

Summary of Research



MONTANA FWP

Results of a 2020 Survey of Montanans Regarding the Topic of Grizzly Bear Management in Montana

HD Program Research Summary No. 47

Cecily M. Costello, Holly K. Nesbitt, Alexander L. Metcalf, Elizabeth C. Metcalf, Lori Roberts, Justin Gude, and Michael S. Lewis

September 2020

Abstract: *In 2019-20, a collaborative study was conducted by Montana Fish, Wildlife & Parks (FWP) and the University of Montana to better understand Montanans thoughts about grizzly bears and grizzly bear management in Montana. Survey findings revealed generally positive attitudes towards grizzly bears. Despite a high level of support for the presence of grizzly bears in Montana, results from this survey demonstrate that acceptance of bears declined relative to human occupancy and agricultural-ranching use of the landscape. And, Montanans views were mixed regarding whether grizzly bears should be allowed to live anywhere they become established on their own. Most Montanans agreed grizzly bears numbers are expanding in Montana. However, a large percentage of Montanans reported knowing little about grizzly bear numbers across different geographic areas of the state, and the remainder expressed views across a spectrum from “much too low” to “much too high”. There was generally wide support for hunting this species, with half of Montanans reporting they support enough hunting to manage their population size. Yet, about 17 percent of Montanans believe grizzly bears should never be hunted. Lastly, Montanans reported diverse beliefs regarding the success of grizzly bear management and their satisfaction with that management in Montana. However, trust in FWP to manage grizzly bears was relatively high. The results from this important study will be used by FWP as part of ongoing efforts to include public input in grizzly bear management decision-making processes going forward.*

BACKGROUND INFORMATION

In 2019-20, Montana Fish, Wildlife & Parks (FWP) cooperated with the University of Montana to conduct a study of Montana residents concerning grizzly bears and grizzly bear management in the state. This study was conducted to help the agency better manage this iconic species in Montana.

This research summary provides selected human dimensions research results from this important study. Key topics explored in the study included:

- **Perceived knowledge of grizzly bears and living with grizzly bears.**
- **General attitudes toward grizzly bears.**
- **Perceptions of grizzly bear numbers and their distribution.**
- **Opinions regarding management of grizzly bear populations and bear-human conflict.**
- **Background characteristics of Montanans.**

For this study, a survey questionnaire was developed collaboratively with the University of Montana. Sampling was conducted using an address-based, stratified random sample purchased from Dynata, Inc. The study population was adults (ages 18+) who lived in an occupied dwelling that was listed on the U.S. Postal Service’s Computerized Delivery Sequence File for Montana. This population

differs slightly from all adults as it excludes persons institutionalized, homeless, and absent during the survey period. The study population was 814,140 adult residents of Montana, as estimated by the 2018 U.S. Census Bureau American Community Survey 5-year data (U.S. Census Bureau, 2020). In total, 5,350 sampled addresses were used for the study.

FWP administered the survey according to a modified tailored design methodology, including three waves of mailings sent to the sampled addresses. The first wave of questionnaires was delivered to the initial sample via US Postal Service in early November 2019. A second wave of questionnaires was delivered to non-respondents in late November 2019. The third wave of questionnaires was delivered to remaining non-respondents in early January 2020.



There was a total of 1,783 respondents to the survey, with 688 being returned by the US Postal Service as being undeliverable. Thus, the final survey response rate was 38 percent yielding a confidence interval of plus or minus 3.5 percent.

Survey weighting was used to ensure that results were representative of the study population. More detailed study findings and methods, including information regarding the weighting procedures used for data analysis, are presented in a technical report prepared for FWP by the University of Montana (Nesbitt et. al., 2020). All results presented herein have been weighted to reflect the study population of Montana residents. Some statistics may not sum to 100 percent due to rounding.



SURVEY RESULTS

PERCEIVED KNOWLEDGE OF GRIZZLY BEARS AND LIVING WITH GRIZZLY BEARS

Describing their knowledge of grizzly bears in Montana: 44 percent reported they know a bit, 40 percent reported they know a fair amount, 16 percent reported they don't know much, and one percent considered themselves experts regarding this species.

