75%), Bureau of Land Management (74%), and ranchers (70%) were either "very" or "somewhat" reliable sources of information about Idaho's rangelands.

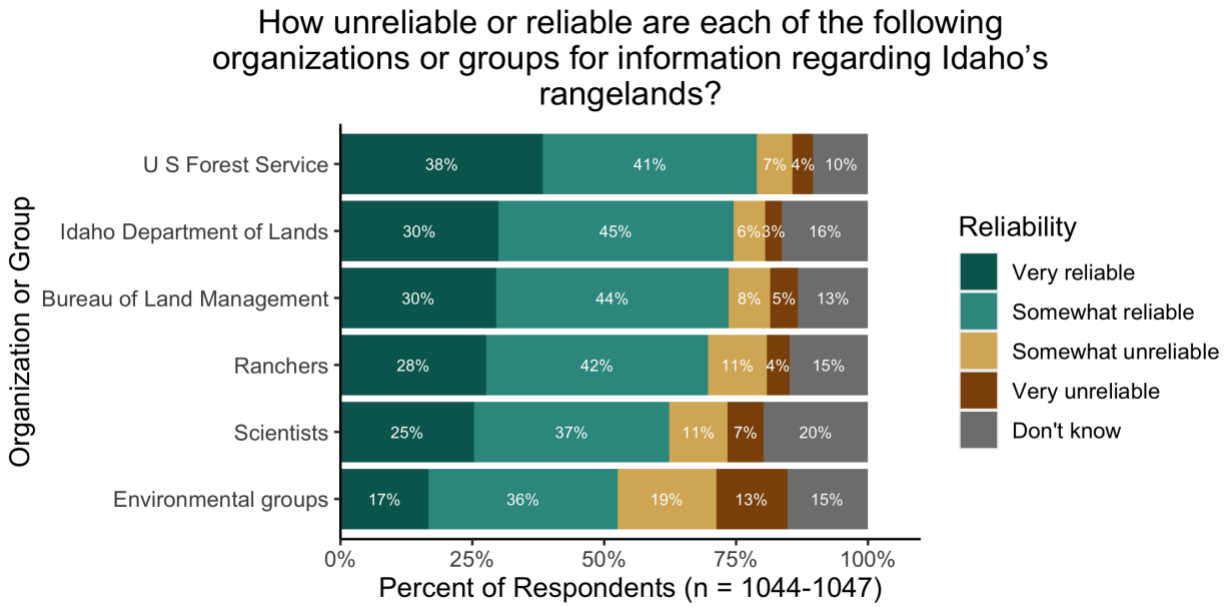


Figure 26. *Perceived reliability of sources of information regarding Idaho's rangelands. The number of people who responded to these questions is shown in parentheses as "n = ".*

Compared to past surveys, there was an overall reduction in the percentage of respondents who viewed the Bureau of Land Management, ranchers, and scientists as either "very" or "somewhat" reliable sources of information about Idaho's rangelands (Table 8). There was little change in how respondents rated the reliability of environmental groups as sources of information.

Table 8. *Reliability of sources regarding information about rangelands by year.*

		2010	2014	2021
Bureau of Land Management	Very unreliable	4%	3%	5%
	Somewhat unreliable	9%	12%	8%
	Somewhat reliable	50%	51%	44%
	Very reliable	32%	29%	29%
	Don't know	5%	5%	13%
Environmental Groups	Very unreliable	19%	15%	13%
	Somewhat unreliable	25%	27%	19%
	Somewhat reliable	43%	45%	36%
	Very reliable	9%	11%	17%
	Don't know	4%	3%	15%
Ranchers	Very unreliable	1%	3%	4%
	Somewhat unreliable	15%	8%	11%
	Somewhat reliable	59%	55%	42%
	Very reliable	21%	29%	28%
	Don't know	4%	5%	15%
Scientists	Very unreliable	4%	2%	7%
	Somewhat unreliable	9%	9%	11%
	Somewhat reliable	48%	52%	37%
	Very reliable	31%	31%	25%
	Don't know	9%	6%	20%

Perceptions of Recreation Problems and Management on Public Lands

This final set of questions regarding recreation issues on Idaho's public lands was an addition to the survey in 2021 and was developed in collaboration with the Idaho Rangeland Resources Commission and the Idaho Rangeland Conservation Partnership. The goal of this section was to obtain baseline data to address ongoing and growing recreation management challenges in the state. As such, many of the questions in the section followed a split-sampling approach to reduce respondent fatigue and gather as much data as possible. The questions that were split-sampled show lower sample sizes and followed a pattern in which all respondents were assigned to respond to a subset of the statements to maintain a relatively even distribution of responses and large enough sample sizes to be representative.

Use of Idaho's Public Lands for Recreation

We asked respondents a series of questions designed to assess their perceptions of recreation issues on public lands and how those lands should be managed for recreation purposes. The first question assessed respondents' recreational use of public lands. Nearly two-thirds of respondents (65%) stated that they had used public lands for recreation in the previous 12 months (Fig. 27).

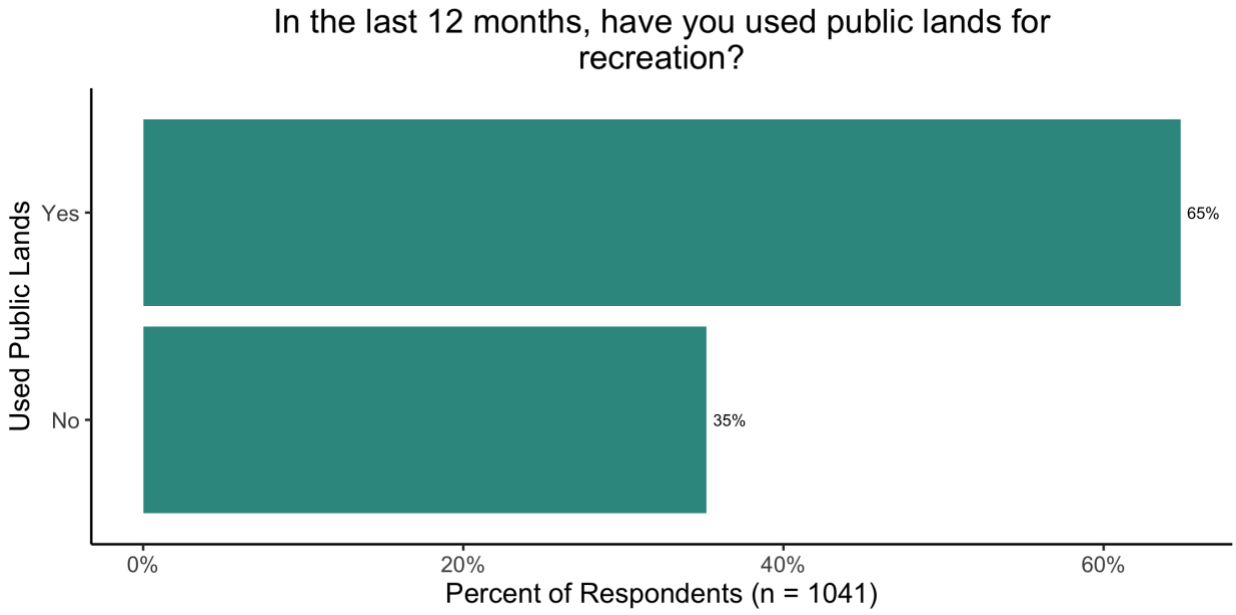


Figure 27. *Use of Idaho's public lands for recreation by respondent. The number of people who responded to this question is shown in parentheses as "n = ".*

Of those respondents who had recreated on public lands in the last 12 months, we asked them to identify the extent to which they perceived their recreational use of public lands as having negative or positive impacts on the environment and on other public lands users (Fig. 28). Nearly half of the respondents stated that their recreational use of public lands had positive impacts on the environment (42%), with slightly more rating their impacts on the environment as neither negative or positive (44%). A minority, 11%, felt their recreation on public lands had either a "somewhat" or "very" negative impact on the environment. Relative to their perceived impacts on the environment, fewer respondents felt their recreational use of public lands had positive impacts on other users (31%), though a similar number (40%) stated their recreational use of public lands had neither negative nor positive impacts on other users. Finally, 25% of respondents felt that they had either "somewhat" or "very" negative impacts on other users when they recreate on public lands.

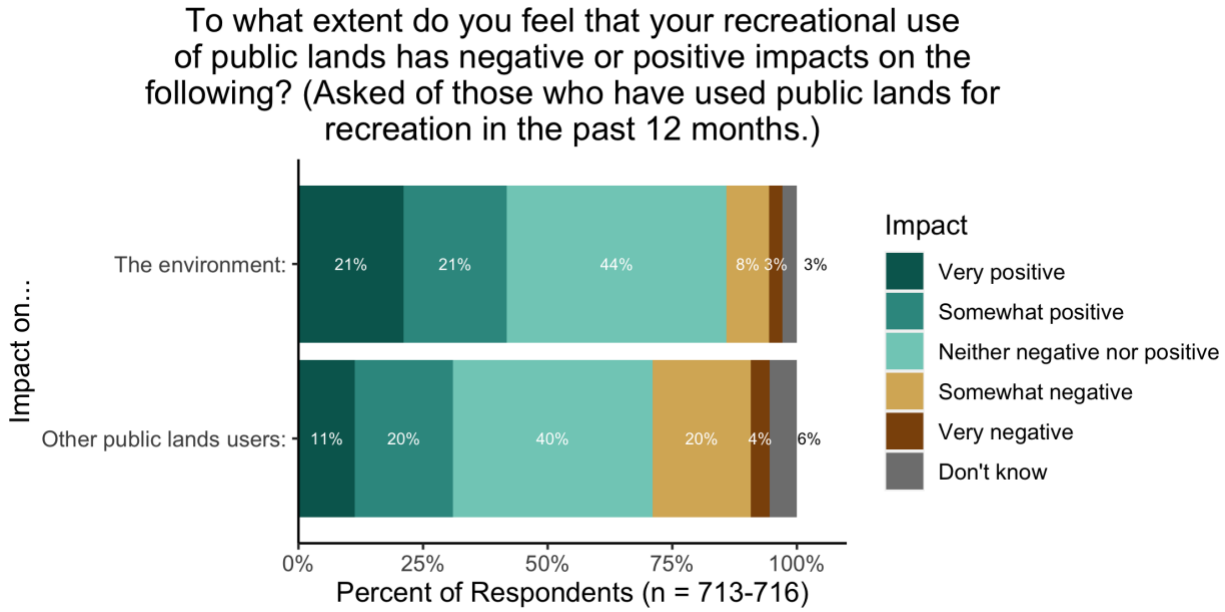


Figure 28. *Perceived impacts of personal recreational use. The number of people who responded to these questions is shown in parentheses as "n = ".*

Perceptions of Recreation Problems and Responsibility on Idaho's Public Lands

Next, we asked respondents to identify the extent to which they believe a series of statements are a recreation-related problem on public lands (Fig. 29). A majority believed that traveling off of designated trails (69%), wildlife displacement (63%), overcrowding (64%), soil and vegetation disturbance (60%), traveling outside of recreation areas (61%), and conflict with private landowners (55%) were either "very serious" or "moderate" problems. Slightly less than half (46%) believed conflict with other recreationists was a "very serious" or "moderate" problem.

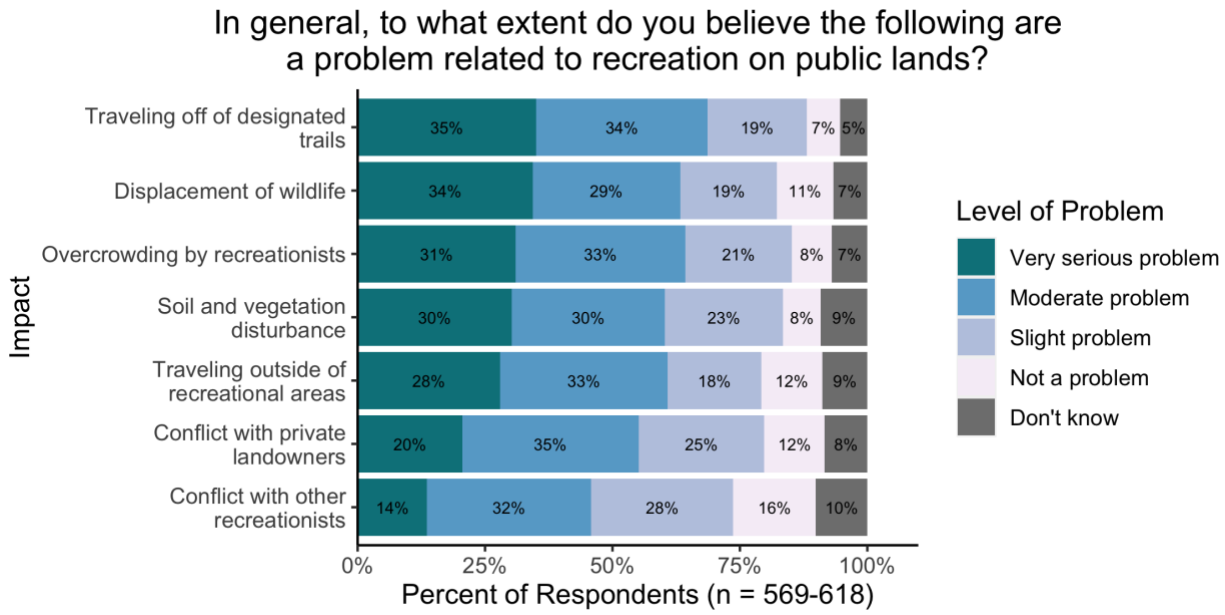


Figure 29. *Perceptions of problems related to recreation. The number of people who responded to these questions is shown in parentheses as "n = ".*

We also asked respondents about their perceptions of who is responsible for directional and land ownership information when using public lands for recreation (Fig. 30). This question consisted of two paired statements, one focused on internal responsibility (the recreationist) and the other focused on external responsibility (the landowner or land manager). All four statements received similar levels of "strongly agree" (54-55%) and "somewhat agree" (30-34%) from respondents, indicating that they may feel there is a shared sense of responsibility between recreationists, landowners, and land managers for recreationists to know how to reach their recreation location and the ownership of the lands they use.

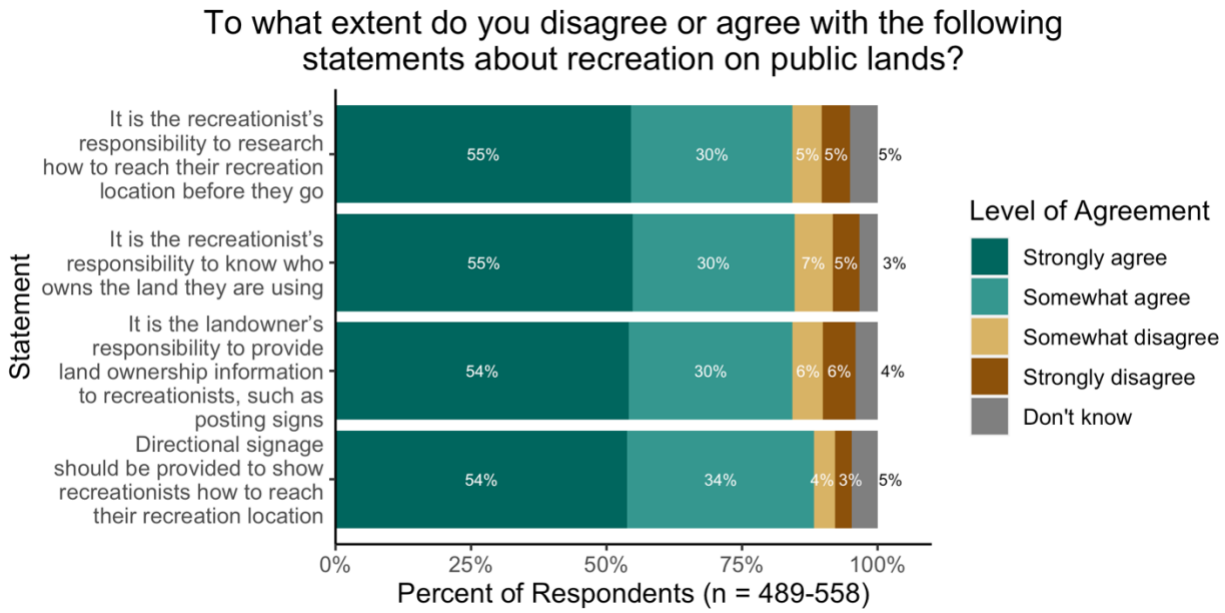


Figure 30. *Perceived responsibility of recreationists. The number of people who responded to these questions is shown in parentheses as "n = ".*

After asking about perceived problems and responsibility, respondents were asked to rate their level of support for six different management actions for popular recreation areas (Fig. 31). These actions were in part selected from recent pilot program efforts in Idaho to address crowding and negative environmental impacts at popular recreation areas[7]. These six actions can be divided into two themes: traffic-control (i.e., seasons-of-use, single-use, and rotate use) and fee-based (i.e., annual use pass, daily access fee, and lottery-based permit). Respondents generally supported traffic-control actions over fee-based actions, with designating seasons-of-use and single-use areas as the most supported actions (73% and 66% "strongly" or "somewhat" supportive, respectively). Of the three fee-based actions, the implementation of an annual use pass was the most supported, with 57% of respondents "strongly" or "somewhat" supporting it. The lottery-based permit was the least favored of the six actions, with 34% of respondents "strongly" opposing it.

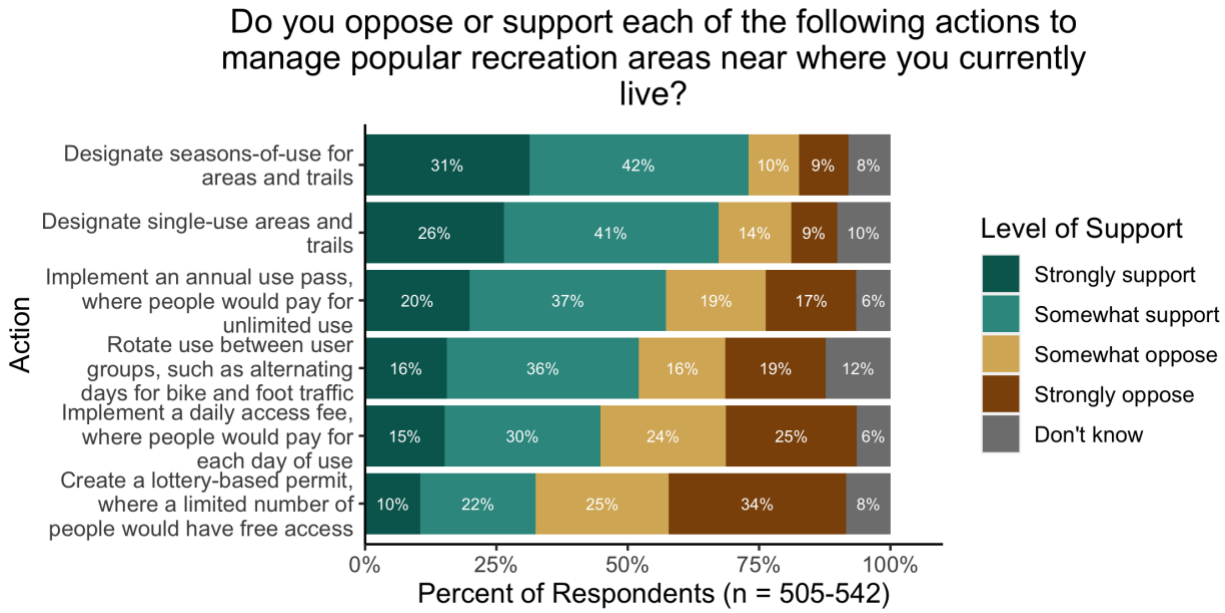


Figure 31. *Level of support for recreation management actions. The number of people who responded to these questions is shown in parentheses as "n = ".*

[7] Ridge to Rivers Partnership, 2022. *Special Trail Management Strategies*. Ridge to Rivers. Retrieved 13 June 2022 from https://www.ridgetorivers.org/special-trail-management-strategies/

We asked respondents to identify their top preference for how an annual $10 recreation fee for accessing Idaho's public lands should be used if it were implemented (Fig. 32). The most popular options were that that it should be used for maintaining the recreational area (40% of respondents) or that it should be used to support restoration of burned or degraded sagebrush landscapes (22%). Two of the response options asked respondents if they preferred the fee be given directly to local governments or businesses. Sixteen percent of respondents stated they preferred the fee go to local government to maintain services such as road and search and rescue, and 5% preferred the fee go to local businesses to support economic development. Finally, 12% of respondents stated they were not willing to pay a recreation access fee for any purpose, while 5% said that they would prefer that the funds were used for a different purpose than those listed.

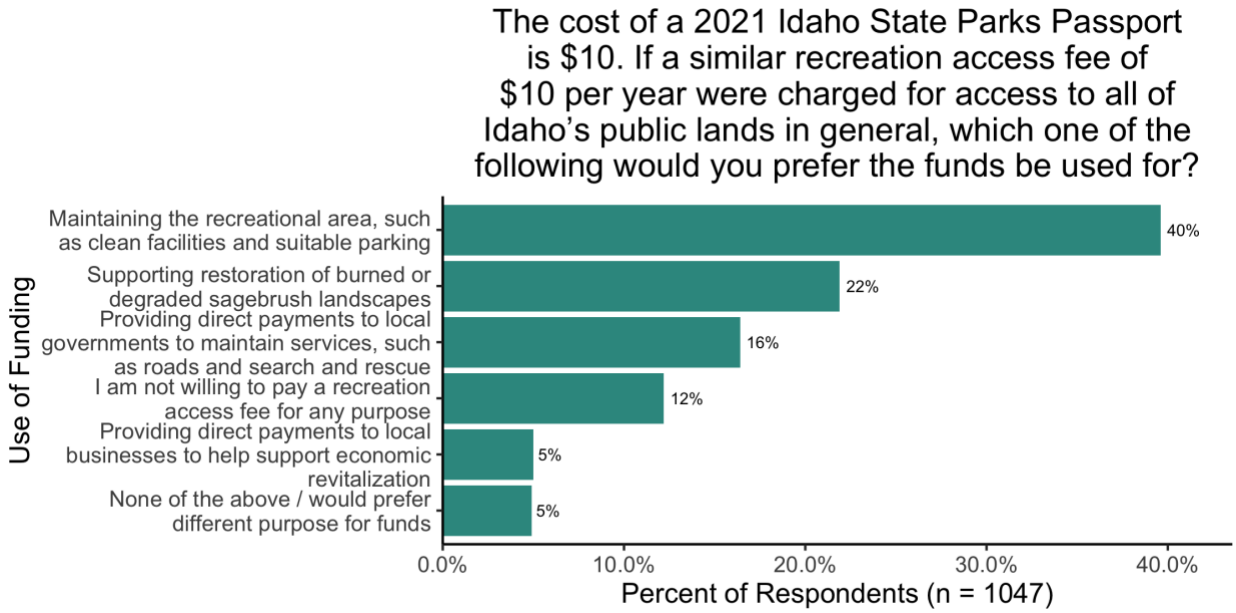


Figure 32. *Preferences regarding the use of recreation fee funding. The number of people who responded to these questions is shown in parentheses as "n = ".*

Conclusions

This survey of a representative sample of Idahoans provides valuable insights into the perspectives of residents regarding uses and management of Idaho's sagebrush landscapes, rangelands, and public lands. Survey respondents were nearly evenly split among those who reside in a city (23%), suburb (23%), small town (27%), or in the countryside or on a farm or ranch (25%). Notably, survey respondents' mean length of residence time in Idaho dropped from a mean of 47 years in 2014 to 26 years in 2021. The percentage of respondents who had lived in Idaho for less than 5 years increased from 5% in 2014 to 14% in 2021. These demographic results highlight the population changes occurring in Idaho, with a greater proportion of newcomers to the state responding to the survey in 2021 than in the past.

The most important findings from this study indicate that Idahoans use and derive economic benefits from these landscapes in a multitude of ways, believe livestock grazing should be kept as part of public rangelands management, and view the maintenance of wildlife habitat and prevention of wildfires to be high priorities for Idaho's rangelands. A majority of respondents believe that cattle and sheep producers manage rangelands in a responsible manner and that Idaho's rangelands are in "fair" to "good" condition.

For sources of information regarding rangelands, 70% or more respondents reported that the U.S. Forest service, Idaho Department of Lands, Bureau of Land Management, and ranchers were either "very" or "somewhat" reliable sources. A higher percentage of respondents (20%) were unsure about the reliability of scientists as sources of rangeland information, with 62% of respondents reporting that scientists are "very" or "somewhat" reliable sources. This represented the largest drop in perceived reliability relative to the 2014 survey, when 83% of respondents reported that scientists were "very" or "somewhat" reliable sources.

In addition, the findings from the new recreation section emphasize that Idahoans recognize that there are numerous problems related to recreation on public lands, including traveling off of designated trails, displacing wildlife, and overcrowding by recreationalists. However, most feel that their own impacts on the environment and on other public lands users are neutral to positive. Solutions focused on traffic-control actions or that leverage shared responsibility are likely to be better supported.

Appendix A: Detailed Methods and Final Survey Instrument

The surveys documented herein include a scientific, probability-based telephone survey and an online sample survey of Idaho residents. The full methods are described below.

Questionnaire Design

The project entailed a survey sample of the general Idaho population, which included both telephone and online samples). For both samples, respondents had to be 18 or older and a resident of Idaho to take the survey. The two sample groups received the same survey questions. Because a multi-modal approach was used, different questionnaires were created for telephone surveying and for online surveying, with slight wording differences to account for the different survey modes.

The telephone and online survey questionnaires were developed cooperatively by researchers at Boise State University, Idaho State University, and the University of Idaho, the Idaho Rangeland Resources Commission, and Responsive Management. The telephone questionnaire was coded for integration with Responsive Management's computer-assisted telephone interviewing (CATI) process. An important aspect of the CATI process is that the computer controls which questions are asked and allows for immediate data entry. The surveys are administered by live interviewers with experience conducting surveys about natural resources and wildlife. Responsive Management conducted pre-tests of the questionnaires to ensure proper wording, flow, and logic in the surveys.

Survey Samples

The samples were obtained from Marketing Systems Group and Dynata, firms that specialize in providing scientifically valid samples for survey research. The telephone sample used a probability-based selection process that ensured that each eligible respondent had an approximately equal chance of being selected for the survey.

The sampling plan was designed to achieve a representative sample of Idaho residents aged 18 years old and older. The sample was ordered and monitored with a goal of achieving a number of completed questionnaires in each county congruent with the number of residents in each county, with the exception of two oversample counties: Owyhee County and Teton County.

Samples were developed with the goal of obtaining an accurate representation of adult Idaho residents with 100 completed interviews in two oversample counties and 1,000 surveys overall. Respondents were contacted up to five times via telephone and up to three times via email. The sample was a randomly selected, statewide sample comprised of 70% cellular and 30% listed landline records.

The total number of interviews completed for the study is 1,048 surveys, which is a little higher than the overall goal as researchers attempted to get 100 surveys each in Owyhee and Teton counties. With the cellular sample, sometimes a respondent did not live at the

address to which the telephone record was attached, and the completed survey did not count towards the oversample goals. The table below shows the number of survey respondents in each of Idaho's counties (Table A.1). For analysis and statewide representation, county data was weighted to match county populations, including the two oversampled counties.

