



Resident Perspectives of Public Land Management in Alaska





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Executive summary

The inclusion of local residents in public land management decisions is critical to the long-term success and equity—specifically the procedural equity of transparent, accountable, and participatory decision-making structures ([Maxwell et al. 2020](#))—of protected areas worldwide. A first step to integrating the diverse views of residents into decision-making is to understand the potential range of perspectives on various environmental topics. Inclusive conservation, which aims to represent the multiple viewpoints across a range of stakeholders, is an especially applicable framework for guiding decisions being made about for protected areas in the U.S. state of Alaska. Residents of the state feel a strong sense of community and connection to the land, but many feel that their local views are not integrated across regional and national decision-making strategies. The purpose of our research is therefore to provide insight into the values, beliefs, and behaviors of Alaska residents to better support protected area management focused on equalizing opportunities for engagement of diverse stakeholders in a rapidly changing world.

Our study is designed to generate information that will help researchers, decision-makers, and/or other stakeholders better understand and more effectively engage with Alaska residents around topics of protected area management. To do so, we collected data through an online survey administered to residents living across the state. We examined a number of environmental topics, which we organized into four main sections to share the perspectives of residents living throughout Alaska.

1. **Descriptive Information about Alaska Respondents:** This report draws on findings generated through a sample of 398 Alaska residents during the summer of 2020.
 - > *Sociodemographics* reflect categories from the 2010 Alaska census, including racial identity, gender, age, income, and education. In general, respondents were middle aged (44 years), male (60%), with most identifying as white (74%). The most frequently reported level of education was a HS diploma or GED (34%) and household income was \$50,000 - \$99,999.
 - > *Subsistence Use* refers to the livelihood secured by fish, wildlife, and other environmental resources provided by the landscape for personal consumption. About 39% of the sampled respondents identified as subsistence users, with 42% rating subsistence as “very” or “extremely” important to the resident.
 - > *Experience Use History* quantifies the visitation patterns of resident to state-wide protected areas. On average, residents go to public lands 10 times per year and have visited Denali National Park and Preserve at least five times throughout their life.
2. **Views of Public Land Management:** This section evaluates resident views on decision-making processes for public lands, including how represented their perspectives are in public land management decisions.

- > *Information Outlets* were selected by residents to indicate trusted sources of information, which we used as indicators of learning. Residents primarily learned through friends and family (58%), social media (55%), and public agencies (40%); but not scholarly articles (8%) or professional societies (7%).
 - > *Trust* is a multi-dimensional construct, which we measured as dispositional trust, moral competency, shared values, and trust in the federal government. Overall, Alaskans indicated a general sense of mistrust in all four facets of public decision-making.
 - > *Perceived Inclusivity* reflects the extent to which residents believe their perspectives are represented by decision makers. As a whole, residents either expressed neutrality or disagreed that they were represented in decision-making ($M=2.81$, $SD=1.12$).
 - > *Stakeholder Viewpoints* reflect reported views on decision-making in public land management and can be used in institutional analysis to determine the mechanisms that lead to better representation that is transparent, accountable, and participatory.
3. **Beliefs and Behaviors:** Environmentally conscientious behaviors, also known as pro-environmental behavior (PEB), can directly influence the landscape through individual actions, or indirectly through social interactions and civic engagement. Multi-level values reviewed above, as well as environmental concern, personal norms, and self-efficacy have all been shown to be important antecedents to PEB.
- > *Environmental Concern* was measured to capture affective (emotional), cognitive (knowledge), and conative (action) dimensions. Overall, residents were concerned about current and future environmental conditions ($M=3.94$, $SD=0.96$; $M=3.63$, $SD=1.01$; $M=3.38$, $SD=0.85$).
 - > *Short-term Drivers* of pro-environmental behavior included personal norms and self-efficacy. Personal norms reflect obligation to engage in the protection of public lands ($M=4.18$, $SD=0.74$). Comparatively, respondents believed they had the capability to take actions to minimize negative environmental outcomes ($M=3.70$, $SD=0.78$).
 - > *Pro-environmental Behavior* reflects a number of actions taken to protect the environment, which we contextualized to a protected area framework through individual, social, and public behaviors. Residents most frequently engaged in private sphere behaviors ($M=3.23$, $SD=0.94$), but less so through civic engagement in public processes ($M=2.03$, $SD=0.94$).
4. **Long-term Drivers of Change:** This section captures the broad patterns of long-term belief systems (cultural and individual values), the social values that residents assign to a landscape, and personality traits.
- > *Cultural Values* were measured as egalitarian, fatalistic, hierarchical, and individualist values to determine how residents see the role of society and their place in it. Residents

prioritized individualism ($M=4.02$, $SD=0.65$), and were relatively balanced between hierarchical values based on prioritizing a social structure ($M=3.91$, $SD=0.60$) and egalitarian values ($M=3.70$, $SD=0.64$).

- > *Individual Values* act as guiding principles in life. We included self-transcendent values (biospheric and altruistic) versus self-enhancement values (egoistic and hedonic), as well as the relatively nascent value concept of eudaimonia. Biospheric ($M=4.10$, $SD=0.78$), altruistic ($M=4.19$, $SD=0.85$), and eudaimonic values ($M=4.16$, $SD=0.68$) were all important factors in guiding residents' priorities in life.
- > *Social Values Assigned to the Landscape* were derived from previous research. These items include key aspects of the landscape that make Alaska a special place to live, such as wildlife ($M=4.43$, $SD=0.86$), recreation ($M=4.37$, $SD=0.82$), and aesthetics ($M=4.37$, $SD=0.90$).
- > *Personality Traits* provide insight into the five basic dimensions of a resident's personality: extraversion, agreeableness, openness, conscientiousness, and negative emotionality. In general, people perceived themselves as conscientious ($M=3.36$, $SD=1.25$) and extraverted ($M=3.20$, $SD=1.78$) and disagreed with questions indicating they were neurotic or emotional ($M=2.82$, $SD=1.28$).

1. Introduction

The preservation of natural and cultural landscapes has been posited as a global solution to a number of pressing environmental challenges. Almost 250 million people currently live in or near protected areas and this estimate could increase to as many as 1 billion people if ambitious goals of protected area expansion are implemented worldwide (30% of total land area). Public land management in these contexts is often discretely focused within the protected area boundaries and less attention is given to surrounding communities. As a result, tensions have risen from the perceived and actual exclusion of local stakeholders and residents from decision-making that influences nearby protected areas. Explicit consideration of the pluralistic goals of local communities in protected area management decision-making is known as socially inclusive conservation, which aims to actively understand and engage the diverse perspectives of multiple stakeholders.



Our research focuses on socially inclusive conservation in the state of Alaska as part of the international [ENVISION project](#). Alaska is an important context in which to consider inclusive conservation given the vast expanse of public land, the complex dynamics between residents and decision-makers, and the social-environmental pressures of landscape and climate change. About 80% of total land area in Alaska is managed by state or federal governments—including Denali National Park and Preserve and Denali State Park in the Interior region—which draw a large influx of tourists to the other rural landscape. Despite the large amount of public land at their doorstep, Alaska residents have expressed concern related to the representation of various voices in public land management and planning. Building connections between local stakeholders and regional decision-makers will be a key factor in addressing the myriad of environmental threats, such as the increasing risk of wildfire and earlier snow melts. These environmental outcomes also threaten the Alaskan way of life that is so tightly interwoven with the ecological functioning of the landscape. To help address these social and environmental challenges, we surveyed residents throughout the state of Alaska to gain a better understanding of their values, views, and behaviors in the context of protected area management.

2. Methods

During June-August 2020, survey questionnaires were distributed to Alaska residents recruited from an online [Qualtrics](#) research panel. Qualtrics is an online survey administration platform that includes services for recruiting respondents to participate in a study. Qualtrics aggregates many online panel resources, and often use what are called “dynamic surveys” that are distributed in a dashboard style where respondents see a display of surveys for which they may qualify. People can also be recruited through online applications application-, in addition to other methods including invitations by email, but this is included increasingly rare. Qualtrics tracks respondents’ activity as soon as they choose to engage with a particular survey, which precludes traditionally calculated response rate. However, Qualtrics’ representatives estimate the response rates for their panel surveys are approximately 10%

Prior to data collection, sociodemographic targets were set to align our sample with the 2010 Alaska Census for age and gender. Qualtrics representatives facilitated the data collection process with a goal of collecting 570 total respondents, based on the number of panelists who were likely Alaska residents that aligned with the predetermined sociodemographic targets. Because the link to the online survey becomes available for Qualtrics panelists to access the survey globally, we restricted access so that only the respondents with an Alaskan zip code were deemed eligible. A total of 920 people initiated the survey processes by clicking the link to the survey. Once data collection began, a Qualtrics representative facilitated data collection by sending out email invitations and reminders to complete the questionnaire. Invitations and reminders were delivered daily and on a rolling basis so that new respondents were asked to join throughout the data collection period. Once a respondent opened the questionnaire, they were prompted to indicate their age, gender, and zip code to screen for desired sociodemographics. After initiating the survey process, the respondent could save progress and return at any point within 30 days. After 30 days of inactivity, partial responses were saved as complete and added to the database, but were omitted from any further analysis. As quotas for age and gender filled, access to the questionnaire become restricted to certain groups so that age or gender categories were not oversampled.

From the original 920 potential respondents, 42 were part of a pilot study that was conducted to refine the survey questions and make adjustments to the database before the full launch of the survey. The final response sample excluded 189 people who only clicked on the link but did not start the survey, seven people were removed from completing the survey too quickly (i.e., “speeders”), 170 were not eligible because they entered a zip code outside of the study area, and 114 could not be validated as Alaskan residents. The final database was then weighted on the basis of age and gender and age to precisely align ensure exact alignment with the corresponding 2010 Alaska Census categories. The final sample for the statewide survey included 398 residents.

3. Descriptive Information about Alaska Respondents

3.1. Demographics

Respondents from the State of Alaska were 60% male and 40% female with an average age of 44.5 ($SD=15.2$; Table 1, Figure 1). Respondents mainly identified as white (74%) and/or Alaska Native (13%; Table 2). The most frequently reported level of education was a High School Diploma or GED (34.4), followed by a Bachelor’s degree (23%; Table 3). Approximately 38% of respondents reported earning less than \$49,999 each year before taxes, whereas 31% of respondents earned between \$50,000 - \$99,999.