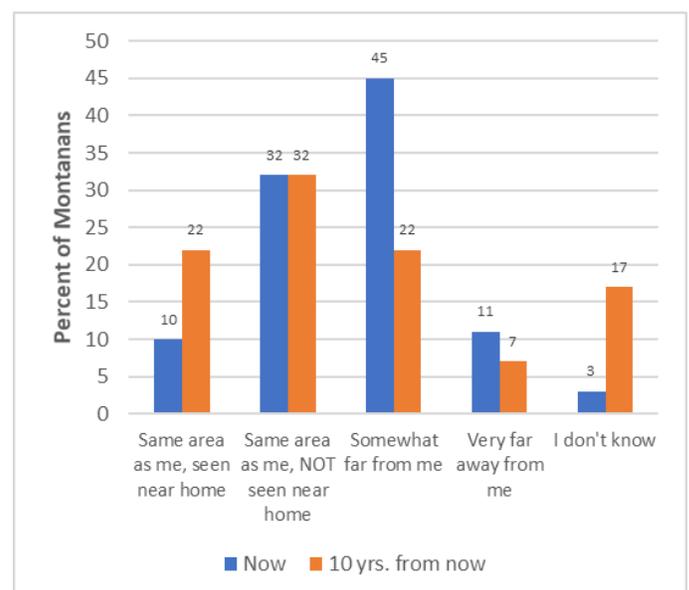
More than half of Montanans reported that grizzly bears live very far (11 percent) or somewhat far (45 percent) away from them. Only three percent reported not knowing where grizzly bears live. The remainder (41 percent) reported that grizzly bears live in the same area as them, including 10 percent that have seen bears near their home and 32 percent that have not (see Figure 1).

Overall, 56 percent of Montanans reported that grizzly bears live far or somewhat far from them currently, but only 28 percent predicted that grizzly bears will live far or somewhat far from them 10 years from now. Additionally, 22 percent of Montanans expect to see grizzly bears near their home 10 years from now, compared to only 10 percent reporting it currently.

Most Montanans (68 percent) have watched a grizzly bear from afar at least once and almost half (48 percent) have seen a grizzly from outside of a vehicle. Just under a third knew of people who have had their property

damaged by grizzly bears (31 percent). Few have had an interaction with a grizzly bear that made them fear for their safety (12 percent); have seen a grizzly bear very close to their home (10 percent); or have had a grizzly bear damage their property (4 percent).

Figure 1. Where Montanans believe grizzly bears live now and where they think they will live 10 years from now in Montana.



GENERAL ATTITUDES TOWARD GRIZZLY BEARS

A large majority of Montanans agreed or strongly agreed that: grizzly bears are beautiful animals (89 percent); grizzly bears are part of what makes Montana special (85 percent); they enjoy knowing grizzly bears exist in Montana even if they never see one (81 percent); grizzly bears are important for ecosystem health (80 percent); and, it is important to maintain a self-sustaining grizzly bear population in Montana (75 percent). Around two-thirds agreed or strongly agreed that grizzly bears can contribute to the outdoor economy (67 percent) and disagreed or strongly disagreed that bears grizzly bears are a burden that they would rather not deal with (64 percent). Only 18 percent of Montanans agreed or strongly agreed that they travel to see grizzly bears.

Most Montanans (57 percent) disagreed or strongly disagreed that grizzly bears limit their recreational opportunities; however, 23 percent agreed or strongly agreed with this statement. Montanans were divided as to whether they avoid recreating in areas with grizzly bears: 32 percent agreed or strongly agreed they avoid these areas, while 42 percent disagreed or strongly disagreed with this notion. Montanans were split when asked if they were concerned about road closures to protect grizzly bears: 32 percent agreed or strongly agreed they were concerned, and 40 percent disagreed or strongly disagree that they were concerned. Unfortunately, the question did not differentiate between concern over too many versus too few closures.

A minority of Montanans agreed or strongly agreed that their personal safety is threatened by grizzly bears (19 percent) and that grizzly bears pose a safety risk to people they care about (28 percent). Only seven percent agreed or strongly agreed that grizzly bears affect their economic well-being and 19 percent reported that they are concerned about grizzly bears damaging things they care about. More than half of Montanans disagreed or strongly disagreed with statements about grizzly bears posing a risk to personal safety, affecting their economic well-being, and causing damage to things they care about.