Table A.1. *Number of respondents by county (n-value).*

County	n-value
Ada County	210
Canyon County	110
Owyhee County	81
Teton County	73
Kootenai County	72
Blaine County	61
Bannock County	60
Twin Falls County	53
Bonneville County	49
Latah County	27
Madison County	19
Bingham County	19
Elmore County	19
Payette County	17
Gem County	16
Nez Perce County	15
Boise County	13
Cassia County	11
Jerome County	11
Idaho County	11
Bonner County	8
Minidoka County	7
Franklin County	7
Boundary County	6
Shoshone County	6
Lemhi County	6
Jefferson County	5
Washington County	5

Clearwater County	5
Fremont County	4
Benewah County	4
Lincoln County	4
Adams County	4
Gooding County	3
Valley County	3
Power County	3
Bear Lake County	3
Oneida County	3
Caribou County	2
Lewis County	1
Butte County	1
Custer County	0
Camas County	0
Clark County	0

Multi-modal Survey Administration

The first part of the survey was conducted by telephone. For quality control, Survey Center Managers monitored the interviews in real time. To further ensure the integrity of the telephone survey data, Responsive Management has interviewers who have been trained according to the standards established by the Council of American Survey Research Organizations. Methods of instruction included lecture and role-playing. The Survey Center Managers and other professional staff conducted briefings with the interviewers prior to the administration of this survey. Interviewers were instructed on type of study, study goals and objectives, handling of survey questions, interview length, termination points and qualifiers for participation, interviewer instructions within the survey questionnaire, reading of the survey questions, skip patterns, and probing and clarifying techniques necessary for specific questions on the survey questionnaire.

The telephone survey data were entered into the computer as each interview was being conducted, eliminating manual data entry after the completion of the survey and the concomitant data entry errors that may occur with manual data entry. The survey questionnaire was programmed so that the CATI system branched, coded, and substituted phrases in the survey based on previous responses to ensure the integrity and consistency of the data collection. Telephone interviews were conducted Monday through Friday from 10:00 a.m. to 9:00 p.m., Saturday from 12:00 p.m. to 7:00 p.m., and Sunday from 2:00 p.m. to 9:00 p.m., local time, using interviewers with experience conducting computer-assisted surveys about natural resources. A five-callback design was used to maintain the

representativeness of the sample, to avoid bias toward people easy to reach by telephone, and to provide an equal opportunity for all to participate. When a respondent could not be reached on the first call, subsequent calls were placed on different days of the week and at different times of the day. Respondents were given the option to complete a survey online if they preferred to not complete it over the phone.

The online survey was coded in an online platform by Responsive Management, and emails were sent to the sample of Idaho residents provided by Marketing Systems Group and Dynata. Throughout the survey fielding period, Responsive Management research associates and statisticians maintained rigorous quality control over the data collection by monitoring the survey results and ensuring the validity of the responses. The online survey could be taken at any time, at the convenience of the respondent.

After the completed survey interviews were obtained, Responsive Management statisticians checked each completed survey for clarity, quality, and completeness.

The data collection was conducted in October and November 2021. After both the telephone and online surveys were obtained, the Survey Center Managers and/or statisticians checked each completed survey to ensure clarity and completeness. Additionally, the survey code included proprietary error checkers and other quality control checks. The data collected through the telephone and online surveys of the general population were merged. Responsive Management obtained a total of 1,048 completed interviews from adult Idaho residents.

Response Rates

Of the completed questionnaires collected, 25% (262) came from telephone interviews and 75% (786) came from online surveys. When reviewing the response rate table below, note that with reference to the online survey and those respondents originally contacted by phone who preferred to complete the survey online, an exact response rate cannot be calculated. Whereas telephone interviewers can ascertain whether a respondent is not an Idaho resident, refuses to participate, or cannot be contacted at the phone number provided, online surveying does not offer such nuance. In other words, some email addresses may no longer be in use, some respondents may refuse to participate, telephone respondents may request to take the survey online but never complete the survey, and some respondents may not be current Idaho residents, but there is not enough information to include these numbers in response rate calculations.

In the table below, the response rates are based on the number of completed surveys compared to the number of potentially reachable, eligible, and willing contacts, as well as respondents who terminated surveys before completion (Table A.2, which is a reprint of Table 1 from the Methods section above). Of the unreachable surveys, 124 telephone surveys could not be completed due to language barriers.

Table A.2. *Response rates for phone and online survey (reprint from Table 1).*

Response Rates for Phone and Online Survey		
Sample and Results	**Phone**	**Online**
Total Sample Used	4,387	1194
Completed Surveys	262	786
Disqualified (online surveys removed by researchers due to failure to correctly respond to attention checker question)	N/A	243
Ineligible (under 18 or nonresident)	56	N/A
Working Phone Number / Reachable contact	1423	N/A
Unreachable (disconnected numbers, busy signals, businesses, language barriers, etc.)	1346	N/A
Terminated Surveys	96	166
Refusal	1203	N/A
Response Rate	**15%**	**83%**

Data Analysis

The weighting of data was performed using IBM SPSS Statistics as well as proprietary software developed by Responsive Management. Data analysis was performed in R.

Results were weighted by age and gender, county, race/ethnicity, and level of education. The table below shows each weighted group with the corresponding weighting target (Table A.3).

Table A.3. *Weighting targets.*

Gender and Age	**Weighting Target**
Male, 65+	9.325021
Male, 55-64	8.149488
Male, 45-54	8.135094
Male, 35-44	8.466801
Male, 25-34	8.965589
Male, 18-24	6.686
Female, 65+	10.50293
Female, 55-64	8.479805
Female, 45-54	8.132232
Female, 35-44	8.258748
Female, 25-34	8.707649
Female, 18-24	6.190647
County	**Weighting Targets**
Ada County	26.9
Canyon County	12.6
Owyhee County	0.6
Teton County	0.6
Kootenai County	9.3
Blaine County	1.3
Rest of state	48.7
Race/Ethnicity	**Weighting Target**
Hispanics	13
Level of Education	**Weighting Target**
Graduate education	8.4

Sampling Errors

Findings of the surveys are reported at a 95% confidence interval. The sampling errors were calculated using the formula described below, and the sample sizes, population sizes, and sampling errors are shown in the tabulation that follows.

Sampling Error Equation

$$B = \left(\sqrt{\frac{\frac{N_p(.25)}{N_s} - .25}{N_p - 1}} \right) (1.96)$$

Where: B = maximum sampling error (as decimal)

N_P = pop. size (i.e., total number who could be surveyed)

N_s = sample size (i.e., total number of respondents

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

Note: This is a simplified version of the formula that calculates the *maximum* sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

Sampling Error

Sample	1,048
Population	1,276,603
Error	3.025988

Survey Instruments and Links

Please note that both survey instruments include additional questions whose results are not included in this report. These additional results will be reported on and published separately (as part of Haley Netherton-Morrison's doctoral dissertation), as they relate to research objectives beyond the Idaho Rangeland Resources Commission's mission.

Phone Survey

Below is the survey instrument for the telephone survey. Please note that up to five calls were made to each respondent, but in the interest of improving readability, only the first call is included below. Some questions were split amongst respondents to reduce the length of the survey.

Although the coded survey below does not include coding for these splits, (because the coding is question-specific and not survey-specific), each split question can be viewed in the following link:

- Telephone survey link: https://survey.alchemer.com/s3/6592778/PHONE-Boise-State2021-Sagebrush-Survey (Please enter initials and select "Correct Person / good time to do survey" in order to begin the survey.)

Phone Survey Instrument

Hello, my name is _____. I am calling on behalf of Boise State University to ask you some questions about public lands, sagebrush landscapes, and rangelands and how they should be managed in the state.

We are not selling anything or asking for donations.

The results from this study will be used to inform education and management of public lands in Idaho. Your opinions are valuable on this topic, regardless of your level of experience with these landscapes.

2) Do you have a few minutes to answer some questions?

Age and Residence

Page exit logic: Skip / Disqualify LogicIF: #17 Question "And, are you a resident of Idaho?" is one of the following answers ("No","Refused") THEN: Disqualify and display: "I'm sorry, but right now we are only interviewing current residents of Idaho. Thank you for your time and consideration." Redirect to: responsivemanagement.com

Page exit logic: Skip / Disqualify LogicIF: #16 Question "Are you at least 18 years old?" is one of the following answers ("No","Refused") THEN: Disqualify and display: "I'm sorry, but right now we are only interviewing those who are at least 18 years old. Thank you for your time and consideration." Redirect to: responsivemanagement.com

Logic: Show/hide trigger exists.

16) Are you at least 18 years old?*

( ) Yes

( ) No

( ) Refused

Logic: Show/hide trigger exists. Hidden unless: #16 Question "Are you at least 18 years old?" is one of the following answers ("Yes")

17) And, are you a resident of Idaho?*

( ) Yes

( ) No

( ) Refused

Logic: Hidden unless: #16 Question "Are you at least 18 years old?" is one of the following answers ("No","Refused")

I'm sorry, but right now we are only interviewing those who are at least 18 years old. Thank you for your time and consideration.

Logic: Hidden unless: #17 Question "And, are you a resident of Idaho?" is one of the following answers ("No","Refused")

I'm sorry, but right now we are only interviewing current residents of Idaho. Thank you for your time and consideration.

18) Do you agree or disagree with each of the following statements related to the area where you currently live (and do you feel that way strongly or somewhat)?

How about…?

	Strongly disagree	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**
This area is my favorite place to be	( )	( )	( )	( )
When I think of home, I think of this area	( )	( )	( )	( )
My personal history is closely tied to this area	( )	( )	( )	( )
Even if I no longer lived here, this area will always be a part of who I am	( )	( )	( )	( )

I have an extensive network of family and/or friends here	( )	( )	( )	( )
People in this area generally have values similar to mine	( )	( )	( )	( )
This area is the best place for doing the things I enjoy most	( )	( )	( )	( )
This area supports a desirable way of life for me	( )	( )	( )	( )

Hidden Value: RANDOM1

Value: populates with a randomly generated number between 1 and 4

Hidden Value: RANDOM2

Value: populates with a randomly generated number between 1 and 7

Hidden Value: RANDOM3

Value: populates with a randomly generated number between 1 and 6

Hidden Value: RANDOM4A

Value: populates with a randomly generated number between 1 and 2

Hidden Value: RANDOM4B

Value: populates with a randomly generated number between 1 and 2

Hidden Value: RANDOM4C

Value: populates with a randomly generated number between 1 and 2

Sagebrush Landscapes Section

Our next few questions are related to Idaho's sagebrush landscapes.

Please keep in mind the following definition when responding.

- **When we refer to "sagebrush landscapes", we mean any landscape in Idaho that is a shrubland or grassland with sagebrush (an aromatic shrub with silver-green leaves growing in many drier regions of Idaho). This can include both public and private lands.**

Generally, how would you describe Idaho's sagebrush landscapes?

19) Would you describe Idaho's sagebrush landscapes as...?

( ) Ugly ( ) Somewhat ugly ( ) Neither ugly nor beautiful ( ) Somewhat beautiful
( ) Beautiful ( ) Don't know

Sagebrush Landscapes Section (cont.)

20) Would you describe Idaho's sagebrush landscapes as...?

( ) Boring ( ) Somewhat boring ( ) Neither boring nor exciting
( ) Somewhat exciting ( ) Exciting ( ) Don't know

21) Would you describe Idaho's sagebrush landscapes as...?

( ) Uniform ( ) Somewhat uniform ( ) Neither uniform nor diverse
( ) Somewhat diverse ( ) Diverse ( ) Don't know

22) How important are Idaho's sagebrush landscapes to you personally? Would you say....?

( ) Not at all important ( ) Slightly important ( ) Moderately important
( ) Very important

23) How important are each of the following aspects of Idaho's sagebrush landscapes to you personally? For each aspect, please let me know if it is not at all important, slightly important, moderately important, or very important.

How about...?

	Not at all important	**Slightly important**	**Moderately important**	**Very important**
Their beauty	( )	( )	( )	( )
Their smell	( )	( )	( )	( )
Their wide-open spaces	( )	( )	( )	( )
Their cultural history	( )	( )	( )	( )
They make me feel at home	( )	( )	( )	( )

They support ranching	( )	( )	( )	( )
They represent who I am	( )	( )	( )	( )
They provide opportunities for recreation	( )	( )	( )	( )
They provide a sense of serenity	( )	( )	( )	( )
They are a home to a diversity of wildlife	( )	( )	( )	( )
They are iconic to Idaho	( )	( )	( )	( )
They are an underappreciated landscape	( )	( )	( )	( )
They are a place for ceremonies and rituals	( )	( )	( )	( )
They are a place for spending time with family and friends	( )	( )	( )	( )

They are a place for spiritual connection	( )	( )	( )	( )

24) How important to you are each of the following economic benefits of Idaho's sagebrush landscapes? How about...?

	Not at all important	**Slightly important**	**Moderately important**	**Very important**	**Don't know**
They provide economic benefits to my household, such as direct income	( )	( )	( )	( )	( )
They provide economic benefits to my community, such as local expenditures and local taxes	( )	( )	( )	( )	( )

They provide economic benefits to my state/Idaho, such as recreation fees and state taxes	( )	( )	( )	( )	( )

Logic: Hidden unless: Question "They provide economic benefits to my household, such as direct income**" is one of the following answers ("Slightly important","Moderately important","Very important")**

25) Thinking about <u>the last 12 months</u>, which of the following activities in sagebrush landscapes provided economic benefits to your household?

(Read list. Please check all that apply.) [ ] Livestock production

[ ] Food production (not livestock)

[ ] Gathering or foraging (not hunting)

[ ] Guided recreation

[ ] Logging

[ ] Renewable energy development

[ ] Other (please specify):: _____*

[ ] Don't know

Sagebrush Landscapes Section (cont.)

26) Which of the following do you believe threaten Idaho's sagebrush landscapes? I will read a list and you can stop me when I mention something that you believe to be a threat to Idaho's sagebrush landscapes. How about...?

(Read list and please check all that apply.)

[ ] Wildfire

[ ] Dense sagebrush

[ ] Residential development

[ ] Climate change

[ ] Off-highway vehicles, such as ATVs and UTVs

[ ] Non-motorized recreation, such as mountain bikes and hiking

[ ] Environmental regulations

[ ] Livestock

[ ] Non-native plants, such as cheatgrass

[ ] Wild horses

[ ] Native juniper encroachment

[ ] Mining

[ ] None of these

[ ] Don't know

Thank you.

(INTERVIEWER: This page is for data purposes. After saying thank you, hit next.)

Hidden Value: Q7 Total Responses

Value: [question("answer count"), id="51"]

Validation: **Min. answers = 1** (if answered) Max. answers = 3 (if answered)

Logic: Hidden unless: Q7 Total Responses is greater than "3"

Sagebrush Landscapes Section (cont.)

27) I will now read the threats to Idaho's sagebrush landscape that you selected on the previous question. Please tell me the three (3) threats that concern you the most.

(Read list and please select up to three responses. If respondent does not have three responses, select only one or two responses.)

[ ] Wildfire

[ ] Dense sagebrush

[ ] Residential development

[ ] Climate change

[ ] Off-highway vehicles, such as ATVs and UTVs

[ ] Non-motorized recreation, such as mountain bikes and hiking

[ ] Environmental regulations

[ ] Livestock

[ ] Non-native plants, such as cheatgrass

[ ] Wild horses

[ ] Native juniper encroachment

[ ] Mining

[ ] Don't know

28) Which of the following do you feel is the most acceptable way to ensure sustainable sagebrush landscapes? How about...?

(Please select only one answer.)

( ) Establishing new protected areas

( ) Restricting the things people and businesses can do that might harm sagebrush ecosystems

( ) Providing financial incentives to encourage people to take actions that benefit sagebrush ecosystems

( ) Bringing people together to provide input on sagebrush ecosystem management

( ) Doing nothing

29) To what extent do you disagree or agree that the following actions are acceptable ways of <u>managing recreation</u> in Idaho's sagebrush landscapes? And for each action, please indicate if you feel that way strongly or somewhat.

How about…?

	Strongly disagree	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**	**Don't know**
Establish new trails	( )	( )	( )	( )	( )
Set and enforce rules that limit recreation access	( )	( )	( )	( )	( )
Provide financial support for managing areas affected by recreation	( )	( )	( )	( )	( )

Bring people together to make decisions about recreation issues	( )	( )	( )	( )	( )
Do nothing	( )	( )	( )	( )	( )

30) To what extent do you disagree or agree that the following actions are acceptable ways of <u>managing residential development</u> in Idaho's sagebrush landscapes? For each action, please indicate whether you feel that way strongly or somewhat.

How about...?

	Strongly disagree	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**	**Don't know**
Set aside new areas for residential development in sagebrush landscapes	( )	( )	( )	( )	( )

Set regulations to limit residential development in intact sagebrush landscapes	( )	( )	( )	( )	( )
Provide financial incentives to encourage residential development away from intact sagebrush landscapes	( )	( )	( )	( )	( )
Bring people together to make decisions about residential development in intact sagebrush landscapes	( )	( )	( )	( )	( )
Do nothing	( )	( )	( )	( )	( )

Sagebrush Landscapes Section (cont.)

31) How inappropriate or appropriate is it for the following groups to be responsible for ensuring the sustainability of Idaho's sagebrush landscapes?

How about…?

	Very inappropriate	**Somewhat inappropriate**	**Somewhat appropriate**	**Very appropriate**	**Don't know**
Federal government	( )	( )	( )	( )	( )
State government	( )	( )	( )	( )	( )
Local governments	( )	( )	( )	( )	( )
Tribal governments	( )	( )	( )	( )	( )
Collaborative groups	( )	( )	( )	( )	( )
Non-profit organizations	( )	( )	( )	( )	( )
Individuals	( )	( )	( )	( )	( )

Ranchers	( )	( )	( )	( )	( )
Private businesses	( )	( )	( )	( )	( )
Scientists	( )	( )	( )	( )	( )

32) Thinking about <u>the last 12 months</u>, how often did you engage in the following activities in Idaho's sagebrush landscapes?

For each activity, please let me know if you have done it never, 1 to 5 times, or 6 times or more.

	Never	**1 to 5 times**	**6 times or more**
Hunting	( )	( )	( )
Angling	( )	( )	( )
Gathering or foraging (not hunting)	( )	( )	( )
Off-highway vehicle use, such as ATVs and UTVs	( )	( )	( )

Mountain biking	( )	( )	( )
Hiking	( )	( )	( )
Horseback riding	( )	( )	( )
Camping	( )	( )	( )
Wildlife/bird watching	( )	( )	( )
Guided recreation	( )	( )	( )

Public Lands Section

Our next few questions are related to Idaho's public lands.

<u>Please keep in mind the following definition when responding.</u>

- **When we refer to "public lands", we mean any lands in Idaho managed for objectives deemed to be in the public interest. Public lands do not include private lands owned by individuals or businesses.**

33) Which of the following activities do you approve public lands being used for?

How about…?

	Yes (approve)	**No (do not approve)**	**Unsure**
Hunting	( )	( )	( )
Angling	( )	( )	( )
Off-highway vehicle use, such as ATVs and UTVs	( )	( )	( )
Mountain biking	( )	( )	( )
Hiking	( )	( )	( )
Horseback riding	( )	( )	( )
Camping	( )	( )	( )

Wildlife/bird watching	( )	( )	( )
Guided recreation	( )	( )	( )
Livestock production	( )	( )	( )
Logging	( )	( )	( )
Renewable energy development	( )	( )	( )

34) To what extent do you disagree or agree with the following statements about recreation on public lands? For each item, please let me know if you feel that way strongly or somewhat.

How about…?

	Strongly disagree	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**	**Don't know**
It is the recreationist's responsibility to research how to reach their recreation location before they go	( )	( )	( )	( )	( )

Directional signage should be provided to show recreationists how to reach their recreation location	( )	( )	( )	( )	( )
It is the recreationist's responsibility	( )	( )	( )	( )	( )
to know who owns the land they are using					
It is the landowner's responsibility to provide land ownership information to recreationists, such as posting signs	( )	( )	( )	( )	( )

Logic: Show/hide trigger exists.

35) <u>In the last 12 months</u>, have you used public lands for recreation?

( ) Yes

( ) No

Logic: Hidden unless: #35 Question "In the last 12 months, have you used public lands for recreation?**" is one of the following answers ("Yes")**

36) To what extent do you feel that your recreational use of public lands has negative or positive impacts on the following?

How about…?

(Would you say very negative, somewhat negative, neither negative nor positive, somewhat positive, or very positive?)

	Very negative	**Somewhat negative**	**Neither negative nor positive**	**Somewhat positive**	**Very positive**	**Don't know**
The environment	( )	( )	( )	( )	( )	( )
Other public lands users	( )	( )	( )	( )	( )	( )

Public Lands Section (cont.)

37) In general, to what extent do you believe the following are a problem related to recreation on public lands? For each item, please let me know if you think it is not a problem, a slight problem, a moderate problem, or a very serious problem.

How about…?

	Not a problem	**Slight problem**	**Moderate problem**	**Very serious problem**	**Don't know**
Traveling off of designated trails	( )	( )	( )	( )	( )
Traveling outside of recreational areas	( )	( )	( )	( )	( )
Overcrowding by recreationists	( )	( )	( )	( )	( )
Soil and vegetation disturbance	( )	( )	( )	( )	( )
Conflict with other recreationists	( )	( )	( )	( )	( )

Conflict with private landowners	( )	( )	( )	( )	( )
Displacement of wildlife	( )	( )	( )	( )	( )

38) Do you oppose or support each of the following actions to manage popular recreation areas near where you currently live?

How about…?

	Strongly oppose	**Somewhat oppose**	**Somewhat support**	**Strongly support**	**Don't know**
Implement a daily access fee, where people would pay for each day of use	( )	( )	( )	( )	( )
Implement an annual use pass, where people would pay for unlimited use	( )	( )	( )	( )	( )

Create a lottery-based permit, where a limited number of people would	( )	( )	( )	( )	( )
have free access					
Designate single-use areas and trails	( )	( )	( )	( )	( )
Designate seasons-of-use for areas and trails	( )	( )	( )	( )	( )
Rotate use between user groups, such as alternating days for bike and foot traffic	( )	( )	( )	( )	( )

Public Lands Section (cont.)

39) The cost of a 2021 Idaho State Parks Passport is $10. IF a similar recreation access fee of $10 per year were charged for access to all of Idaho's public lands in general, please tell me which ONE of the following would you prefer the funds be used for?

(Please select only one that is the respondent's first choice.)

( ) Supporting restoration of burned or degraded sagebrush landscapes

( ) Providing direct payments to local businesses to help support economic revitalization

( ) Providing direct payments to local governments to maintain services, such as roads and search and rescue

( ) Maintaining the recreational area, such as clean facilities and suitable parking

( ) None of the above / would prefer different purpose for funds

( ) I am not willing to pay a recreation access fee for any purpose

Rangelands Section

Our next few questions are related to Idaho's rangelands.

<u>Please keep in mind the following definition when responding.</u>

- **When we refer to "rangelands", we mean any public or private lands in Idaho that are open grasslands, shrublands, or woodlands that can be used for livestock production. Rangelands do not refer to irrigated or farmed lands.**

40) How much of a priority should the following be given when making decisions about public rangelands?

How about…?

	No priority	**Low priority**	**Medium priority**	**High priority**	**Don't know**
The economic well-being of local communities	( )	( )	( )	( )	( )
The maintenance of wildlife habitat	( )	( )	( )	( )	( )
Recreational opportunities and access	( )	( )	( )	( )	( )
Reducing the risk of wildfire to communities	( )	( )	( )	( )	( )

Preventing the spread of invasive species, such as cheatgrass	( )	( )	( )	( )	( )

41) To what extent do you disagree or agree with the following statements about Idaho's rangelands? For each item, please let me know if you feel that way strongly or somewhat.

	Strongly disagree	**Somewhat disagree**	**Somewhat agree**	**Strongly agree**	**Don't know**
Livestock grazing should be kept as part of the management of public rangelands	( )	( )	( )	( )	( )
Cattle producers manage rangelands in a responsible manner	( )	( )	( )	( )	( )

Sheep producers manage rangelands in a responsible manner	( )	( )	( )	( )	( )
Ranchers should pay more than they do now to graze livestock on public lands	( )	( )	( )	( )	( )
Ranches and farms are important to the	( )	( )	( )	( )	( )
preservation of wildlife habitat					
Ranches are important to threatened and endangered species habitat	( )	( )	( )	( )	( )

42) Based on what you know, would you say the condition of Idaho's rangelands is...

( ) Very poor ( ) Poor ( ) Fair ( ) Good ( ) Very good ( ) Don't know

Rangelands Section (cont.)

43) How much of a problem would you say wildfire is on Idaho's rangelands?

( ) Not a problem at all ( ) A minor problem ( ) A moderate problem
( ) A significant problem ( ) A severe problem ( ) Don't know

Logic: Show/hide trigger exists.

44) Have you ever encountered livestock on Idaho's rangelands?

( ) Yes ( ) No

**Logic: Hidden unless: #44 Question "Have you ever encountered livestock on Idaho's rangelands?
" is one of the following answers ("Yes")**

45) How would you describe your experience (when you encountered livestock on Idaho's rangelands)? Would you say it was negative, neutral, or positive?

( ) Negative ( ) Neutral ( ) Positive

46) How unreliable or reliable are each of the following organizations or groups for information regarding Idaho's rangelands?

	Very unreliable	Somewhat unreliable	Somewhat reliable	Very reliable	Don't know
Bureau of Land Management	( )	( )	( )	( )	( )
U.S. Forest Service	( )	( )	( )	( )	( )
Idaho Department of Lands	( )	( )	( )	( )	( )

Environmental groups	( )	( )	( )	( )	( )
Ranchers	( )	( )	( )	( )	( )
Scientists	( )	( )	( )	( )	( )

Demographics Section

Thank you. We are almost done. Our remaining questions help us analyze our results. All of your answers will be kept completely confidential.

47) Do you currently live in a sagebrush landscape (either in or outside of Idaho)?

( ) Yes

( ) No

( ) Don't know

48) Did you spend your childhood living in sagebrush landscapes (either in or outside of Idaho)?

( ) Yes

( ) No

( ) Don't know

49) Regardless of whether you currently live in a sagebrush landscape or not, how many years total have you lived in a sagebrush landscape (either in or outside of Idaho)?

( ) 0 years

( ) Less than 5 years

( ) 5-10 years

( ) More than 10 years

( ) Refused / Don't know

50) What is your occupational status?

( ) Employed full time

( ) Employed part time

( ) Retired

( ) Student

( ) Homemaker

( ) Unemployed

( ) Disabled

( ) Prefer not to answer

Logic: Hidden unless: #50 Question "What is your occupational status?" is one of the following answers ("Employed full time","Employed part time")

51) What is your occupation?

52) How many years have you lived in Idaho?

(Please round up to the nearest year. Enter 99 for refused and 88 for don't know)

53) In what kind of place do you currently live?

( ) City

( ) Suburb

( ) Small town

( ) Countryside, but not on a farm or ranch

( ) Farm or ranch

( ) (DNR) Refused/Don't know

54) What is your zip code?

Enter 99999 for refused/don't know

55) In what county do you currently live?

( ) Ada County

( ) Adams County

( ) Bannock County

( ) Bear Lake County

( ) Benewah County

( ) Bingham County

( ) Blaine County

( ) Boise County

( ) Bonner County

( ) Bonneville County

( ) Boundary County

( ) Butte County

( ) Camas County

( ) Canyon County

( ) Caribou County

( ) Cassia County

( ) Clark County

( ) Clearwater County

( ) Custer County

( ) Elmore County

( ) Franklin County

( ) Fremont County

( ) Gem County

( ) Gooding County

( ) Idaho County

( ) Jefferson County

( ) Jerome County

( ) Kootenai County

( ) Latah County

( ) Lemhi County

( ) Lewis County

( ) Lincoln County

( ) Madison County

( ) Minidoka County

( ) Nez Perce County

( ) Oneida County

( ) Owyhee County

( ) Payette County

( ) Power County

( ) Shoshone County

( ) Teton County

( ) Twin Falls County

( ) Valley County

( ) Washington County

( ) Don't know

( ) Refused

56) What year were you born?

