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Life Histories and Hunter-Wolf Conflict: An Investigation into the Sociocultural Dimensions of
Human-Wildlife Conflict

by

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A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Arts in the Department of Sociology

Idaho State University

Spring 2019

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Committee Approval

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Acknowledgements

First, I would like to thank my adviser, Dr. Morey Burnham. Before coming to grad school, I heard horror stories of friends who quit their programs because of bad advisers. I am so fortunate to have had an adviser who both provided unparalleled support during all phases of my project, and who trusted me to be responsible for my own work. I could not have asked for a better collaborator. I would also like to thank my committee members, Dr. Rebecca Hale, Dr. Katrina Running, and Dr. Neil Carter, for providing feedback and advice from various backgrounds that helped shape this project.

Second, I am grateful to have had the support of my fellow lab mates—some of whom were also my roommates—for the past two years. Blake Corvin, Chelsea Carson, Alyssa Millard, and Sara Halm provided both moral and technical support throughout this process. Their insight and creativity have been invaluable.

I want to thank those who participated in this project as interviewees. Wolves can be a tricky subject for many people living in the American West, and this life history project got somewhat personal when asking about family relationships. I appreciate them taking the time to talk with me about their families, friends, and experiences as hunters.

Finally, this research would not have been possible without the financial support of the ISU Department of Sociology, Social Work, and Criminology; the ISU Center for Ecological Research and Education; and the National Science Foundation—Idaho EPSCoR MILES grant.

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Life Histories and Hunter-Wolf Conflict: An Investigation into the Sociocultural Dimensions of Human-Wildlife Conflict

Thesis Abstract—Idaho State University (2019)

Since the reintroduction of gray wolves (*Canis lupus*) to the Greater Yellowstone Ecosystem (GYE), the species has been a source of conflict in the region. Wolf populations have remained steady since their delisting in 2012, but poaching and public calls for the species' removal are still prevalent. Recent research shows that while ranchers may have been the most adamant opponents to wolf presence in the GYE early in the reintroduction process, hunters are now the most outspoken anti-wolf stakeholder group. Using a life history approach and qualitative data from face-to-face interviews, this project seeks to identify the major sociocultural factors that influence hunter attitudes about wolves in Idaho and Montana. Results indicate a local truth that the reintroduced wolf population is significantly different from the original resident subspecies, and this belief is a primary driver of wolf opposition among hunters.

Key Words: wolves, hunters, reintroduction, local truth, attitudes

CHAPTER 1

1.1 Introduction

Conservation efforts in the United States were championed by the hunting community (Braverman 2015; Bruskotter & Fulton 2012; Holsman 2000). These efforts began with the protection of popular game species to preserve tradition and ensure continued ability to hunt, but have since expanded to include non-game species as more has been learned about the importance of biodiversity for ecosystem function. When the Endangered Species Act (ESA) was created in 1973, several large predators, including gray wolves (*Canis lupus*), were among the first species granted protections by the federal government, and efforts to aid their recovery were quick to follow. However, when wolves were reintroduced to Yellowstone National Park (YNP) and central Idaho in 1995-1996, locals and state government officials decried the decision, expressing concerns related to their livelihoods and cultural traditions, including hunting (Bangs et al. 2005; Farrell 2015; Houston et al. 2010). Conflicting perceptions of the affects wolves have on human safety, game populations, and livestock production have led to an ongoing, bitter struggle that pits locals against scientists, rural residents against urban residents, and utilitarian philosophies against protectionist ethics. Despite being a generally conservation-based community, hunters have been among the major stakeholders calling for wolf removal (Bruskotter et al. 2007; Treves et al. 2013). Twenty-five years after their reintroduction, strong, sometimes violent opposition to gray wolves' presence in the American West continues to characterize debates over management of the species, necessitating a deeper understanding of the underlying sources of conflict (Bruskotter et al. 2011; Bruskotter et al. 2014; Carroll et al. 2006; Killion et al. 2018; Messmer et al. 2001; Musiani & Paquet 2004; Olson et al. 2014).

Wildlife conflict does not end with the mediation of physical wildlife damage to people or property. Perception of threats can continue without material impacts and have a profound influence on how people react to the presence of certain wildlife species, especially predators (Bruskotter et al. 2009; Bruskotter & Wilson 2014; Dickman 2010; Manfredo et al. 2003; Sillero-Zubiri et al. 2006; Slagle et al. 2012; Young et al. 2015). Wolves are viewed as a unique animal in human societies around the world, whether constructed positively through Native American lore or negatively through European fairy tales, bringing with them deep cultural meaning that other animals might not have (Bright & Manfredo 1996; Lopez, 1978; Mech 2012; Robisch 2009; Scarce 2008; Slagle et al. 2018). Because they carry with them more significance than just their physical presence on the landscape, wolf management and conservation are highly contentious. In the American West, wolves are often viewed as symbols of the federal government imposing their liberal, urban-based beliefs on rural communities far removed from them in space and experiences, and many hunters feel wolf reintroduction was an attack on harvest-based forms of outdoor recreation (Young et al. 2015; Zackary 2013). Such views can support the demonization of wolves as a justification for the animosity felt toward those responsible for their presence.