3.1.1. Age and Gender

Table 1: Reported gender of survey respondents

Survey Item	Count (N)	Valid Percent (%)
Female	158	39.70
Male	240	60.30

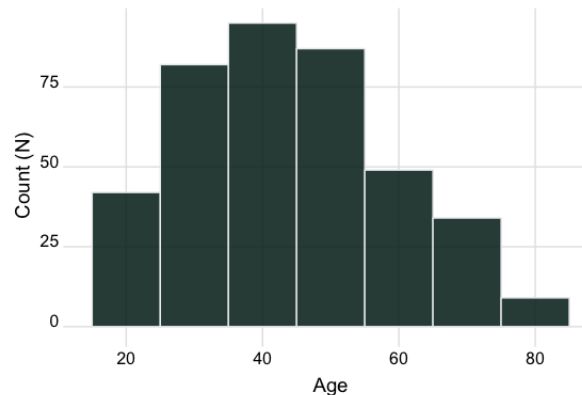


Figure 1: Reported age of survey respondents

3.1.2. Racial Identity

Table 2: Reported race of survey respondents

Survey Item	Count (N)	Valid Percent (%)
White	293	73.62
American Indian or Alaska Native	53	13.32
Asian	32	8.04
Black or African American	16	4.02
Pacific Islander	8	2.01
Other	19	4.77
Prefer Not to Answer	13	3.27

3.1.3. Socioeconomic Status

Table 3: Reported socioeconomic status of survey respondents

Survey Item	Count (N)	Valid Percent (%)
What is the highest level of education you have completed?		
Some high school	8	2.01
High school graduate or GED	137	34.42
Two-year degree	61	15.33
Bachelor's degree	94	23.62
Professional certificate	23	5.78
Graduate degree	61	15.33
Prefer Not to Answer	14	3.52
What is your annual household income before taxes?		
Less than 24,999	68	17.09
25,000-49,999	86	21.61
50,000-99,999	122	30.65
100,000-149,999	54	13.57
150,000-199,999	26	6.53
200,000-249,999	8	2.01
250,000 or more	7	1.76
Prefer Not to Answer	27	6.78

3.1.4. Subsistence Use

Subsistence use is an important part of life in Alaska and is defined as the livelihood secured by fish, wildlife, and other environmental resources provided by the landscape for personal consumption. Subsistence use is especially important for Alaskans living in rural communities, which harvest between 2-3 times as many resources in pounds as compared to people living in urban areas ([see Subsistence Page on ADF&G website](#)). Many of the survey respondents identified as subsistence users (39%), with 42% of respondents stating that subsistence use was either “very important” or “extremely important” to them (Table 4; Figure 2).

Table 4: Subsistence use self-identification and relative importance

Survey Item	Count (N)	Valid Percent (%)
Do you identify as a subsistence user?		
Yes	154	38.69
No	232	58.29
How important is subsistence to you?		
Not at all Important	60	15.08
Slightly Important	66	16.58
Moderately Important	95	23.87

Survey Item	Count (N)	Valid Percent (%)
Very Important	102	25.63
Extremely important	66	16.58
Prefer Not to Answer	9	2.26

Do you identify as a subsistence user?

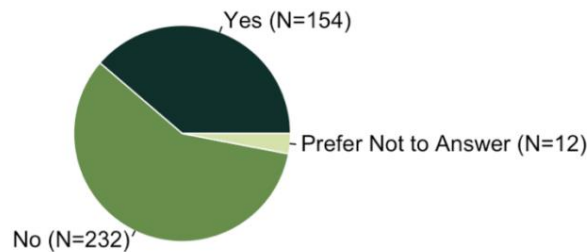


Figure 2: Subsistence use self-identification

3.2. Experience Use History

We asked respondents a series of questions to measure their experience use history (EUH) at the start of the survey to learn about previous engagement with the study context. Experience use history is defined within a public land context as the amount and type of activities pursued by an individual participant (Schreyer et al. 1984), with total visits, years, and frequency of use as common EUH measurements (Budruk et al. 2008). Experience use history is predicted to influence user perceptions, management preferences, and behaviors (Hammit et al. 2004).

To measure EUH, our survey included years the person had lived in Alaska, the number of times they had visited Denali National Park and Preserve throughout their life, as well as the number of times they had visited any public land in the last year and throughout their life. We bounded the maximum number of times at 100 for all four items in this report to reduce outliers. On average, respondents had been living in Alaska for approximately 25-26 years (SD= 6.4; Table 5, Figure 3). They also reported visiting public lands 44.3 times (SD=41.4) throughout their life, with 10.7 times in the last year (SD=22.0). Comparatively, people reported visiting Denali National Park and Preserve an average of 5-6 times throughout their life (SD=14.2).

Table 5: Previous experiences in public land among residents

Survey Item	(M)	SD
Experience Use History (M=21.48, SD=16.30)		
How many years have you been living in Alaska?	25.49	16.35
How many times in your life have you visited public lands in Alaska?	44.34	41.42
How many times in your life have you visited Denali National Park?	5.45	14.17
How many times have you visited public lands in Alaska in the last 12 months?	10.74	22.03

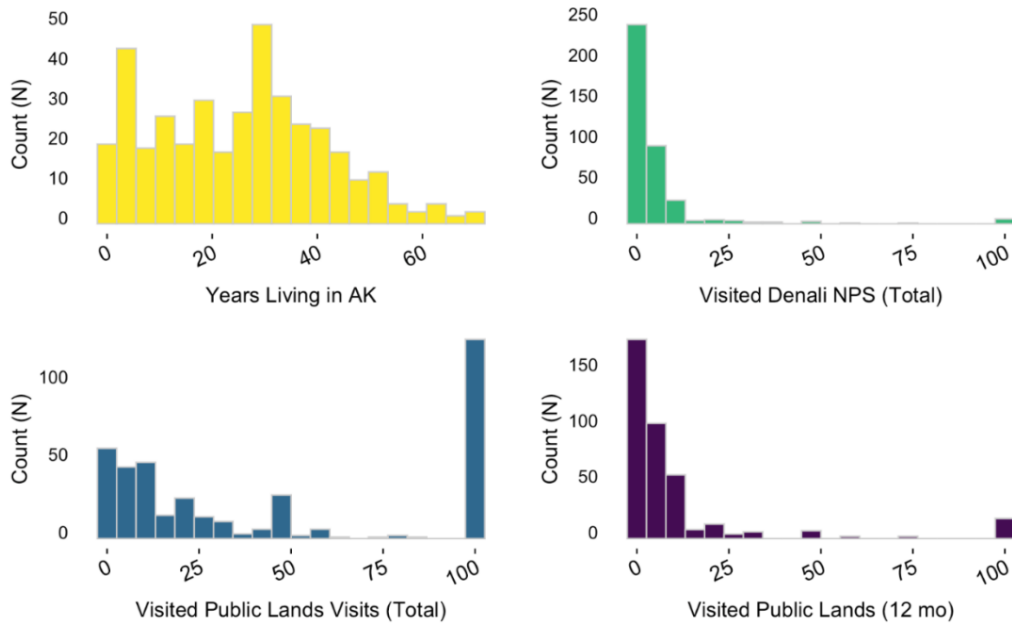


Figure 3: Previous experiences in public land among residents

4. Views of Public Land Management

4.1. Information Outlets

Respondents used a variety of information sources to learn about public land management in Alaska (Table 6). Sources of information included friends and family, social media, public agencies, online newspapers, government websites, environmental groups, government officials, hunting/trapping organizations, public meetings, scholarly articles, professional societies, and webinars. We collected trusted sources of information to help drive future efforts connecting residents to decision-makers in the region, communication, and dissemination of research findings. Sources of information were also used to understand how respondents learn and from whom. Sources that include social interactions, such as friends and family, may reflect the process of social learning, whereas other online sources may indicate how respondents learn in virtual environments.

On average, respondents learned from 3.25 different sources ($SD=2.28$). However, some people reported learning from all 12 sources, whereas others reported learning from none of them. Friends and family were the most commonly reported learning source (58%), followed by social media (55%), and public agencies (40%). Additionally, people tended to learn from “bundles” of learning sources (Figure 4). For example, 65% of people who learned about public land management from friends and family also learned from social media.

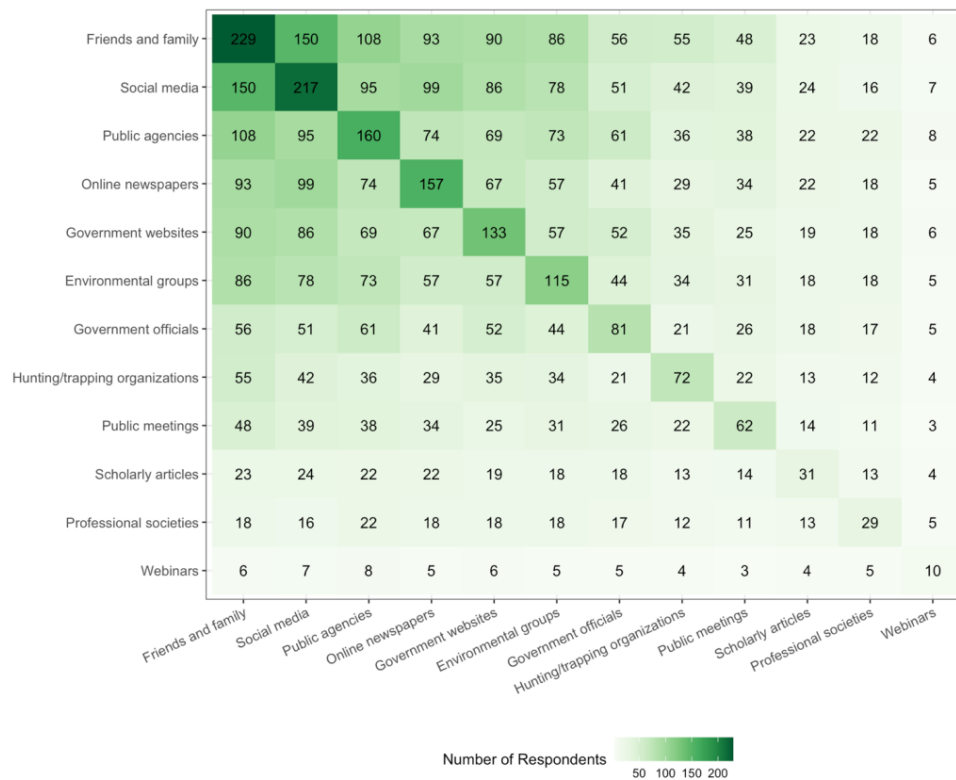


Figure 4. Shared sources of information

Table 6: Sources of information

Survey Item	Count (N)	Valid Percent (%)
Friends and family	229	57.5
Social media	217	54.5
Public agencies	160	40.2
Online newspapers	157	39.5
Government websites	133	33.4
Environmental groups	115	28.9
Government officials	81	20.4
Hunting/trapping organizations	72	18.1
Public meetings	62	15.6
Scholarly articles	31	7.8
Professional societies	29	7.3
Webinars	10	2.5

4.2. Trust

Respondents were asked a series of questions to measure trust instilled in public land management, which was defined as the belief in the truth, reliability, and capability of another person or agency ([McKnight & Chervany, 1996](#)). Trust in public land management agencies has been shown to influence levels of public involvement, but with mixed effects ([Smith et al. 2013](#)). Smith et al. (2013) found that trust can encourage people to participate in public land management; however, it can also decrease participation because people can sometimes be less concerned about the decisions being made if they trust public land agencies. Following the extant literature, we measured four dimensions of trust to determine the relationship between trust and other measures related to perceptions and participation in public land management: dispositional trust (general tendency to trust), moral competency (belief that others will adhere to moral codes of conduct), shared values (belief that viewpoints and desired outcomes are shared), and trust in the federal government ([Leahy et al. 2008](#); [Smith et al. 2013](#); [Stern and Baird 2015](#); [Van Riper et al. 2016](#)). These results are reported in research conducted by [Goodson et al. 2022](#).

Overall, Alaskan respondents did not report high levels of trust across any of the four scales (Table 7, Figure 5a-b). Trust in the federal government was ranked the lowest ($M=2.27$, $SD=1.05$). In particular, respondents did not trust that the government was not spending money efficiently nor believe that the federal government would do what is right. Respondents also tended to disagree with statements of trust related to the moral competency of public land managers ($M=2.78$, $SD=1.08$) or that their values were shared ($M=2.65$, $SD=0.97$). Likewise, respondents did not necessarily have the general disposition to trust in others ($M=2.41$, $SD=0.97$).