(INTERVIEWER: Enter 9999 for refused and 8888 for don't know)*

57) How many adults live in your household?

And how many children (under the age of 18) live in your household?

(INTERVIEWER: Enter 99 for refused or don't know)

Adults:: _____

Children (0-18 years of age):: _____

58) What is the highest level of education you have completed?

( ) Some high school, no degree

( ) High school graduate or equivalent

( ) Some college, no degree

( ) Associate's degree

( ) Bachelor's degree

( ) Graduate or professional degree

( ) (DNR) Don't know

( ) (DNR) Refused

59) On a scale of 1 to 7, where 1 is very conservative and 7 is very liberal, how would you describe your political view?

( ) Very conservative - 1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( ) Very liberal - 7
( ) (DNR) Refused ( ) (DNR) Don't know

60) What is your household's approximate yearly income? I will read the categories, just stop me when I get to the right one.

( ) Less than $10,000

( ) $10,000 - $24,999

( ) $25,000 - $34,999

( ) $35,000 - $49,999

( ) $50,000 - $74,999

( ) $75,000 - $99,999

( ) $100,000 or more

( ) (DNR) Refused

( ) (DNR) Don't know

61) Are you...?

( ) Male ( ) Female ( ) Other ( ) Prefer not to answer

62) Which of the following describes you?

( ) Mexican-American

( ) Mexican

( ) Chicano/a

( ) Puerto Rican

( ) Other Hispanic (please specify):: _____*

( ) Not Hispanic or Latino/a

( ) Don't know

( ) Refused

63) Regardless of how you answered the previous question, which best describes you?

(Please select all that apply.)

[ ] Black or African American

[ ] Asian

[ ] Hispanic / Latino/a

[ ] Native American / American Indian

[ ] White

[ ] Native Hawaiian or Pacific Islander

[ ] Other (please specify):: _____*

[ ] Don't know

[ ] Refused

Thank You

64) Thank you for taking the time to complete this survey. Your assistance in providing this information is very much appreciated. If there is anything else you would like to tell us, I can add that now.

_____

_____

_____

_____

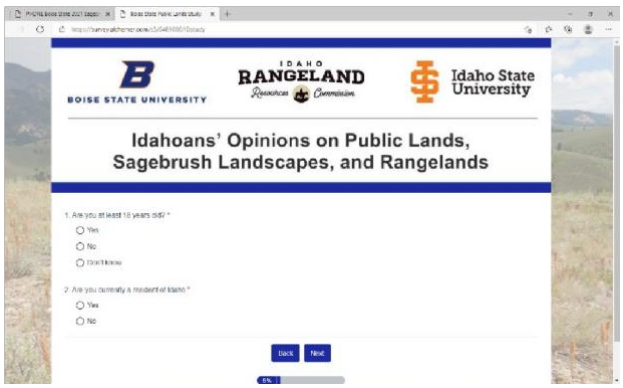
Thank you again for taking the time to complete this survey. Your assistance in providing this information is very much appreciated.

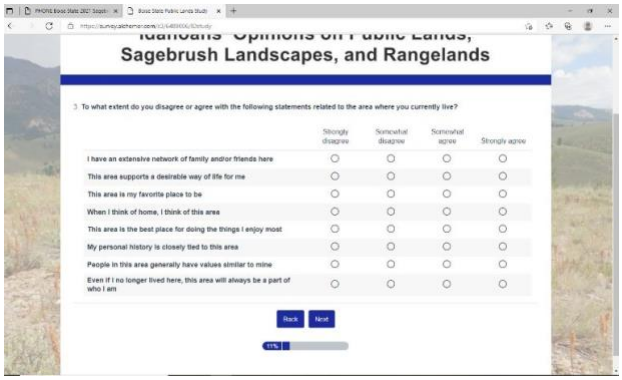
Online Survey

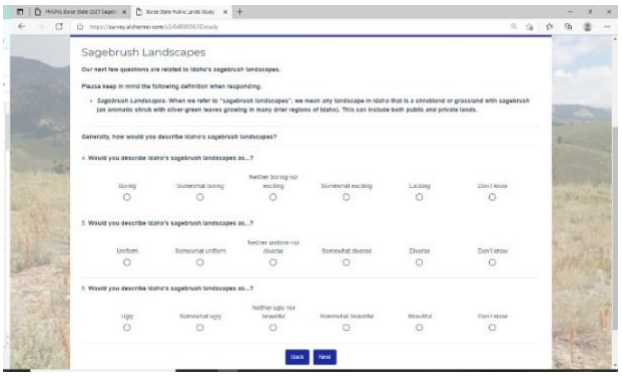
Below are a series of screenshots from the online version of the survey. Note that responses to certain questions would result in additional follow-up questions that are not all shown below.

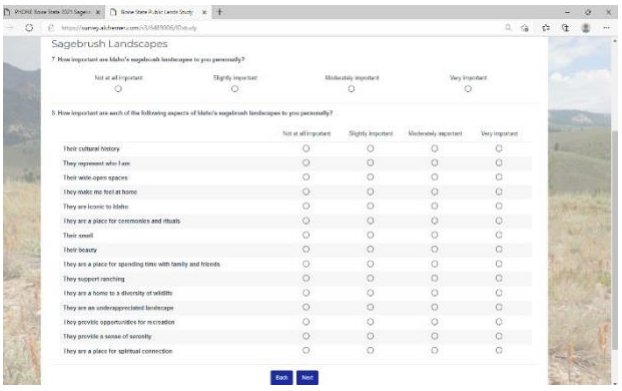
The link below can be used to see all follow-up questions and survey branching.

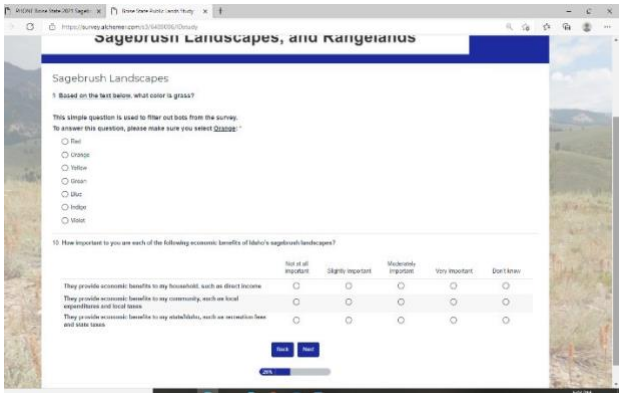
- Online survey link**:** https://survey.alchemer.com/s3/6489006/IDstudy

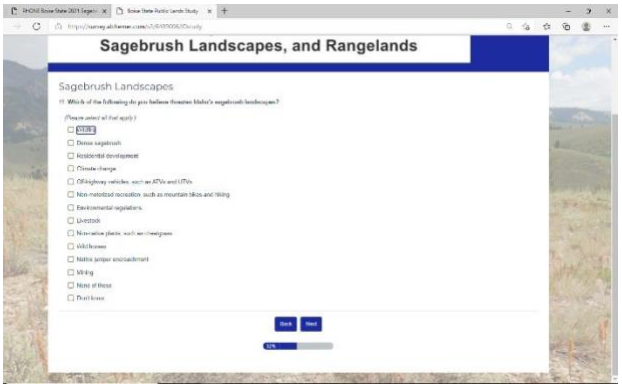


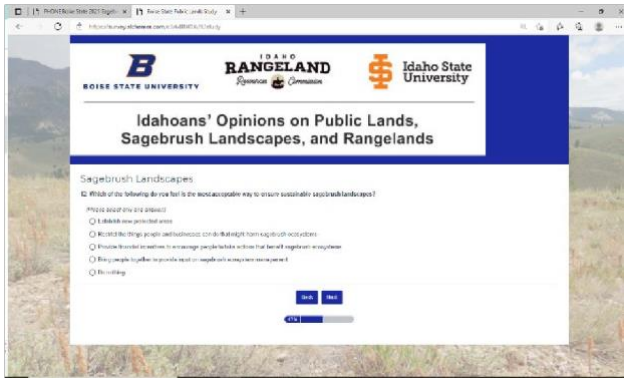


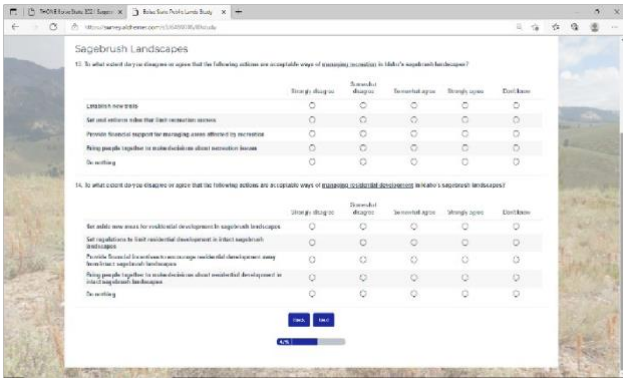


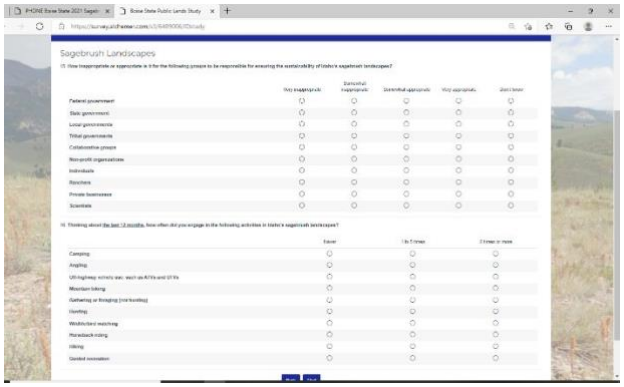





Sagebrush Landscapes, and Rangelands
Sagebrush Landscapes


BOISE STATE UNIVERSITY
IDAHO RANGELAND Resource Commission
Idaho State University
Idahoans' Opinions on Public Lands, Sagebrush Landscapes, and Rangelands
Sagebrush Landscapes


Sagebrush Landscapes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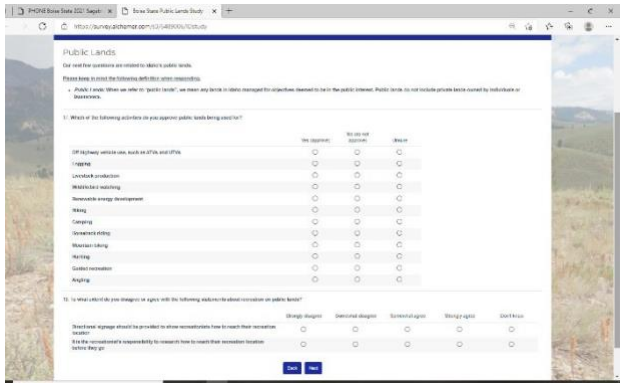
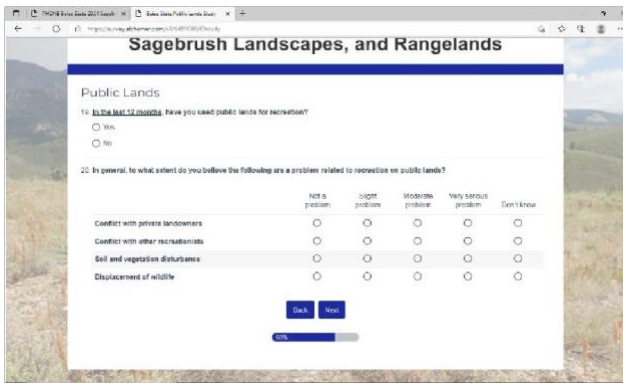
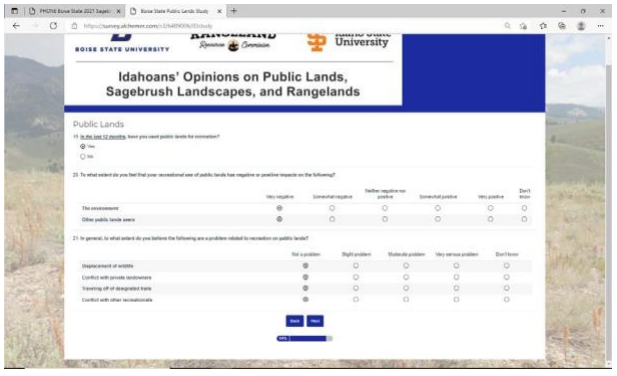
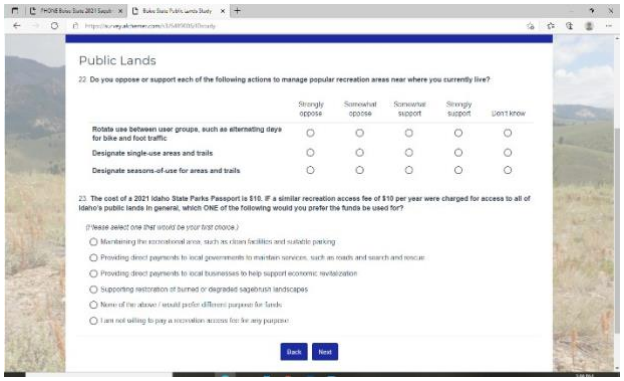
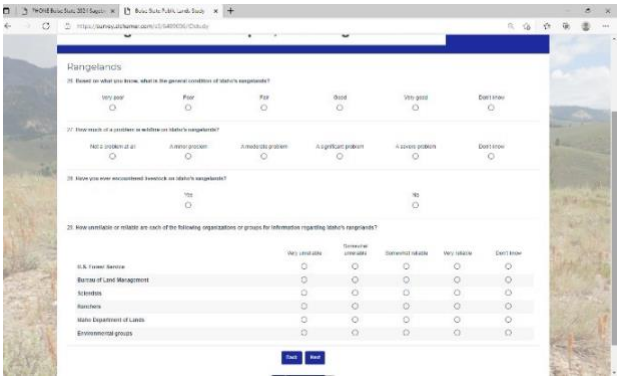
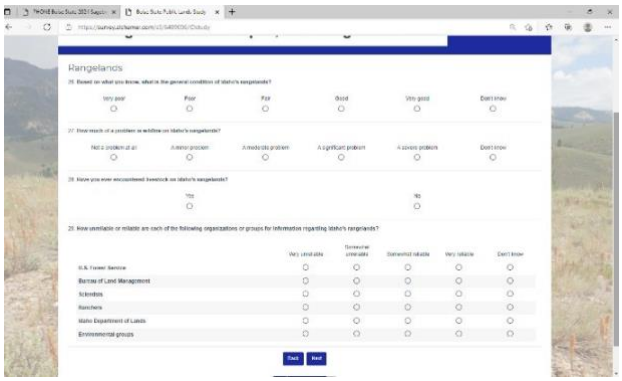

Public Lands

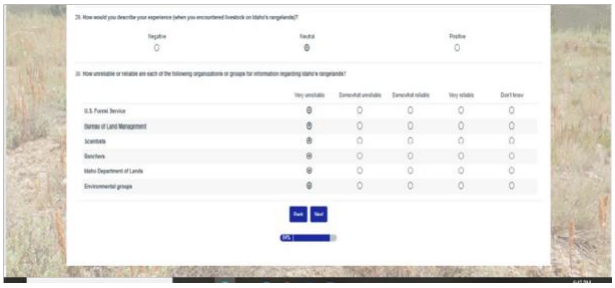

Sagebrush Landscapes, and Rangelands
Public Lands
19. In the last 12 months, have you used public lands for recreation?
Yes
No
20. In general, to what extent do you believe the following are a problem related to recreation on public lands?
Not a problem
Slight problem
Moderate problem
Very serious problem
Don't know
Conflict with private landowners
Conflict with other recreationists
Soil and vegetation disturbance
Displacement of wildlife
Back
Next

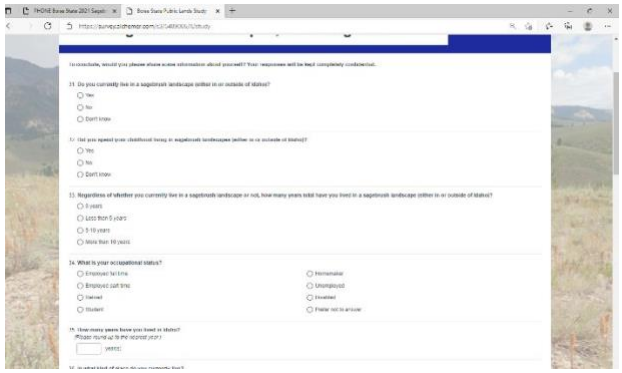

BOISE STATE UNIVERSITY
Idaho State University
Idahoans' Opinions on Public Lands, Sagebrush Landscapes, and Rangelands
Public Lands

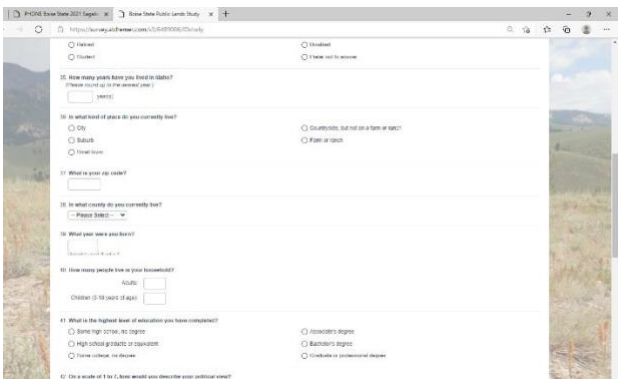

Public Lands
22. Do you oppose or support each of the following actions to manage popular recreation areas near where you currently live?
Strongly oppose
Somewhat oppose
Somewhat support
Strongly support
Don't know
Rotate use between user groups, such as alternating days for bike and foot traffic
Designate single-use areas and trails
Designate seasons-of-use for areas and trails
23. The cost of a 2021 Idaho State Parks Passport is $10. IF a similar recreation access fee of $10 per year were charged for access to all of Idaho's public lands in general, which ONE of the following would you prefer the funds be used for?
(Please select one that would be your first choice.)
Maintaining the recreational area, such as clean facilities and suitable parking
Providing direct payments to local governments to maintain services, such as roads and search and rescue
Providing direct payments to local businesses to help support economic revitalization
Supporting restoration of burned or degraded sagebrush landscapes
None of the above / would prefer different purpose for funds
I am not willing to pay a recreation access fee for any purpose
Back
Next

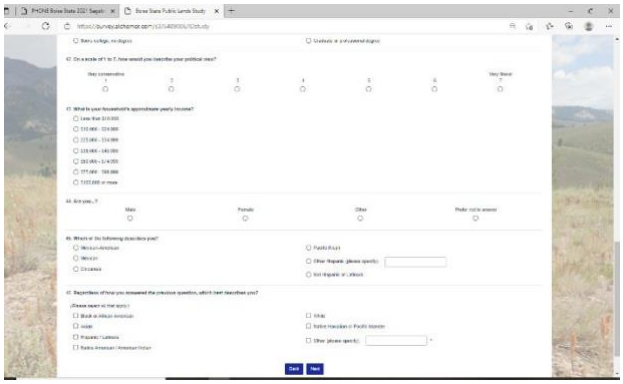

Rangelands


Rangelands









Appendix B: Tabular Results of Quantitative Questions

The two tables in this appendix summarize the results of the non-demographic (Table B.1) and demographic (Table B.2) questions in this report.

Table B.1. *Tabular results of non-demographic questions. Questions are labeled with their associated number, as defined in the Survey Instruments in Appendix A (e.g. Q24 refers to question 24 of the survey instrument). Questions with multiple parts are grouped together with a header row consisting of the survey instrument phrasing. All results in this table have been weighted for representativeness and are reported with their standard error.*

Question	Response	Weighted Frequency	Percent	Std. Error
Q24. How important to you are each of the following economic benefits of Idaho's sagebrush landscapes?				
They provide economic benefits to my community, such as local expenditures and local taxes	Not at all important	207	19.8%	1.2%
	Slightly important	251	24.0%	1.3%
	Moderately important	249	23.9%	1.3%
	Very important	240	23.0%	1.3%
	Don't know	97	9.3%	0.9%
They provide economic benefits to my household, such as direct income	Not at all important	555	53.2%	1.5%
	Slightly important	153	14.7%	1.1%
	Moderately important	128	12.3%	1.0%
	Very important	119	11.4%	1.0%
	Don't know	88	8.4%	0.9%
They provide economic benefits to my state/Idaho, such as recreation fees and state taxes	Not at all important	124	11.9%	1.0%
	Slightly important	187	18.0%	1.2%
	Moderately important	267	25.7%	1.4%
	Very important	389	37.5%	1.5%
	Don't know	71	6.8%	0.8%

Question	Response	Weighted Frequency	Percent	Std. Error
Q25. Thinking about the last 12 months, which of the following activities in sagebrush landscapes provided economic benefits to your household?				
Renewable energy development	No	324	80.8%	2.0%
	Yes	77	19.2%	2.0%
Food production (not livestock)	No	285	71.3%	2.3%
	Yes	115	28.8%	2.3%
Gathering or foraging (not hunting)	No	304	75.8%	2.1%
	Yes	97	24.2%	2.1%
Guided recreation	No	269	67.2%	2.3%
	Yes	131	32.8%	2.3%
Livestock production	No	279	69.8%	2.3%
	Yes	121	30.2%	2.3%
Logging	No	343	85.5%	1.8%
	Yes	58	14.5%	1.8%
Other	No	389	97.0%	0.9%
	Yes	12	3.0%	0.9%
Don't know	No	264	66.0%	2.4%
	Yes	136	34.0%	2.4%
Q32. Thinking about the last 12 months, how often did you engage in the following activities in Idaho's sagebrush landscapes?				
Camping	Never	496	47.6%	1.5%
	1-5 times	416	39.9%	1.5%
	6 times or more	131	12.6%	1.0%
Angling	Never	775	74.5%	1.4%
	1-5 times	179	17.2%	1.2%
	6 times or more	86	8.3%	0.9%
Gathering or foraging (not hunting)	Never	774	74.6%	1.4%
	1-5 times	219	21.1%	1.3%
	6 times or more	45	4.3%	0.6%

Question	Response	Weighted Frequency	Percent	Std. Error
Q32. Thinking about the last 12 months, how often did you engage in the following activities in Idaho's sagebrush landscapes?				
Guided recreation	Never	825	79.3%	1.3%
	1-5 times	183	17.6%	1.2%
	6 times or more	33	3.2%	0.5%
Hiking	Never	398	38.1%	1.5%
	1-5 times	443	42.4%	1.5%
	6 times or more	204	19.5%	1.2%
Horseback riding	Never	860	82.5%	1.2%
	1-5 times	132	12.7%	1.0%
	6 times or more	50	4.8%	0.7%
Hunting	Never	808	77.5%	1.3%
	1-5 times	170	16.3%	1.1%
	6 times or more	64	6.1%	0.7%
Mountain biking	Never	840	80.5%	1.2%
	1-5 times	155	14.9%	1.1%
	6 times or more	48	4.6%	0.6%
Off-highway vehicle use, such as ATVs and UTVs	Never	759	72.9%	1.4%
	1-5 times	220	21.1%	1.3%
	6 times or more	62	6.0%	0.7%
Wildlife/bird watching	Never	561	53.8%	1.5%
	1-5 times	367	35.2%	1.5%
	6 times or more	114	10.9%	1.0%
Q33. Which of the following activities do you approve public lands being used for?				
Camping	Yes	962	92.3%	0.8%
	No	41	3.9%	0.6%
	Unsure	39	3.7%	0.6%
Renewable energy development	Yes	528	50.7%	1.5%
	No	252	24.2%	1.3%
	Unsure	262	25.1%	1.3%

Question	Response	Weighted Frequency	Percent	Std. Error
Q33. Which of the following activities do you approve public lands being used for?				
Angling	Yes	765	73.4%	1.4%
	No	89	8.5%	0.9%
	Unsure	188	18.0%	1.2%
Guided recreation	Yes	870	83.6%	1.1%
	No	88	8.5%	0.9%
	Unsure	83	8.0%	0.8%
Hiking	Yes	984	94.6%	0.7%
	No	31	3.0%	0.5%
	Unsure	25	2.4%	0.5%
Horseback riding	Yes	938	89.8%	0.9%
	No	48	4.6%	0.6%
	Unsure	58	5.6%	0.7%
Hunting	Yes	764	73.4%	1.4%
	No	175	16.8%	1.2%
	Unsure	102	9.8%	0.9%
Livestock production	Yes	633	60.7%	1.5%
	No	228	21.9%	1.3%
	Unsure	181	17.4%	1.2%
Logging	Yes	467	44.9%	1.5%
	No	381	36.6%	1.5%
	Unsure	193	18.5%	1.2%
Mountain biking	Yes	876	84.1%	1.1%
	No	95	9.1%	0.9%
	Unsure	70	6.7%	0.8%
Off-highway vehicle use, such as ATVs and UTVs	Yes	545	52.5%	1.5%
	No	322	31.0%	1.4%
	Unsure	172	16.6%	1.2%
Wildlife/bird watching	Yes	979	94.0%	0.7%
	No	22	2.1%	0.4%
	Unsure	40	3.8%	0.6%

Question	Response	Weighted Frequency	Percent	Std. Error
Q34. To what extent do you disagree or agree with the following statements about recreation on public lands?				
It is the landowner's responsibility to provide land ownership information to recreationists, such as posting signs	Strongly disagree	33	6.0%	1.0%
	Somewhat disagree	31	5.6%	1.0%
	Somewhat agree	168	30.4%	2.0%
	Strongly agree	299	54.1%	2.1%
	Don't know	22	4.0%	0.8%
It is the recreationist's responsibility to research how to reach their recreation location before they go	Strongly disagree	29	5.1%	0.9%
	Somewhat disagree	30	5.3%	0.9%
	Somewhat agree	168	29.8%	1.9%
	Strongly agree	308	54.6%	2.1%
	Don't know	29	5.1%	0.9%
Directional signage should be provided to show recreationists how to reach their recreation location	Strongly disagree	15	3.1%	0.8%
	Somewhat disagree	19	3.9%	0.9%
	Somewhat agree	169	34.5%	2.1%
	Strongly agree	264	53.9%	2.3%
	Don't know	23	4.7%	1.0%
It is the recreationist's responsibility to know who owns the land they are using	Strongly disagree	24	5.0%	1.0%
	Somewhat disagree	34	7.1%	1.2%
	Somewhat agree	143	29.8%	2.1%
	Strongly agree	263	54.8%	2.3%
	Don't know	16	3.3%	0.8%

Question	Response	Weighted Frequency	Percent	Std. Error
Q35. In the last 12 months, have you used public lands for recreation?	Yes	671	64.8%	1.5%
	No	365	35.2%	1.5%
Q36. To what extent do you feel that your recreational use of public lands has negative or positive impacts on the following? (Asked of those who have used public lands for recreation in the past 12 months.)				
The environment	Very negative	18	2.7%	0.6%
	Somewhat negative	57	8.5%	1.1%
	Neither negative nor positive	296	44.2%	1.9%
	Somewhat positive	139	20.7%	1.6%
	Very positive	141	21.0%	1.6%
	Don't know	19	2.8%	0.6%
Other public lands users	Very negative	25	3.7%	0.7%
	Somewhat negative	132	19.7%	1.5%
	Neither negative nor positive	268	40.0%	1.9%
	Somewhat positive	132	19.7%	1.5%
	Very positive	76	11.3%	1.2%
	Don't know	37	5.5%	0.9%
Q37. In general, to what extent do you believe the following are a problem related to recreation on public lands?				
Overcrowding by recreationists	Not a problem	48	7.8%	1.1%
	Slight problem	129	20.8%	1.6%
	Moderate problem	206	33.3%	1.9%
	Very serious problem	192	31.0%	1.9%
	Don't know	44	7.1%	1.0%