Most research on human-wolf interactions in the American West has focused on conflicts with ranchers and livestock, leading to the development of a fairly comprehensive and effective regiment of anti-depredation tactics used by ranchers (Musiani et al. 2003; Muhly & Musiani 2009). This success has led some researchers to suggest that hunters are now the strongest oppositional stakeholder group for wolves (Bruskotter et al. 2007; Olson et al. 2014; Schroeder et al. 2018; Treves et al. 2013), but research is lacking when it comes to understanding hunters' motivations for promoting or opposing wolf conservation. Considering that United States

conservation efforts have historically been led by the American hunting community, reports of widespread negative wolf-related attitudes expressed by hunters is puzzling, especially when taking into account the ecological benefits of wolves examined in a variety of scientific studies (USFWS 2011; Beschta & Ripple 2009; Bump et al. 2009; Painter et al. 2015; Ripple & Beschta 2011; Smith et al. 2003; Wilkinson 2017; Wilmers et al. 2003). When compared to other predators, wolves are statistically the least dangerous to humans and were recently shown to predate on fewer deer and elk calves in the Yellowstone area than do mountain lions (USFWS 2011), yet they are consistently the least-liked predator species across a number of social groups (Treves et al. 2013; Williams et al. 2002). The animosity felt toward wolves may be sparked not by the ecological impacts they have, but by more complex social-psychological factors. Because hunters are armed and spend a significant amount of time in the wilderness, they arguably have the most potential of any stakeholder group to directly affect wolf management success (Treves & Martin 2010). It is therefore imperative that scientists and managers understand the drivers of hunter-wolf conflict in the region by identifying the sociocultural factors that most influence wolf-related attitudes.

In this paper, we qualitatively investigate hunter attitude development toward wolves in the Greater Yellowstone Ecosystem (GYE), Montana, and central Idaho. By using a life history approach with semi-structured, one-on-one interviews, we explore the historical and social pathways that might shape individuals' wolf attitudes, putting those attitudes in context and creating a more comprehensive picture of how and why hunter attitudes toward wolves exist and persist. The following research questions guide our exploration of human-wolf conflict through the eyes of hunters in the American West:

1. What are hunter attitudes about wolves?

2. How do familial and cultural pathways influence people's attitudes over the course of their lives?
3. What are the major sociocultural factors that influence hunter attitudes about wolves in the GYE, Montana, and Idaho?

Our central findings suggest a belief primarily among Old-West residents that the reintroduced population of wolves is significantly different from the “original” wolves of the region, and this belief is what drives the majority of wolf opposition. The results imply that although hunters with more negative attitudes toward wolves were likely to have lived in the northwestern U.S. for multiple generations, not all descendants of Old-West families are antiwolf. In general, it appears antiwolf attitudes are relatively widespread but declining within the hunting community as a result of distance in time from the reintroduction event, the classification of wolves as game animals, and changes in agencies tasked with wolf management.

1.2 Wolf Conflict in the American West

Gray wolves' traditional range in North America stretched from the northernmost reaches of Canada to southern Mexico and from the Pacific to Atlantic oceans (USFWS 2011). European settlement of the United States brought with it government-mandated predator extermination, prey depletion, and habitat destruction, which led to wolves' near extinction in the lower 48 states by the early 1900s (*ibid*). Before the creation of the ESA and the official listing of the species as endangered in 1974, gray wolf populations in the lower 48 were reduced from hundreds of thousands of individuals to approximately 300, all of whom resided only in Minnesota and the upper peninsula of Michigan (USFWS 2011).

Discussions of reintroducing gray wolves to the American West began in 1990, when Idaho Senator James McClure introduced a plan to speed up wolf recovery in the region (Wilson 1999). After meeting much resistance from the Idaho State legislature in response to a more aggressive recovery plan, the United States federal government began working closely with the Nez Perce tribe, who helped organize the first release of a Canadian subspecies of 15 gray wolves to central Idaho in 1995, as the original subspecies of the region was already extinct (*ibid*). The more famous reintroduction of wolves to Yellowstone National Park followed close behind in 1996. Federal and tribal protections, along with an abundance of prey, helped the western wolf population grow rapidly, and the United States government began the process of delisting the species and fully handing management over to state governments in 2002 (Montana Fish, Wildlife & Parks 2016). However, application of initial state management plans failed because of intentions to again hunt the species to near extirpation, stemming particularly from Idaho residents who felt their wishes were disregarded in the reintroduction process (Wilson 1999). Wolves remained under federal protection for an additional 10 years before state management plans were approved, allowing populations to rise well above the ESA threshold of 150 individuals in the areas of reintroduction. As of 2010, the total wolf population of the GYE was estimated to be around 1,600 individuals, and that number has held relatively steady since the official removal of the gray wolf from the ESA in 2012 (Ellis 2018). Currently, the state of Idaho alone is estimated to have around 700 wolves (Husseman & Struthers 2015), while the Montana population is around 550 (Montana Fish, Wildlife & Parks 2016). However, many local residents have a different perception of the number and type of wolves in the region than is provided in official reports, as well as the impacts wolves have on game populations.

Past research on wolf attitudes has found that, in contrast to the general U.S. public that has a relatively positive view of wolves, hunters in the American West have maintained a stable, negative-leaning attitude toward the species since reintroduction efforts in the region began (Bruskotter et al. 2007; Slagle et al. 2018). As stated by antiwolf participants in this study, much of this negative attitude is associated with the belief that wolves have been decimating ungulate herds since their return. Ungulate overpopulation was a major factor in the decision to reintroduce wolves to the GYE, an act successful in stabilizing multiple facets of the ecosystem in ways humans could not (Fortin et al.; Ripple & Beschta 2011; Ripple et al. 2001). While hunting has been repeatedly used as a wildlife management tool, studies have shown that organized human hunting alone may not be sufficient to reduce ungulate populations to a stable level (Williams et al. 2013). Unfortunately for hunters in the American West, who had been living without wolves for almost 100 years, their reintroduction has required adjustments in hunting strategies. In addition to limiting ungulate numbers, wolves change ungulate behavior, breaking up herds and moving them around the landscape so they are generally more wary and harder to find (Greenville et al. 2014; Lopez 1978; Mech & Boitani 2003). Many hunters have been forced to move from traditional hunting locations that may have been passed down over several generations, creating friction particularly among long-term resident hunters of the GYE.