Table 7: Dimensions of trust in public land management

Survey Item	(M)	SD
Dispositional Trust ($M=2.41, SD=0.97$)		
You can't be too careful dealing with people*	2.29	0.91
People are almost always interested only in their own welfare*	2.57	1.05
One has to be alert or someone is likely to take advantage of you*	2.37	0.90
Moral Competency ($M=2.78, SD=1.08$)		
Public land managers from the federal government really care what happens to me	2.78	1.08
Federal employees are sensitive to the local economic impacts of tourism and recreation	2.47	1.02
Federal employees are not self-serving in decision-making	3.09	1.10
Shared Values ($M=2.65, SD=0.97$)		
Federal agencies that manage public lands think like me	2.58	0.95
Federal agencies that manage public lands support my views	2.72	0.95
Federal agencies that manage public lands have similar goals to mine	2.65	0.99
Trust In Federal Government ($M=2.27, SD=1.05$)		
The U.S. Federal Government is effective in solving problems	2.33	1.05
The U.S. Federal Government efficiently spends money	2.20	1.05
I can trust the U.S. Federal Government to do what is right	2.30	1.04

*Item reversed-coded for scale creation

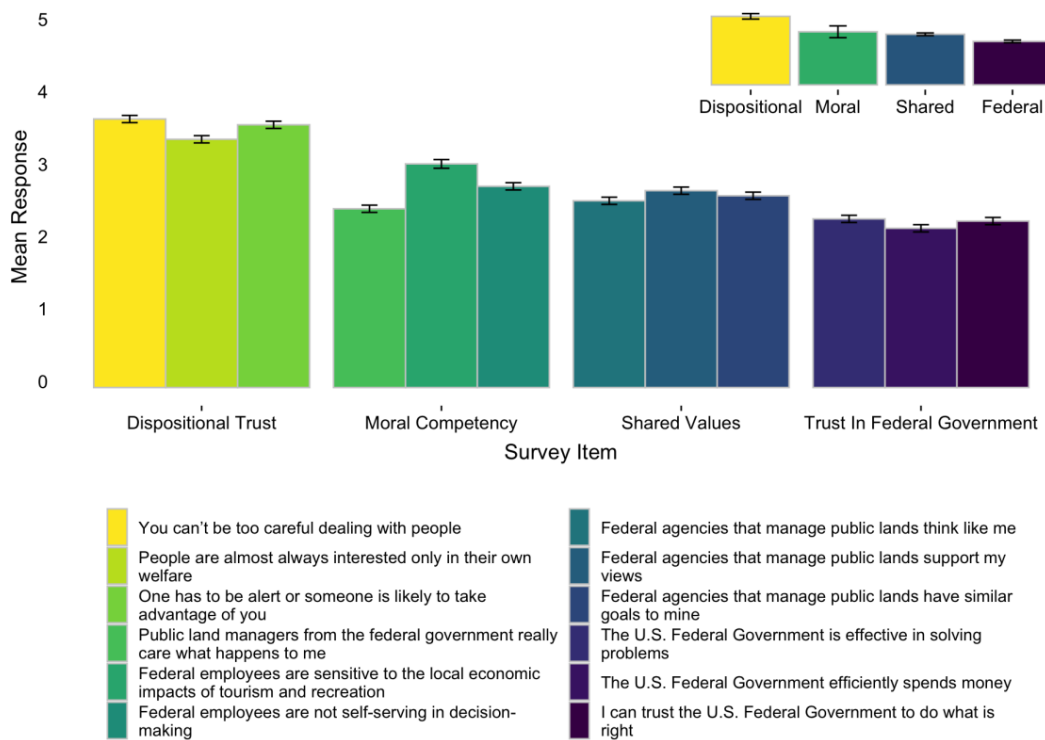


Figure 5a. Dimensions of trust in public land management

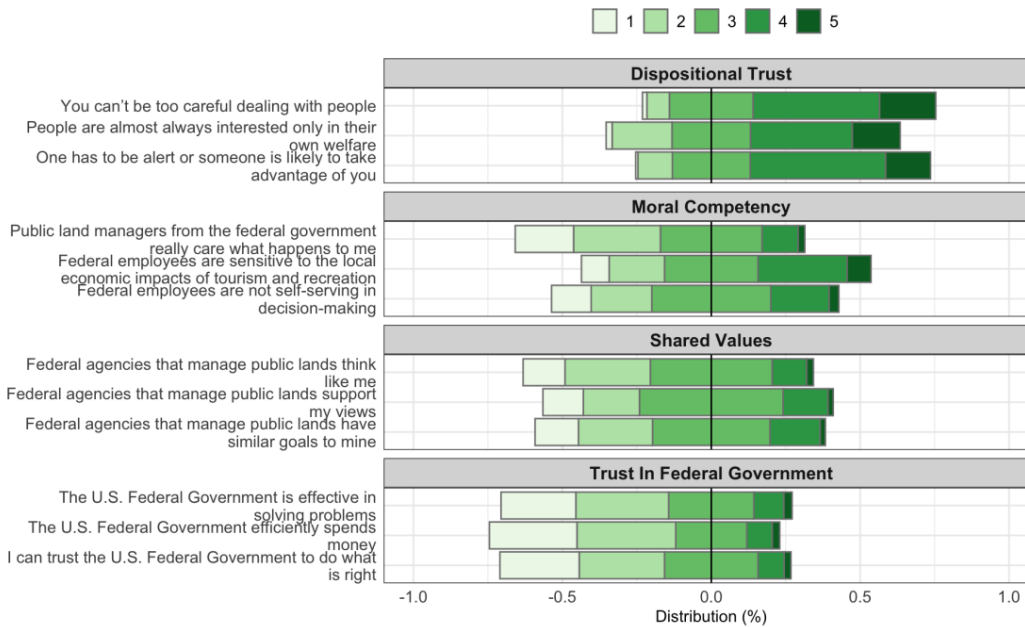


Figure 5b. True distribution of responses for dimensions of trust in public land management

4.3. Perceived Inclusivity

A scale measuring perceived inclusivity in public land management decisions was developed to understand socially inclusive conservation. As a relatively nascent concept focuses on fostering a dialog across various stakeholder groups, this topic was explored to understand and balance multiple, competing visions of nature (Tallis & Lubchenco 2014). Representation of various viewpoints is central to the notion of inclusive conservation, and in response, this scale was developed to measure the extent to which stakeholders believed their perspectives were represented by decision-makers. Alaskan respondents largely disagreed that they were included in public decision making ($M=2.81$, $SD=1.12$; Table 8. Figure 6a-b).

Table 8: Perceived inclusivity in public land management

Survey Item	(M)	SD
Perceived Inclusivity ($M=2.81$, $SD=1.12$)		
There are opportunities for me to help govern public lands near my home	2.97	1.09
The viewpoints of my community are reflected in the current public land policies of federal agencies near my home	2.89	1.03
My viewpoint is reflected in the current public land policies of federal agencies near my home	2.76	1.00
I have contributed to decision-making processes around management of public lands near my home	2.54	1.17
I am involved with organizations that play a role in public land management near my home	2.41	1.15

Survey Item	(M)	SD
Decision-making is shaped by collaboration across different interests within my community	3.29	1.03

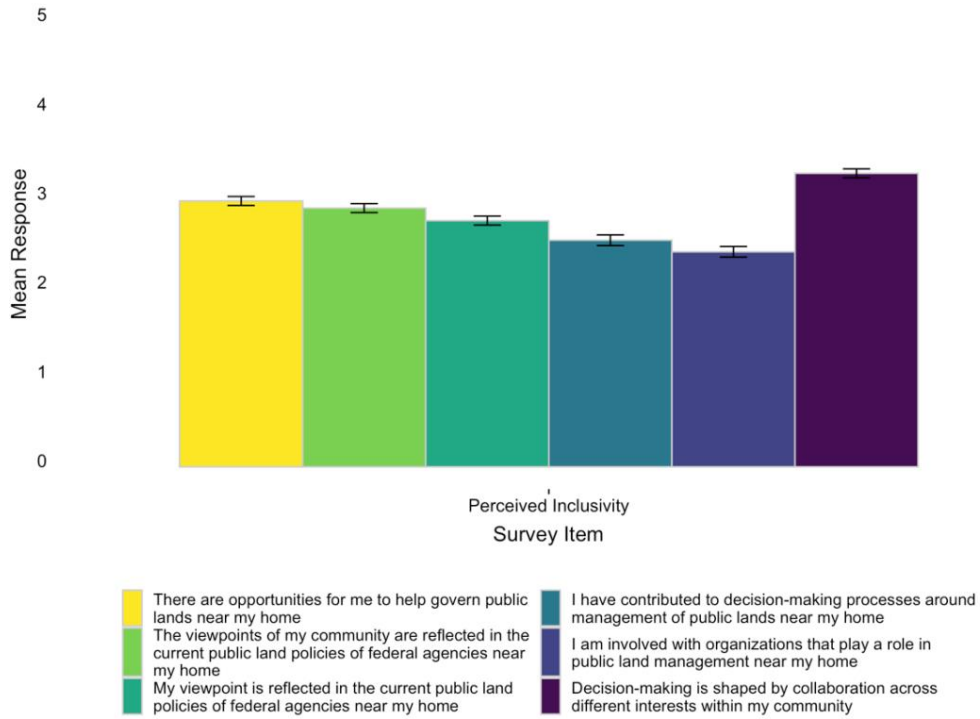


Figure 6a. Perceived inclusivity in public land management

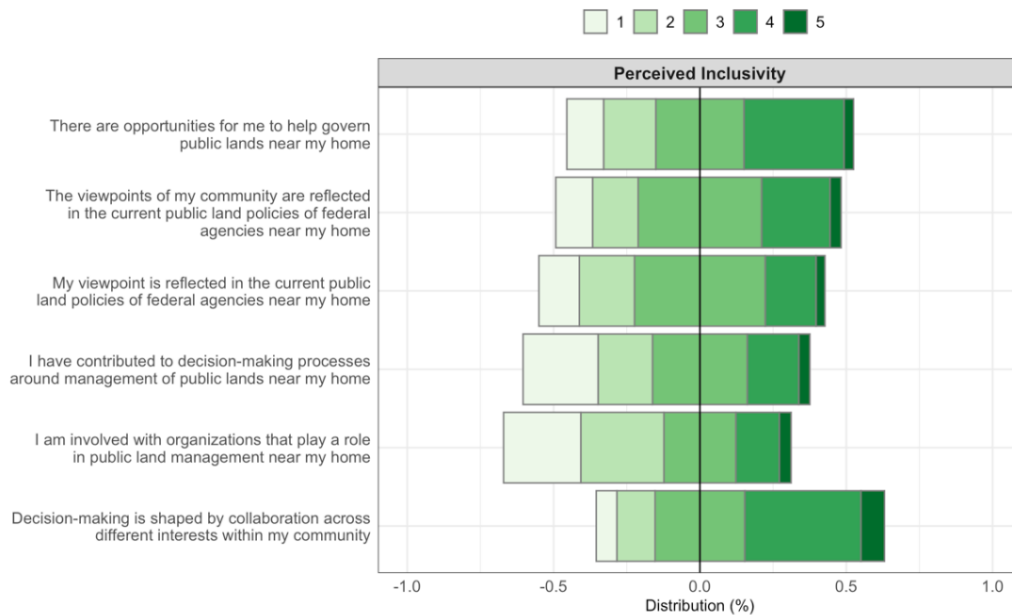


Figure 6b. True distribution of responses for perceived inclusivity in public land management

4.3.1 Stakeholder viewpoints

Following the survey items that measured perceived inclusivity, respondents were also asked an open-ended question to elicit feedback on tools or mechanisms that could be leveraged for better representation in public land management.