Question	Response	Weighted Frequency	Percent	Std. Error
Q37. In general, to what extent do you believe the following are a problem related to recreation on public lands?				
Conflict with private landowners	Not a problem	67	11.8%	1.4%
	Slight problem	140	24.7%	1.8%
	Moderate problem	196	34.6%	2.0%
	Very serious problem	116	20.5%	1.7%
	Don't know	47	8.3%	1.2%
Traveling outside of recreational areas	Not a problem	76	12.1%	1.3%
	Slight problem	115	18.3%	1.5%
	Moderate problem	206	32.9%	1.9%
	Very serious problem	175	27.9%	1.8%
	Don't know	55	8.8%	1.1%
Traveling off of designated trails	Not a problem	41	6.6%	1.0%
	Slight problem	121	19.4%	1.6%
	Moderate problem	210	33.7%	1.9%
	Very serious problem	218	35.0%	1.9%
	Don't know	33	5.3%	0.9%
Soil and vegetation disturbance	Not a problem	44	7.5%	1.1%
	Slight problem	136	23.1%	1.7%
	Moderate problem	178	30.2%	1.9%
	Very serious problem	178	30.2%	1.9%
	Don't know	54	9.2%	1.2%

Question	Response	Weighted Frequency	Percent	Std. Error
Q37. In general, to what extent do you believe the following are a problem related to recreation on public lands?				
Conflict with other recreationists	Not a problem	91	16.2%	1.6%
	Slight problem	156	27.9%	1.9%
	Moderate problem	180	32.1%	2.0%
	Very serious problem	76	13.6%	1.4%
	Don't know	57	10.2%	1.3%
Displacement of wildlife	Not a problem	66	11.2%	1.3%
	Slight problem	111	18.8%	1.6%
	Moderate problem	171	29.0%	1.9%
	Very serious problem	202	34.3%	2.0%
	Don't know	39	6.6%	1.0%
Q38. Do you oppose or support each of the following actions to manage popular recreation areas near where you currently live?				
Implement an annual use pass, where people would pay for unlimited use	Strongly oppose	90	17.4%	1.7%
	Somewhat oppose	98	18.9%	1.7%
	Somewhat support	194	37.5%	2.1%
	Strongly support	103	19.9%	1.8%
	Don't know	33	6.4%	1.1%
Implement a daily access fee, where people would pay for each day of use	Strongly oppose	134	24.9%	1.9%
	Somewhat oppose	129	24.0%	1.8%
	Somewhat support	160	29.7%	2.0%
	Strongly support	81	15.1%	1.5%
	Don't know	34	6.3%	1.0%

Question	Response	Weighted Frequency	Percent	Std. Error
Q38. Do you oppose or support each of the following actions to manage popular recreation areas near where you currently live?				
Create a lottery-based permit, where a limited number of people would have free access	Strongly oppose	176	33.7%	2.1%
	Somewhat oppose	132	25.3%	1.9%
	Somewhat support	115	22.0%	1.8%
	Strongly support	55	10.5%	1.3%
	Don't know	44	8.4%	1.2%
Rotate use between user groups, such as alternating days for bike and foot traffic	Strongly oppose	100	19.0%	1.7%
	Somewhat oppose	87	16.5%	1.6%
	Somewhat support	192	36.5%	2.1%
	Strongly support	82	15.6%	1.6%
	Don't know	65	12.4%	1.4%
Designate seasons-of-use for areas and trails	Strongly oppose	49	9.3%	1.3%
	Somewhat oppose	51	9.7%	1.3%
	Somewhat support	219	41.6%	2.1%
	Strongly support	165	31.4%	2.0%
	Don't know	42	8.0%	1.2%
Designate single-use areas and trails	Strongly oppose	44	8.7%	1.3%
	Somewhat oppose	70	13.9%	1.5%
	Somewhat support	206	40.9%	2.2%
	Strongly support	133	26.4%	2.0%
	Don't know	51	10.1%	1.3%

Question	Response	Weighted Frequency	Percent	Std. Error
Q39. The cost of a 2021 Idaho State Parks Passport is $10. IF a similar recreation access fee of $10 per year were charged for access to all of Idaho's public lands in general, which ONE of the following would you prefer the funds be used for?				
Supporting restoration of burned or degraded sagebrush landscapes		229	21.9%	1.3%
Providing direct payments to local businesses to help support economic revitalization		52	5.0%	0.7%
Providing direct payments to local governments to maintain services, such as roads and search and rescue		172	16.5%	1.1%
Maintaining the recreational area, such as clean facilities and suitable parking		413	39.5%	1.5%
None of the above / would prefer different purpose for funds		52	5.0%	0.7%
I am not willing to pay a recreation access fee for any purpose		127	12.2%	1.0%
Q40. How much of a priority should the following be given when making decisions about public rangelands?				
Preventing the spread of invasive species, such as cheatgrass	No priority	10	2.0%	0.6%
	Low priority	26	5.2%	1.0%
	Medium priority	130	26.1%	2.0%
	High priority	300	60.1%	2.2%
	Don't know	33	6.6%	1.1%
The economic well-being of local communities	No priority	24	2.3%	0.5%
	Low priority	74	7.1%	0.8%
	Medium priority	432	41.5%	1.5%
	High priority	456	43.8%	1.5%
	Don't know	56	5.4%	0.7%
Recreational opportunities and access	No priority	26	2.5%	0.5%
	Low priority	147	14.2%	1.1%
	Medium priority	484	46.6%	1.5%
	High priority	321	30.9%	1.4%
	Don't know	60	5.8%	0.7%

Question	Response	Weighted Frequency	Percent	Std. Error
Q40. How much of a priority should the following be given when making decisions about public rangelands?				
Reducing the risk of wildfire to communities	No priority	3	0.6%	0.3%
	Low priority	33	6.3%	1.1%
	Medium priority	115	21.9%	1.8%
	High priority	365	69.5%	2.0%
	Don't know	9	1.7%	0.6%
The maintenance of wildlife habitat	No priority	12	2.4%	0.7%
	Low priority	21	4.2%	0.9%
	Medium priority	128	25.6%	2.0%
	High priority	328	65.6%	2.1%
	Don't know	11	2.2%	0.7%
Q41. To what extent do you disagree or agree with the following statements about Idaho's rangelands?				
Cattle producers manage rangelands in a responsible manner	Strongly disagree	45	4.3%	0.6%
	Somewhat disagree	89	8.5%	0.9%
	Somewhat agree	377	36.1%	1.5%
	Strongly agree	358	34.3%	1.5%
	Don't know	176	16.8%	1.2%
Ranches are important to threatened and endangered species habitat	Strongly disagree	68	6.5%	0.8%
	Somewhat disagree	149	14.3%	1.1%
	Somewhat agree	370	35.4%	1.5%
	Strongly agree	269	25.8%	1.4%
	Don't know	188	18.0%	1.2%
Livestock grazing should be kept as part of the management of public rangelands	Strongly disagree	38	3.6%	0.6%
	Somewhat disagree	88	8.4%	0.9%
	Somewhat agree	413	39.6%	1.5%
	Strongly agree	380	36.4%	1.5%
	Don't know	124	11.9%	1.0%

Question	Response	Weighted Frequency	Percent	Std. Error
Q41. To what extent do you disagree or agree with the following statements about Idaho's rangelands?				
Ranchers should pay more than they do now to graze livestock on public lands	Strongly disagree	173	16.6%	1.2%
	Somewhat disagree	247	23.7%	1.3%
	Somewhat agree	236	22.7%	1.3%
	Strongly agree	180	17.3%	1.2%
	Don't know	205	19.7%	1.2%
Ranches and farms are important to the preservation of wildlife habitat	Strongly disagree	39	3.7%	0.6%
	Somewhat disagree	135	12.9%	1.0%
	Somewhat agree	353	33.8%	1.5%
	Strongly agree	406	38.9%	1.5%
	Don't know	110	10.5%	0.9%
Sheep producers manage rangelands in a responsible manner	Strongly disagree	29	2.8%	0.5%
	Somewhat disagree	81	7.8%	0.8%
	Somewhat agree	377	36.3%	1.5%
	Strongly agree	327	31.5%	1.4%
	Don't know	224	21.6%	1.3%
Q42. Based on what you know, what is the general condition of Idaho's rangelands?	Very poor	17	1.6%	0.4%
	Poor	32	3.1%	0.5%
	Fair	313	30.2%	1.4%
	Good	413	39.8%	1.5%
	Very good	115	11.1%	1.0%
	Don't know	147	14.2%	1.1%
Q43. How much of a problem is wildfire on Idaho's rangelands?	Not a problem at all	51	4.9%	0.7%
	A minor problem	96	9.2%	0.9%
	A moderate problem	320	30.7%	1.4%
	A significant problem	276	26.5%	1.4%
	A severe problem	185	17.8%	1.2%
	Don't know	113	10.9%	1.0%

Question	Response	Weighted Frequency	Percent	Std. Error
Q44. Have you ever encountered livestock on Idaho's rangelands?	Yes	651	62.8%	1.5%
	No	386	37.2%	1.5%
Q45. How would you describe your experience? (Asked of those who have encountered livestock on Idaho's Rangelands.)	Negative	33	5.1%	0.9%
	Neutral	384	59.1%	1.9%
	Positive	233	35.8%	1.9%
Q46. How unreliable or reliable are each of the following organizations or groups for information regarding Idaho's rangelands?				
Bureau of Land Management	Very unreliable	54	5.2%	0.7%
	Somewhat unreliable	82	7.9%	0.8%
	Somewhat reliable	457	44.1%	1.5%
	Very reliable	306	29.5%	1.4%
	Don't know	138	13.3%	1.1%
Environmental groups	Very unreliable	140	13.4%	1.1%
	Somewhat unreliable	196	18.8%	1.2%
	Somewhat reliable	374	35.8%	1.5%
	Very reliable	175	16.7%	1.2%
	Don't know	160	15.3%	1.1%
Idaho Department of Lands	Very unreliable	33	3.2%	0.5%
	Somewhat unreliable	63	6.0%	0.7%
	Somewhat reliable	464	44.5%	1.5%
	Very reliable	312	29.9%	1.4%
	Don't know	170	16.3%	1.1%

Question	Response	Weighted Frequency	Percent	Std. Error
Q46. How unreliable or reliable are each of the following organizations or groups for information regarding Idaho's rangelands?				
Ranchers	Very unreliable	45	4.3%	0.6%
	Somewhat unreliable	115	11.1%	1.0%
	Somewhat reliable	438	42.1%	1.5%
	Very reliable	287	27.6%	1.4%
	Don't know	155	14.9%	1.1%
Scientists	Very unreliable	71	6.8%	0.8%
	Somewhat unreliable	116	11.1%	1.0%
	Somewhat reliable	387	37.0%	1.5%
	Very reliable	264	25.3%	1.3%
	Don't know	207	19.8%	1.2%
US Forest Service	Very unreliable	41	3.9%	0.6%
	Somewhat unreliable	71	6.8%	0.8%
	Somewhat reliable	423	40.6%	1.5%
	Very reliable	400	38.4%	1.5%
	Don't know	108	10.4%	0.9%

Table B.2. *Tabular results of demographic questions. Questions are labeled with their associated number, as defined in the Survey Instruments in Appendix A (e.g. Q47 refers to question 47 of the survey instrument), with the exception of calculated demographic variables. Results in this table are unweighted and are reported with their standard error.*

Question	Response	Frequency	Percent	Std. Error
Q47. Do you currently live in a sagebrush landscape (either in or outside of Idaho)?	Yes	389	37.3%	1.5%
	No	559	53.5%	1.5%
	Don't Know	96	9.2%	0.9%
Q48. Did you spend your childhood living in sagebrush landscapes (either in or outside of Idaho)?	Yes	400	38.2%	1.5%
	No	589	56.3%	1.5%
	Don't Know	57	5.4%	0.7%
Q49. Regardless of whether you currently live in a sagebrush landscape or not, how many years total have you lived in a sagebrush landscape (either in or outside of Idaho)?	0 years	241	23.0%	1.3%
	Less than 5 years	207	19.8%	1.2%
	5-10 years	146	14.0%	1.1%
	More than 10 years	435	41.6%	1.5%
	Don't Know	17	1.6%	0.4%
Q50. What is your occupational status?	Employed full time	419	40.1%	1.5%
	Employed part time	119	11.4%	1.0%
	Retired	208	19.9%	1.2%
	Student	35	3.3%	0.6%
	Homemaker	120	11.5%	1.0%
	Unemployed	48	4.6%	0.6%
	Disabled	61	5.8%	0.7%
	Prefer not to answer	36	3.4%	0.6%
Q53. In what kind of place do you currently live?	City	238	22.7%	1.3%
	Suburb	241	23.0%	1.3%
	Small town	286	27.3%	1.4%
	Countryside, but not on a farm or ranch	184	17.6%	1.2%
	Farm or ranch	78	7.4%	0.8%
	Don't know	17	1.6%	0.4%
	Refused	4	0.4%	0.2%

Question	Response	Frequency	Percent	Std. Error
Q55. In what county do you currently live?	Ada	210	20.0%	1.2%
	Adams	4	0.4%	0.2%
	Bannock	60	5.7%	0.7%
	Bear Lake	2	0.2%	0.1%
	Benewah	4	0.4%	0.2%
	Bingham	19	1.8%	0.4%
	Blaine	60	5.7%	0.7%
	Boise	11	1.0%	0.3%
	Bonner	7	0.7%	0.3%
	Bonneville	49	4.7%	0.7%
	Boundary	6	0.6%	0.2%
	Butte	1	0.1%	0.1%
	Camas	0	0.0%	-
	Canyon	110	10.5%	0.9%
	Caribou	2	0.2%	0.1%
	Cassia	11	1.0%	0.3%
	Clark	0	0.0%	-
	Clearwater	5	0.5%	0.2%
	Custer	0	0.0%	-
	Elmore	18	1.7%	0.4%
	Franklin	7	0.7%	0.3%
	Fremont	4	0.4%	0.2%
	Gem	16	1.5%	0.4%
	Gooding	3	0.3%	0.2%
	Idaho	11	1.0%	0.3%
	Jefferson	5	0.5%	0.2%
	Jerome	11	1.0%	0.3%
	Kootenai	71	6.8%	0.8%
	Latah	27	2.6%	0.5%
	Lemhi	6	0.6%	0.2%
	Lewis	1	0.1%	0.1%
	Lincoln	4	0.4%	0.2%
	Madison	19	1.8%	0.4%
	Minidoka	7	0.7%	0.3%

Question	Response	Frequency	Percent	Std. Error
Q55. In what county do you currently live?	Nez Perce	15	1.4%	0.4%
	Oneida	1	0.1%	0.1%
	Owyhee	81	7.7%	0.8%
	Payette	17	1.6%	0.4%
	Power	3	0.3%	0.2%
	Shoshone	5	0.5%	0.2%
	Teton	73	7.0%	0.8%
	Twin Falls	53	5.1%	0.7%
	Valley	3	0.3%	0.2%
	Washington	4	0.4%	0.2%
	Refused	22	2.1%	0.4%
Q58. What is the highest level of education you have completed?	Some high school, no degree	45	4.3%	0.6%
	High school graduate or equivalent	223	21.3%	1.3%
	Some college, no degree	298	28.4%	1.4%
	Associate's degree	124	11.8%	1.0%
	Bachelor's degree	204	19.5%	1.2%
	Graduate or professional degree	129	12.3%	1.0%
	Don't know	11	1.0%	0.3%
	Refused	14	1.3%	0.3%
Q59. On a scale of 1 to 7, how would you describe your political view?	1 (Very Conservative)	197	19.0%	1.2%
	2	140	13.5%	1.1%
	3	133	12.8%	1.0%
	4	267	25.7%	1.4%
	5	134	12.9%	1.0%
	6	66	6.4%	0.8%
	7 (Very Liberal)	71	6.8%	0.8%
	Don't know	14	1.3%	0.4%
	Refused	17	1.6%	0.4%

Question	Response	Frequency	Percent	Std. Error
Q60. What is your household's approximate yearly income?	Less than $10,000	80	7.6%	0.8%
	$10,000-$24,999	136	13.0%	1.0%
	$25,000-$34,999	121	11.5%	1.0%
	$35,000-$49,999	178	17.0%	1.2%
	$50,000-$74,999	193	18.4%	1.2%
	$75,000-$99,999	116	11.1%	1.0%
	$100,000 or more	158	15.1%	1.1%
	Don't know	36	3.4%	0.6%
	Refused	30	2.9%	0.5%
Q61. Are you…?	Male	375	35.8%	1.5%
	Female	642	61.3%	1.5%
	Other	6	0.6%	0.2%
	Prefer not to answer	25	2.4%	0.5%
Q62. Which of the following best describes you?	Asian	10	1.0%	0.3%
	Black	8	0.8%	0.3%
	Hispanic	25	2.5%	0.5%
	Native American/ American Indian	6	0.6%	0.2%
	White	908	91.0%	0.9%
	Two or more races	41	4.1%	0.6%
Q63. Regardless of how you answered the previous question, which best describes you?	Mexican-American	46	4.4%	0.6%
	Mexican	11	1.0%	0.3%
	Chicano/a	3	0.3%	0.2%
	Puerto Rican	1	0.1%	0.1%
	Other Hispanic	19	1.8%	0.4%
	Not Hispanic or Latino/a	933	89.0%	1.0%
	Don't know	17	1.6%	0.4%
	Refused	18	1.7%	0.4%
Age Category (Calculated from ***Q56.*** What year were you born?)	18-24	129	12.7%	1.0%
	25-34	190	18.8%	1.2%
	35-44	200	19.8%	1.3%
	45-54	148	14.6%	1.1%
	55-64	139	13.7%	1.1%
	65+	206	20.4%	1.3%

Question	Response	Frequency	Percent	Std. Error
Years in Idaho Category (Calculated from ***Q52.*** How many years have you lived in Idaho?)	Less than 5 years	141	13.8%	1.1%
	5-9 years	109	10.7%	1.0%
	10-14 years	85	8.3%	0.9%
	15-19 years	90	8.8%	0.9%
	20-29 years	198	19.4%	1.2%
	30-39 years	151	14.8%	1.1%
	40-49 years	107	10.5%	1.0%
	50 years or more	139	13.6%	1.1%
Proportion of Life Spent in Idaho (Calculated from ***Q52*** and ***Q56*** above)	Less than 25%	270	26.9%	1.4%
	25-49%	189	18.8%	1.2%
	50-74%	139	13.8%	1.1%
	75% or more	406	40.4%	1.5%

Appendix C: Open-Ended Comments

Let the ranchers run their own ranches among themselves, let them run themselves/regulate themselves, they know what they're doing. we don't need need any more government regulations.' Q20 ATVs -- yes he supports ATV use on public lands but qualified that it needs more regulation.

After being raised in central Oregon and driving trucks from east coast to west coast, I belive the government and scientists don't know squat about how nature takes care of its self. The ranchers I know about are very aware of over grzsing land protection. I think we should listen to them more.

All about getting ppl to help manage range lands but need to invite the right ppl to.

Although i live in the panhandle the sagelands are beautiful in their own way and should be protected.

Although we are going through a population boom currently, I feel building should be limited to current cities and suburbs, not trashing the hills, mountains, desert, and sage bush wildlife habitats.

ATV enthusiasts should take a class and need permits to ride on public lands if they don't already require this it should be.

Because of her job as a museum curator, she has traveled extensively throughout many public lands and was very surprised that historical sites were not included in the survey, as they are educational as well as important. Examples of gravesites, gravestones, hieroglyphic rocks, just to name a few.

Believed the options were too broad. Certain aspects were not delved into. Certain topics can be handled well or not depending on who is in charge.

Better clarification on some of the questions would have been helpful

Currently living in north Idaho and I believe a permit for recreational use could help protect our forests because we have so many out of state visitors that don't care about how they treat or leave our lands

Degree in forest waterology and 40-year firefighter. For question 32, the respondent wanted it known that 'providing direct payments to local governments to maintain services such as roads and search and rescue' was his first choice, his second choice would be 'supporting restoration of burned & degraded sagebrush landscapes' and his third choice would be to 'provide direct payments to local businesses to help support economic revitalization'

Do not let politicians deal with this. They will screw it up.

Do the right thing

Don't cali-fornicate idaho

Education needs to happen to maintain public land recreation in Idaho. Too many bike riders and atv/utv riders think they own the road or trail. We have encountered too many of them while hiking or on horseback who don't care about preservation or sharing the road. Education needs to start there.

Family has been in livestock production for five or six generations; limited grazing leads to increased cheat grass which increases wildfires. Scientists didn't grow up around or see range lands; they get their info from a book. You can't tell an 80-year-old rancher who's seen it every day that he knows less than the scientist.

Farming is a huge part of Idaho's economy and many will suffer if you start cutting back on farming and over regulation of farmers & ranchers

Firmly believe in the right to use one's own property as one wishes, so long it doesn't my neighbors so a little concerned about too many regulations on public land. Was the survey talking about Idaho land or federal land? They are managed very differently, and the survey wasn't clear as to which we were talking about.

General opinion: We'd be better off with more local and state control of our public land. People that live on and rely on this land should have more say than people who have never seen it.

Get the federal government out of Idaho! Kick the forest service, blm and fish and game out! Not one of them has Idaho's heart.

He said a lot of the questions were worded in such a way that yes or no answers were not appropriate. Believes many of the questions are controversial, but understands they have to be written a certain way. Feels a lot of the answers fall into gray areas.

Housing is too expensive pls help

I am very satisfied with this survey and hope to participate next time

i appreciate taking surveys and hope that more educated and situationally aware people also take the time to think.

I believe that shooting on public lands needs to be more regulated. I spend around 20 hours a week picking up trash that shooters bring out.I also pick up trash that people just dump becasue they dont want to pay dump fees. I think alot more people need to open their eyes to the destruction they cause by leaving their trash.

I didn't know that the sagebrush area was something special. I think of it as ugly, barren land. My husband thinks it is beautiful. We just moved here from western washington to be near our daughter.

I encourage residential development in sage brush landscapes but would also like to preserve the area

I find the questions are difficult to answers sometimes when I don't know what your getting at and wanting to know

I grew up near sagebrush but not always in sagebrush. Living in boise, I'm usually surrounded by trees, but sagebrush landscape is still close by. I've also spend some time living in owyhee and canyon counties with more desert around me.

I have a lot respect for our range lands I find lots garbage alone the trails.

I have camped on BLM land with ranchers have left their cattle on the rangeland.The cattle have came into our camps over the years and destroy our camp by knocking off the side mirrors off vehicles, knock over tents and stepped on the tents, rubbed against our travel trailers number of times, one rancher called me everything but a white woman, he is verrrry rude and demeaning. Nothing been done to him to this date still. Because he didn't like where we camped at, he acted like he owned the range land. I would like to see him not allow his cattle on range land at all and been not allow to hold an office in the cattle association group.

I have nothing to say other than that this was a very well constructed survey.

I highly recommend this survey to my family

I hope the government will increase its investment in this area in the future

I hope the people of Idaho realize the importance of our protected lands (i.e. wilderness areas).

It would be easier to keep all of our wilderness and tundra landscape clean and healthy if at each area should hold a reminder as well as environmentally friendly bags or sanitation box. Not everyone carries garbage bag's. It just might make it a little easier on some.

I like the survey was like a slide show. Easy to do

I live just outside of weiser, headed towards steck park. I live on 6 acres with sagebrush all around me. My husband spent 18 with the forest service and the last 5 years with the BLM. I went over these questions with him. He says that they themselves get conflicting information from the government, scientists, local ranchers and each other. It said it is an absolute s---show between the blm and the forest service.

I lived in Nevada for 6 years in the 50's where there was a lot of sagebrush, a lot more then here in Idaho.

I love Idaho's sagebrush landscapes and rangelands. They are beautiful and support an amazing amount of flora and fauna. Once you spend some time in and around these areas, you really see how valuable they are and how much they are worth preserving.

I love living in Idaho! The smell of sagebrush after it rains is my favorite.

I really hope a positive, productive solution can be found to retain the beauty of sagebrush county; it's unique beauty is iconic and would be tragic to mishandle.

I think BLM does a good job with what they have

I think everyone should pay (grew up in the sagebrush landscape)

I think places are being developed around where I live that shouldn't be. I love Idaho for being the wild west that it is. We have everything here, but the ocean. That is what makes it so great here.

I think sagebrush landscapes are very important to idaho, the USA and to the world for their beauty, diversity, and wildlife preservation.

I think that ppl flooding in from California should be charged the high property taxes not Idahoans. Their flooding here is causing hassle and costing the people of Idaho and it's not right

I think the cost of the annual state park permit is way too low. I totally support raising the yearly amount to better support park management.

I think the survey was important to gain research on.

I think you should really talk to the indigenous and native peoples, they've been amazing stewards of the land before colonizers came and screwed things up. If you're trying to maintain the natural ecology you should 100% reach out to the natives.

I want to love sage however, our entire family is very allergic to it perhaps this is why some people have a less than enthusiastic desire to appreciate it.

I was born and raised in the Twin Falls area and spent a lot of time in the sagebrush area around Shoshone Falls.

I was born in Idaho and love it! My family has sagebrush land in canyon county that has not been developed on and is part of my family history.

I was born in Idaho and my father was a rancher in Owyee County at one time. During my working years I lived all over the united states and after retirement I returned to Idaho (best state out of all 50 states)

I wish developers would be more restricted from building in our foothills, on our rangelands, on our croplands, and on our river banks.

I'm glad to participate in the environmental survey and hope to participate again

Idaho is such a beautiful state. I hope it doesn't all burn down.

Idaho should rescind its law that allows the killing of wolves in their dens.

If there is anything that I can help or assist with concerning the sagebrush areas, I would like to be of assistance. I am a nature lover!

It's way too long

Keep it natural, don't over regulate and don't let everyone destroy everything. Keep idaho natural.

Keep our landscapes as they are - beautiful

Keep up the good work.

Keep up with education for all lands. The intrinsic value of land

Keep working hard and keep humanity and community in mind.

Leave more to ranchers

Let nature be. No burning of juniper trees, no unnecessary restrictions, no unnecessary regulations. management should not be interference, nor should it restrict recreational or ranch use. The burning of juniper trees was/is ignorant. Stop using human interference with nature, as an excuse for human interference in nature.

Like for forest service to not close roads and trails.

Listen more to rancher more they know what they are doing

Loved the overall topic of this survey. Shows that people of Idaho care about their state

Might want to rethink some of the questions, the wording responses don't make sense. Ideas are somewhat unrealistic

Mountain bikers and hikers need to pay for using trails!!!!

Not against wild horses - just the mismanagement of them, then they become a threat. BLM made it illegal for people to take mustangs to market, ever since then the mgmt has gone downhill. They die of thirst or starvation.

Not opposed to grazing, etc as long as not damaging. Ranchers treat leased land as their own and people have been threatened. Ranchers need help to adjust to changes and they should not be allowed to control the land and the land belongs to the public people . Strongly support retention of the land by the federal government and not the local or state.