When asked about their emotional responses to seeing a grizzly bear from a distance while walking near their home or in an undeveloped area of Montana, responses were somewhat mixed (see Figures 2-4). Responding to both scenarios, emotional responses skewed towards being nervous (71–74 percent) versus being relaxed (26–29 percent) and being scared (60–63 percent) versus not being scared (37–40 percent). Emotional responses were relatively even between being upset (56 percent) versus being pleased (44 percent) when the setting was near home, but responses were skewed towards being pleased (63 percent) versus being upset (37 percent) when the setting was in an undeveloped area.

Figure 2. On a scale from (-3) very nervous to 3 (very relaxed), Montanans' self-reporting of how nervous or relaxed they would feel if they saw a grizzly bear in the distance in two different settings (in an undeveloped area versus near home).

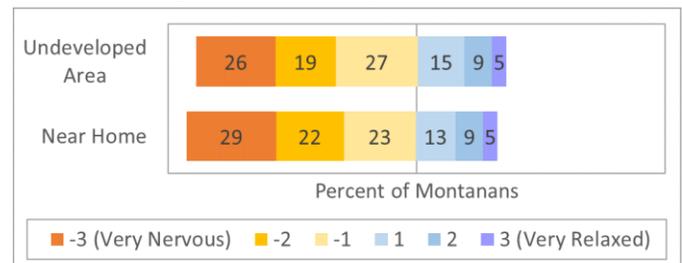


Figure 3. On a scale from (-3) very upset to 3 (very pleased), Montanans' self-reporting of how upset or pleased they would feel if they saw a grizzly bear in the distance in two different settings (in an undeveloped area versus near home).

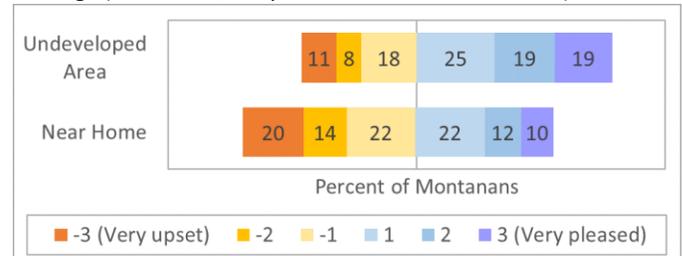
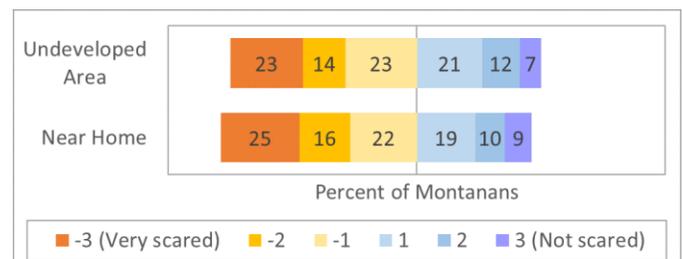


Figure 4. On a scale from (-3) very scared to 3 (not scared), Montanans' self-reporting of how scared they would be if they saw a grizzly bear in the distance in two different settings (in an undeveloped area versus near home).