“We would like to understand how residents’ perspectives are reflected in decisions being made about Denali National Park and Preserve. Are your perspectives represented? Also, how can the process for including public opinions in decision-making be improved?”

We used a thematic content analysis to group responses from Alaskan residents to address two interrelated components of inclusivity in public land management: general mechanisms to improve decision-making (Table 9), as well as governance specific mechanisms including both formal and informal policy instruments (Table 10). General mechanisms to improve decision-making include increased access to institutions for decision-making, greater transparency in public engagement, and collecting more information about public opinion. Increased access to institutions for decision-making encompassed five main sub-themes, with the majority of responses focusing on the importance of holding meaningful discussions (n=20 responses), including local residents in decision-making (n=18), and the need for more avenues for information and opinion sharing (n=21). A number of residents also spoke of the need for more information on plans and decision-making to provide greater transparency in public engagement (n=31). Finally, mechanisms related to more information on public opinion focused on public ballot and voting opportunities (n=14), information collected via surveys (n=18), and online comment periods (n=25). Formal policy instruments for governance mechanisms related to improving inclusivity in public land management included political decisions, management entities, public participation processes, and legal and media communications. In comparison, informal policy instruments for governance included surveys, working groups, personal networks, and information outlets.

Table 9: Potential mechanisms for improving inclusivity in public land management

General Mechanisms	Example quotation
<i>Increased access to institutions for decision-making</i>	
Provide feedback on public input (3)	“Online hearings with follow-up of summary of public comments and responses.”
Hold meaningful discussions (20)	“Having more meetings open to the public and really listening to what the public is saying”
Include local residents (18)	“Actually, involving the local citizens in the decision-making process rather than it being made by some politician who hasn’t bothered talking to an average person in years.”
More avenues for information and opinion sharing (21)	“I wouldn’t know how to submit my opinion if I wanted to. Making a larger reach of people who might participate by asking for opinions in various ways like social media, surveys, and more. Also, advertise when and where

	meetings may be held in different ways to reach various demographic”
More park access for locals (3)	“I understand the reasoning to protect our National Parks, but I think that we don’t allow access to our citizens here in Alaska as much as we allow visitors from Around the World and the Lower 48!”
<i>Greater transparency in public engagement</i>	
More publicity on public comment periods (10)	“The state government needs to advertise their surveys and public forums to more than their own employees and personnel.”
Greater transparency (4)	“The state government needs to advertise their surveys and public forums to more than their own employees and personnel.”
More information on plans and decisions (31)	“It is not my opinion that I am represented due to the lack of information and availability of resources to educate myself and the general public about current issues pertaining to the lands around me and those that directly affect my everyday life.”
<i>More information on public opinions</i>	
Public ballot and voting opportunities (14)	“Well, you don't hear about it until after the decisions have been made... they could hold a vote for what the majority would want”
Surveys (18)	“I think surveys like this are helpful and maybe more modern venues than town hall meetings. If things moved to a user-friendly digital platform, I think there would more engagement from the community.
Online comment periods and surveys (25)	“Having virtual town hall type meetings whereby people could comment & have their comments become part of the public record & actually be considered. I don’t currently feel that residents’ opinions are taken into consideration.”

Table 10: Governance mechanisms for improving inclusivity in public land management

Governance mechanisms	Example quotations
<i>Formal policy instruments</i>	
Political decisions	<ul style="list-style-type: none"> a) “The current federal administration I think has gone too far in allowing for development and predator control.” b) “Currently the policies regarding the environmental impact of companies (Oil and mining and fishing) are supported by many Alaskans. However, the current administration is in the process of changing some of them that a lot of people up here are opposed to, pebble mine in particular.” c) “That they take the residence consideration and their policymaking”

Management entities	a) “There could actually be a process. Denali is completely controlled by the national park service in Washington DC”
Public participation processes	<p>a) “There are plenty of avenues for public comment already available.”</p> <p>b) “It can be improved by creating an easily accessible platform for voicing opinions.”</p> <p>c) “By holding more town hall meetings”</p> <p>d) “I think there needs to be multiple avenues for citizens to express their opinions. Letters, phone calls and social media.”</p>
Legal and media communications	<p>a) “Advertising on media for public knowledge”</p> <p>b) “How about more information for the public before any public testimony or policy changes that is put out there often and early. On the local news, newspapers.”</p> <p>c) “Resident's view is been heard to some extent though not completely, but I think the use of social Media can improve that.”</p>
<i>Informal policy instruments</i>	
Surveys to collect public opinions	<p>a) “I think more people would respond to online surveys about Denali National Park.”</p> <p>b) “Sending more surveys through mail like the census or providing voting tolls.”</p> <p>c) “There could be more surveys such as this one that not only ask for your opinion but ask for your input on certain topics.”</p>
Sectoral/Expert workgroups	<p>a) “Involve a task force of people-business, environmental, indigenous, and so on. Access for education, students, to be part of the process.”</p> <p>b) “Recruiting more diverse segments of the community that uses that area of our state.</p> <p>c) “Committees providing feedback on access and use to help shape how it is managed would hopefully be beneficial. Our native groups have too much influence and it is likely not representative of the overall population”</p> <p>d) “Have a group chapter based out in anchorage that share information on ideas and projects on how to preserve Denali National Park.”</p>
Personal networks	<p>a) “I could try get in touch with more people that would have a higher chance of getting my voice heard by someone that actually has a say and some kind of pull in that general area of expertise.”</p> <p>b) “Have more projects & sponsored activities that motivate the community to get more involved.”</p>

	e) "Create a social group discussion where everyone can talk about their opinions"
Information Outlets	a) "Making it easier to find the newest information and initiatives." b) "It would be helpful if the National Park Service (NPS) better publicized their reviews and decision-making processes regarding park lands." c) "I don't really understand the process so more communication would be helpful!" d) "Proactively notifying the community several months in advance regarding any changes in policy." e) "I think informing the public better about future decisions and efforts would be positive. I don't think issues are very apparent unless there is controversy surrounding the decisions." f) "Maybe mailing pamphlets of information and how to help to each person living in the area"

5. Beliefs and Behaviors

5.1. Environmental Concern

Environmental concern, or the extent to which people are concerned about the environment, was measured as affective (emotional), cognitive (knowledge), and conative (behavioral) dimensions using six questions (Best & Mayerl 2013; Diekmann & Preisendorfer 2003; Enzler et al. 2019). Environmental concern focuses on the knowledge and care a person holds in relation to environmental problems (Schultz et al. 2005), and connects long-term (e.g., cultural and individual values) to shorter-term drivers of change (e.g., self-efficacy and personal norms) that may influence pro-environmental behavior (Stern and Dietz 1994). Alaskan respondents were moderately concerned about issues related to the environment (Table 11; Figure 7a-b). Affective environmental concern related to personal affect was ranked the highest amongst the dimensions of environmental concern ($M=3.94$, $SD=0.96$). However, all the dimensions of environmental concern had an average response ranging from 3 (neutral) to just under 4 (agreement). The individual survey item that people were most likely to agree with was related to generational concern about future environmental conditions faced by children and grandchildren ($M=3.97$, $SD=1.01$).

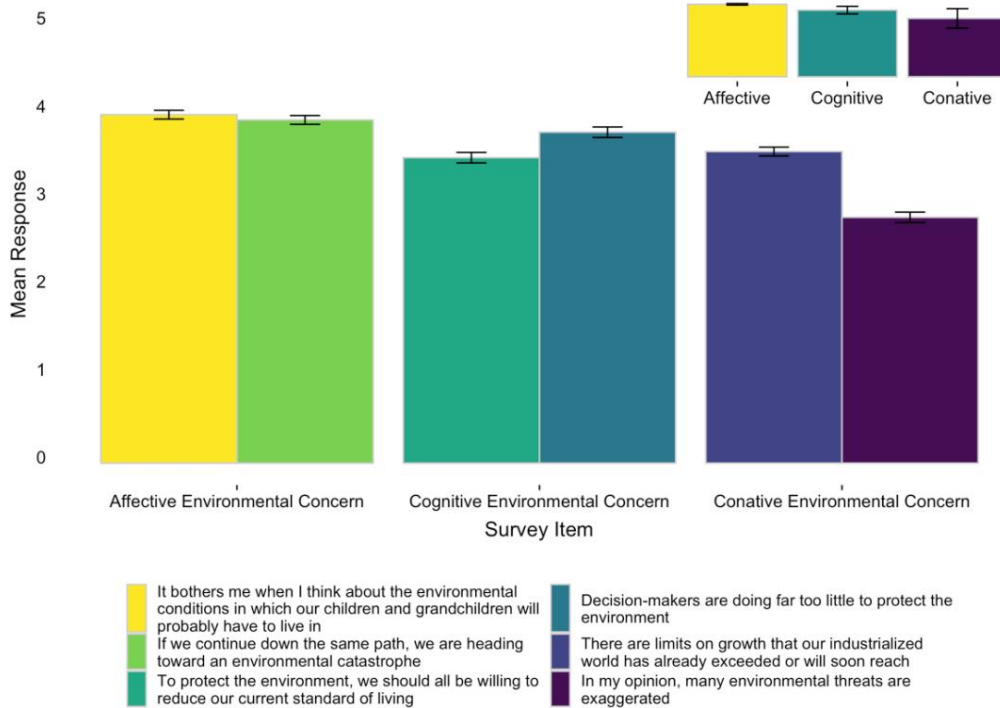


Figure 7a. Affective, cognitive, and conative dimensions of environmental concern

Table 11: Affective, cognitive, and conative dimensions of environmental concern

Survey Item	(M)	SD
Environmental Concern ($M=3.58$, $SD=1.09$)		
Affective Environmental Concern ($M=3.94$, $SD=0.96$)		
It bothers me when I think about the environmental conditions in which our children and grandchildren will probably have to live in	3.97	1.01
If we continue down the same path, we are heading toward an environmental catastrophe	3.91	1.08
Cognitive Environmental Concern ($M=3.63$, $SD=1.01$)		
To protect the environment, we should all be willing to reduce our current standard of living	3.48	1.18
Decision-makers are doing far too little to protect the environment	3.77	1.10
Conative Environmental Concern ($M=3.38$, $SD=0.85$)		
There are limits on growth that our industrialized world has already exceeded or will soon reach	3.55	0.99
In my opinion, many environmental threats are exaggerated*	2.80	1.22