Not sure about using public land for renewable energy. She would not be okay with wind turbines or solar energy development, as they are very expensive. That would, of course, depend on who was funding the development, also. As a transplant to Idaho, she was unsure of how to answer some of the questions. Overall, she feels that the public needs more information on the topics addressed in this survey so that they can form opinions. For example, she said that she did not know any ranchers and was not sure if fires were an issue for them. If fires are an issue, though, that would be of extreme importance and she would want that addressed.

Not sure. I just don't want federal beaurocrats that know nothing about the real wild land out here making uninformed, biased, big government decisions on how we manage our own land! Let the people who work the dirt here everyday decide how to manage our land!

Off-road vehicles such as atvs and utvs are only a threat when they go off trail.

Our lands are very important to us, because we are losing them.

Overpopulation (1st) and development (2) is the biggest threat to the whole planet .....

People don't understand all the costs of ranging on public land, specifically cost of attorneys to keep ranching and range-con usage reports and monitoring. Most ranchers are responsible because of immediate consequences--lowered breeding rates and later births, and ranging capability. Ranchers are important as they provide water--providing watering systems and tanks wildlife also use.

People in my area make their living off public lands grazing, and I believe we should keep that right.

People who live or work on the land, it should be their input that is deemed most important.

Please keep California out of Idaho. We don't want any liberal nonsense here. trump 2024 maga

Protect our open spaces

Protection for animals should be applied.

Public lands should be controlled by our support, not by the federal government. Decisions on hob lands should be managed should be made by the people who use them, not by the people who live in the city and never use them. When respondent answered all his questions, the majority of his answers were based on public lands because the area where he lives is all public sagebrush lands.

Q15: she selected support for govt upkeep but was very clear that 'financial incentives' were her second choice. Appropriate/very inappropriate scale re: individuals/ranchers -- respondent said 'it depends' on if it's their own land

Q30: should ranchers pay more? 'It depends.' If they're a corporation then yes, if they're a ranching family that has lived there for years/decades, then no.

Ranching is the most beneficial, and under utilized lifestyle there is. We need less building and more livestock in our rangeland.

Reach out to the natives, get their ideas for keeping sagebrush healthy

Respondent lives half-time in northern Idaho which is timber country; and half time in southern ID, which is more sagebrush. Would prefer funding be split between maintaining facilities and the recreational area, including parking. Assuming utv/atv are side-by-sides and 4-wheelers, not motorcycles

Respondent sits on several boards (e.g., Sierra Club; conservation....) and finds that most organizers are more narrow and not representative of the community served. Has 3000 acres of farm and ranchland (half irrigated, and it's a mix of forage crops and livestock. Approve of mountain biking and off-road vehicles so long as not destructive (e.g., mountain bikers should not ride on wet or muddy trails). Re: usage fees: should be higher--more reflective of current economic times. Livestock grazing should be reviewed annually, and adjusted based on results of review.

Respondent: Owyhee County is corrupt -- ranchers control all the land. He expressed frustration that the questions were too general and open ended and most of his answers would've had caveats.

Restricting individual land owners too much. Should be noted since it wasn't a question in the study.

Sagebrush is not a topic he's considered having a survey about but more than happy to help preserve it and helps prevent wildfire

Sagebrush threats: ATV/UTV regulation. She did not identify this as one of her top 3 concerns but she did strongly express that there needs to be tighter regulation of ATV &

UTV use on sagebrush landscapes. She said the landscape damage during covid was 'horrible'.

Sheep in rangeland grazing detrimental to it

So many of the questions were open ended questions. Some of my questions would have been different. Need more info regarding the questions when reading, more specific!

Stop building so many houses on the open land. It's sad the small town look is going away, very disappointed.

The biggest impact is people moving from urban areas to idaho. We need to protect our lands. They are not appreciating what they are moving into and we need to protect it.

The choices you gave for monies gotten from recreation needed to have a 'several of the options listed' category because communities, wildfire suppression/invasive species, and wildlife need to be supported from any fees gotten from recreation.

The federal government is supposed to protect our outer borders and not mess with affairs inside the state.

The majority of Idaho seems to be public land. It is important to me to preserve the wilderness and lands of Idaho to preserve the west.

The one thing is like, sage brush was brought in from russia, it's an invasive species and it's crazy to try to protect it.

The sagebrush and rangelands has to be protected

The sustainability are of prime importance and must be managed under fully informed and science based policy

The wolf problem is a huge problem that needs to be taken care of in some way. The wolves are killing off the elk population.

This was a great survey to take, talking about the beauty of Idaho is always fun to do.

Those who either own the property or are directly impacted (i.e. tribal if on a reservation; landowner if owning or a neighbor) should be responsible to sustain the landscape. Approves of off-highway vehicles except in the wilderness because 'it is against the rules'.

We don't want any more houses built here.

We need more reliable Bonneville County noxious weed control spraying out here in Swan Valley and Irwin as noxious weeds are rampant and spraying does not appear to be as intensive as it needs to be.

We need to preserve Idaho's wild beauty forever, it's magnificent.

We need to take care of our land but pushing ranchers out of their livelihoods is not the way to do that.

We personally oppose all the farmland turned into residentual subdivisions.

When I was answering those questions and I was given do you know, agree to disagree, a little bit or none of your lot, I just don't think that covers what I felt or how I feel about the sage brush lands at the range lands. Although they're not my most favorite place to hang out or be a part of I do understand that they have value and beauty to not only the animals and those of us who enjoy the outdoors but also it's a unique creation by god so I appreciate that and think that it should be taken care of, thank you.

Whether we build it or not, they will come. So, we need to build it... but responsibly and protect why we all love it here - the land.

Would love for them to be around forever. Tough to watch things disappear. Hope we can preserve them forever. Hope something can be done about fires.

You should reach out to the native folks, they really know what they're doing and how to be good stewards of the land.

Appendix D: Grazing Re-Survey Report

Executive Summary

The Idaho Rangeland Resources Commission, in collaboration with researchers from Boise State University, Idaho State University, and the University of Idaho, and with support from the National Science Foundation Idaho EPSCoR Program, conducted a web-based re-survey of Idaho residents regarding their opinions about public lands grazing in Idaho. This re-survey effort was designed to investigate the extent to which the decline in approval of livestock on public lands (Table 3) in 2021 relative to previous years could be attributed to the survey's phrasing shift from "livestock grazing" in past years to "livestock production" in 2021. For the re-survey in 2022, we used the term "livestock grazing" so that results would be more directly comparable to previous years. A total of 616 residents responded to the re-survey in 2022. The study was designed to be representative of the state of Idaho, and all results are reported at the 95% confidence interval.

Key takeaways from this re-survey in 2022 are highlighted below.

Approval of Public Lands Grazing in Idaho

- Compared to previous years with similar phrasing, the 2022 re-survey results indicate a decline in public approval for livestock grazing as a use of public lands in Idaho, with 89% of respondents approving of this use in 2010, 90% in 2014, and **78% in 2022**.
- In 2022, there was a notable increase in the percentage of respondents who were unsure of whether or not they approved of livestock grazing (2% of respondents reported "don't know" in 2010, 3% in 2014, and 14% in 2022). Females and people who had spent a smaller proportion of their lifetime in Idaho were significantly more likely to respond with "don't know."
- Disapproval of livestock grazing remained similar across years (9% of respondents disapproved in 2010, 7% in 2014, and 9% in 2022). Respondents with more liberal political views tended to disapprove significantly more than those with conservative views.
- Although the 2021 results are not directly comparable to results from other years due to the 2021 language change to "livestock production", the 2022 results indicate a higher degree of approval for "livestock grazing" (78%) than the 2021 approval of "livestock production" (61%). This suggests that the language used to describe livestock-related activity matters in terms of public perceptions and approval ratings.

Perceptions of Rangeland Health and Grazing Impacts

- Nearly half of respondents (45%) stated that the condition of Idaho's rangelands is "good" or "very good."
- Over half (56%) of respondents stated that livestock grazing has a "somewhat" or "very" positive impact on the economic stability of rural communities.
- The view that grazing has "somewhat" to "very" positive impacts on other aspects of rangeland ecosystems ranged from 43% for rangeland condition to 32% for wildlife habitat and wildfire risk reduction. A similar share perceived livestock as having neither negative nor positive effects on wildfire risk reduction (38%) and wildlife habitat (32%).
- Fewer respondents expressed that livestock grazing has "somewhat" to "very" positive impacts on carbon storage in the soil (23%), with a nearly equal number (22%) responding that they do not know how grazing affects soil carbon storage.
- People who perceived livestock as having a negative impact on wildlife habitat, rangeland condition, and/or wildfire risk reduction were significantly less likely to approve of livestock grazing on public lands.

Methods

Questionnaire Design, Sampling, and Response Rate

The 2022 re-survey followed a similar methodological approach to the 2021 survey, with two main exceptions: (1) all sampling was conducted online, and (2) no oversampling occurred in any county.

The 2022 re-survey used an online survey sample of the general Idaho population. Respondents had to be 18 or older and a resident of Idaho to take the re-survey. The online re-survey questionnaire was developed cooperatively by researchers from Boise State University, Idaho State University, the University of Idaho, the Idaho Rangeland Resources Commission, and Responsive Management. The study was reviewed by Boise State University's Institutional Review Board and met criteria under federal regulations and university policy (protocol number 090-SB20-130).

The sampling plan was designed to achieve a representative sample of Idaho residents aged 18 years old and older, with a goal of 600 completed surveys. Data collection was conducted in July and August 2022. A total of 616 surveys were completed for the re-survey study. The final response rate for the re-survey was 66% (Table D.1).

Table D.1. *Online survey response rates for the 2022 re-survey. The response rate calculation does not include surveys that were disqualified by researchers.*

Response Rates for Online Survey	
Sample and Results	
Total Sample Used	1,447
Completed Surveys	616
Disqualified (either ineligible or online surveys removed by researchers due to failure to correctly respond to attention check question)	490
Terminated Surveys	341
Response Rate	**66%**

Data Analysis and Sampling Error

For analysis and statewide representation, data were weighted to match county populations. Results were weighted by age, gender, level of education, and county. The data weighting was performed using IBM SPSS Statistics, as well as proprietary software developed by Responsive Management. Survey findings are reported at a 95% confidence interval. More details on the weighting and error calculations can be found with the Detailed Methods Report in Appendix A.

Data analysis was performed and graphs and maps were created using the R statistical computing language.

To understand which factors explain respondents' views of livestock grazing on public lands, a multinomial log-linear regression was performed in R, using the "nnet" package[8]. After respondents who reported "don't know" to demographic questions were removed from the sample, 587 remaining respondents were included in the regression analysis. Preliminary analysis indicated that community type influenced degrees of approval of livestock grazing primarily via different views held by those who reported living in a city compared to all other community types (suburb, small town, countryside, farm or ranch). This community type variable was therefore re-coded as "city" or "non-city" to improve model performance. Since the majority of respondents approved of livestock grazing, "approve" was set as the baseline for comparison, to elucidate the factors that best explained responses of "disapprove" and "don't know."

To examine whether respondents' views of the impacts of livestock grazing on wildfire risk reduction, wildlife habitat, carbon storage in the soil, rangeland condition, and the economic stability of rural communities could also explain their views of livestock grazing on public lands, we performed a multinomial log-linear regression as described above. Respondents' views of livestock impacts were highly correlated and collinear with their views of rangeland condition and demographic factors, preventing us from including these as additional predictors in this second model. Response options to questions about livestock grazing impacts included "very negative," "somewhat negative," "neither negative nor positive," "somewhat positive," "very positive," and "don't know." To make this analysis more tractable, we re-coded these six response options into three categories for each type of impact: "positive," "negative," or "neutral." The "neutral" category included responses of "neither negative nor positive" and "don't know." We added another variable to the model to indicate whether the respondent's original answer had been "don't know" versus any of the other four response options, suggesting that they did "know" the answer. Handling the data in this way enabled us to include the relatively large number of "don't know" responses about livestock impacts in the model, while also testing our assumption that not knowing about livestock impacts was not meaningfully different than viewing impacts as "neither positive nor negative" in terms of how they affected respondents' approval of livestock grazing. We set "neutral" responses about livestock impacts as the baseline for comparison so that model results would highlight where positive or negative views of livestock impacts best explained approval or disapproval of livestock grazing on public lands overall. Through this process, we retained all 616 respondents in the analysis.

[8] Venables, W. N. & Ripley, B. D. (2002) Modern Applied Statistics with S. Fourth Edition. Springer, New York.

Results

Demographic Profile of Respondents

Re-survey respondents came from all but three counties of Idaho (Clark, Custer, and Teton). Their distribution across counties matched well with the distribution of Idaho's population, with the exception of the missing counties (Fig. D.1). Teton and Owyhee counties were intentionally over-sampled in the 2021 survey but not for the 2022 re-survey. For both years, responses are weighted to be representative of the population so that results are comparable across years (see Methodology section for additional detail on weighting procedures).

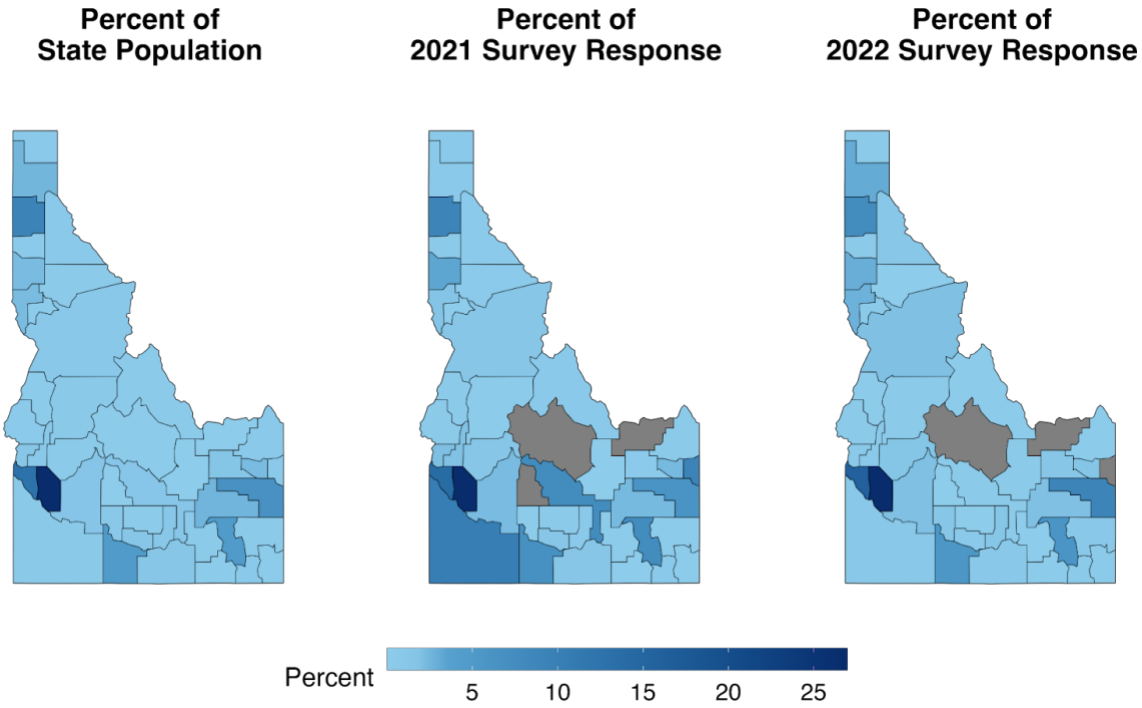


Figure D.1. *Mapped comparison of population (left) vs. 2021 survey responses (middle) and 2022 re-survey responses (right) by county. Counties without survey responses are in gray.*

Respondents had a mean age of 41.8 years (Fig. D.2). Compared to the 2017 American Community Survey (ACS), there was an overrepresentation of those between the ages of 18 and 24 (19.2% of respondents, relative to 12.7% of the general population, Table 2) and an underrepresentation of those over age 65 (11.9% of respondents, relative to 20.7% of the general population). There was also a slight overrepresentation of those between the ages of 25 and 44 and a slight underrepresentation of those between the ages of 55 and 64. This trend toward capturing younger respondents is to be expected, given the entirely web-based implementation of this survey, as younger age groups tend to have stronger computer literacy and have been found to be more likely to respond to web-based surveys than older age groups[9,10,11].

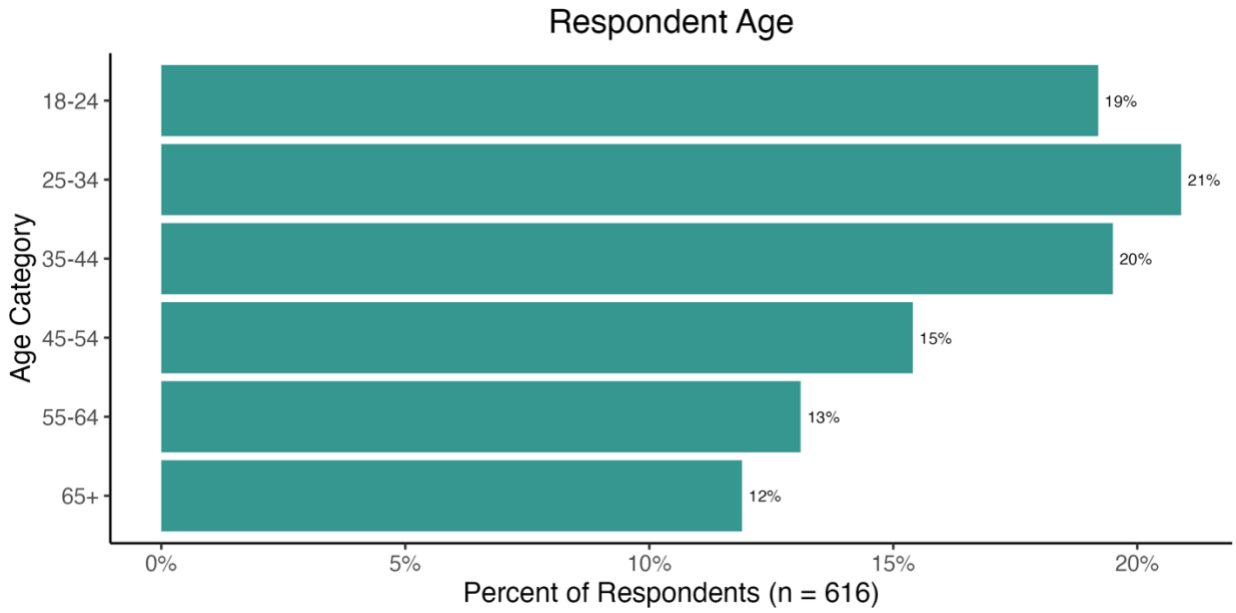


Figure D.2. *Age distribution of re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

[9] Fricker, S., Galesic, M., Tourangeau, R. and Yan, T., 2005. An experimental comparison of web and telephone surveys. *Public Opinion Quarterly*, *69*(3), pp. 370-392.

[10] Van Deursen, A. J., Van Dijk, J. A. and Peters, O., 2011. Rethinking Internet skills: The contribution of gender, age, education, Internet experience, and hours online to medium- and content-related Internet skills. *Poetics*, *39*(2), pp. 125-144.

[11] Ansolabehere, S. and Schaffner, B. F., 2014. Does survey mode still matter? Findings from a 2010 multi-mode comparison. *Political Analysis*, *22*(3), pp. 285-303.

Survey participants were slightly more likely to have attended some college or received an Associate's degree relative to the general Idaho population (Table 2). Approximately 43% of respondents reported that they had some college experience or an Associate's degree, and approximately 27% reported having a Bachelor's degree or higher (Fig. D.3).

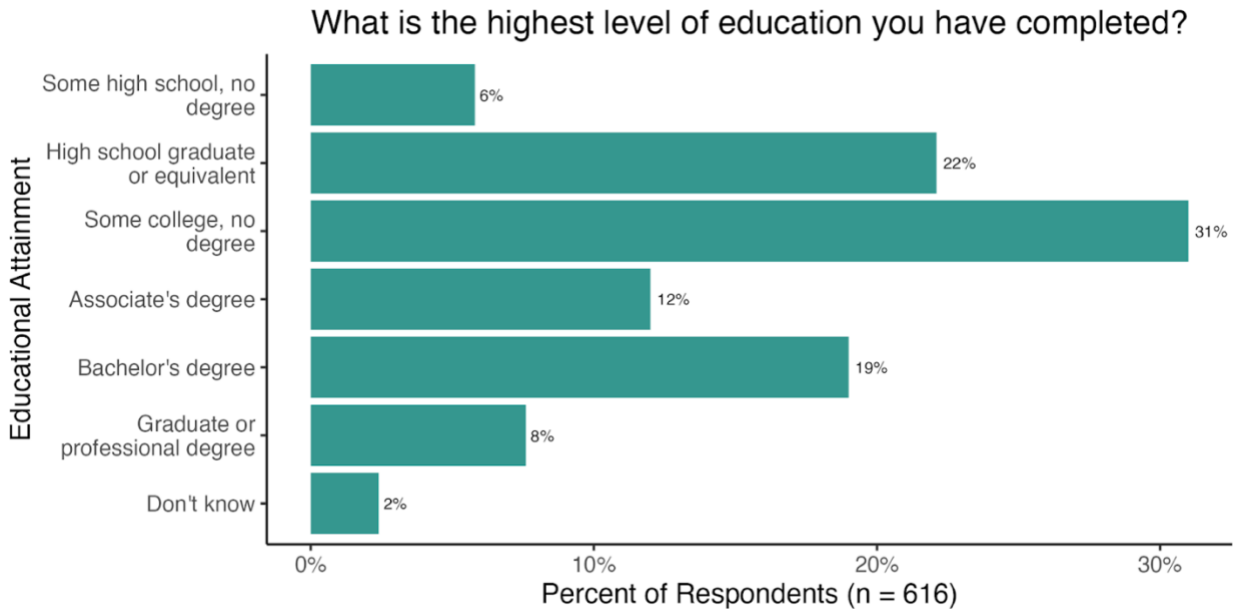


Figure D.3. *Level of educational attainment of re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Survey respondents were more likely to identify as female (74%) than male (24%; Fig. D.4).

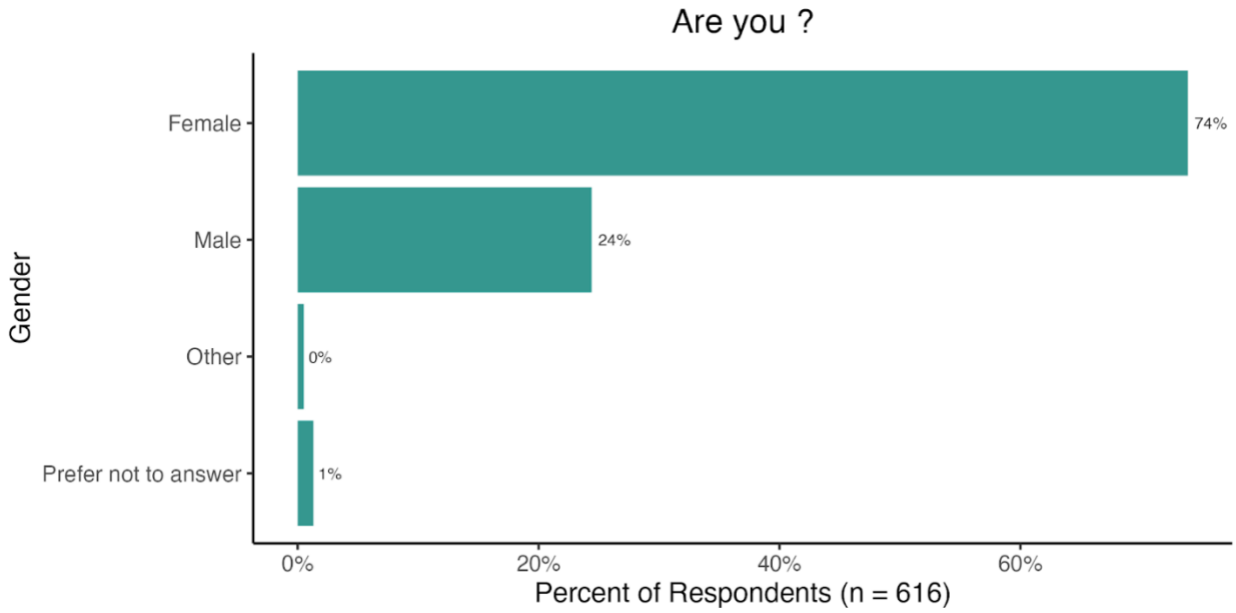


Figure D.4. *Gender of re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Survey respondents were also asked to identify their political orientation on a scale from 1 (very conservative) to 7 (very liberal). The median response was 4, and 57% of survey participants reported holding moderate political views (categories 3-5; Fig. D.5).

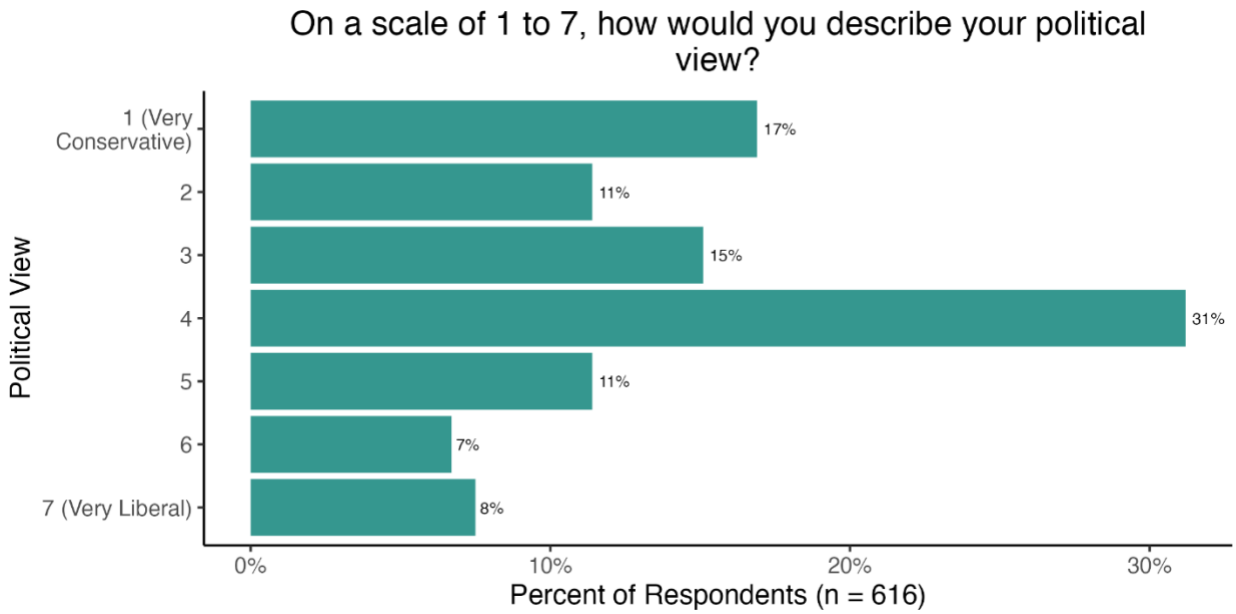


Figure D.5. *Political views of re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

We asked respondents to report on how long they have lived in Idaho (Fig. D.6). The mean length of residence in Idaho was 21.9 years, with a range of 0 to 76 years. Over half of the respondents (53%) had lived in Idaho for 20 years or more. Seventeen percent have lived in Idaho for less than 5 years.