1.3 Life Histories and Social Theories

One can only ascertain a full understanding of another person's reasons for having the attitudes they do by putting those attitudes in a broader historical and social context (Berger & Luckmann 1966; Brehm et al. 2006; Daly 2007; Hagemaster 1992; Mortimer & Shanahan 2003; Peterson & Liu 2007). In the case of hunters in the American West, this broader context is

especially important because, as previous research indicates, whatever causes them to have such staunch opinions on wolves is motivated by something other than overt ecological or economic impacts (Peterson & Liu 2007; Treves & Martin 2010; Zackary 2013). It is well recognized that individuals' attitudes are shaped by the attitudes of others and significant life events (Bandura 2002; Carolan & Bell 2003; Cialdini & Goldstein 2003; Elder 1998). Human actions and attitudes do not always conform to the oft-theorized tenants of economic rationality, through which people are expected to think and act in ways that enable the highest level of personal gain (Bandura 2002; Bjerke & Kaltenborn 1999; Brehm et al. 2006); rather, they are often inspired by other influences, such as the environment in which they live and the people with whom they share that environment (Cialdini & Goldstein 2003; Cristancho & Vining 2004; Kaltenborn & Bjerke 2002). Previous research examining the connections between attitude/value formation and environmental conservation behaviors has focused on several factors that influence individual decisions, including feelings of social responsibility and cultural/lifestyle motivations (Bjerke & Kaltenborn 1999; Kaltenborn & Bjerke 2002; Peterson & Liu 2007; Zinn et al.). Such factors often have stronger influence on human behaviors than economic motivations.

In the rural American West, family ties and traditions are often vital facets of daily life (Brehm & Eisenhauer 2006; Elder & Conger 2000; May 1994; Walker 2003), meaning information and knowledge is often traded within family groups or members of a tightly-knit community; it follows that family history, personal relationships, and hunting traditions could have a profound impact on attitude development toward wolves among hunters of the region. Feelings of responsibility to an Old-West family legacy, for instance, might influence a person to have more negative views of wolves, which were eradicated from the region by early Western settlers. Further, past research in the region implies the existence of a local truth, a speculation

borne of frustration which has been repeated so often in this region that it has become fact to many who live there. In this case, some locals believe the reintroduced wolf population is significantly larger and more aggressive than the original resident subspecies (Zackary 2013). When social circles are relatively small, as they often are in the American West, sources of information can be limited, and information can stagnate within a community. The concept of “local truth” addresses events that did not necessarily happen in reality but are considered true by a community or culture (Mali 1991; Nazarea 2006).

Research attempting to evaluate wolf-related attitudes in the region has consisted almost exclusively of surveys. Whereas survey research can give a snapshot of hunters’ attitudes at a certain point in time without information on how that attitude came to be, the qualitative, life history approach we use in this study puts wolf attitudes into a broader socio-historical context and can get to the root of wolf-related attitude formation by capturing the way family ties and local traditions influence attitude development.

CHAPTER 2

2. Methods

2.1 Interviews

The data used in this study come from interviews conducted with hunters who live or hunt in Idaho and Montana. Interviewees were selected using a combination of targeted and snowball sampling. To recruit participants, we first contacted key members of wildlife organizations such as the Rocky Mountain Elk Foundation to develop a list of hunters to contact. We then used snowball sampling to identify additional interviewees. Snowball sampling ensured the acquisition of subjects that were willing to participate in this study; however, such a method

is limiting in that interviewees might have similar attitudes to one another, and participants shared similar residential locations. This could potentially skew results to be more homogenous than those of a broader sample (Browne 2005; Noy 2008). Interviews were conducted in person when possible, or over the phone. New interviewees were contacted until they repeatedly referenced similar themes, indicating data saturation within this relatively homogenous group at 15 individuals (Guest et al. 2006). Each interview lasted an average of 41 minutes.

Interviews were semi-structured and consisted of open-ended questions that allowed interviewees to guide the conversation. Based on a life-history approach to social research (Daly 2007), questions investigated participants' demographics, occupations, perceptions of their family relationships, family history (i.e. how long they have lived in the West, whether other family members were/are hunters), personal hunting preferences (i.e. where/what/why/how they hunt), and perceptions of wolves and other predators (i.e. how wolves influence hunting experience, how participants feel about wolves in comparison to other large predators in the ecosystem). Interviews were recorded with the participants' permission. A copy of the interview guide can be found in Appendix A.

2.2 Data Analysis

Life history and sociocultural influences on wolf attitudes were compiled inductively and deductively using the qualitative data analysis program Atlas.ti after transcribing recorded interviews into text (Bernard et al. 2017; Friese 2014). The coding process included an initial round of identifying structural codes that fit in general categories, such as demographics, hunting experience, and family relationships. Five rounds of more in-depth classification of codes resulted in a total of 75 codes spread across three large code groups: personal perspective, family

perspective, and demographics. Deductive codes included demographics, perceptions of wolf size, and length of family residency in the West. Overall, inductive codes focused on family history, perceptions of wolves, and personal ties to the landscape and the act of hunting. Family history included length of residency in the West, history of hunters in the family, familial ties and relationships, and elders' wolf-related attitudes. Perceptions of wolves included wolf size, population size, ecological impacts, personal wolf-related attitudes, and perception of others' wolf attitudes. Personal ties to the landscape and the act of hunting included reasons for living in the region, willingness to live elsewhere, time and effort dedicated to hunting, and reasons for hunting. For the purposes of reporting our results, participants were sorted into three wolf-attitude cohorts: antiwolf, prowolf, and neutral. A copy of the full codebook can be found in Appendix B.