*Item reversed-coded for scale creation

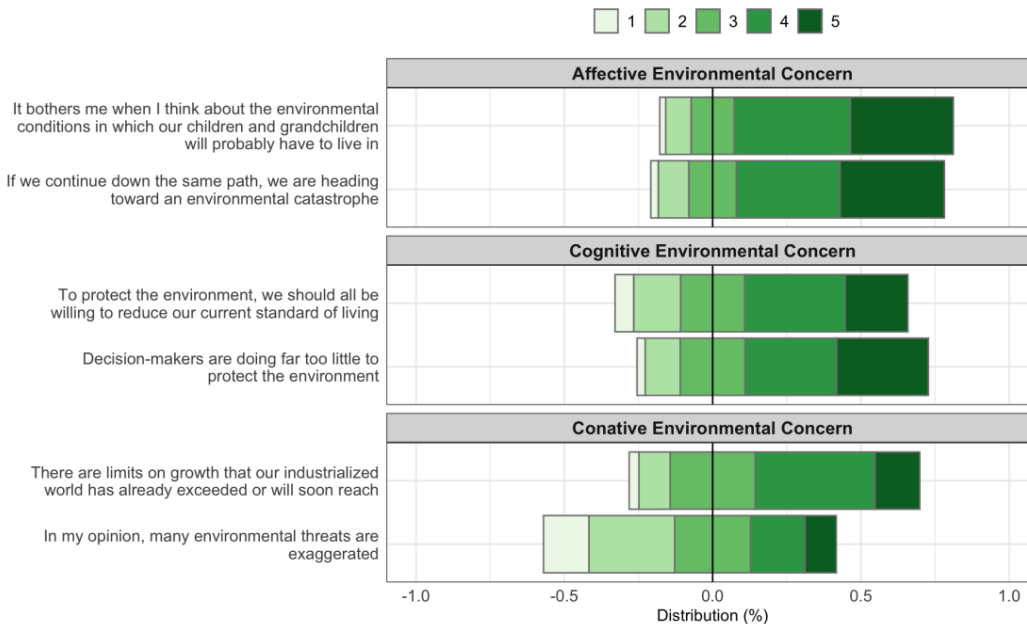


Figure 7b. True distribution of responses for dimensions of environmental concern

5.2. Short-term Drivers of Change

We measured personal norms and self-efficacy as “short-term” drivers of behavior in addition to the respectively stable drivers of cultural and individual values. We defined personal norms as the feelings of obligation to behave in a certain way, which may influence decisions to engage in behavior ([van Riper & Kyle 2014](#)). On the other hand, self-efficacy reflects beliefs about how

well individuals believe they can execute behaviors ([Bandura 2010](#); [Landon et al. 2018](#)). Although respondents felt obligated to protect public lands, as reflected by strong personal norms ($M=4.18$, $SD=0.74$; Table 12, Figure 8), they believed they had the ability to influence public land management in a meaningful way, but to a lesser degree than their moral normative concerns ($M=3.70$, $SD=0.78$; Table 13, Figure 9).

Table 12: Personal norms

Survey Item	(M)	SD
Personal Norms ($M=4.18$, $SD=0.74$)		
People like me should be proud if they can limit their impact on public lands near my home.	4.17	0.85
I would feel guilty if I negatively impacted public lands near my home.	4.33	0.79
I am morally obligated to minimize environmental impacts on public lands near my home.	4.05	0.95

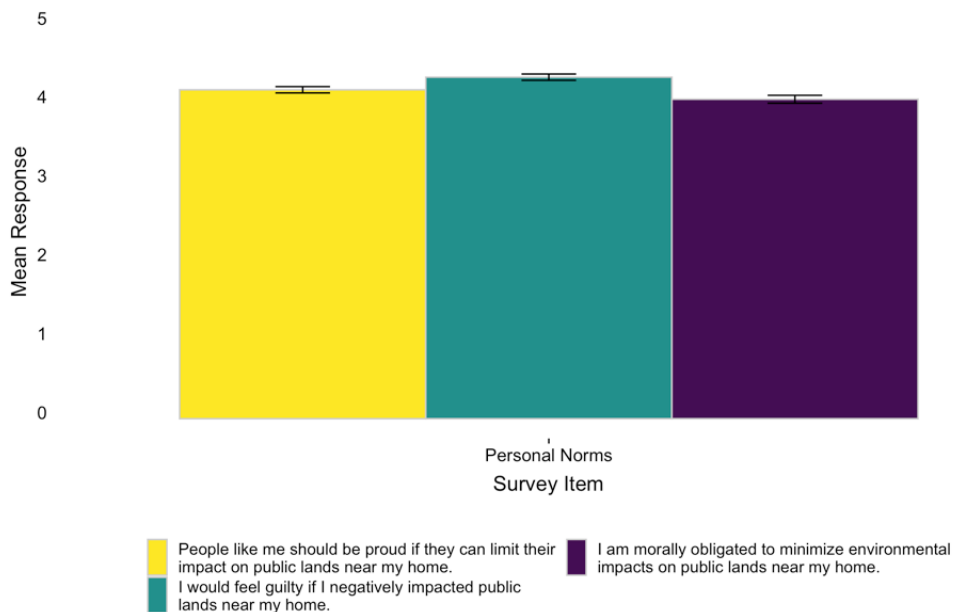


Figure 8. Personal norms

Table 13: Self-efficacy

Survey Item	(M)	SD
Self-efficacy ($M=3.70$, $SD=0.78$)		
There are many ways I can help benefit the environment in public lands near my home.	3.72	0.87
My own actions influence the conditions of public lands near my home.	3.75	0.97
I have the ability to limit environmental impacts on public lands near my home.	3.63	0.98

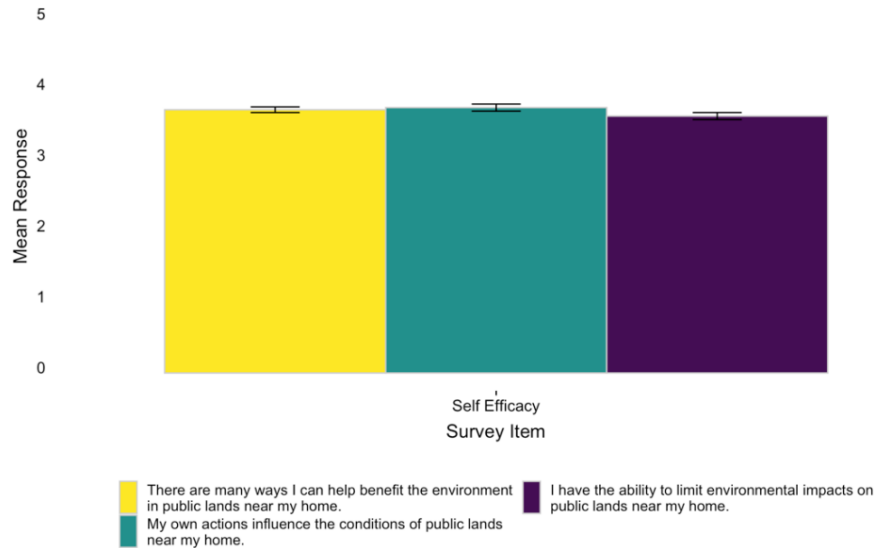


Figure 9. Self-efficacy

5.3. Pro-environmental Behavior

Alaskan respondents were asked to report how frequently they engaged in a suite of behaviors that may benefit the environment, also known as “pro-environmental behavior.” Three different dimensions of behavior were measured and adapted to fit the study context: private, public, and social sphere (Stern 2000; Larson et al. 2015; van Riper et al. 2019a; van Riper et al. 2019b). Private sphere behaviors, which encompass actions taken at the individual level with direct impact on the environment, were performed most frequently ($M=3.23$, $SD=0.94$; Table 14, Figure 10a-b). Conversely, public and private sphere behaviors that focused on behaviors related to indirectly influencing public lands were engaged in less frequently. Participation in public sphere behaviors related to civic engagement were particularly infrequent amongst the survey respondents ($M=2.03$, $SD=0.94$).

Table 14: Engagement in pro-environmental behavior

Survey Item	(M)	SD
Private Sphere Behaviors ($M=3.23$, $SD=0.94$)		
Took measures like re-purposing products to reduce my waste	3.44	1.17
Looked up scientific information about the environment	2.87	1.15
Avoided traveling out of town for non-local products	3.41	1.38
Public Sphere Behaviors ($M=2.03$, $SD=0.94$)		
Wrote a letter or email about an environmental issue	1.69	1.06
Participated in a policy process like a public comment period that affected the environment	2.13	1.17
Donated money with the intention of benefiting the environment	2.23	1.15
Social Sphere Behaviors ($M=2.61$, $SD=1.04$)		

Survey Item	(M)	SD
Talked to other people about the environment	3.06	1.22
Learned from other people like longtime residents or Elders to solve an environmental problem	2.62	1.27
Encouraged other people to attend an event related to the environment	2.13	1.21

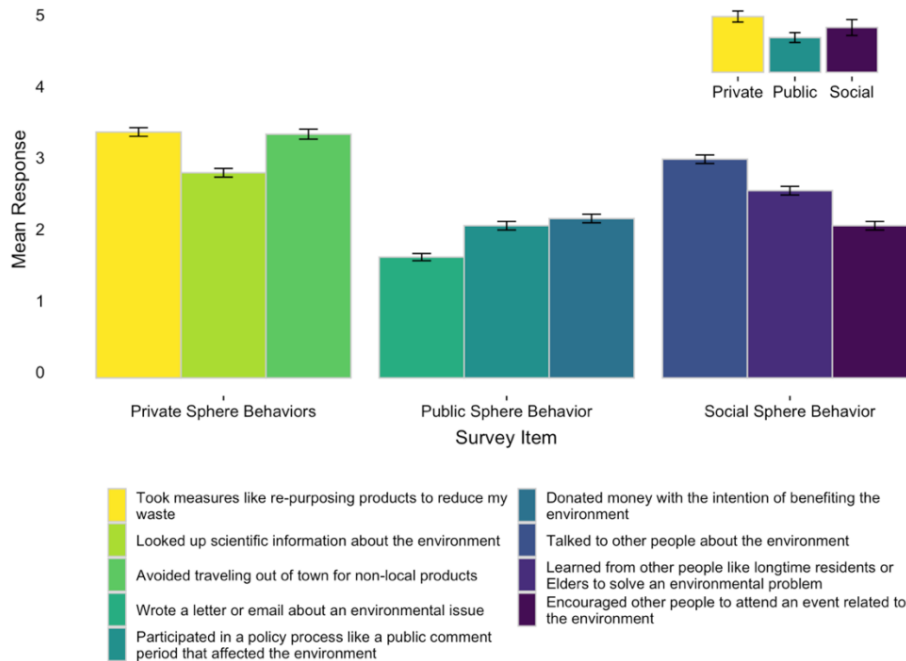


Figure 10a. Engagement in pro-environmental behavior

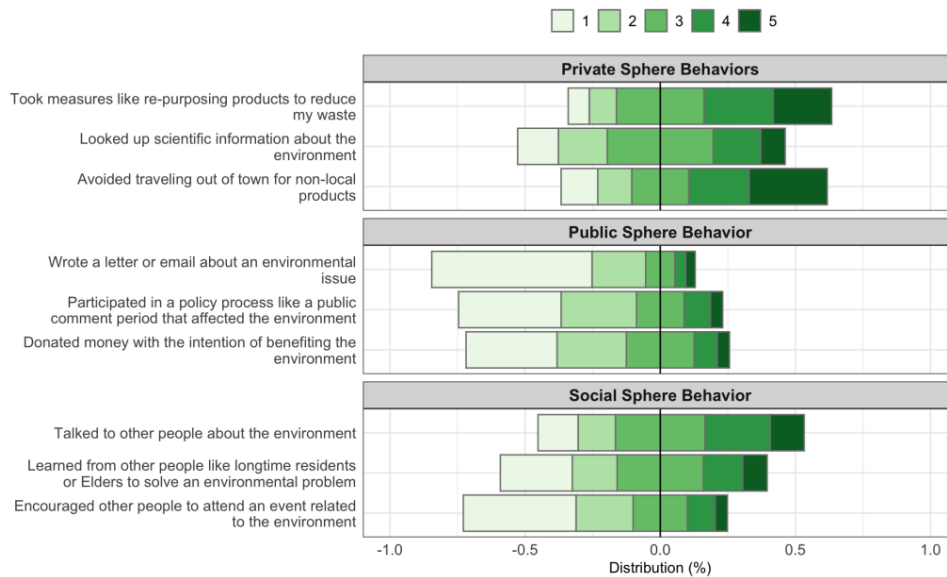


Figure 10b. True distribution of responses for engagement in pro-environmental behavior