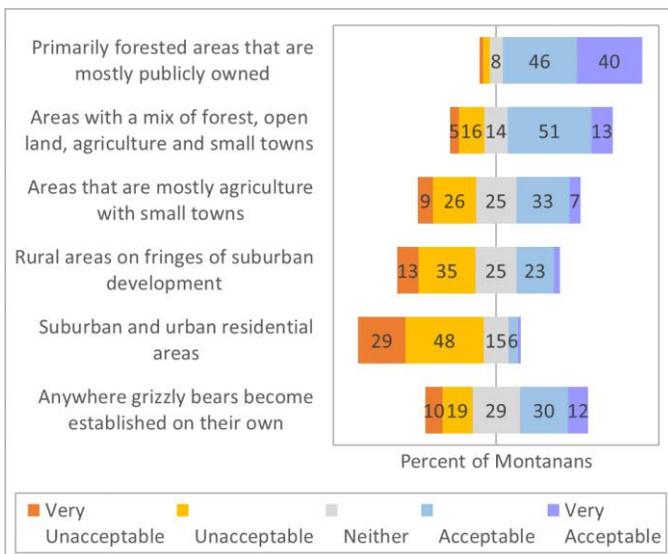


PERCEPTIONS OF GRIZZLY BEAR NUMBERS AND THEIR DISTRIBUTION

Most Montanans agreed or strongly agreed (92 percent) that grizzly bears have a right to exist in Montana and disagreed or strongly disagreed (93 percent) that grizzly bears should not be anywhere in Montana. When asked if grizzly bears do not belong where people recreate, only 17 percent agreed or strongly agreed, and 63 percent disagreed or strongly disagreed with this statement. But when asked if grizzly bears do not belong where people live, the responses were more evenly divided: 35 percent agreed or strongly agreed, and 43 percent disagreed or strongly disagreed with this statement.

Despite a high level of support for the presence of bears in Montana, results show that acceptance of bears declined relative to human occupancy and agricultural use (see Figure 5). A large majority of Montanans (86 percent) reported that it is acceptable or very acceptable for grizzly bears to live in primarily forested areas that are mostly publicly owned. Areas with a mix of forest, open land, agricultural land and small towns were also reported as acceptable or very acceptable areas for grizzly bears to live by most Montanans (65 percent). But fewer than half of Montanans reported that the following were acceptable or very acceptable areas for grizzly bears to live in: areas that are mostly agricultural with small towns (40 percent); rural areas on the fringes of suburban developments (27 percent); and, suburban and urban residential areas (8 percent).

Figure 5. Response to: "How acceptable is it to you to have grizzly bears living in the following areas in Montana?"

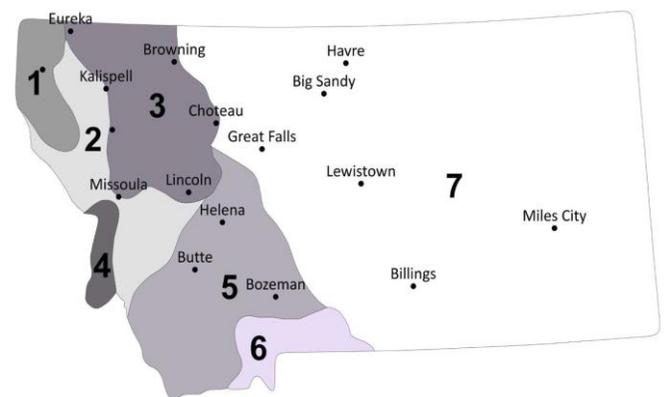


Views were divided on whether grizzly bears should live anywhere they become established on their own: 42 percent of Montanans agreed or strongly agreed, and 29 percent disagreed or strongly disagreed with this notion.

A majority of Montanans (58 percent) agreed or strongly agreed that grizzly bears are expanding naturally and only 12 percent disagreed or strongly disagreed. When asked if grizzly bears are being imposed on them by other people, most Montanans (54 percent) disagreed or strongly disagreed, but 23 percent agreed or strongly agreed with this statement.

Montanans were specifically asked about their perceptions of numbers of grizzly bears statewide and within seven areas delineated on a map provided within the survey (see Figure 6).

Figure 6. Reference map used in the survey asking Montanans their perceptions of grizzly bear populations in seven different areas of Montana.



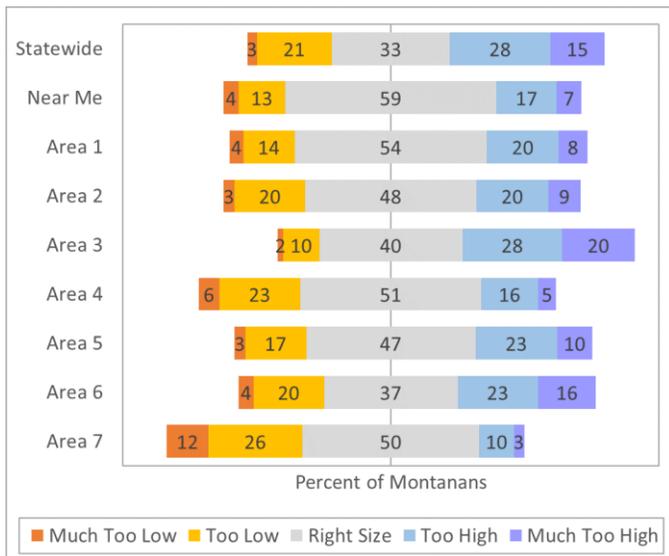
Most Montanans reported they didn't know about grizzly bear population numbers, accounting for 37 percent of responses to the statewide question and 50–65 percent of responses to the area-specific questions. Excluding the "I don't know" responses, views about grizzly bear numbers or population size were very mixed and many expressed the view that grizzly bear populations were about the right size now (see Figure 7 on the next page), especially when asked about populations near them. This response was frequently selected by Montanans with respect to areas with large resident grizzly bear populations as well as areas with few or no grizzly bears.