CHAPTER 3

3. Results and Discussion

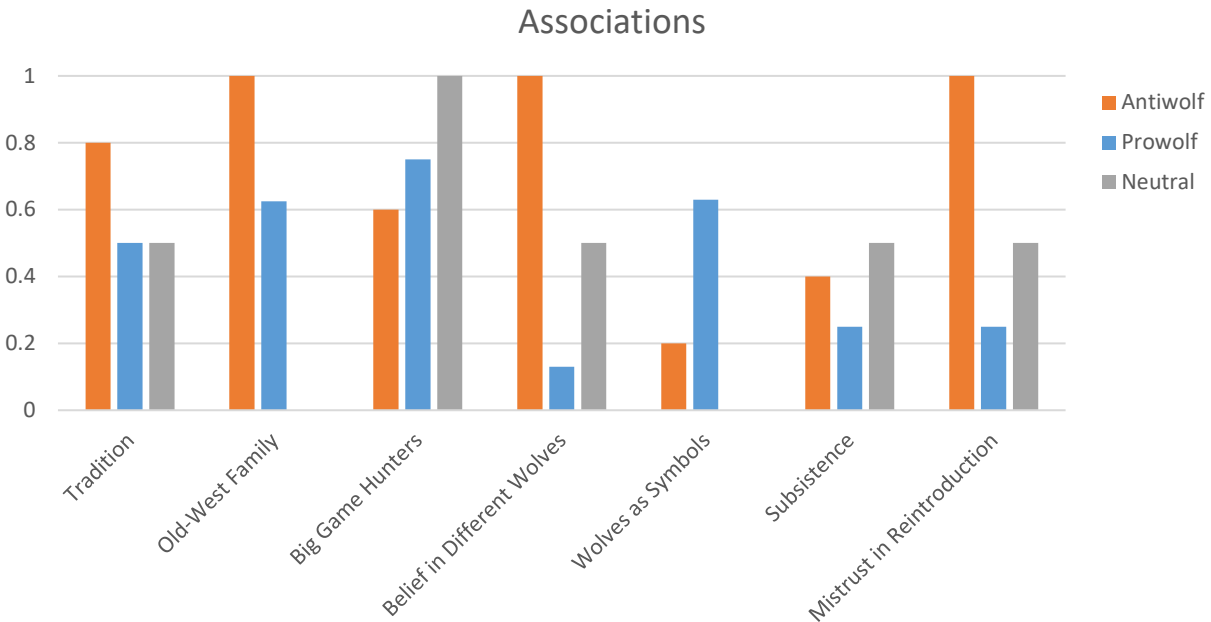


Figure 1. Percent of cohort associated with recurring themes. Antiwolf: n=5; prowolf: n=8; neutral: n=2. “Tradition” refers to associations participants have with hunting as a tradition. “Old-West Family” includes those who have 3 or more generational ties to the American West. “Big Game Hunters” represents participants who primarily hunt big game. “Belief in Different Wolves” represents participants who believe the reintroduced wolves are significantly different from the original resident subspecies. “Wolves as Symbols” represents those participants who believe wolves are a symbol of the American Northwest. “Subsistence” represents participants who hunt primarily for subsistence, as opposed to sport. “Mistrust in Reintroduction” represents participants who expressed mistrust in government agencies and/or the wolf reintroduction process.

3.1 Families and Residential History

In agreement with existing social theories of cultural transmission and attitude formation, as described in life history literature (Berger & Luckmann 1966; Daly 2007; Elder 1998), all participants showed consistency in wolf-related attitudes within families. In general, participants who expressed more antiwolf attitudes were likely to have multiple relatives—whether siblings, parents, grandparents, or extended family members—who shared negative views of the species. Prowolf and neutral participants generally had more of a mix of attitudes among their relatives.

Several had never discussed the wolf issue with their parents or grandparents, even those whose families had been living in the American West for multiple generations. In those cases, some participants said their grandparents died before wolf reintroduction, or their parents stopped hunting before wolves were reintroduced to the region, and therefore had no personal experience with the impacts wolves have on hunting. Multiple prowolf participants also described family members' wolf-related attitudes as neutral. Interestingly, these neutral family attitudes were largely present in Old-West families, even when those families have been hunting in the region for generations—meaning they likely would have encountered a change in hunting experience after wolf reintroduction.

Exactly half of those interviewed who were born in the American West (n=10) expressed positive attitudes toward wolves. This indicates that family ties to the American West and associated values do not necessarily lead to antiwolf attitudes. However, all antiwolf interviewees had deep family ties to the region, going back at least three generations. Among interviewees, in agreement with past research (Bruskotter et al. 2011; Farrell 2015; Houston et al. 2010; Treves et al. 2013), antiwolf attitudes were more prevalent among hunters who are long-time residents of the region of reintroduction, as opposed to hunters born elsewhere. The attitudinal split in this study suggests that long-time residents of the region have a relatively even mix of wolf-related attitudes, but antiwolf residents are more likely to have family history in the region than not. The fact that all antiwolf participants are long-time Western residents, but not all long-time residents are antiwolf, suggests that family history and residence alone cannot explain disparities in wolf attitudes. Rather, as is discussed in section 3.3, our research indicates that differences in landscape ties, hunting experiences, and interpretations of wolves as symbols are more likely explanations.

3.2 Landscape Ties

Almost every interviewee voiced strong connections to the land where they lived and hunted in Idaho and Montana and could not foresee living anywhere else in the near future. Participants discussed the recreational freedoms and opportunities associated with having abundant public land access, especially in Idaho, as opposed to other states where public lands are limited, or where most areas in which you can hunt are either private property or government-owned. Easy access for outdoor recreation of all kinds, spread across some of the wildest country left in the U.S., makes it difficult for participants to imagine leaving the Idaho-Montana area. One participant said his outdoor excursions in Idaho "contributes almost entirely to [his] quality of life," and mentioned that friends have told him he should be an Idaho tour guide because of his passion for and knowledge of the land. Another said he made the decision to move out West from the Great Lakes region when he was 18, and never looked back. When asked if he would consider living anywhere else, he said, "Listen, I'd go for a couple weeks. Or about a month, probably... I'm pretty set on Montana." Wolves were often brought into conversations about recreation and access as participants expressed fear of losing recreational opportunities in remote areas with increases in wolf populations across the landscape. In the eyes of some interviewees, the possibility of losing access or experiencing reduced hunting success in traditional hunting locations is directly tied to wolf presence, which explicitly links life history to hunters' wolf attitudes.