6. Long-term Drivers of Change

6.1. Cultural Values

We assessed cultural values to understand the worldviews of respondents that indicated how they believed society should be organized, as well as the designed roles and responsibilities of individuals (Rippl 2002; Markle 2019). Four cultural value orientations were measured (Douglas 1970; Wildavsky 1987): Individualist, Hierarchical, Egalitarian, and Fatalistic. Cultural values are considered “long-term” drivers of behavior because they are derived from a broader collective, and thus relatively stable and slow to change. Alaskan respondents largely identified with individualist values, but not fatalistic (Table 15; Figure 11a-b). Similarly, qualitative work has demonstrated that a deep-rooted sense of individualism, or self-reliance, is one of the defining features of the “Alaskan way of life” and this was reflected in the survey results ($M=4.02$, $SD=0.65$). Respondents tended toward hierarchical ($M=3.91$, $SD=0.60$) versus egalitarian values ($M=3.70$, $SD=0.64$), but were more likely to be neutral in their relative agreement with questions reflecting individualist values. In general, respondents did not agree with fatalistic value items ($M=2.41$, $SD=0.67$), with the exception for the item that referenced limitations in life.

Table 15: Cultural values

Survey Item	(M)	SD
Egalitarian Values ($M=3.70$, $SD=0.64$)		
In the case of important issues for a family, everyone should contribute to decisions	3.89	0.79
Important questions for our society should not be decided upon by experts, but by the people	3.57	0.97
Firms and institutions should be organized in a way that everybody can influence important decisions	3.65	0.92
Fatalistic Values ($M=2.41$, $SD=0.67$)		
There is no use in doing things for other people – you only get taken advantage of	2.34	1.04
There are limitations in life that we have to accept whether we want to or not	4.01	0.85
I would not participate in civic action groups. Those in power do what they want anyway	2.89	1.09
Hierarchical Values ($M=3.91$, $SD=0.60$)		
It is important to preserve our customs and traditions	4.15	0.87
In a family, adults and children should have different degrees of influence on decisions	3.84	0.89
I prefer clear instruction from my supervisors about what to do	3.77	0.96
Individualist Values ($M=4.02$, $SD=0.65$)		
When I have problems, I try to solve them on my own	4.16	0.83
The freedom of an individual should not be limited	3.86	1.01
I prefer tasks where I work something out on my own	4.03	0.77

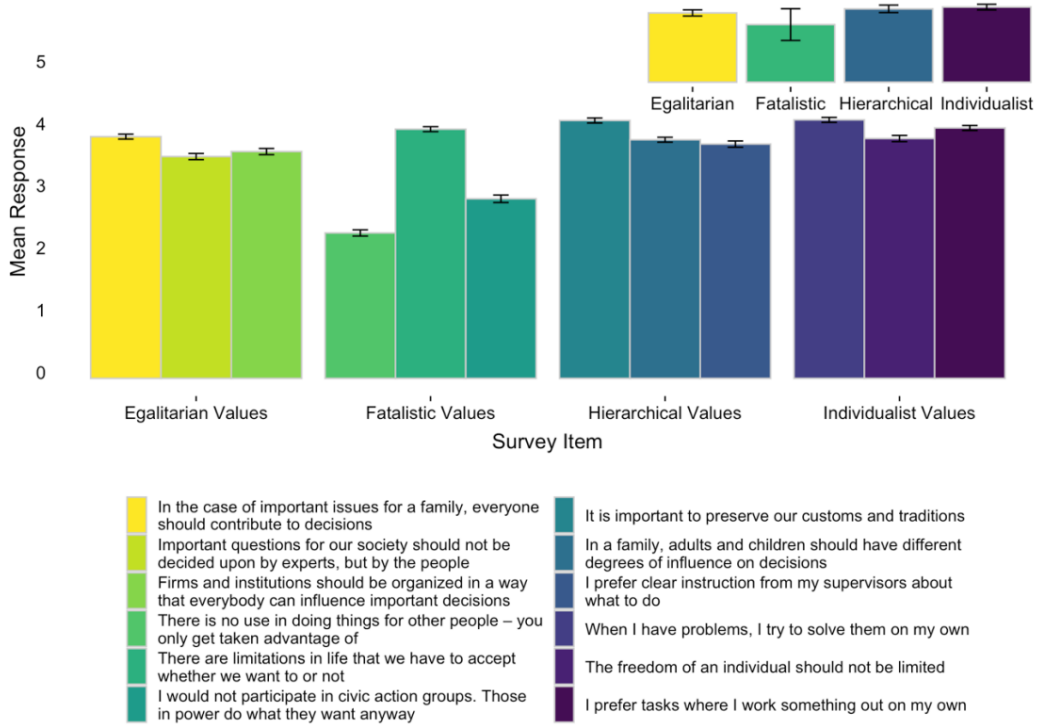
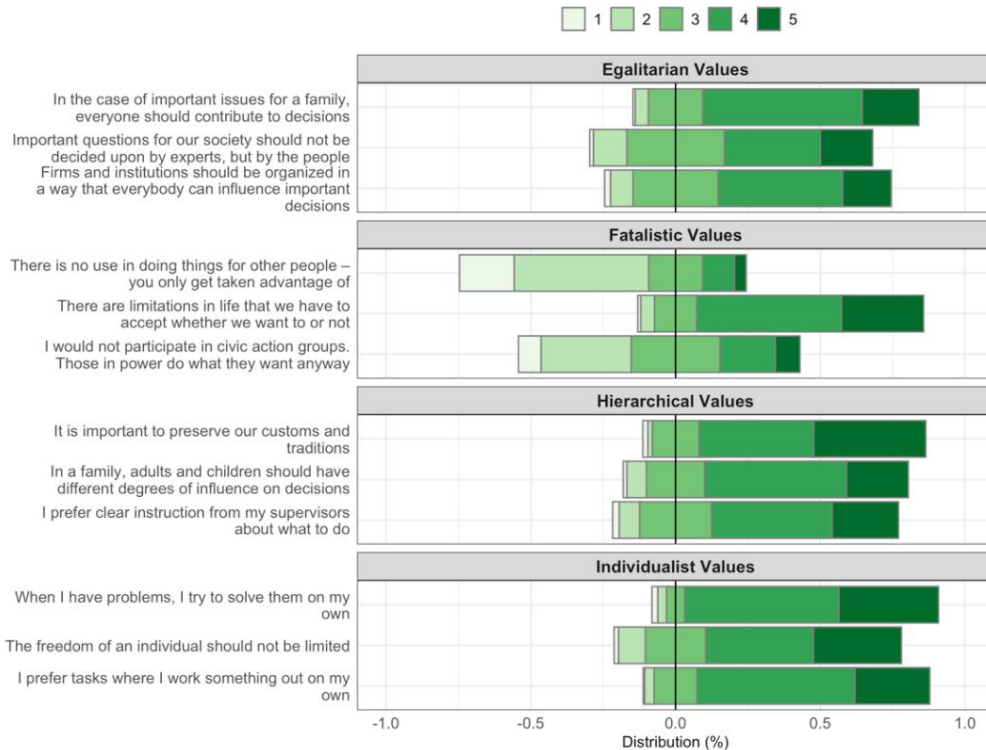


Figure 11a. Cultural values

Figure 11b. True distribution of responses for cultural values



6.2. Individual Values

These questions can provide insight on how different interest groups can frame information to align with different people’s values for more effective communication, and are also predictors of engagement in pro-environmental behavior ([Stern et al. 1999](#); [Steg & Groot 2010](#); [van Riper et al. 2019](#)). We measured five value orientations: Biospheric, altruistic, egoistic, hedonic, and eudaimonic values. Biospheric and altruistic orientations are self-transcendent values that reflect care outside of oneself. Conversely, egoistic and hedonic values are related to priorities for self-enhancement. Although the effects vary across studies, self-transcendence tends to be positively associated, whereas self-enhancement values exhibit a negative relationship with pro-environmental behaviors. Finally, eudaimonic values are a relatively nascent value rooted in self-actualization and achieving long-term personal goals.

Alaskan respondents largely identified with values related to self-transcendence (biospheric, altruistic) and personal fulfillment (hedonic, eudaimonic), but not egoistic values (Table 16; Figure 12). Altruistic ($M=4.19$, $SD=0.85$) and eudaimonic ($M=4.16$, $SD=0.68$) values were rated the most important as guiding principles in life, followed by biospheric ($M=4.10$, $SD=0.78$) and hedonic values ($M=3.99$, $SD=0.74$). Alaska respondents did not rate items related to egoistic values as important ($M=2.91$, $SD=0.87$).

Table 16: Individual values

Survey Item	(M)	SD
Altruistic Values ($M=4.19$, $SD=0.85$)		
Social justice: correcting injustice, care for others	4.15	1.02
Equality: equal opportunity for all	4.24	0.90
A world at peace: free of war and conflict	4.19	1.00
Biospheric Values ($M=4.10$, $SD=0.78$)		
Unity with nature: fitting into nature	3.91	0.94
Protecting the environment: preserving nature	4.22	0.87
A world of beauty: beauty of nature and the arts	4.15	0.86
Egoistic Values ($M=2.91$, $SD=0.87$)		
Social power: control over others, dominance	2.31	1.09
Influential: having an impact on people and events	3.16	1.08
Authority: the right to lead or command	3.23	1.07
Eudaimonic Values ($M=4.16$, $SD=0.68$)		
Satisfaction with life: finding meaning, value, and relevance to a broader context	4.26	0.85
Pursuit of excellence: attaining a personal ideal in life	3.97	0.92
Personal growth: development of new skills, learning, or gaining insight into something	4.22	0.85
Autonomy: deciding your own future and doing what you believe in	4.20	0.79
Hedonic Values ($M=3.99$, $SD=0.74$)		
Reducing worries: seeking comfort and relaxation	4.09	0.87
Fulfilment of desire: food, fun, pleasure	3.80	0.93

Survey Item	(M)	SD
Enjoying life: pursuing hobbies, leisure, socializing	4.08	0.83

*Individual values were originally measured on a 1-9 scale and transformed to a 1-5 scale for the purposes of reporting and analyzing survey data to match the scales of cultural and social values.