The tendency toward reporting that grizzly bear numbers were too high was most pronounced for the area encompassing the largest grizzly bear population within the state, known as the Northern Continental Divide Ecosystem (Area 3).

Views also were skewed towards grizzly bears numbers being too high for the statewide population; for the other area with a large grizzly bear population shared with Wyoming and Idaho known as the Greater Yellowstone Ecosystem (Area 6); for the area with a recovering population on the Idaho border known as the Cabinet-Yaak Ecosystem (Area 1); and, for two areas in-between the resident grizzly bear population centers where bears are presently expanding (Areas 2 and 5).

The view that grizzly bear numbers are too low was most pronounced for central-to-eastern Montana (Area 7), where bears are also presently expanding. The too low view was also frequently expressed for the area around the Bitterroot Ecosystem (Area 4). This area has been identified as a Recovery Zone by the U.S. Fish and Wildlife Service, but currently does not have a resident grizzly bear population.

Figure 7. Perceptions of grizzly bear population numbers statewide, near Montanans, and for seven different areas of Montana (as identified in Figure 6 on the previous page of this research summary). This figure excludes “I don’t know” responses.



OPINIONS REGARDING MANAGEMENT OF GRIZZLY BEAR POPULATIONS AND BEAR-HUMAN CONFLICT

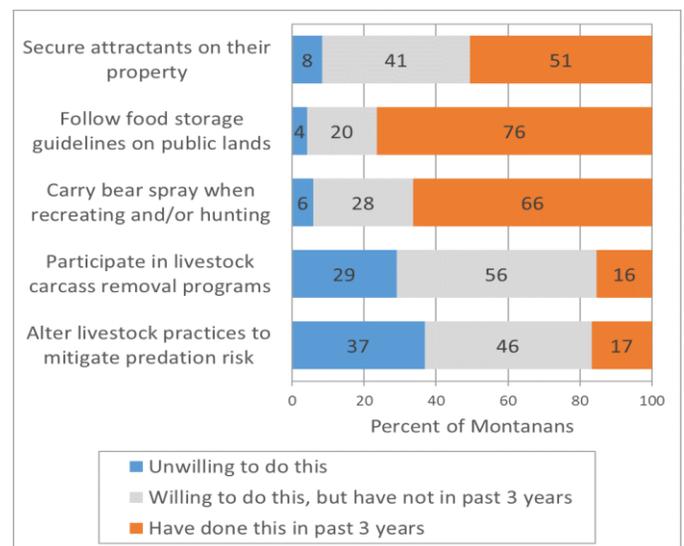
A majority (60 percent) of Montanans agreed or strongly agreed that people should learn to live with grizzly bears near their homes, whereas 20 percent disagreed or strongly disagreed with this notion.

When asked about actions that people can take to reduce grizzly bear-human conflict on their property, a majority conveyed willingness to take these actions (see Figure 8). Only eight percent of Montanans reported they would be unwilling to secure attractants on their property, whereas 51 percent reported they had done this within the past three years and 41 percent reported they had not done this in the past three years but would be willing to do so.

Among Montanans who reported being livestock producers, a majority (63 percent) had or would be willing to alter livestock practices to mitigate risk of grizzly bear predation and 71 percent had or would be willing to participate in livestock carcass removal programs. Nonetheless, a minority of livestock-owners reported that they would be unwilling to alter livestock practices (37 percent) or participate in livestock carcass removal programs (29 percent).