In addition to recreation access, several participants discussed the personalities of the people who live in Idaho and/or Montana and the region's culture as primary reasons for living in the region. One participant talked about "ideals" and "values" that make her feel more

comfortable as both a hunter and a conservative; the first thing she said when asked why she likes living here was, "I like the freedom of speech. I like the ability to carry a gun." She and another participant, self-identifying as conservative and liberal, respectively, both talked about the political independence one tends to find in the region as a positive for living there. Although several participants who expressed appreciation of the *laissez-faire* political atmosphere were pro-wolf, such political independence has been tied to negative wolf attitudes in past research, as wolves are often viewed as symbols of big government (Farrell 2015; Scarce 2008; Slagle et al. 2018; Zackary 2013).

3.3.1 Hunting Experience

All interviewees started hunting in childhood—either starting at the legal age in their respective states, or even before when they would accompany older family members. Every participant was introduced to hunting by either a parent or close relative, and no participants were without other hunters in their immediate family. Almost all participants (11/15) have hunted only in the American Northwest, some never hunting outside of Idaho. Familiarity with only one particular landscape could influence perceptions of how wolves impact that landscape, as experience with a variety of ecosystems and their associated evolution may be limited. Participants who stayed in traditional hunting areas year after year generally expressed more frustration with wolf-related ecosystem changes than did participants who like to experiment in different hunting zones, even within the same state.

3.3.2 Hunting Traditions and Identity

A majority of participants referenced tradition as a major reason for why they hunt, specifically mentioning family hunting spots or quality time spent with family and friends while on hunting trips. According to research on social relationships, traditions bond people together and provide a sense of belonging and comfort (Bandura 2002; Berger & Luckmann 1966; Cialdini & Goldstein 2003; Whelan 2016). Tradition in this study was typically talked about in one of two ways: participation in the hunt awakening a connection to humans' primal roots, or preserving the family tradition of hunting for future generations. Four out of five antiwolf participants referenced loss of this tradition, particularly having to leave traditional family hunting spots in order to have successful hunts, as negative impacts of renewed wolf presence. As one neutral participant said:

“The guys who have been hunting, okay, hunting can be very social here in Idaho. You get a group of guys who go to elk camp, and they’ve got this place where they go, and they’ve been hunting elk there for, you know, 20 years, or maybe they hunted there with their father and now they’re hunting there with their son, you know. And they go back to elk camp, and there aren’t any elk around there anymore. And yeah, I’d say there’s definitely a level of animosity that I’ve seen with guys who have experienced things like that.”

When asked about what hobbies they pursued other than hunting, all participants, in addition to other miscellaneous activities, said that if the activity is outdoors, they probably engage in it. One participant connected his love for outdoor activities to the way he was raised, drawing connections between his personal life history and attitudes relating to wildlife:

“I came from a background that we were always outside, so, like, you take advantage of whatever season you’re in and you try to enjoy nature and the surrounding area as much as you can, no matter if it’s the dead of winter or the spring or the fall or summer, so it’s just really, the definition I guess is to, whenever possible, to get out and enjoy the area.”

Some, however, said they had a difficult time answering questions about other hobbies, because most of their lives revolve around hunting or preparing for the next year's hunt. For these

interviewees, hunting is a major part of their identity, an integral facet of everyday life even during the off-season. As one antiwolf participant said:

“It’s usually hunting or fishing. That’s what it really comes down to...truly, if we’re not hunting, we’re fishing, and if we’re not actually partaking in one of those we’re probably practicing that or going and doing something in regards to one of those, so it may be a fishing expo if we’re in town, or maybe we’ll just go out to the range and we’ll shoot and practice. Maybe we’ll take the bows out and go shooting. But we’re always doing something that kind of revolves around hunting and fishing all the time.”

Most of those participants who said hunting is such a big part of their identity were antiwolf. As discussed earlier, these participants often view wolves as in direct conflict with their hunting interests. Because hunting is a cornerstone of how these participants define themselves as individuals, the possibility that wolves might take that away from them would undoubtedly contribute to more negative wolf attitudes.

3.3.3 Reasons for Hunting

Several participants discussed the challenges of hunting as a major draw for them. Here, learning new things about the landscape and animal behavior each time they go hunting were extolled as reasons for why they enjoy being sportsmen. Some even talked about the increased challenge wolves present in a positive light, as opposed to four antiwolf participants who said wolf-induced ungulate behavior changes are negative and frustrating. The former group, consisting of participants across cohorts, said they believe wolves make them better hunters overall by presenting new challenges and opportunities for learning, and to be a hunter means you have to be willing to adapt. As one participant said, "...it's called hunting for a reason and not killing for a reason."

Similarly, four participants talked about hunting as taking "an active role and participating in that landscape." One antiwolf participant specifically talked about wolves in this way:

"I know they're a natural predator for elk, but so am I. I mean, I have this license to chew meat, and canine teeth, so I feel like I'm a competitive predator. So, predators sometimes fight, you know, it'll be wolf and grizzly bear fights, it'll be wolf and cougar fights, well, that's me and that wolf."