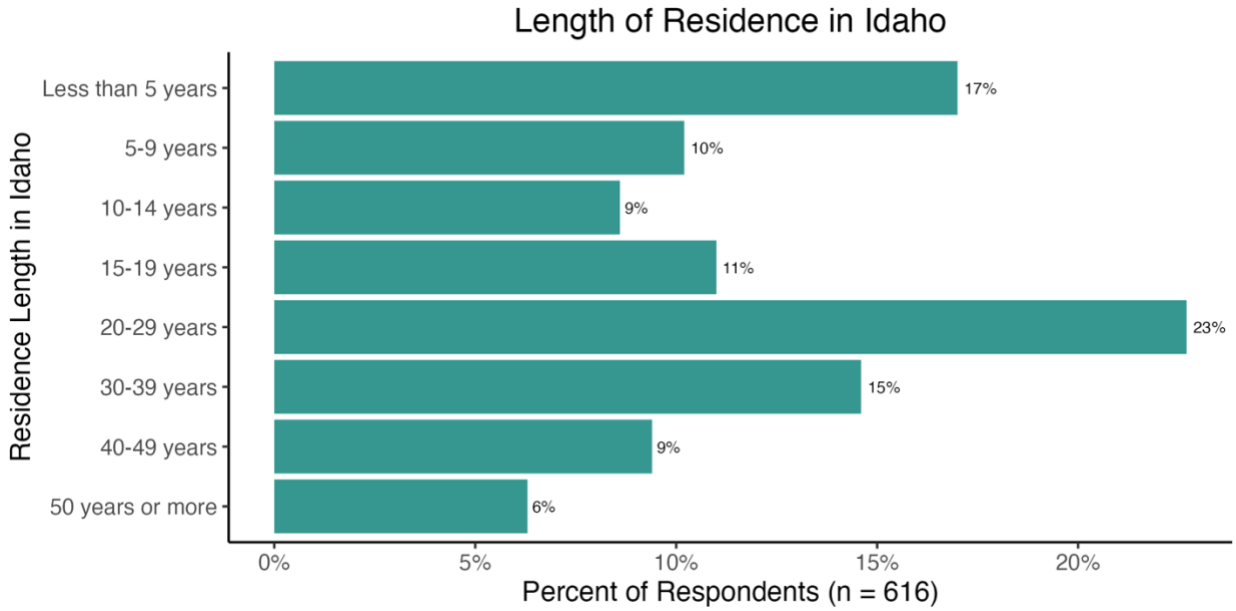


Figure D.6. *Length of residence in Idaho of re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

We calculated what percentage of respondents' lifetime had been spent in Idaho (Fig. D.7). While a majority (54%) had spent more than half of their lifetime in Idaho, 29% of respondents had spent less than 25% of their lifetime in Idaho.

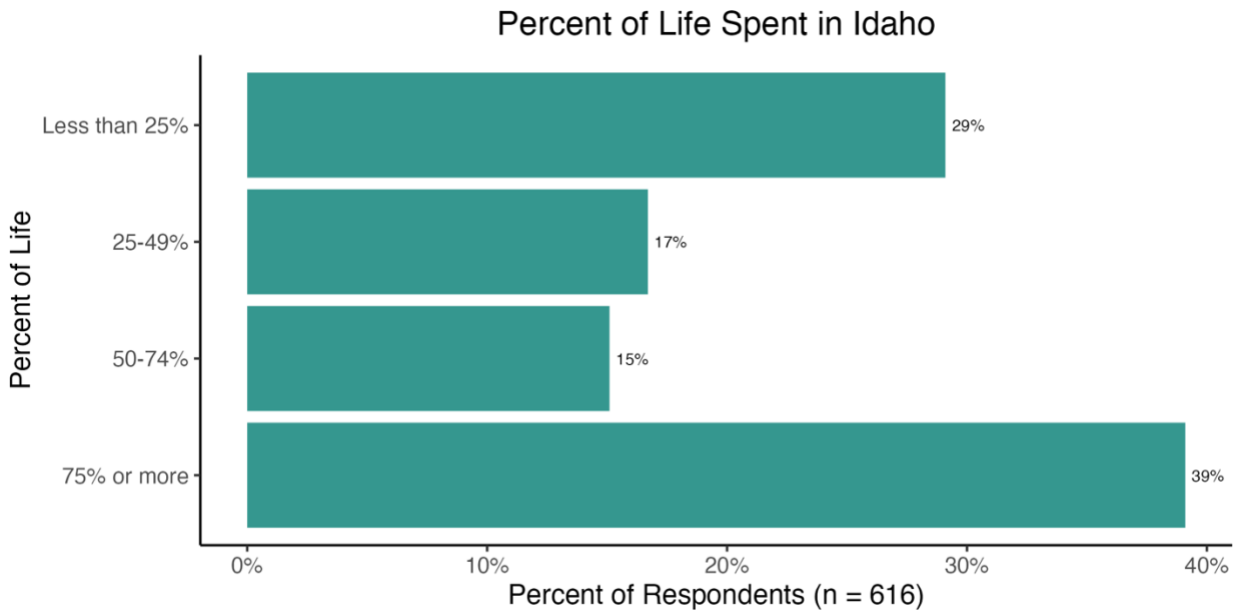


Figure D.7. *Percent of lifetime spent in Idaho for re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Slightly more respondents resided in cities (24%) than rural locations (17% countryside, farm, or ranch; Fig. D.8). The majority of respondents reported residing in suburbs (27%) or small towns (29%).

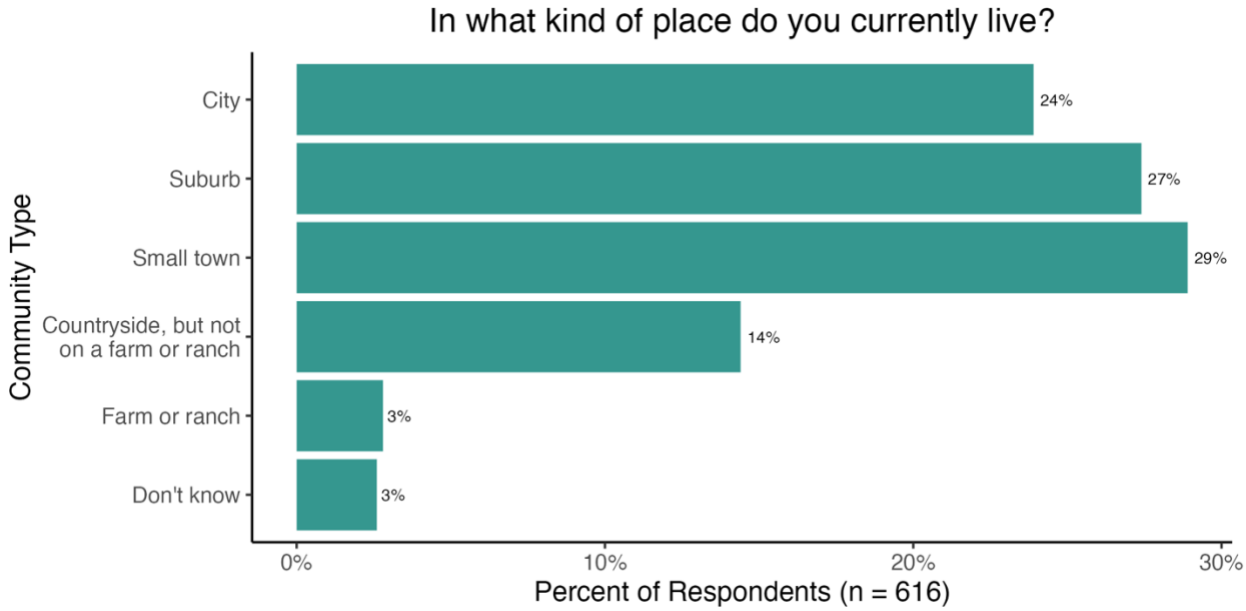


Figure D.8. *Community type of re-survey respondents. The number of people who responded to this question is shown in parentheses as "n = ".*

Approval of Public Lands Grazing in Idaho

The primary question of interest in this re-survey effort was, "Do you approve of the use of public lands for livestock grazing?" Prior to 2021, the question had been phrased as "livestock grazing" and was situated within a question block focused on various uses of public lands. In 2021, the phrasing for this category was changed to "livestock production" (see Fig. 19). We found a nearly 30% reduction in public approval from 2010 (89%) and 2014 (90%) to 2021 (61%; Table 3). Because of the language shift from "grazing" to "production," we were unable to determine to what extent that decline measured a true shift in public opinion about grazing as opposed to a shift influenced by the language change. To address this, we issued this re-survey, in which we found a 78% approval rating for livestock grazing as a use of public lands (Fig. D.9). This finding still reflects a decline in approval of livestock grazing relative to previous years, but it may also indicate an important distinction in the public's views on livestock "grazing" and "production."

Notably, the percentage of people who disapproved of livestock grazing on public lands remained relatively stable from 2010 (9%) and 2014 (7%) to 2022 (9%). The drop in approval of livestock grazing was thus primarily due to an increase in the percentage of respondents who were "unsure" whether they approved or disapproved, up from 2% unsure in 2010 and 3% in 2014 to 14% in 2022.

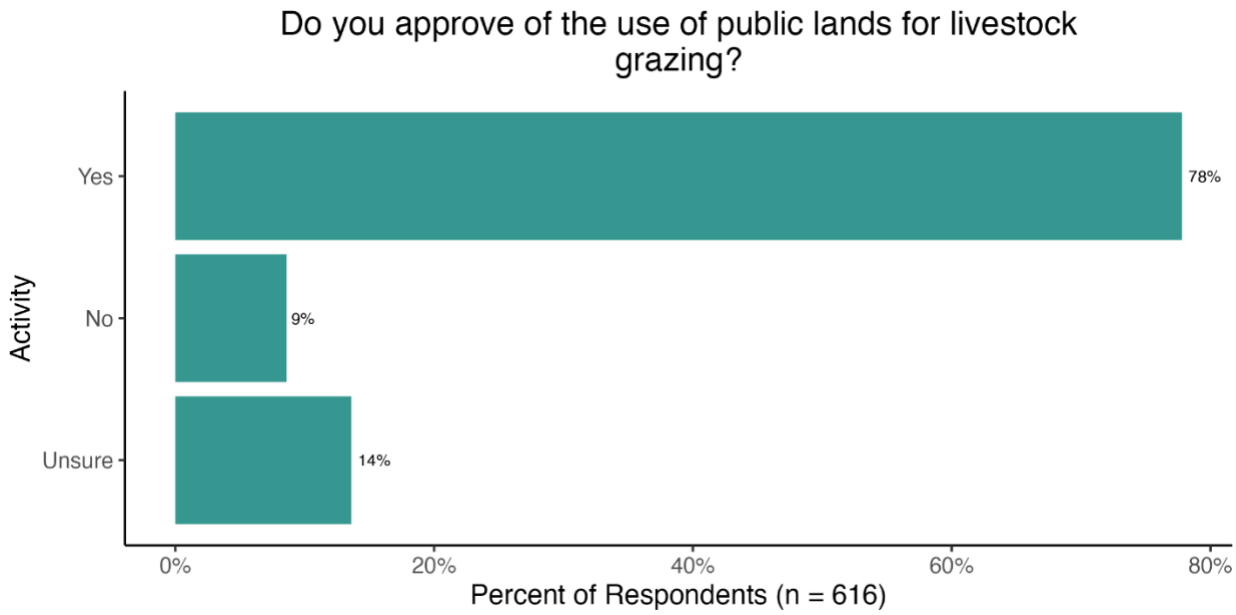


Figure D.9. *Approval of livestock grazing as a use of public lands. The number of people who responded to this question is shown in parentheses as "n = ".*

Perceptions of Rangeland Health and Grazing Impacts

For the re-survey effort, we needed a control question related to grazing opinion that was asked in 2021 to help assess the comparability of our 2021 and 2022 samples and findings. We selected the question regarding the perceived condition of Idaho's rangelands to serve this purpose (Fig. D.10). The 2022 re-survey results on rangeland condition were not significantly different from the 2021 results (Fig. 21), indicating that the two surveys captured samples of people with comparable views on rangeland issues (Fig. D.11)[12]. In 2022, 45% of respondents rated the general condition of Idaho's rangelands as "good" or "very good", which is slightly lower than in 2021 (51%). In both years, only 5% of respondents rated the condition as "poor" or "very poor".

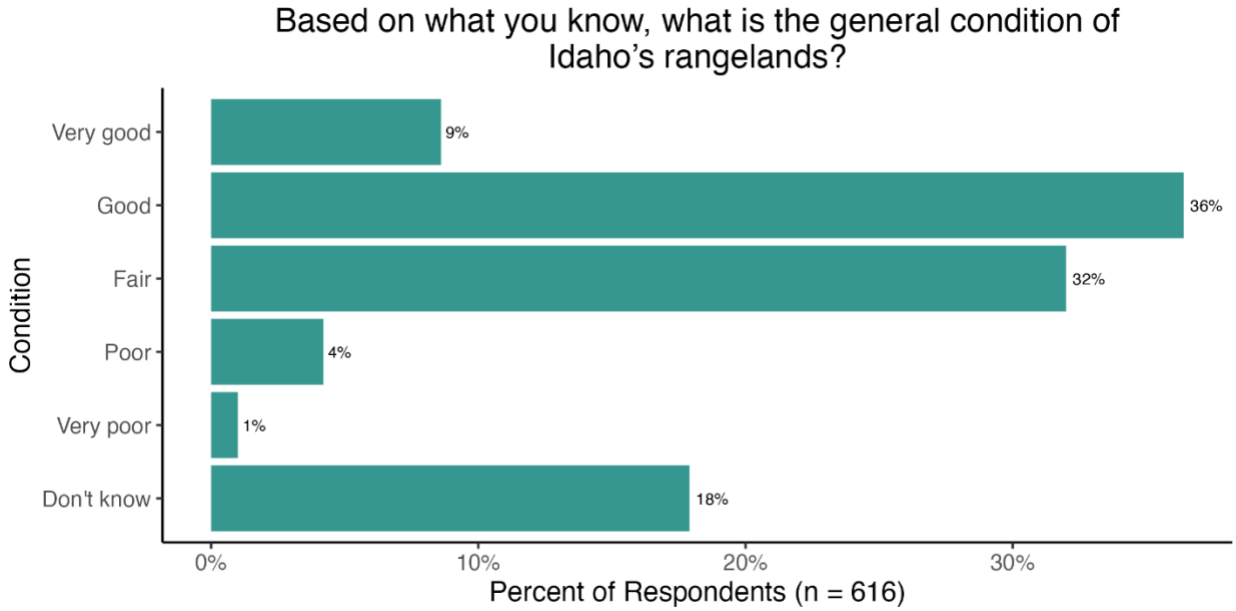


Figure D.10. *Perceived condition of Idaho's rangelands in the 2022 re-survey. The number of people who responded to this question is shown in parentheses as "n = ".*

[12] Pearson's chi-square test on weighted responses using Rao and Scott adjustment: chi-square = 10.316, df = 5, p-value = 0.20

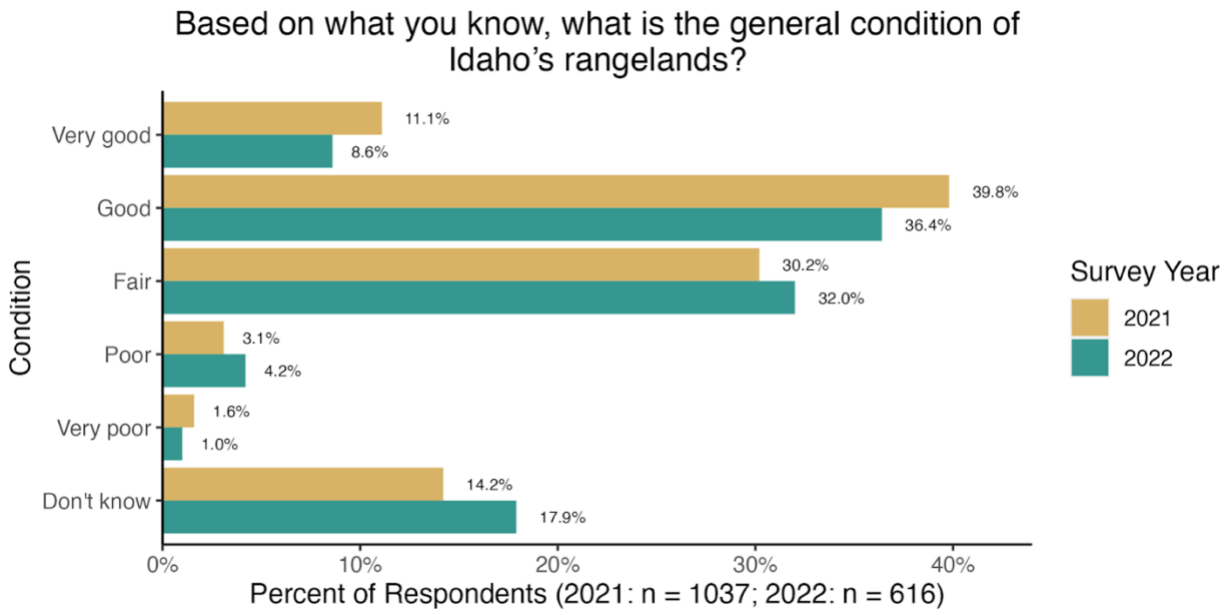


Figure D.11. *Comparison of perceived condition of Idaho's rangelands in the 2021 survey and 2022 re-survey. The number of people who responded to this question is shown in parentheses as "n = " for each year.*

One of our primary objectives for the re-survey was to investigate opinions regarding the impacts of public lands livestock grazing. We asked survey respondents to rate the extent to which they perceived livestock grazing to have negative or positive impacts on the economic stability of rural communities, rangeland condition, wildfire risk reduction, wildlife habitat, and carbon storage in the soil (Fig. D.12). Grazing was perceived to have "somewhat" to "very" positive impacts on the economic stability of rural communities (56%). All five categories had at least 24% of respondents rating the impacts as neutral ("neither negative nor positive"), with the highest being wildfire risk reduction (38%). Impacts to wildlife habitat were perceived the most negatively, with 28% of respondents rating the impact as "somewhat" or "very" negative. Carbon storage in the soil had the highest percent of "don't know" responses (22%), which suggests a knowledge gap.

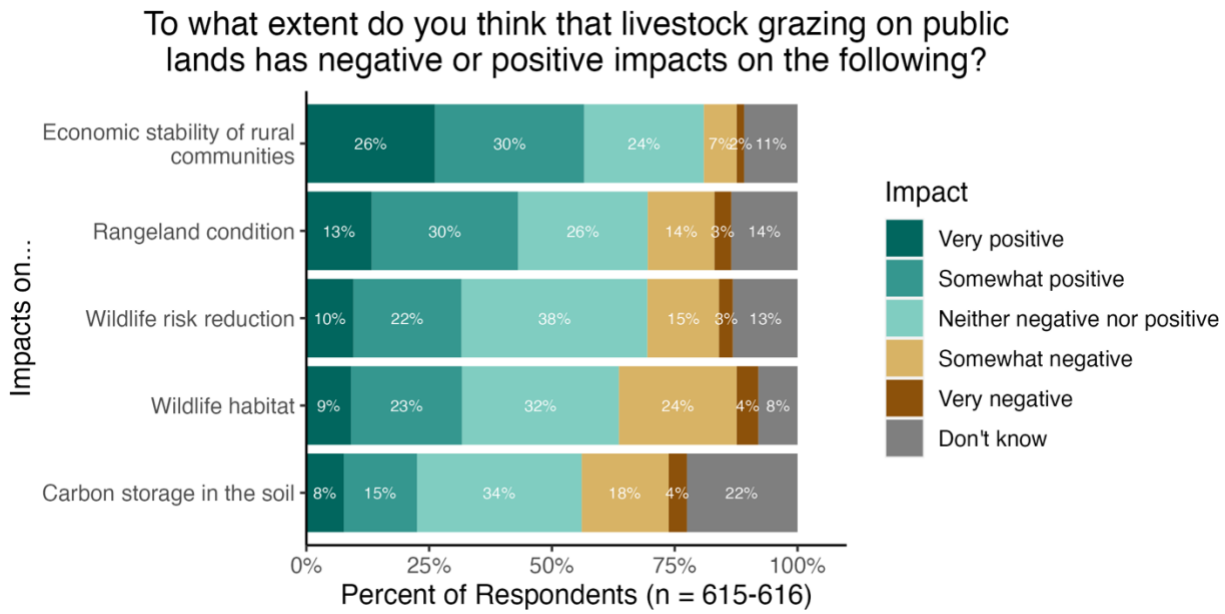


Figure D.12. *Perceived impacts of livestock grazing on public lands. The number of people who responded to this question is shown in parentheses as "n = ". The range reflects that some respondents skipped responding to one or more of the categories.*

Supporters of Livestock Grazing on Public Lands

The demographic factors that explained most of the variation in approval of livestock grazing on public lands were gender, political view, and proportion of lifetime in Idaho, with a marginally significant effect of age (Table D.2).

Table D.2. *Regression model results for the demographic predictors of approval of livestock grazing on public lands. Degrees of freedom (Df), likelihood-ratio test statistics, and p-values are shown, with statistically significant predictors ($p < 0.05$) denoted by an asterisk.*

Predictor variable	Df	Likelihood-ratio test	$\chi 2$ p-value
Gender	2	8.201	0.02 *
Political view	12	23.08	0.03 *
Proportion lifetime in Idaho	2	6.605	0.04 *
Age	2	5.723	0.06
Community type	2	3.716	0.16
Education level	10	5.300	0.87

Since the majority of respondents approved of livestock grazing on public lands, here we focus on the factors that describe those who did not. The model results indicate that respondents who were more politically liberal were significantly more likely to disapprove of the use of public lands for livestock grazing, relative to those who were more politically neutral or conservative (Fig. D.13). Females and those who had spent a smaller proportion of their lifetime in Idaho were significantly more likely to report that they "don't know" whether they approve or disapprove of livestock grazing on public lands, with a marginally significant trend toward younger respondents also being more uncertain. Those who reported that they live in a city were more likely to not know or disapprove of livestock grazing on public lands relative to those living in all other community types, although this trend toward lower approval among urban residents was not statistically significant. Education level had no discernible effect on grazing approval. For full model results, see Fig. D. 14.

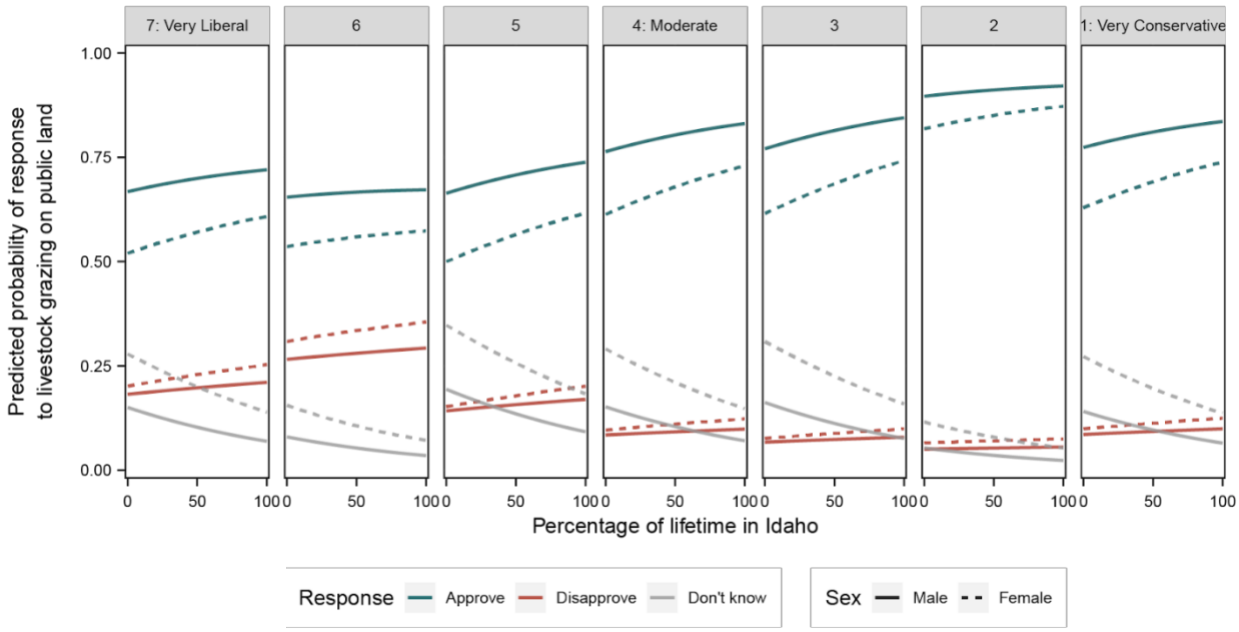


Figure D.13. *Predicted probability of approval of livestock grazing on public lands, based on demographic factors. Values closer to 1 on the vertical axis suggest a higher probability of giving each type of response ("approve," (green), "disapprove" (orange) or "don't know" (gray)). Response probabilities are shown for males (solid lines) and females (dashed lines) across the political spectrum (panels 7 to 1, representing "very liberal" (7) to "very conservative" (1) political views). Within each panel, the probability of each response varies depending on the percentage of lifetime spent in Idaho. For ease of visualization, demographic factors that were not statistically significant are held constant: results shown are for people who live in a city, have some college education, and are 42 years old (the mean age of respondents).*

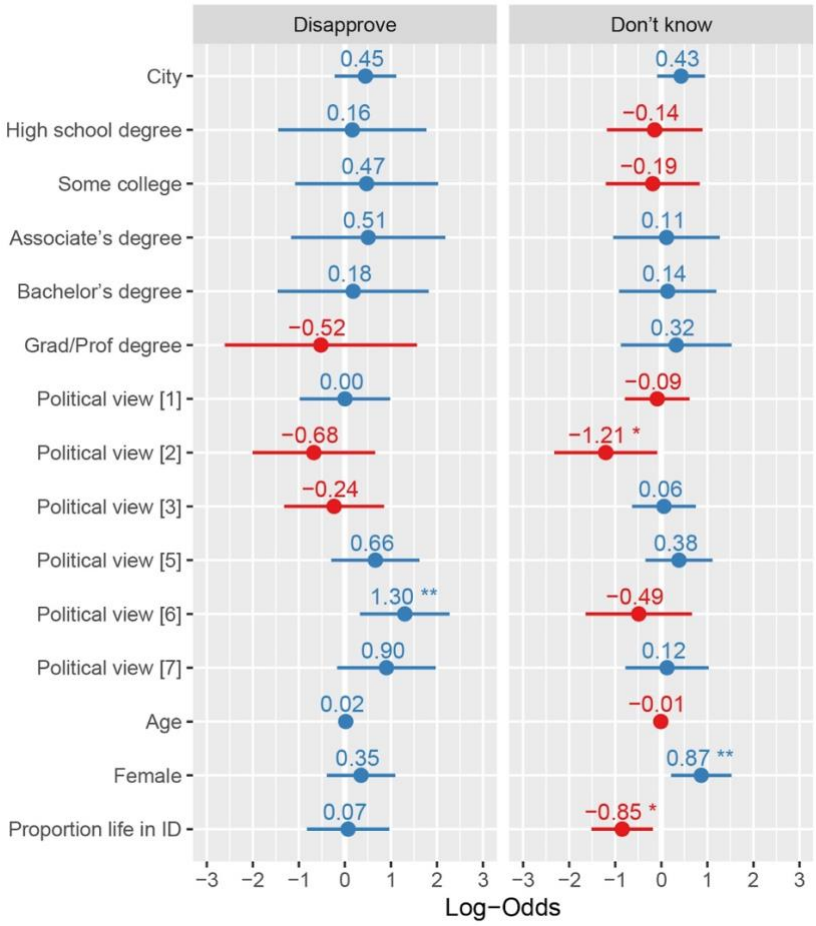


Figure D.14. *Regression model coefficients for demographic predictors show the log-odds of a respondent saying that they "disapprove" or "don't know" whether they approve of livestock grazing on public lands, relative to saying that they approve. Horizontal bars show 95% confidence intervals for each coefficient. The reference condition in each demographic category on the vertical axis (non-city resident, no high school degree, neutral political view (4), male) is not displayed. Values shown in blue indicate higher odds of responding with "disapprove" or "don't know" relative to the reference condition. Values shown in red indicate lower odds of responding with "disapprove" or "don't know." For example, for city residents, the log-odds of disapproving of livestock grazing is positive (0.45), indicating higher odds of disapproval among respondents who live in a city than those who do not, with all other demographic factors held constant. Political views for those who are more conservative (level 1-3) and more liberal (5-7) are displayed relative to those with politically neutral views (level 4). The odds of disapproving increase slightly with age and proportion of lifetime spent in Idaho, while the odds of responding with "don't know" decrease with age and proportion of lifetime spent in Idaho. However, it is important to note that only values marked with asterisks are statistically significant, meaning that relatively strong political views (2 and 6), being female, and the proportion of one's lifetime spent in Idaho are the demographic factors that are significant predictors of whether Idahoans approve of livestock grazing on public lands. (* = $p < 0.05$, ** = $p < 0.01$).*

Next, we explored whether respondents' perceptions of the impacts of livestock grazing on environmental and social factors helped explain whether they approved of livestock grazing on public lands. Model results indicate that respondents' perceptions of grazing impacts on rangeland condition, wildfire risk reduction, and wildlife habitat are significant predictors of whether or not they approve of livestock grazing on public lands overall (Table D.3). Reporting a neutral impact of livestock grazing was not significantly different from responding with "don't know," in terms of how these views affected respondents' approval of livestock grazing overall.