Asked about other actions, almost all Montanans (94 percent) reported they had or would be willing to carry bear spray while recreating or hunting and 96 percent had or would be willing to follow food storage guidelines on public lands.

Figure 8. Montanans’ willingness to take actions to reduce grizzly bear - human conflicts (for actions that are applicable to the respondent).

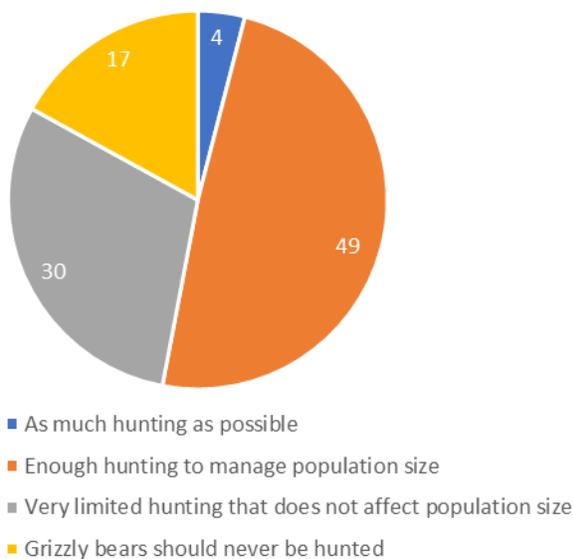


Montanans' opinions were divided on the most effective tool for preventing a grizzly bear attack: 30 percent believed bear spray, 19 percent believed a firearm, 26 percent believed that bear spray and firearms are equally effective, and 25 percent reported they did not know. When asked whether they had carried a firearm to deter grizzly bears within the past three years, 39 percent of Montanans reported they had, and 61 percent reported they had not.

A sizable majority of Montanans supported some form of potential grizzly bear hunting: 49 percent supported enough hunting to manage grizzly bear population size; 30 percent supported a very limited season that does not affect their population size; and, four percent supported as much grizzly bear hunting as possible (see Figure 9). Seventeen percent responded that grizzly bears should never be hunted in Montana. A majority (61 percent) agreed or strongly agreed that people should have the opportunity to hunt grizzly bears as long as populations can withstand the pressure, whereas 24 percent disagreed or strongly disagreed with this notion.

Views were more mixed for other questions related to hunting grizzly bears. When asked if hunting should be used as a tool to reduce conflict, 46 percent agreed or strongly agreed, and 36 percent disagreed or strongly disagreed. When asked if hunting would make grizzly bears more wary of humans, 39 percent agreed or strongly agreed, while 32 percent disagreed or strongly disagreed.

Figure 9. Montanans' views towards potential grizzly bear hunting. Numbers below are percent of Montanans.

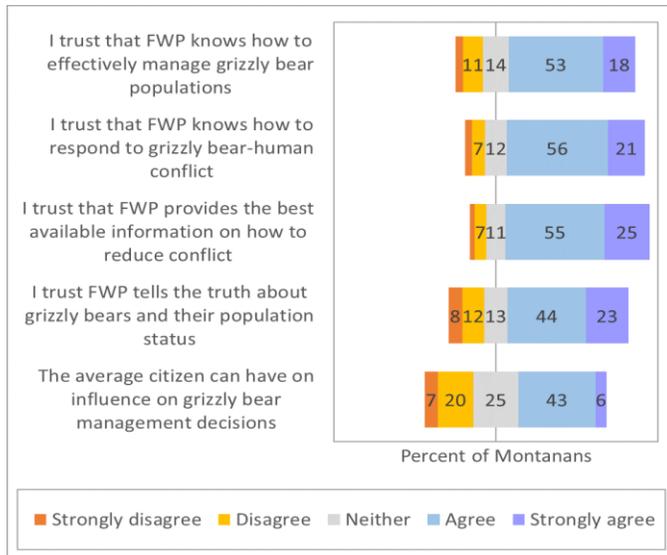


When asked their views about the success of grizzly bear management in Montana, responses were markedly skewed toward being successful (46 percent) versus being unsuccessful (17 percent). Regarding satisfaction with grizzly bear management, responses were slightly skewed toward Montanans being satisfied with management (34 percent) versus being unsatisfied (25 percent). Twenty-seven percent agreed or strongly agreed that current grizzly bear management does not meet their expectations, while 31 percent disagreed or strongly disagreed with this statement. It is worth noting that a sizeable percentage of Montanans (37-42 percent) took a neutral view on these questions.