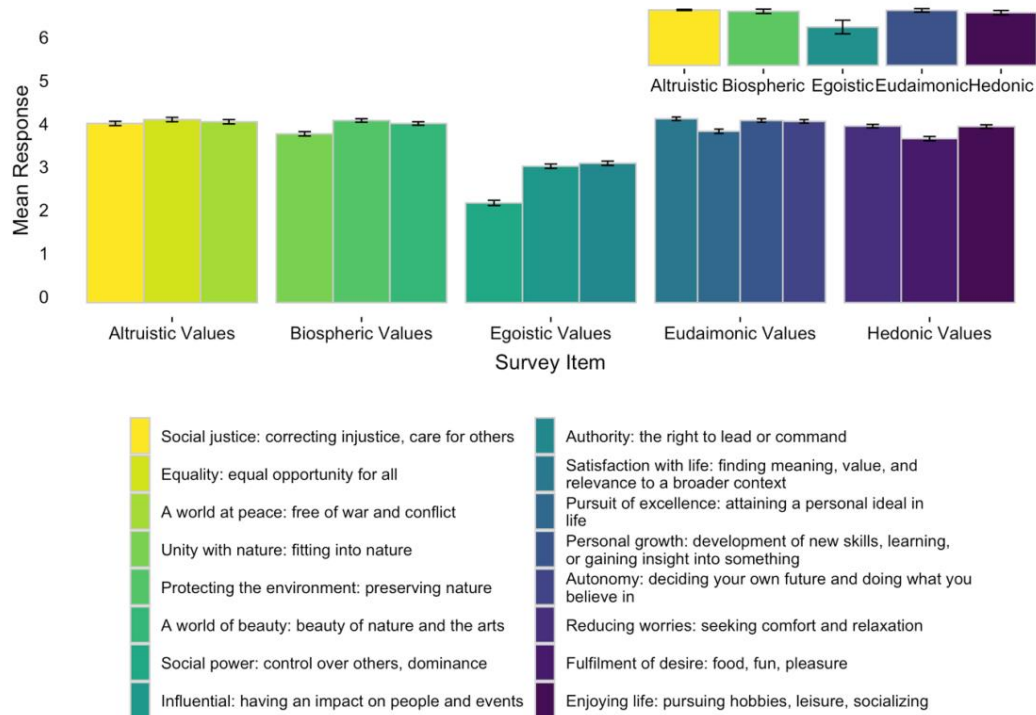


Figure 12: Individual values and guiding priorities for life

6.3. Social Values

A scale measuring social values assigned to the Alaska landscape was developed as part of the survey focused on multi-level values. An open-ended question was also asked to explore alternative reasons why the Alaska was considered unique and important. The scale was adapted from previous research on landscape values, social values, and concepts of place (Cervený et al. 2017; Brown & Reed 2000). Respondents were likely to agree with most of the items asking why Alaska was a special place to live (Table 17, Figure 13a-b) and placed particular emphasis on wildlife ($M=4.43$, $SD=0.86$), recreation ($M=4.37$, $SD=0.82$), aesthetics ($M=4.37$, $SD=0.90$), and family ($M=4.33$, $SD=0.84$). State-wide Alaska respondents were the least likely to agree that the landscape was special because of spirituality ($M=3.62$, $SD=1.13$) or economic ($M=3.63$, $SD=1.04$) value.

Table 17: Social values assigned to the Alaska landscape

Survey Item	(M)	SD
Social Values ($M=4.05$, $SD=0.63$)		

Survey Item	(M)	SD
Wildlife: A place inhabited by wildlife unique to Alaska	4.43	0.86
Subsistence: A place to harvest food or other resources to sustain my life and that of my family	3.94	1.01
Spirituality: A place that is sacred, religious, or spiritually significant	3.62	1.13
Sense of community: A place where I have close relationships with other members of my community	3.81	0.97
Rejuvenation: A place where I can feel better physically and/or mentally	4.24	0.86
Recreation: A place where I can pursue recreation activities	4.37	0.82
Heritage: A place with history and traditions that are passed down to future generations	3.88	1.02
Family: A place where I can spend time with my family	4.33	0.84
Education: A place to learn about, teach, or research the environment and people	3.94	0.96
Economic: A place to earn income for employment	3.63	1.04
Ecological integrity: A place that has intact ecosystems with the ability to support and maintain ecological processes	4.05	0.91
Aesthetics: A place that has attractive scenery, sights, sounds, or smells that cannot be experienced anywhere else	4.37	0.90

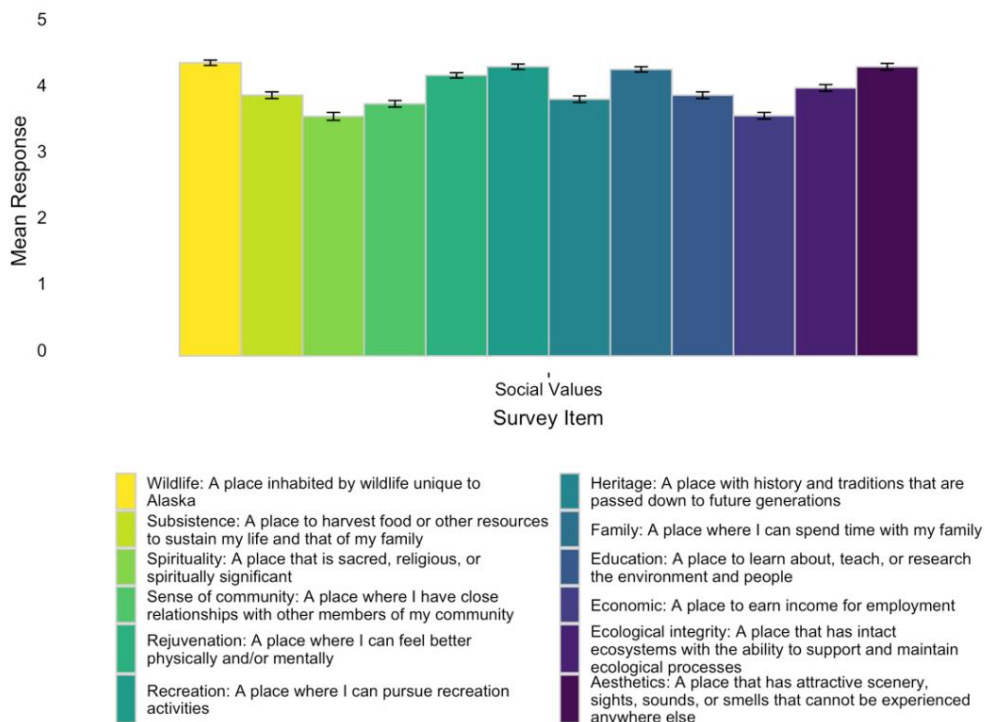


Figure 13a: Social values assigned to the Alaska landscape

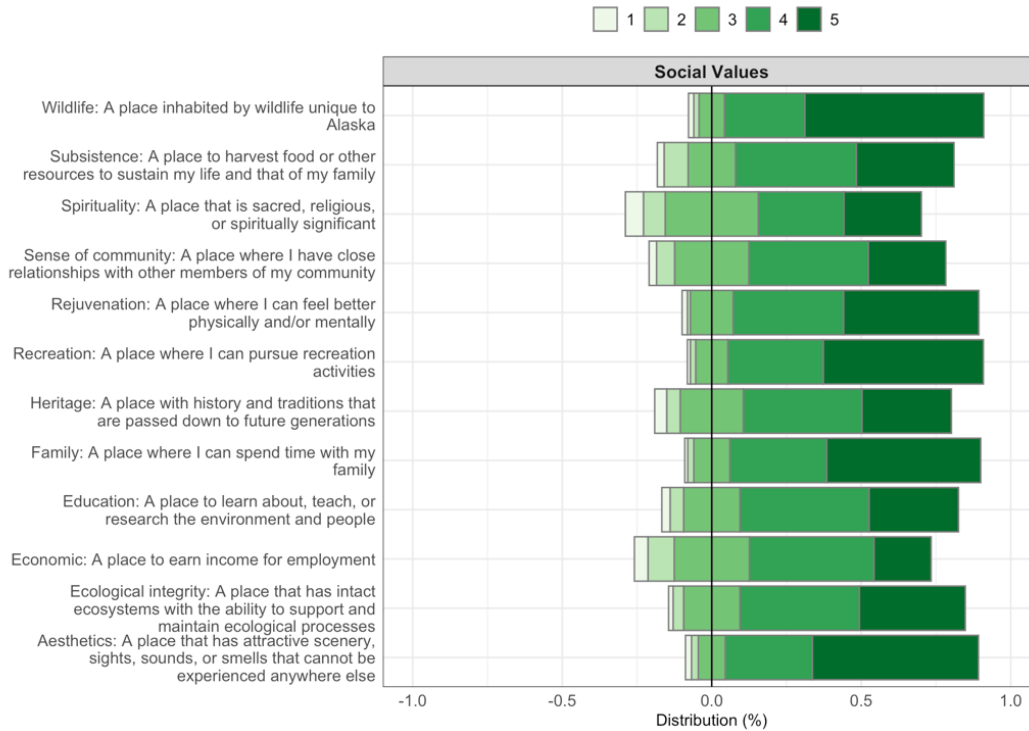


Figure 13b: True distribution of responses for social values assigned to the Alaska landscape

6.3.1. Open-ended Responses

Respondents provided insight on why Alaska was a special place to live in ways that were not assessed using a pre-determined battery of questions, by responding to the open-ended question listed below:

We would like to understand why you think Alaska is different from other places. Please use the space below to describe why you think the place where you live is special.

Out of 542 total responses, comments addressing Question 9 were shared by 357 respondents. Responses were inductively organized into six emergent themes using a qualitative content analysis: Aesthetically Pleasing Natural Landscape; Physical Features of the Frontier; Wide Open Spaces Surround; Living the Way You Like; Unique and Intrinsically Special; and Not Special (Table 18).

Table 18: Major themes used to describe why Alaska is a special place to live

Theme	Definition	Exemplary Quote
Aesthetically Pleasing Natural Landscape	The Alaskan landscape is special because it has amazingly beautiful natural spaces that have remained free from exploitation. Prominent subthemes within this category include beauty (general sense of	“It’s absolutely beautiful here, nothing like it anywhere else. Sure it gets cold but boy the views are amazing. Northern lights, crisp cool air, crispy fresh snow when you walk on it, the snow cracks. Nothing like

	aesthetic pleasure), scenery (picturesque physical features of the landscape), untouched (perception of the landscape as free from development or exploitation), pristine (perception of the landscape as an intact example of primal nature), and awe (feelings of reverence, respect, or wonder).	it I'm telling you. Plus thousands upon thousands of stars above you.”
Physical Features of the Frontier	The Alaskan landscape is special because it has naturally occurring physical features and elements that one enjoys. Prominent subthemes within this category include mountains (elevated portions and regions of the landscape), wildlife (non-domesticated animal species), wilderness (areas lacking consistent human habitation), nature (the land and ecosystem as a collective), and water (freshwater spaces and features of the landscape).	“Alaska has scenic beauty like NO other state. Everything from mountains, glaciers and even volcanoes.”
Wide Open Spaces Surround	The Alaskan landscape is special because it is a vast area with several places of interest and low numbers of people to have to share them with. Prominent subthemes within this category include proximity (physical closeness and accessibility of sites), low population (small numbers of people sharing the same geographic region), open space (vastness and openness of the spatial landscape), big place (size and distance of the geographic region), and public lands (federal and state lands managed in the public trust).	“Because of our relatively small populations in Alaska communities, we have a greater opportunity to enjoy the public lands that surround us in our vicinity.”
Living the Way You Like	The Alaskan landscape is special because it facilitates engagement in the kind of lifestyle that one enjoys and desires to live. Prominent subthemes within this category include urban life (lifestyle traits characteristic of urbanized spaces), conservation (utilizing the land responsibly and sustainably), rural life (lifestyle traits characteristic of rural spaces), subsistence (harvesting from the surrounding environment), and communities (engaging with others nearby for a shared living experience).	“The landscape around my home has a variety of outdoor opportunities from hiking, biking, fishing, and other outdoor activities. The topography is diverse and offers something for everyone.”
Unique and Intrinsically Special	The Alaskan landscape is special because it is unlike any other place on Earth, for inherent reasons that	“Because it's ALASKA! Need I say more?”

	are not easily or satisfactorily explained. Prominent subthemes within this category include unique (unable to be replicated elsewhere), Alaska (noteworthy simply for being what it is), and home (the living space that belongs to me).	
Not Special	The Alaskan landscape is not special, significant, or notably different from any other place.	“No, not at all.”