Table D.3. *Regression model results for how respondents' perceptions of the impacts of livestock grazing explain whether they approve of livestock grazing on public lands. Predictor variables include the type of impact perceived ("positive," "negative" or "neutral") and a binary variable to capture whether or not respondents gave an answer of "don't know" about each impact. The latter indicates whether a response of "don't know" is meaningfully different from perceiving a neutral impact. Degrees of freedom (Df), likelihood-ratio test statistics, and p-values are shown, with statistically significant predictors denoted by asterisks (* = p < 0.05, ** = p < 0.01).*

Predictor variables		**Df**	**Likelihood-ratio test**	**χ^2 p-value**
Economic stability of rural communities	Impact	4	4.589	0.33
	"Don't know"	2	2.642	0.27
Rangeland condition	Impact	4	16.96	0.002 **
	"Don't know"	2	0.773	0.68
Wildfire risk reduction	Impact	4	14.27	0.006 **
	"Don't know"	2	4.773	0.09
Wildlife habitat	Impact	4	13.02	0.01 *
	"Don't know"	2	2.733	0.25
Carbon storage in the soil	Impact	4	3.537	0.47
	"Don't know"	2	0.955	0.62

The model results show that having a positive view of livestock impacts did not make people significantly more likely to approve of livestock grazing on public lands. However, having a negative view of livestock's impacts on several environmental factors was more likely to cause a significant shift in opinion on livestock grazing approval (Fig. D.15).

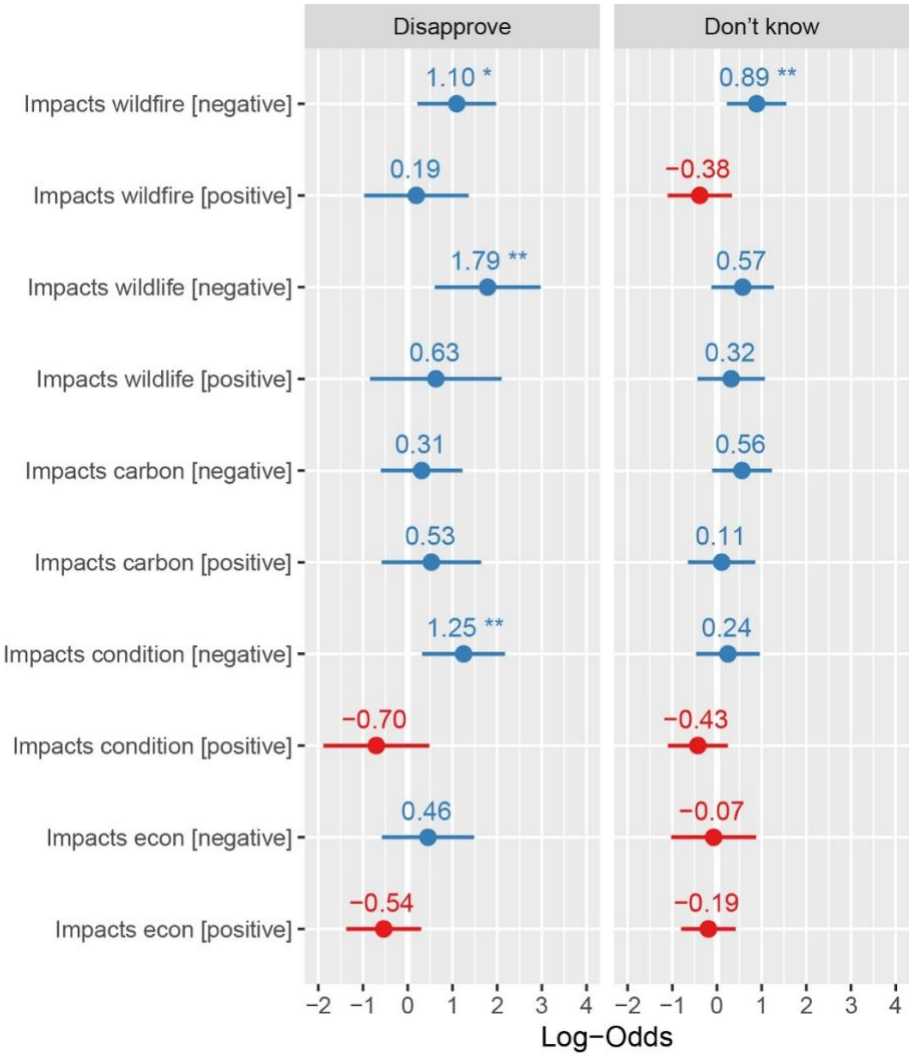


Figure D.15. *Regression model coefficients for perceptions of the impacts of livestock grazing as predictors of a respondent saying that they "disapprove" or "don't know" whether they approve of livestock grazing on public lands, relative to saying that they approve. Horizontal bars show 95% confidence intervals for each coefficient. The reference condition for each predictor is a perception of neutral impact, which is not displayed. Values shown in blue indicate higher odds of responding with "disapprove" or "don't know" relative to the reference condition. Values shown in red indicate lower odds of responding with "disapprove" or "don't know." For example, for respondents who perceive a negative impact of livestock on wildlife habitat, the log-odds of disapproving of livestock grazing is above zero (1.79), indicating higher odds of disapproval among those who think livestock negatively impact wildlife habitat relative to those who perceive a neutral impact, with all other factors held constant. It is important to note that only values marked with asterisks are statistically significant, meaning that negative perceptions of livestock grazing on wildfire risk reduction, wildlife habitat, and rangeland condition are the only significant predictors of Idahoans' approval of livestock grazing on public lands (* = $p < 0.05$, ** = $p < 0.01$). Coefficients for the binary variables differentiating between whether people reported "don't know" for livestock grazing impacts were included in the model but are not displayed.*

Those who viewed livestock as negatively impacting wildlife habitat (Fig. D.16) and/or rangeland condition (Fig. D.17) were significantly more likely to disapprove of livestock grazing on public lands relative to those who viewed livestock as having positive or neutral impacts. For this analysis, a perception of "neutral" impacts included those who responded that livestock had neither a positive nor negative impact, as well as those who said that they "don't know" the impact of livestock grazing on wildlife habitat and rangeland condition.

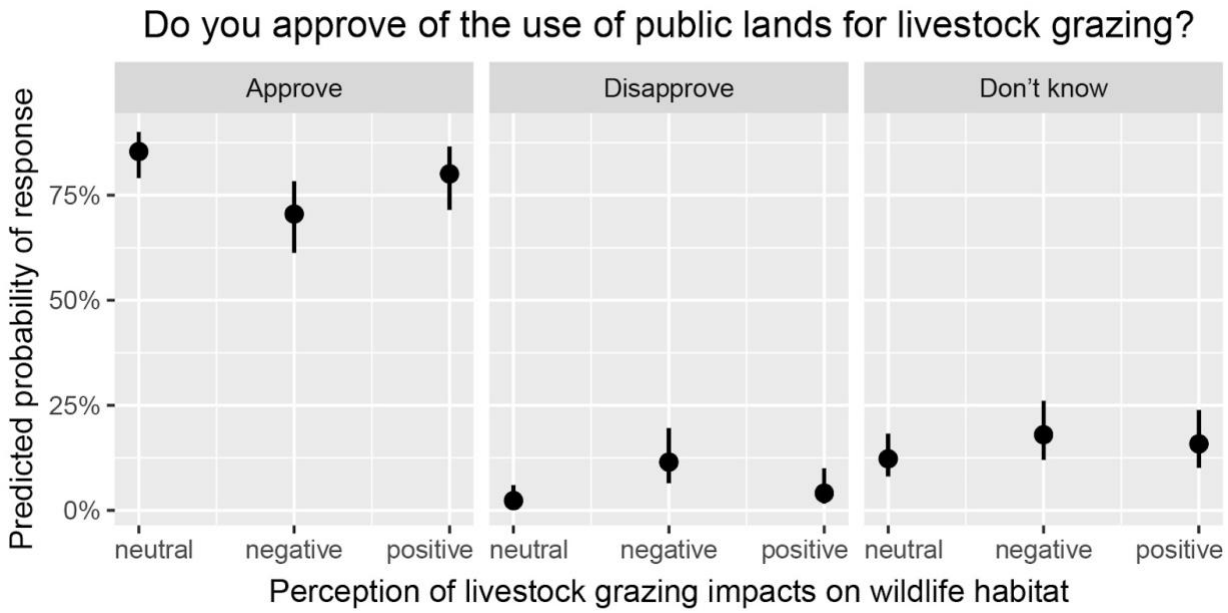


Figure D.16. *Model results predict a significantly lower probability of approving and higher probability of disapproving of livestock grazing on public lands for those who perceive livestock as negatively impacting wildlife habitat. Note that overall, the majority of respondents still approve of livestock grazing on public lands, regardless of its impacts on wildlife habitat.*

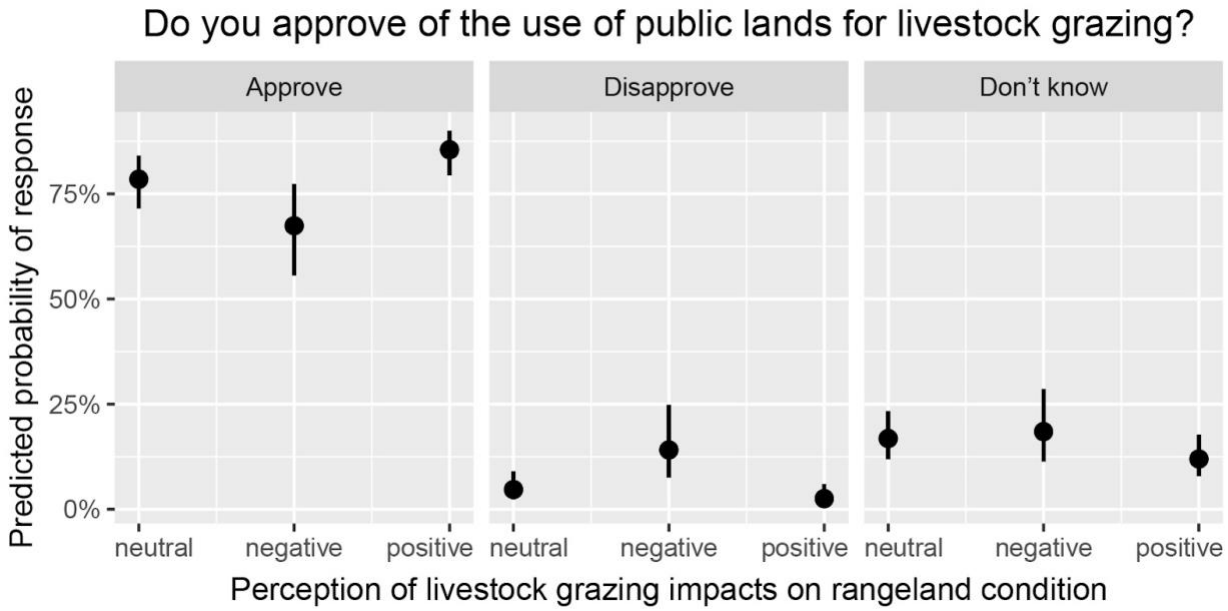


Figure D.17. *Model results predict a significantly lower probability of approving and higher probability of disapproving of livestock grazing on public lands for those who perceive livestock as negatively impacting rangeland condition. Note that overall, the majority of respondents still approve of livestock grazing on public lands, regardless of its impacts on rangeland condition.*

Those who viewed livestock grazing as negatively impacting wildfire risk reduction (that is, increasing wildfire risk) were significantly more likely to disapprove or respond that they didn't know whether or not they approved of livestock grazing on public lands relative to those with positive or neutral views (Fig. D.18). For this analysis, a perception of "neutral" impacts included those who responded that livestock had neither a positive nor negative impact, as well as those who said that they "don't know" the impact of livestock grazing on wildfire risk.

Respondents may have interpreted impacts of livestock on wildfire risk in different ways. Those who viewed grazing as having a positive impact on wildfire risk reduction may have been thinking about livestock as primarily removing vegetation to reduce fuel for potential fires. On the other hand, those who viewed grazing as negatively impacting wildfire risk reduction may have been thinking of livestock as contributing to the spread of invasive annual grasses or other species that increase wildfire risk.

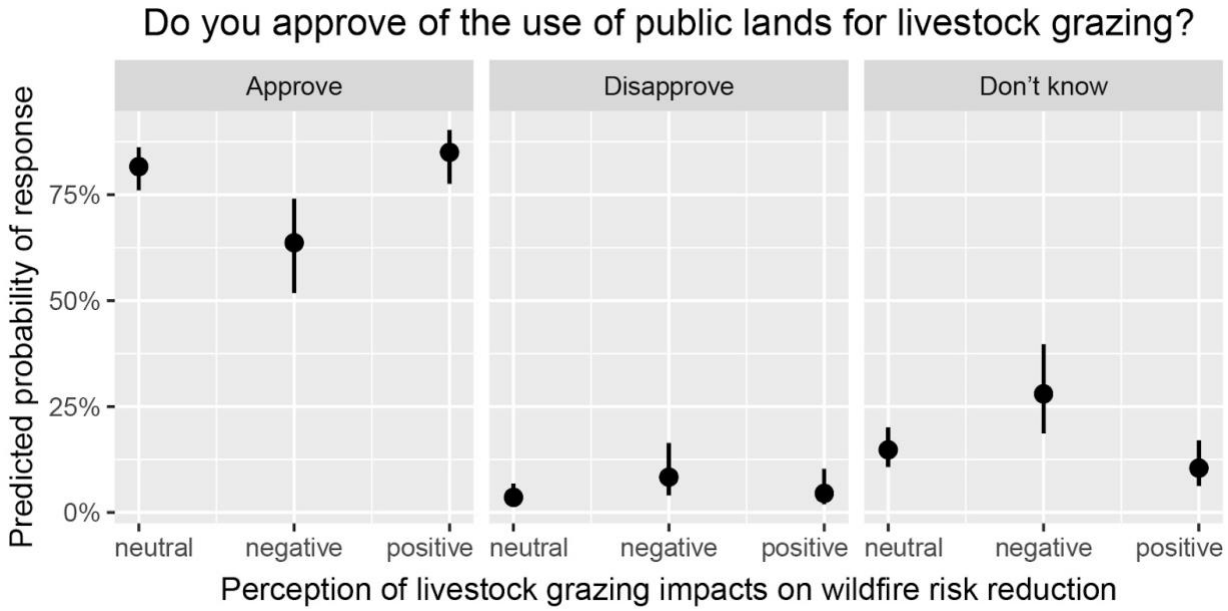


Figure D.18. *For those who perceive livestock grazing as negatively impacting wildfire risk reduction (that is, increasing wildfire risk), model results predict a significantly lower probability of approving and higher probability of either disapproving of or reporting "don't know" about livestock grazing on public lands. Note that overall, the majority of respondents still approve of livestock grazing on public lands, regardless of its impacts on wildfire risk reduction.*

Conclusions

The 2022 re-survey about perceptions of rangeland issues revealed that most Idahoans hold favorable views of livestock grazing and the condition of Idaho's rangelands. Males and those with more conservative political views are most likely to approve of grazing. Approval of livestock grazing as a use of public lands has decreased over time, while there has been a nearly equal increase in the percentage of people who reported that they "don't know" whether or not they approve of grazing. Females and people who have spent a smaller proportion of their lifetime in Idaho are more likely to report that they don't know whether they approve of grazing, thus representing potentially important target groups for outreach and education efforts.

Approval of livestock "grazing" on public lands in 2022 was higher than approval of livestock "production" in the 2021 survey. These findings suggest that the terminology used to describe livestock activities matters for measuring public perceptions and should be considered carefully in future surveys and outreach activities.

Most Idahoans tended to perceive livestock grazing on public lands as having positive impacts on the economic stability of rural communities. Perceptions of livestock grazing's environmental effects were more mixed. People tended to view livestock as having somewhat positive to neutral impacts on rangeland condition and wildfire risk reduction. Their perceptions of livestock impacts on wildlife habitat and carbon storage in the soil were more evenly split between positive, negative, and neutral views, with the most uncertainty about how livestock affect soil carbon. These results provide an important baseline for understanding how the public's views on these issues will continue to develop, in parallel with increased scientific research and adoption of new practices aimed at managing and understanding how livestock grazing interacts with wildfire risk and soil carbon storage in particular.

People who perceived livestock grazing as negatively impacting rangeland condition, wildfire risk reduction, and/or wildlife habitat were significantly less likely to approve of livestock grazing on public lands than those who held more positive or neutral views of livestock's environmental impacts. This suggests that shifting the perspectives of those who see livestock as having negative environmental impacts toward more positive or even neutral views may be a successful strategy for increasing acceptance of livestock grazing on public lands overall.

Survey Questions

The survey questions below were coded into the same web-based platform used for the 2021 (see Appendix A for reference).

Grazing Re-survey Questions

Please keep in mind the following definition when responding.

When we refer to "public lands", we mean any lands in Idaho managed for objectives deemed to be in the public interest. Public lands do not include private lands owned by individuals or businesses. Examples of activities on public lands include hunting, off-highway vehicle use, mountain biking, hiking, camping, guided recreation, livestock grazing, logging, and renewable energy development.

1. Do you approve of the use of public lands for livestock grazing?
    - *Response Options:* Yes; No; Unsure

2. Based on what you know, what is the general condition of Idaho's rangelands?
    - *Response Options:* Very poor; Poor; Fair, Good; Very good; Don't know

3. To what extent do you think that livestock grazing on public lands has negative or positive impacts on the following?
    - Wildfire risk reduction.
    - Wildlife habitat.
    - Carbon storage in the soil.
    - Rangeland condition.
    - Economic stability of rural communities.
    - *Response Options:* Very negative; Somewhat negative; Neither negative nor positive; Somewhat positive; Very positive; Don't know

Demographic Questions

4. In what kind of place do you currently live?
    - *Response Options:* City; Suburb; Small town; Countryside, but not on a farm or ranch; Farm or ranch; Don't know

5. What is the highest level of education you have completed?
    - *Response Options:* Some high school, no degree; High school graduate or equivalent; Some college, no degree; Associate's degree; Bachelor's degree; Graduate or professional degree; Don't know

6. On a scale of 1 to 7, where 1 is very conservative and 7 is very liberal, how would you describe your political view?
    - *Response Options:* Very conservative – 1; 2; 3; 4; 5; 6; Very liberal – 7; Don't know

7. Are you...?
    - *Response Options:* Male; Female; Other; Prefer not to answer

8. What year were you born? (Open-ended)

9. How many years have you lived in Idaho? (Open-ended)

10. In what county do you live? (Multiple choice consisting of Idaho's counties)

Tabular Results of Quantitative Questions

The two tables in this section summarize the results of the non-demographic (Table D.4) and demographic (Table D.5) questions in the re-survey.

Table D.4. *Tabular results of non-demographic questions in the re-survey. Questions are labeled with their associated number, as defined in the Survey Questions section in Appendix D (e.g. Q1 refers to question 1 of the re-survey instrument). Questions with multiple parts are grouped together with a header row consisting of the survey instrument phrasing. All results in this table have been weighted for representativeness and are reported with their standard error.*

Question	Response	Weighted Frequency	Percent	Std. Error
Q1. Do you approve of the use of public lands for livestock grazing?	Yes	479	77.8%	1.7%
	No	53	8.6%	1.1%
	Unsure	84	13.6%	1.4%
Q2. Based on what you know, what is the general condition of Idaho's rangelands?	Very poor	6	1.0%	0.4%
	Poor	26	4.2%	0.8%
	Fair	197	32.0%	1.9%
	Good	224	36.4%	1.9%
	Very good	53	8.6%	1.1%
	Don't know	110	17.9%	1.5%
Q3. To what extent do you think that livestock grazing on public lands has negative or positive impacts on the following?				
Wildfire risk reduction	Very negative	17	2.8%	0.7%
	Somewhat negative	90	14.6%	1.4%
	Neither negative nor positive	233	37.9%	2.0%
	Somewhat positive	135	22.0%	1.7%
	Very positive	59	9.6%	1.2%
	Don't know	81	13.2%	1.4%

Question	Response	Weighted Frequency	Percent	Std. Error
Q3. To what extent do you think that livestock grazing on public lands has negative or positive impacts on the following?				
Wildlife habitat	Very negative	27	4.4%	0.8%
	Somewhat negative	148	24.0%	1.7%
	Neither negative nor positive	197	32.0%	1.9%
	Somewhat positive	139	22.6%	1.7%
	Very positive	56	9.1%	1.2%
	Don't know	49	8.0%	1.1%
Carbon storage in the soil	Very negative	23	3.7%	0.8%
	Somewhat negative	109	17.7%	1.5%
	Neither negative nor positive	207	33.5%	1.9%
	Somewhat positive	92	14.9%	1.4%
	Very positive	47	7.6%	1.1%
	Don't know	139	22.5%	1.7%
Rangeland condition	Very negative	21	3.4%	0.7%
	Somewhat negative	84	13.6%	1.4%
	Neither negative nor positive	163	26.4%	1.8%
	Somewhat positive	184	29.8%	1.8%
	Very positive	82	13.3%	1.4%
	Don't know	83	13.5%	1.4%

Question	Response	Weighted Frequency	Percent	Std. Error
Q3. To what extent do you think that livestock grazing on public lands has negative or positive impacts on the following?				
Economic stability of rural communities	Very negative	9	1.5%	0.5%
	Somewhat negative	41	6.7%	1.0%
	Neither negative nor positive	150	24.4%	1.7%
	Somewhat positive	187	30.4%	1.9%
	Very positive	161	26.2%	1.8%
	Don't know	67	10.9%	1.3%

Table D.5. *Tabular results of demographic questions in the re-survey. Questions are labeled with their associated number, as defined in the Survey Questions section in Appendix D (e.g. Q5 refers to question 5 of the re-survey instrument), with the exception of calculated demographic variables. Results in this table are unweighted and are reported with their standard error.*

Question	Response	Frequency	Percent	Std. Error
Q4. In what kind of place do you currently live?	City	147	23.9%	1.7%
	Suburb	169	27.4%	1.8%
	Small town	178	28.9%	1.8%
	Countryside, but not on a farm or ranch	89	14.4%	1.4%
	Farm or ranch	17	2.8%	0.7%
	Don't know	16	2.6%	0.6%
Q5. What is the highest level of education you have completed?	Some high school, no degree	36	5.8%	0.9%
	High school graduate or equivalent	136	22.1%	1.7%
	Some college, no degree	191	31.0%	1.9%
	Associate's degree	74	12.0%	1.3%
	Bachelor's degree	117	19.0%	1.6%
	Graduate or professional degree	47	7.6%	1.1%
	Don't know	15	2.4%	0.6%
Q6. On a scale of 1 to 7, how would you describe your political view?	1 (Very Conservative)	104	16.9%	1.5%
	2	70	11.4%	1.3%
	3	93	15.1%	1.4%
	4	192	31.2%	1.9%
	5	70	11.4%	1.3%
	6	41	6.7%	1.0%
	7 (Very Liberal)	46	7.5%	1.1%

Question	Response	Frequency	Percent	Std. Error
Q7. Are you…?	Male	150	24.4%	1.7%
	Female	455	73.9%	1.8%
	Other	3	0.5%	0.3%
	Prefer not to answer	8	1.3%	0.5%
Q10. In what county do you currently live?	Ada	150	24.4%	1.7%
	Adams	2	0.3%	0.2%
	Bannock	34	5.5%	0.9%
	Bear Lake	3	0.5%	0.3%
	Benewah	3	0.5%	0.3%
	Bingham	12	1.9%	0.6%
	Blaine	4	0.6%	0.3%
	Boise	10	1.6%	0.5%
	Bonner	18	2.9%	0.7%
	Bonneville	51	8.3%	1.1%
	Boundary	4	0.6%	0.3%
	Butte	3	0.5%	0.3%
	Camas	1	0.2%	0.2%
	Canyon	89	14.4%	1.4%
	Caribou	6	1.0%	0.4%
	Cassia	6	1.0%	0.4%
	Clark	0	0.0%	-
	Clearwater	1	0.2%	0.2%
	Custer	0	0.0%	-
	Elmore	12	1.9%	0.6%
	Franklin	4	0.6%	0.3%
	Fremont	2	0.3%	0.2%
	Gem	5	0.8%	0.4%
	Gooding	8	1.3%	0.5%
	Idaho	12	1.9%	0.6%
	Jefferson	8	1.3%	0.5%
	Jerome	5	0.8%	0.4%
	Kootenai	43	7.0%	1.0%
	Latah	17	2.8%	0.7%

Question	Response	Frequency	Percent	Std. Error
Q10. In what county do you currently live?	Lemhi	2	0.3%	0.2%
	Lewis	3	0.5%	0.3%
	Lincoln	1	0.2%	0.2%
	Madison	10	1.6%	0.5%
	Minidoka	9	1.5%	0.5%
	Nez Perce	16	2.6%	0.6%
	Oneida	2	0.3%	0.2%
	Owyhee	6	1.0%	0.4%
	Payette	5	0.8%	0.4%
	Power	1	0.2%	0.2%
	Shoshone	7	1.1%	0.4%
	Teton	0	0.0%	-
	Twin Falls	32	5.2%	0.9%
	Valley	3	0.5%	0.3%
	Washington	4	0.6%	0.3%
	Refused	2	0.3%	0.2%
Age Category (Calculated from ***Q8.*** What year were you born?)	18-24	118	19.2%	1.6%
	25-34	129	20.9%	1.6%
	35-44	120	19.5%	1.6%
	45-54	95	15.4%	1.5%
	55-64	81	13.1%	1.4%
	65+	73	11.9%	1.3%
Years in Idaho Category (Calculated from ***Q9.*** How many years have you lived in Idaho?)	Less than 5 years	105	17.0%	1.5%
	5-9 years	63	10.2%	1.2%
	10-14 years	53	8.6%	1.1%
	15-19 years	68	11.0%	1.3%
	20-29 years	140	22.7%	1.7%
	30-39 years	90	14.6%	1.4%
	40-49 years	58	9.4%	1.2%
	50 years or more	39	6.3%	1.0%

Question	Response	Frequency	Percent	Std. Error
Proportion of Life Spent in Idaho (Calculated from ***Q8*** and ***Q9*** above)	Less than 25%	179	29.1%	1.8%
	25-49%	103	16.7%	1.5%
	50-74%	93	15.1%	1.4%
	75% or more	241	39.1%	2.0%

Appendix E: Requested Analyses

This appendix presents the results of several requested analyses from the 2021 survey and 2022 re-survey data.