Trust in FWP was relatively high (see Figure 10 on the next page). A majority agreed or strongly agreed that they: trust that FWP provides the public with the best available information on how to reduce grizzly bear conflict (80 percent); trust that FWP knows how to respond to grizzly bear conflict (77 percent); trust that FWP knows how to effectively manage grizzly bear populations (70 percent); trust that FWP tells the truth about grizzly bears and their population status (67 percent); trust that FWP would take similar actions as they would (58 percent) when it comes to managing grizzly bears; and, trust that FWP thinks in a similar way as they do (52 percent) regarding grizzly bears.

When asked about agreement or disagreement with statements about public involvement in wildlife management in Montana, Montanans were positive. Forty-nine percent agreed or strongly agreed, and 27 percent disagreed or strongly disagreed that the average citizen can have an influence on grizzly bear management decisions. Forty-seven percent agreed or strongly agreed, and 20 percent disagreed or strongly disagreed that they have the opportunity to provide input on grizzly bear management decisions. And, 45 percent agreed or strongly agreed, and 16 percent disagreed or strongly disagreed that wildlife agencies respect their way of life.

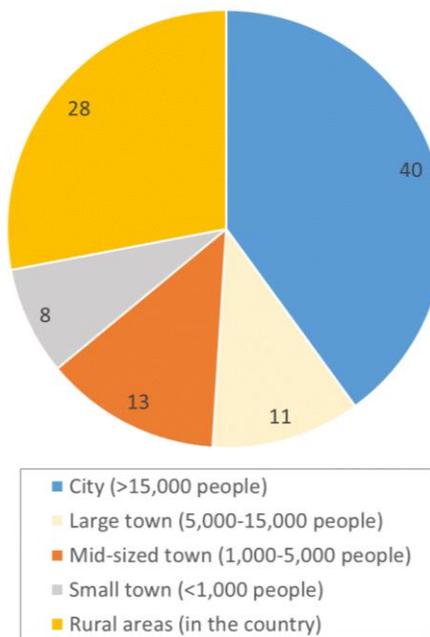
Figure 10. Montanans’ trust in FWP related to grizzly bear management in Montana.



BACKGROUND CHARACTERISTICS OF MONTANANS

Roughly half of Montanans reported they live in cities or larger towns of more than 5,000 people; and, the other half reported they live in smaller towns of less than 5,000 people or they live in rural areas (see Figure 11).

Figure 11. Montanans’ characterization of where they live in Montana. Numbers below are percent of Montanans.



Other background characteristics of Montanans included the following:

- Age ranged from 19-97 years, with the average being 50 years of age.
- Gender was 49 percent female, 50 percent male, and one percent other (or not disclosed).
- Nearly all Montanans (98 percent) reported they are full-time state residents. Years at current residence ranged from one to 92 years, with the average being 15 years.
- Property owned by Montanans ranged from zero to 40,000 acres, with a median of 0.5 acres and an average of 199 acres. Forty-one percent reported they own very little or no acreage.
- Approximately 21 percent of Montanans reported they are involved in agriculture, farming, or ranching. Fifty-five percent of those Montanans reported they are involved as a hobby and/or for personal consumption, and 45 percent are operating for-profit. Among those involved in agriculture, farming, or ranching: 57 percent produce livestock, 57 percent produce crops, 24 percent produce fowl, 10 percent produce honey, and five percent produce other agricultural products.
- About 12 percent of Montanans reported they are involved in an outdoor industry other than agriculture and 64 percent of those Montanans reported their industry is closely associated with fish and/or wildlife. Additionally, six percent of Montanans reported they are in another industry that may be affected by grizzly bears.
- Nature, outdoor recreation, and family were identified as the most important reasons why Montanans live in the state.
- Most Montanans reported participating in outdoor recreation activities that do not include hunting (93 percent), and 53 percent reported hunting.