6.4. Personality

We measured the “Big Five” personality traits of our respondents, including: Extraversion (talkative, assertive, energetic), Agreeableness (good-natured, cooperative, trustful), Conscientiousness (orderly, responsible, dependable), Emotionality (anxious, easily upset), and Open-mindedness (intellectual, creative) ([Lang et al. 2011](#); [John & Srivastava 1999](#)). These five dimensions are labeled as “big” to represent the extremely broad nature of the scale, with each dimension encapsulating a larger amount of variation in more specific and distinct personality traits ([Soto & John 2017](#)).

Reported agreement with questions in the Big Five scale was largely neutral across the dimensions (Table 19). Here, we report personality dimensions that were determined to be statistically valid: conscientiousness, extraversion, and emotionality. Alaska residents viewed themselves as conscientious ($M=3.36$, $SD=1.25$) and extraverted ($M=3.19$, $SD=1.09$) and disagreed with questions indicating they were neurotic or emotional ($M=2.82$, $SD=1.28$).

Table 19: Personality traits of Alaska respondents

Survey Item	(M)	SD
Conscientiousness ($M=3.36$, $SD=1.25$)		
Tends to be disorganized*	3.26	1.15
Keeps things neat and tidy	3.51	1.17
Has difficulty getting started on tasks*	3.30	1.24
Emotionality ($M=2.82$, $SD=1.28$)		
Worries a lot	3.32	1.51
Tends to feel depressed, blue	2.82	1.42
Is temperamental, gets emotional easily	2.71	1.19
Is emotionally stable, not easily upset*	2.44	0.98
Extraversion ($M=3.20$, $SD=0.78$)		
Tends to be quiet*	2.68	1.26
Is outgoing, is sociable	3.51	1.11
Is full of energy	3.41	0.85
Is dominant, acts as a leader	3.17	1.15

* Item reverse coded for scale creation

7. End of Survey Comments

At the end of the survey, respondents were asked to provide any additional information they felt was necessary. Although 174 respondents left comments, 149 comments were excluded from thematic analysis given a lack of direct connection to the study findings. The major themes that emerged from the post-survey feedback (25 total comments) were appreciation of the Alaskan landscape, importance of hunting, preservation of natural resources, and the desire for decreased federal government regulation (Table 20).

Table 20: Major themes from open-ended survey feedback question

Themes	Frequency	Comments
Appreciation for the Alaskan landscape	5	"Alaska is the most beautiful and exciting place to live!"
Preservation of natural resources	5	"Our environment should be given top priority in order for future generations to thrive"
Importance of hunting (subsistence and recreationally)	7	"Many folks hunt here and it is economically important."
Desire for decreased Federal Government regulation	5	"I feel that in general the Federal Government does not pay enough attention to the desires and needs of most Alaskans when managing federal lands."

8. Conclusions

This research was focused on establishing a process for socially inclusive conservation around public lands in the US state of Alaska. Given a strong need to generate empirical evidence of stakeholder positions and involvement in decision-making, the research team conducted an online, state-wide survey to better understand residents' histories, views on resource management, values, beliefs and pro-environmental behaviors. Study results thus work toward providing a platform for stakeholders to voice their opinions about protected area management and build strategies that span multiple interest groups dedicated to advancing community needs in relation to landscape change. To that end, this report aims to facilitate information exchange across diverse sectors in local communities around protected areas and incorporate that information into decisions being made about public land management contexts in Alaska.

Environmental topics examined throughout this report were organized into four main sections to share the perspectives of residents living throughout Alaska. This report assessed: 1) descriptive information about Alaska respondents; 2) views of public land management; 3) beliefs and behaviors; and 4) long-term drivers of change. Summary information and management recommendations provided below are organized in terms of these four sections.

Descriptive Information about Alaska Respondents

- Alaska state residents who participated in this study were mostly male, with an average age of 44.5 years.
- Respondents primarily identified as White and/or Alaska Native, and had an average level of education equivalent to a bachelor's degree or less.
- Subsistence continues to be of great interest to residents throughout the state of Alaska: Approximately 39% of respondents identified as subsistence users, and 42% of respondents indicated that subsistence use was either "very important" or "extremely important" to them.
- Visitation to Alaska's public lands varied immensely among survey respondents: On average, respondents had visited public lands within Alaska 44.3 times throughout their life (SD=41.4), with approximately 10.7 of those visits taking place within the past year (SD=22.0).
- Visitation to Denali National Park and Preserve was less than expected for one of the state's most iconic public parks: On average, respondents visited Denali National Park and Preserve an average of 5.5 times throughout their life (SD=14.2).

Views of Public Land Management

- Most respondents learned about public land management from multiple "bundled" sources of information, with friends and family being the most common source of learning for respondents, followed by social media and public agencies.
 - Active presence(s) on social media should be cultivated and maintained by public land management agencies and personnel.

- Locally based influencers on social media platforms could present a useful means of getting information to audiences mistrusting of or reluctant to engage directly with public land managers.
- Most respondents' general disposition to trust in others was not high, and overall reported trust in the federal government was consistently low. Respondents generally disagreed that the government shared their values, and did not trust the federal government to act morally.
 - Cultivating greater trust in government will require deliberate, multi-year undertakings to strengthen networks of communication between locals and public land managers, and to implement governance better reflecting the values and priorities of Alaskan residents.
 - Respondents particularly lacked trust in the federal government's ability to spend money efficiently. Improved investment throughout the state – where residents more easily perceive impacts and results of government spending – could be undertaken to offset this aspect of mistrust.
- In general, respondents indicated that they did not feel included in or represented by public decision making.
 - Overall agreement among respondents that decision-making is shaped by collaboration across different interests within the community indicates a willingness to engage that is not being met.
 - Multiple and convenient opportunities to connect the public with decision-makers should be provided, and constructive discussions should be pursued with a diversity of stakeholders across multiple platforms.

Beliefs and Behaviors

- Overall, respondents were moderately concerned about issues related to the environment, with emotion ranking the highest over knowledge and behavior amongst the three dimensions of environmental concern.
 - Addressing environmental concerns from a factual basis alone is less likely to be effective or to sway new audiences. Messaging which incorporates some degree of emotional appeal is most likely to have the desired impact on stakeholders.
 - Respondents were most likely to agree that they were concerned about future environmental conditions faced by their children and grandchildren. How the next generation of Alaskans will be affected by actions taken in the present day should be emphasized in managers' messaging to stakeholders around environmental issues such as climate change.
- Overall, respondents felt obligated to protect public lands, and to a lesser degree believed that they had the ability to influence public land management in a meaningful way.

- The existence of a norm to protect public lands among Alaskan residents represents a solid foundation for public land managers to build upon.
- Short-term actions by managers should be focused on increasing their stakeholders' self-efficacy: Residents of Alaska should be alerted to actions they can take to help protect their public lands, and empowered to take them.
- Overall, respondents most frequently performed actions with direct impact on the environment at the individual level. Social and public sphere behaviors encompassing civic engagement and indirectly influencing public lands were less frequent among respondents.
 - Pro-environmental behaviors that stakeholders engaged in the least often entailed exposure and vulnerability to a public audience; required sustained time and effort; and provided no impact on the stakeholder or their community that was immediately observable.
 - Increasing frequency of social and public sphere behaviors necessitates tangible impacts be observed from such behaviors. Managers should take steps to reduce the burdens on stakeholders in undertaking these behaviors, and demonstrate the ultimate impacts of desired behaviors on stakeholders and their community.

Long-Term Drivers of Change

- In general, respondents identified with individualist values but – with a singular exception referencing limitations in life – not with fatalistic values. Respondents were also more generally inclined toward hierarchical versus egalitarian values.
 - Messaging that is consistent with and emphasizes an Alaskan culture of individualism and self-reliance is likely to resonate most strongly with residents throughout the state.
 - Broad agreement with the idea of accepting limits in life could represent a culture that is both accepting of institutional limitations and limited in tolerance for idealistic cultural appeals. Managers should be careful that messages and promises to stakeholders are not easily interpretable as overpromising.
- In general, respondents identified with values related to self-transcendence (biospheric, altruistic) and personal fulfillment (hedonic, eudaimonic), but not with values related to self-advancement (egoistic). Furthermore, respondents generally prioritized altruistic and eudaimonic values over biospheric and hedonic values.
 - Values-based appeals to individual self-interest which emphasize acquisition of personal power and opportunity for advancement are less likely to resonate with a broad sample of Alaskan residents.
 - Values that Alaskan residents most highly identified with were equality of opportunity, leading a meaningful life, and developing as an individual: Public land managers wishing to capture a wide swath of stakeholders should



communicate around issues and opportunities in a manner that brings these standards to the fore.

- Respondents generally agreed with most of the social value items listed for the landscape, with particular emphasis on valuing wildlife, recreation, aesthetics, and family. Respondents were least likely to value the landscape for reasons of spirituality or economics.
 - Values-based messaging should primarily emphasize Alaska’s native wildlife species and scenic landscapes, as well as the opportunities that the state affords to pursue outdoor recreation and familial bonding activities.
 - Conversely, appeals that are rooted in stakeholders valuing the religious or spiritual significance of the landscape, or on considering the financial benefits that Alaska can provide, are less likely to resonate widely with Alaskan residents.
- In general, respondents viewed themselves as agreeable people with low negative emotionality, and particularly self-identified as compassionate, respectful, and reliable.
 - Public land managers can frame interactions with stakeholders in ways that are consistent with the type of people stakeholders perceive themselves to be. Communications should bring attention to opportunities to demonstrate reliability and compassion, the personality traits that most residents most generally identified in themselves.
 - Alaskan residents mostly considered themselves emotionally stable people, something managers should bear in mind when framing communications. Appeals to emotion have been proven to be effective, but depressive and emotionally negative messaging is unlikely to resonate with stakeholders.



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For more information about the ENVISION project please visit project's website (www.inclusive-conservation.org) or contact Prof. Christopher Raymond at christopher.raymond@slu.se.

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ENVISION is a 3-year research project that develops an inclusive approach to the management of protected areas with the aim of improving biodiversity and human well-being. We engage diverse groups of stakeholders of a protected area, such as recreational users, local residents, local businesses, land owners, agriculture, researchers or local governments and protected area managers.

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