Regional Comparisons

To conduct regional comparisons, we adapted regional maps from the Idaho Department of Fish and Game and other regional designations to form eight regions for the state (Fig. E.1). We chose to designate Ada County as its own region due to its large population size and demographic differences from surrounding counties.

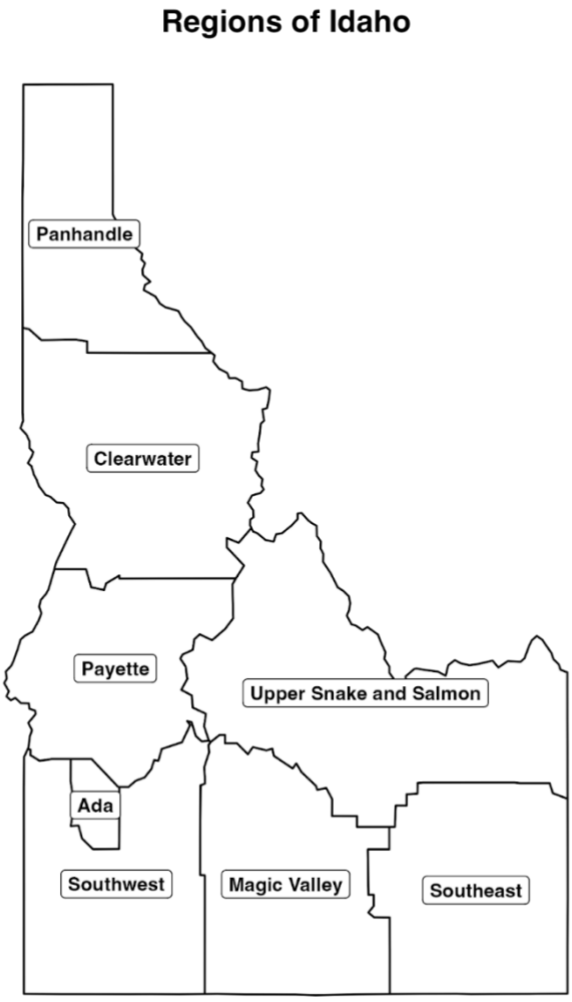


Figure E.1. *Map of the eight regions of Idaho.*

Approval of Livestock Production and Grazing on Public Lands

Given the phrasing shift in the question about approval of livestock on public lands in the 2021 survey, we wanted to compare the approval of "livestock production" (asked in 2021) to "livestock grazing" (asked in 2022) by region (Fig. E.2). Across all regions, approval was higher for the 2022 re-survey question about livestock *grazing*. In 2021, the Payette and Upper Snake and Salmon regions had the highest approval for the use of public lands for livestock *production* (69.7% and 68.8%, respectively). The lowest approval rates for livestock *production* were in the Panhandle (42.5%) and Clearwater (47.0%) regions. In 2022, the Southwest and Southeast had the highest approval for the use of public lands for livestock grazing (85.4% and 83.0%, respectively). The lowest approval rates for livestock grazing were in the Clearwater (63.6%) and Upper Snake and Salmon (65.0%) regions. Table E.1 reports the percent approval and number of respondents for each region by year.

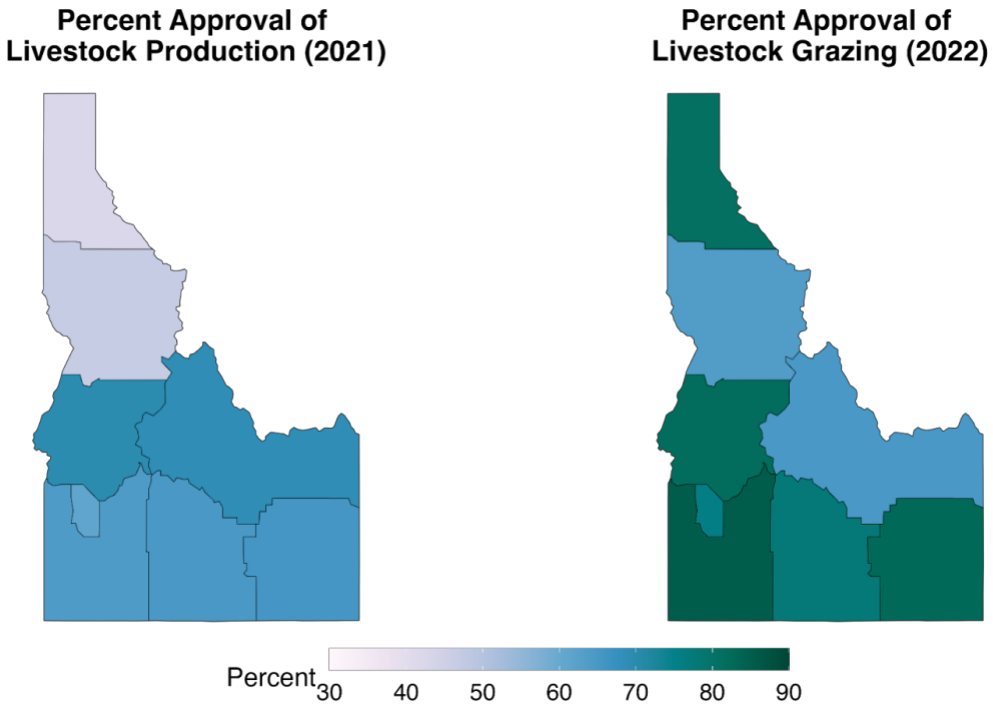


Figure E.2. *Regional comparison of approval for livestock production and livestock grazing as a use of public lands. The 2021 survey question was phrased as "livestock production" and had 1,019 responses. The 2022 re-survey question was phrased as "livestock grazing" and had 612 responses.*

Table E.1. *Percent approval of livestock production and grazing as a use of public lands in 2021 and 2022 by region of Idaho. The total number of respondents from each region is given in parentheses.*

Region	**2021: "Livestock production"**	**2022: "Livestock grazing"**
Ada	61.2% (209)	75.9% (150)
Clearwater	47.0% (59)	63.6% (49)
Magic Valley	65.0% (147)	77.9% (66)
Panhandle	42.5% (93)	81.1% (75)
Payette	69.7% (54)	82.1% (29)
Southeast	65.6% (142)	83.0% (113)
Southwest	64.1% (209)	85.4% (107)
Upper Snake and Salmon	68.8% (107)	65.0% (25)

Perceived Rangeland Condition in 2021 vs. 2022

Regional differences in how respondents rated the condition of Idaho's rangelands were slightly larger in 2022 than in 2021 (Fig. E.3). In 2021, all regions had a median rating of 4.0 ("good") except the Panhandle, which had a slightly lower median rating of 3.5. In 2022, four regions (Ada, Magic Valley, Payette, and Upper Snake and Salmon) had slightly lower median ratings than in 2021. Their median scores ranged from 3.0("fair") to 3.5 (between "fair" and "good"). Respondents who reported that they "don't know" the condition of Idaho's rangeland were not included in this regional comparison.

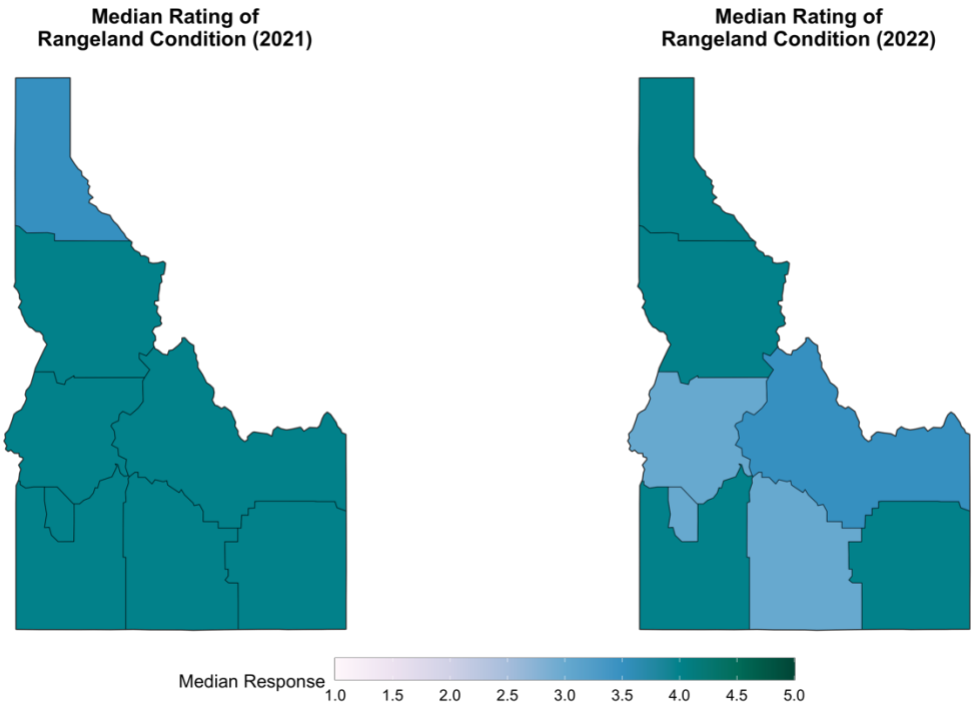


Figure E.3. *Regional comparison of median rating of rangeland condition in 2021 and 2022. Respondents rated rangeland condition on a scale from "very poor" (1) to "very good" (5).*

Regional patterns in the percentage of people who responded that they "don't know" about the condition of Idaho's rangelands remained similar in 2021 and 2022 (Fig. E.4). In both years, the Upper Snake and Salmon region had the highest rates of "don't know" responses (24.5% and 34.3% in 2021 and 2022, respectively). The Payette region had the lowest rates (7.3% and 10.4% in 2021 and 2022, respectively).

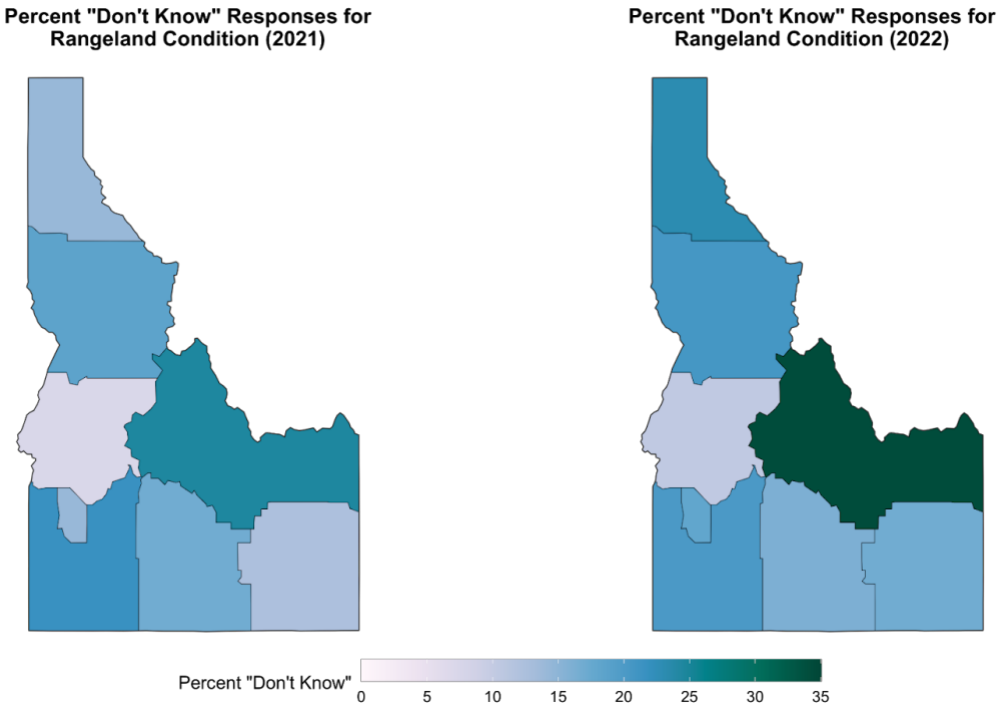


Figure E.4. *Regional comparison of "Don't know" responses to the rangeland condition question in 2021 and 2022.*

Perceived Problems Related to Recreation

In the 2021 survey, respondents reported their perceptions of problems related to recreation on public lands. We found few regional differences in respondents' median responses about the impacts of recreation (Fig. E.5). On a scale from 1 ("not a problem") to 4 ("very serious problem"), the median response for the seven types of recreation impact was most frequently 3.0 ("moderate problem"). When asked about whether conflict with other recreationists was a problem on public lands, the Clearwater, Panhandle, and Southeast regions indicated this was a "moderate problem," on average (3.0), while the remaining regions rated it as a "slight" problem (2.0). The Payette region most frequently differed from the others, tending to view recreation impacts as less problematic, on average, than respondents from other regions did. The highest median score was from the Clearwater region, where respondents indicated that the displacement of wildlife by recreation is a "moderate to very serious" problem (median score of 3.5). Respondents who reported that they "don't know" about the impacts of recreation were not included in this regional comparison.

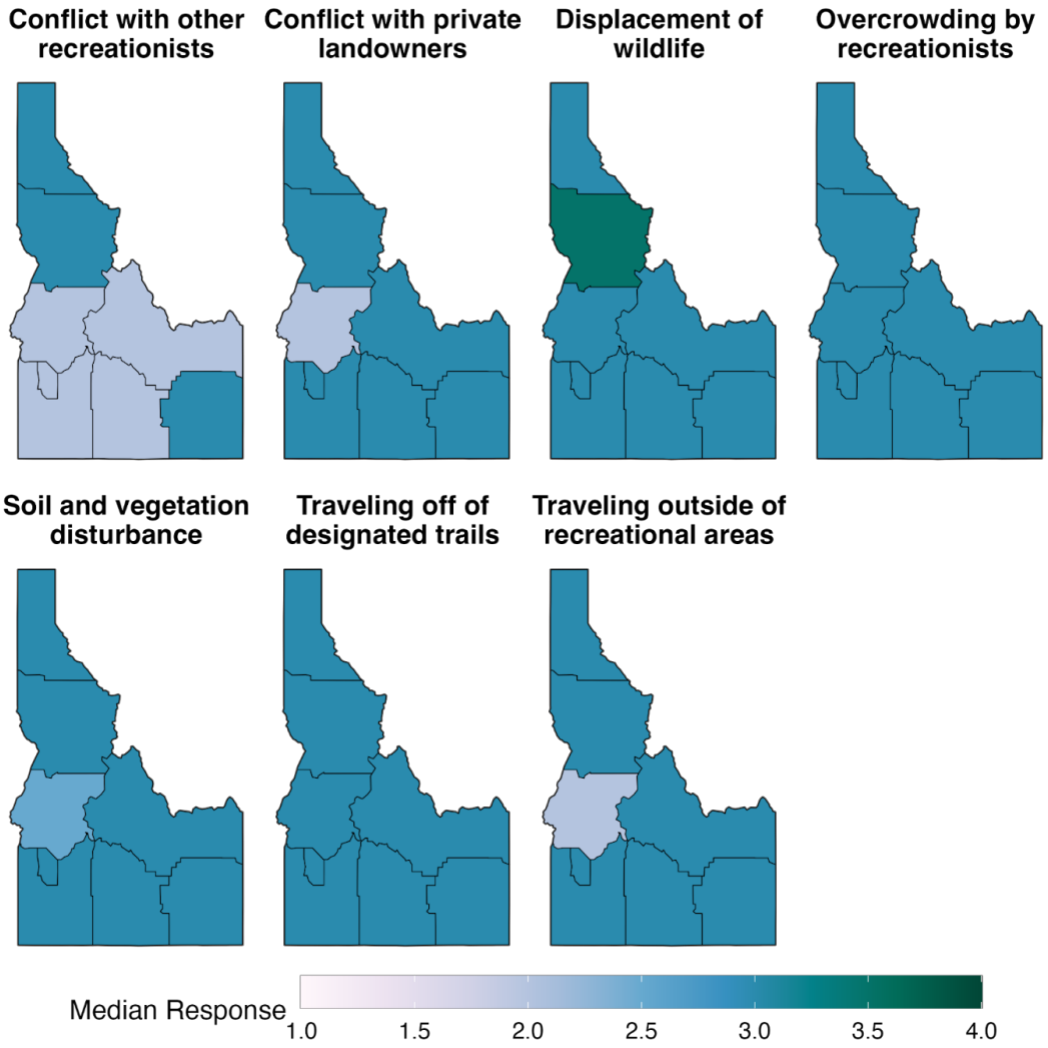


Figure E.5. *Regional comparison of median rating of the severity of recreation impacts on public lands. Respondents rated recreation impacts on a scale from 1 ("not a problem") to 4 ("very serious problem").*

Preferences for Recreation Management

We assessed the median level of support for recreation management on nearby public lands on a scale from 1 ("strongly oppose" to 4 "strongly support"; Fig. E.6). We found no regional differences in respondents' preferences for the implementation of annual use fees, designating seasons-of-use, and single-use areas and trails, all of which received a median score of 3.0 ("somewhat support") across all regions. The implementation of daily use fees was most strongly supported by respondents in the Ada, Clearwater, and Southeast regions (median score of 3.0, "somewhat support"), whereas other regions "somewhat opposed" this measure (median score of 2.0). Implementing a rotational use of areas and trails among user groups was least supported by the Clearwater and Upper Snake and Salmon regions (2.0, "somewhat oppose"). The implementation of lottery-based permits was opposed in all regions and was the most strongly opposed in the Upper Snake and Salmon (1.0, "strongly oppose") and Magic Valley (1.5, "strongly to somewhat oppose") regions. Respondents who reported that they "don't know" about their preferences for recreation management measures were not included in this regional comparison.

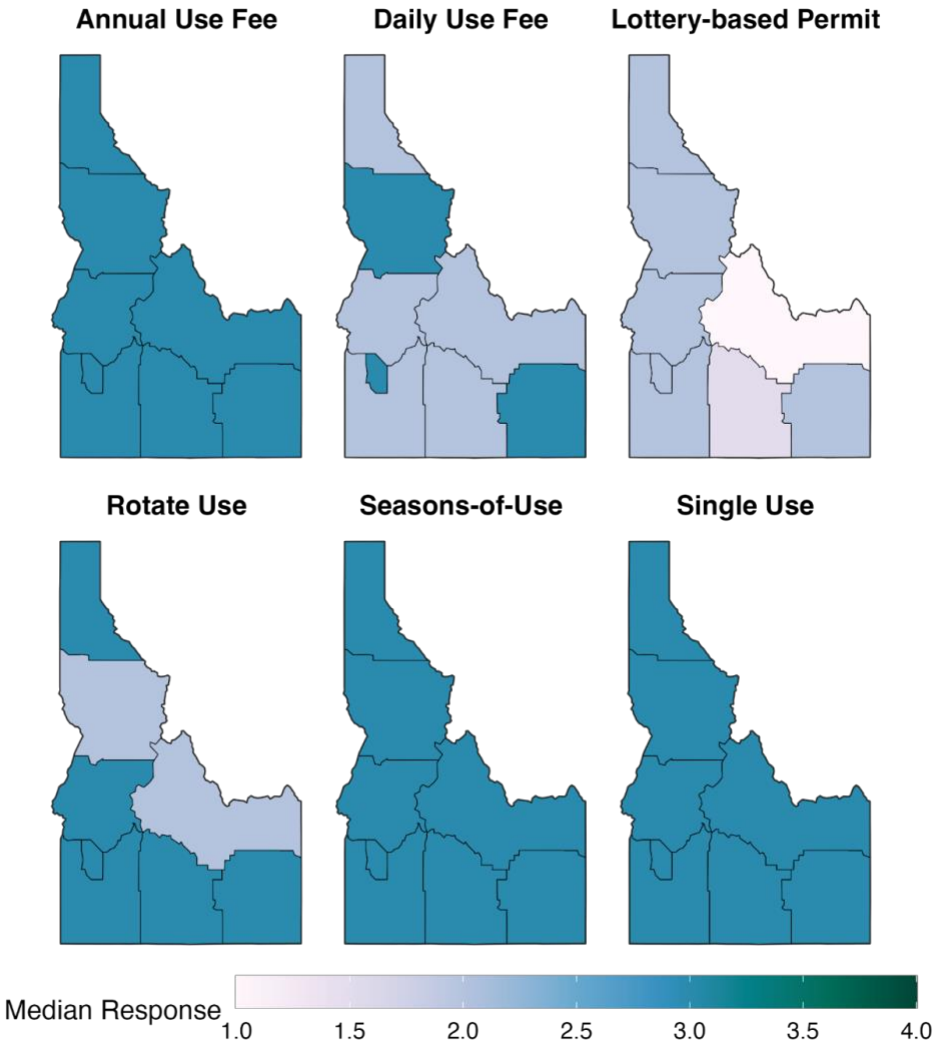


Figure E.6. *Regional comparison of median support for six actions to manage recreation on nearby public lands. Respondents rated management actions on a scale from 1 ("strongly oppose") to 4 ("strongly support").*

Approval of Uses of Public Lands and Personal Activities

We also wanted to better understand (a) how many respondents did not approve of any uses of public lands (Fig. E.7) and (b) how many respondents only approved of their own use(s) of public lands (Table E.2). For the twelve uses of public lands listed in the 2021 survey (Fig. 19), 1.7% of respondents reported that they "don't know" whether they approve of any of the uses or did not answer this question. However, zero respondents reported that they actually disapproved of all twelve uses. In contrast, 17.5% of respondents approved of all twelve uses of public lands. The majority of respondents (77.2%) approved of eight or more uses of public lands.

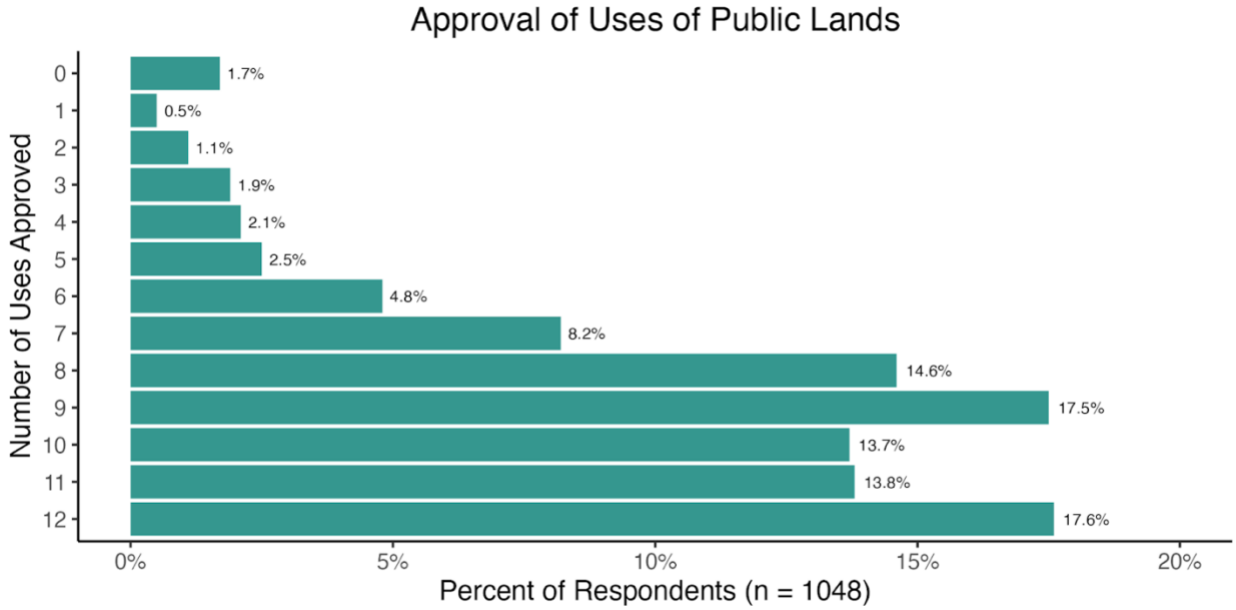


Figure E.7. *Percent approval of uses of public lands by number of uses approved of. The number of people who responded to this question is shown in parentheses as "n = ".*

In the 2021 survey, respondents were asked whether they approved of twelve uses of public lands (Fig. 19, Fig. E.7). Of these twelve uses, respondents were also asked about whether they personally engaged in nine of them in sagebrush landscapes in the past 12 months (Fig. 16): hunting, angling, off-highway vehicle (OHV) use, mountain biking, guided recreation, hiking, camping, wildlife or bird watching, and horseback riding. Although these questions were different in that one asked about uses on public lands in general, regardless of the type of environment, whereas the other asked about personal activities in sagebrush landscapes specifically, we can compare how people responded to them as a first step toward understanding how much people tended to approve of their own versus other uses of public lands. We found that 3.2% of respondents (32 people) approved of only their own uses of public lands. Of those who only approved of their own uses, 9 were non-users who did not approve of any of the nine activities, and 15 were all-around users who approved of all nine activities on public lands.

Table E.2 provides a breakdown of use and approval for each of these nine activities. For participants in an activity ("users"), approval of the activities on public lands tended to be high, ranging from 84.0% (for OHV use) to 97.6% (for hiking). For people who did not participate in an activity ("non-users"), approval of the activities ranged from 41.3% (for OHV use) to 91.2% (for horseback riding). Non-users most frequently disapproved of OHV riding (58.7%), angling (32.0%) and hunting (30.8%) as uses of public lands.

Across all nine activities, few users disapproved of their own activities (2.4% for hiking to 16.0% for OHV use). The finding that any users at all appeared to disapprove of their own activities may be due to the discrepancy in how the original questions were worded, since they were not initially written with this comparison in mind. For example, someone may have reported that they had ridden an OHV in a sagebrush landscape in the past 12 months but done so on private land, and they could therefore disapprove of OHV riding as a use of public lands without necessarily disapproving of their own activities.

Table E.2. *Personal use of sagebrush landscapes and approval of uses of public lands by activity. Four categorizations are used based on whether or not someone uses public lands for that specific activity and whether or not they approve of that activity as a use of public lands.*

Activity/Use	Number of Users/ Non-users	Approves of the Use		Disapproves of the Use	
		Users	Non-users	Users	Non-users
Hunting	220/786	88.8%	69.2%	11.2%	30.8%
Angling	256/750	90.0%	68.0%	10.0%	32.0%
OHV	269/737	84.0%	41.3%	16.0%	58.7%
Mountain Biking	192/814	87.4%	84.2%	12.6%	15.8%
Hiking	619/387	97.6%	90.6%	2.4%	9.4%
Horseback Riding	169/837	85.5%	91.2%	14.5%	8.8%
Camping	524/482	96.3%	89.1%	3.7%	10.9%
Wildlife/ Bird Watching	457/549	96.5%	92.8%	3.5%	7.2%
Guided Recreation	203/803	86.2%	83.2%	13.8%	16.8%