3.3.4 Wolf Experience and Wolf Impacts on Hunting

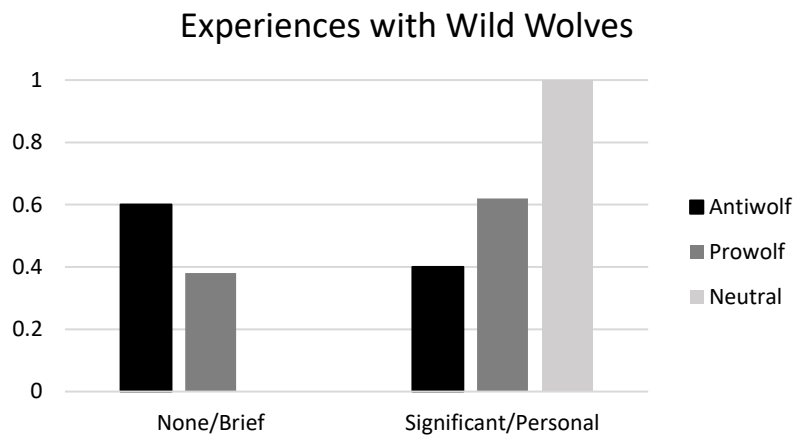


Figure 2. Percent of cohort with little (none/brief) or much (significant/personal) experience with wild wolves.

Along with general hunting experiences—which may or may not have been affected by wolves—participants specifically discussed their personal experiences with the species. Figure 2 shows extent of wolf experiences by cohort. Of those participants who have had significant in-person interactions with wild wolves (n=9), only two report having a negative view of the species. Two out of five antiwolf participants have never interacted with wild wolves, and have formed their opinions based on hunting success (or lack thereof) and stories from within their community. In contrast, only one of eight prowolf participants has never seen more than wolf sign in the wild. None of the experiences described involved a wolf attacking a person, but some

antiwolf participants still mentioned stories of wolf attacks on friends, saying they know they “should be afraid.”

Among interviewees, there was a general sentiment that if wolves were around, you would not have a successful hunt. Despite not having personal interactions with wild wolves, two participants (mother-daughter pair) both reported negative hunting experiences as the result of wolves; specifically, wolves making it difficult or impossible to find elk. As mentioned earlier, four of the five antiwolf participants said they no longer have hunting success in the areas they would traditionally go for hunting trips, and they attribute this change to wolves. Other participants mentioned that although they used to follow this train of thought, they have since had successful hunts while they knew wolves were in the vicinity, some even describing instances where they saw wolves and elk peacefully travelling through the same meadow at the same time. Some who reported having reduced hunting success in recent years concede that the decline in elk presence could be the result of multiple factors, such as climate and vegetation. In fact, one commented on hunters who blame wolves for their lack of hunting success:

“...the thing that annoys me the most about hunters, any time someone can’t kill something and they blame it on wolves, it’s just such a cop-out for people being shitty hunters. ...a lot of people say it’s all wolves, and that just annoys me to no end that people are so dense that they think there’s only one, like, life is so simple, that there’s just one problem out there, that we need to get rid of that one thing.”

Three participants mentioned hunting guides or friends they knew who reported seeing wolf kills that were not completely eaten, which they take as evidence for wolves having negative ecological impacts. One said she has multiple friends who have been attacked by wolves, but the extent or credibility of these events is not confirmed. According to official reports, there have been no confirmed attacks of healthy wild wolves on humans in the lower 48 states (USFWS 2011).

Two interviewees who live in the same region discussed significant wolf-related attitude changes over the course of their lives, though in opposite directions. The first, a bartender and big-game hunter in Montana, said that as a child, she thought wolves were "really cool" animals. Her personal experience of having more difficulty with hunting success in the presence of a robust wolf population is what has since changed that attitude. The second participant, however, moved to Montana from the Great Lakes and, picking up on the hatred of wolves expressed by his neighbors, joined the "kill every one" crowd until about 10 years ago, when he started trapping wolves and learning more about them on his own. He says that now he cannot help but hold wolves in high regard, since they continually outsmart him and teach him new things. These participants are experiencing the same wolves on the same landscape, but have come away with oppositional wolf attitudes. Such a phenomenon is indicative of the varying psychological constructions of wolves, which is connected to one's life history and subsequent interpretations for what wolves symbolize.

3.4.1 Wolves as Symbols

As mentioned earlier, wolves around the world are unique in that they bring with them strong symbolism other animals might not have (Bright & Manfredi 1996; Lopez, 1978; Mech 2012; Robisch 2009; Scarce 2008; Slagle et al. 2018). Past research has investigated social constructions of wolves in the U.S. with varying results: some shows American West residents construct wolves as a symbol of federal government overreach (Farrell 2015; Scarce 2008; Slagle et al. 2018; Zackary 2013), while other research indicates the U.S. population in general sees wolves as an ethereal symbol of wild mysticism (Cristancho & Vining 2004; Farrell 2015; Mech 2012; Slagle et al. 2018). In this study, wolves were discussed as symbols in three major

ways: as symbols of the American Northwest, as symbols of fear, and as symbols of big government.

Most participants in this study said that although they do not necessarily disagree with those who view wolves as a cultural symbol of the region, they do not understand why wolves, specifically, are often given that role. They referenced Americans who view the species as a spiritual, mystical animal, and noted that such symbolism is "misplaced." These participants offered alternative examples for animal symbols of the American Northwest, such as salmon, bison, or grizzly bears. However, a majority of pro-wolf participants agreed with the idea that wolves are a cultural symbol of the region. Two expanded on this symbolism, saying they would consider wolves a symbol of wilderness in general because the presence of wolves requires relative distance from humans, lots of land, lots of prey, etc. In fact, although all anti-wolf participants said they would feel more of a spiritual connection to the "original" wolves that inhabited the region, one said he experiences some of that feeling of spirituality with the reintroduced population.