DISCUSSION

Survey findings revealed generally positive attitudes towards grizzly bears in Montana. Most Montanans agreed that grizzly bears are a part of what makes Montana such a special place. But survey results confirmed that grizzly bears also elicit strong emotional responses in people skewed towards being nervous, upset, and scared when encountering a bear in the wild or near the home. A much lower percentage of Montanans felt their own personal safety is threatened by grizzlies, perhaps suggesting that Montanans can differentiate between fear and risk. Survey results also reveal that many Montanans take precautions (e.g., carry bear spray and/or firearms) when fishing, hunting and recreating in the state.

Grizzly bear numbers are expanding in Montana, and results from this survey suggest many Montanans are aware of or suspect this expansion, despite not knowing much about grizzly bear population numbers in different areas of the state. While there is a high level of support for the presence of grizzly bears in Montana, results from this survey demonstrate that acceptance of bears declines relative to human occupancy and agricultural-ranching use of the landscape. And, Montanans' views were mixed regarding whether grizzly bears should be allowed to live anywhere they become established on their own. Of note, a higher percentage of Montanans found it acceptable for bears to live anywhere they become established (42 percent) than found it acceptable for them to live in urban or suburban areas (8 percent), rural fringes of suburban areas (27 percent), or agricultural areas with small towns (40 percent). The difference between the former and the latter reveals a lack of awareness that some grizzly bears in Montana already can be found in areas like these and points to a need for additional outreach.

A sizeable majority of Montanans support some form of grizzly bear hunting. And, a majority agree that hunting is appropriate if grizzly bear populations can withstand the pressure. That said, about 17 percent of Montanans believe grizzly bears should never be hunted.

Nearly all Montanans expressed willingness to follow food storage guidelines on public lands and to carry bear spray when recreating. Opinions were divided regarding what would be the most effective tool for preventing an actual grizzly bear attack: use of bear spray, firearms, or both. When asked about actions to reduce grizzly bear-human conflict on their own property, willingness declined somewhat for securing attractants and declined

substantially for actions related to livestock. About a third of livestock producers reported they would be unwilling to alter livestock practices to mitigate risk of predation by grizzly bears.

Trust in FWP appears to be relatively high when it comes to managing grizzly bears, providing the public with information to help reduce grizzly bear – human conflict, and responding to actual grizzly bear conflict situations. And, Montanans were generally positive on several key survey items related to how the average citizen can have an influence on grizzly bear management decisions in the future.

Overall, these survey results demonstrate the complex nature of grizzly bear – human coexistence in Montana. The results from this study will be used by FWP as part of ongoing efforts to include public input in grizzly bear management planning and decision-making processes going forward. 

REFERENCES

Nesbitt, Holly K.; Alexander L. Metcalf; and, Elizabeth C. Metcalf. 2020. *Human dimensions of grizzly bear management in Montana: Descriptive statistics from a statewide survey of Montana residents*. Report submitted to the Montana Department of Fish, Wildlife & Parks. Missoula, MT: W.A. Franke College of Forestry and Conservation.

ABOUT THE AUTHORS

Cecily M. Costello, Research Wildlife Biologist. Wildlife Division of FWP, Bozeman, Montana.

Holly K. Nesbitt, PhD Student. Human Dimensions Lab, College of Forestry and Conservation, University of Montana, Missoula, Montana.

Alexander L. Metcalf, Assistant Professor. Human Dimensions Lab, College of Forestry and Conservation, University of Montana, Missoula, Montana.

Elizabeth Covelli Metcalf, Associate Professor. Human Dimensions Lab, College of Forestry and Conservation, University of Montana, Missoula, Montana.

Lori Roberts, Grizzly Bear Research Technician. Wildlife Division of FWP, Kalispell, Montana.

Justin Gude, Wildlife Research and Technical Services Bureau Chief. Wildlife Division of FWP, Helena, Montana.

Michael S. Lewis, Human Dimensions Program Supervisor. Responsive Management Unit of FWP, Helena, Montana.

TO OBTAIN COPIES OF THIS SUMMARY

Contact the Human Dimensions Program of FWP by phone (406) 444-4308 or visit FWP's website at fwp.mt.gov (and click on the following links..."Doing Business", "Reference Information", "Surveys", Social & Economic Surveys").