Some participants discussed nightmarish symbolism of wolves in the region. One said when he first moved out West, he was greeted with a view of these introduced, "Satanic" animals, which admittedly shaped his personal views of wolves until about 10 years ago when he started learning more about them independently of local knowledge. Others referenced folklore, such as Little Red Riding Hood and the Big Bad Wolf, as probable causes for negative views of the species. Although such views of wolves in general are what may have driven their extirpation in the 19th and early 20th centuries, this theme does not appear in anti-wolf participants' reasonings for disliking the wolves that are present now. For them, the "original" wolf would have had a place; it is the fact that these wolves are viewed as "outsiders," forced into a system in

which they do not belong, that promotes negative views of them, not the fact that they are wolves. The "Satanic" view described appears to be specific to the reintroduced population.

Participants talked about wolves being used as a scapegoat for other issues, particularly in relation to government. They mentioned political divides that seem to determine whether or not someone will be in favor of wolves; they all said that conservatives/Republicans tend to be antiwolf, while liberals/Democrats tend to be prowolf. They perceive this political split as a major reason for why the wolf debate is so polarized: wolves are used as a symbol of government rather than just another wildlife species.

3.4.2 Changes in Wolf Management

A majority of participants discussed state management of wolves and hunting seasons for the species as turning points in public acceptance. Every antiwolf participant said they feel less animosity toward the wolf situation now that they are allowed to hunt them. Even some prowolf participants mentioned that although they are in favor of having wolves on the landscape, they are more comfortable now that they are being managed like any other predator. Almost all participants who discussed the change in wolf protections said they have noticed a dramatic decrease in tensions surrounding the wolf debate over the past five years or so. These findings are consistent with previous research that indicates a negative view of wolves associated with federal government intervention (Scarce 2008; Slagle et al. 2018).

Several participants across cohorts, including all those identified as antiwolf, expressed mistrust in the wolf reintroduction process. Most of this stemmed from the idea that the reintroduced wolves are significantly different than those which inhabited the region previously, and participants said it was an "irresponsible" and "sloppy" process that resulted in the

decimation of ungulate herds around Yellowstone and central Idaho immediately following reintroduction. Some also said the federal government let the recovering population "run rampant" before handing management over to the states: they suggest that management should have been transferred earlier, when wolf populations were much smaller but still above the acceptable threshold set by the ESA. The perceived delay of delisting gray wolves made several participants view the federal government, the ESA, and wolves more negatively than they may have had management been handed over to the states earlier and locals were given more control. Some noted that if wolves were to be relisted under the ESA, they may again begin to feel more negatively about their presence. Again, this aligns with findings that indicate locals construe wolf presence in conjunction with federal and environmentalist interests—interests with which they may disagree (Slagle et al. 2018).

3.4.3 Different Wolves

The notion of different wolves being reintroduced—or, in the words of some interviewees, introduced—to Idaho and the GYE is prevalent in both pro- and antiwolf participants. Some mentioned this phenomenon as something they do not personally believe, but noted that the trope of giant, aggressive Canadian wolves is a common one among residents of wolf country. Two antiwolf participants used the words "slaughter" or "slaughtered" to describe wolf predation on elk and deer. Another referred to the reintroduced subspecies as "a massive killer from Canada." Some participants insisted that the "original Idaho wolf" was not extinct before the reintroduction of Canadian wolves, and that their extirpation was finalized by competition from this new subspecies. All antiwolf participants believe the reintroduced wolves are significantly different from the "original Idaho wolf," while one neutral participant and one

prowolf participant also expressed this belief. All but one participant who held this belief came from Old-West families.

What is especially interesting is that one of the respondents who mentioned the "different" reintroduced wolves actually lives and hunts in an area where wolves are present through natural recolonization from Canada, not the reintroductions in YNP and central Idaho. This supports the possibility of a local truth, which might help explain the disparities in scientific and local understandings of reintroduced wolf populations as it validates rumors and folklore through repetition. Zackary (2013) reported instances of Western residents describing the reintroduced wolf population as significantly larger and more aggressive than the original subspecies present in the region, a claim not supported by scientific evidence. This “truth” possibly developed in response to the federal government reintroducing a population of Canadian wolves to an area where locals still had misgivings related to wolf presence. Concerns for human safety, livestock, and game populations, combined with the fact that wolves had been absent from the landscape for almost 100 years, translated into a demonization of the reintroduced population. Surprise at the size of wolves added to local fears, and perception of wolf-related risk increased. As demonstrated in past research, risk perception hugely influences attitude formation and subsequent human behavior (Bruskotter & Wilson 2014; Kaltenborn & Bjerke 2002; Kaltenborn et al. 2006; Sillero-Zubiri et al. 2006). Stories of “giant wolves” likely circulated among communities in wolf country, and because this trope was supported by locals and conspecifics—who are more trustworthy than government officials—it became fact.

As previously mentioned, Slagle et al. (2018) found that residents of the wolf reintroduction regions tended to see wolves as tools for the federal government to exercise control over western states. By saying simply that these wolves were introduced "from Canada,"

the information available to the general public leaves much to the imagination, and residents opposed to their presence will likely assume the worst. Locals might picture arctic wolves being taken from the tundra, where they would be larger than wolves farther south, and where they would chase caribou instead of elk and deer. This is, in fact, the exact image described by almost all antiwolf participants. The reality is that the reintroduced wolves were taken from just north of Idaho's border with Canada. These wolves were chosen because of their similarity to the original subspecies and their familiarity living in similar environments to where they were relocated. From a biological standpoint, the wolves that now reside in Idaho, Montana, and Wyoming are functionally identical to the resident subspecies eradicated in the early 1900s. These same wolves would have eventually made their way down to Idaho, as they did in northwestern Montana; the reintroduction process simply sped up their dispersal. Regardless, locals are now seeing wolves in a region where they had been gone for almost 100 years, and the presence of such large, unfamiliar canids has translated into fear and anger. It appears that, over time and through repetition, interpretations of these wolves as giant outsiders have become Truth to those nonplussed with their reintroduction and unfamiliar with wolf biology/taxonomy.

CHAPTER 4

4. Conclusion

By using a life history approach, this paper sought to investigate the socio-cultural factors that influence wolf-related attitudes among hunters in the American West. Our findings suggest that local truths, particularly among Old-West residents, are currently the primary drivers of wolf opposition. The belief that the reintroduced wolves are significantly different from the original subspecies perpetuates frustration that may have been triggered by federal government

overreach, but has now translated into blame for the demise of traditions and hunting success. Rather than allowing hunters to adjust to the changing abundance and behaviors of ungulates in the presence of wolves, many hunters believe this new subspecies is simply decimating elk and deer because of the perceived differences in size and behavior. It follows that frustrated hunters do not try to change traditional hunting ranges or strategies, since they believe this effect is spread over any wolf-inhabited areas, and they therefore continue to experience lessened hunting success in wolf country: perpetuating local truths on a personal level. For those hunters who have adjusted their techniques, however, most acknowledge that although their strategies and locations may have been forced to change, wolves bring with them some ecological benefits and have a place on the landscape.

It is difficult to say whether education would change the minds of antiwolf hunters. At this point, pamphlets and education initiatives are likely to be seen by that cohort as liberal, environmentalist propaganda, especially because the Truths that appear to drive hunter-wolf conflict have been handed down over generations. Efforts to “educate” an unwilling public have largely been unsuccessful in a variety of studies (Carolan & Bell 2003; Lute & Gore 2014; Meadow et al. 2005). However, from these interviews it seems as if attitudes are changing as a result of time and state management. Ungulates and wolves, now several generations removed from the reintroduction event, are beginning to reach a balance in this Western ecosystem as they grow used to each other’s presence (Mech & Barber-Meyer 2015). This balance has not gone unnoticed in the hunting community. Although the success of allowing hunting of a species to promote conservation is under debate (Chapron & Treves 2016; Loveridge et al. 2006; Treves et al. 2016), it appears that, in this case, transferring management to state governments and allowing wolf hunts has actually reduced tensions. One would hope that eventually, based on the

current trajectory illustrated in this life history approach, hunters of the American West will come to adopt wolves as another game species integral to the functioning of the ecosystems in which they hunt. As we become more removed from wolf reintroduction, perhaps the local truth of “different wolves” will fade.

In future reintroduction and repopulation efforts, the federal government should be more inclusive of all stakeholders in the development of a management plan, particularly hunters. Because hunters can come from all walks of life but share a passion for animals and the outdoors, they can be unparalleled allies in conservation efforts. Countless wildlife managers and conservation actors are already part of the hunting community. These individuals should be involved in the development of management plans from the beginning—not just their implementation—as they can likely bridge rural-urban and liberal-conservative divides when it comes to conservation. Many hunters might argue that those who identify as environmentalists are anti-hunter, and many environmentalists might argue that hunters care only about their own hunting success when it comes to wildlife conservation. I would argue that, although these tropes are present both in this study and in general, neither of those beliefs reflect reality. Wolf reintroduction was, and continues to be, opposed by Western residents because they felt the federal government, located in Washington, DC, was not aware of the reality of living with wolves out West. Whether or not this is accurate, it stands that local concerns relating to the history of region (i.e. livelihoods and traditions) were brushed over as the project focused solely on biological factors of reintroduction to the region. Lack of communication and participation led to what we have now: a widespread belief that these wolves do not belong on the landscape at all.

Hunters are a stakeholder group that can span political divides. Whatever their background, hunters share a love for the outdoors and the creatures that inhabit the wild areas of our country. Historically, hunting has been the foundation of conservation efforts in the U.S., through both protection of endangered species and organized culling of over-abundant animals like deer. Hunting is undeniably and irrevocably intertwined with United States conservation policies and action; it is therefore imperative that urban environmentalists and rural hunters set aside differences in values to protect what we all care deeply about: wildlife.

References

- Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology: And International Review*, 51(2), 269–290.
- Bangs, E. E., Fontaine, J. A., Jimenez, M. D., Meier, T. J., Bradley, E. H., Niemeyer, C. C., ... Oakleaf, J. K. (2005). Managing wolf-human conflict in the northwestern United States. In *People and Wildlife: Conflict or Coexistence*. Cambridge University Press.
- Berger, P. L., & Luckmann, T. (1966). *The Social Construction of Reality*. Anchor Books.
- Bernard, H. R., Wutich, A., & Ryan, G. W. (2017). *Analyzing Qualitative Data: Systematic Approaches* (2nd ed.). Sage Publications, Inc.
- Beschta, R. L., & Ripple, W. J. (2009). Large predators and trophic cascades in terrestrial ecosystems of the western United States. *Biodiversity Conservation*.
- Bjerke, T., & Kaltenborn, B. P. (1999). The relationship of ecocentric and anthropocentric motives to attitudes toward large carnivores. *Journal of Environmental Psychology*, 19, 415–421.
- Braverman, I. (2015). Conservation and hunting: till death do they part? A Legal Ethnography of Deer Management. *Journal of Land Use & Environmental Law*, 30(2), 143–199.
- Brehm, J. M., & Eisenhauer, B. W. (2006). Environmental concern in the mormon culture region. *Society and Natural Resources*, 19, 393–410.
- Brehm, J. M., Eisenhauer, B. W., & Krannich, R. S. (2006). Community attachments as predictors of local environmental concern. *American Behavioral Scientist*, 50(2), 142–165.
- Bright, A. D., & Manfredi, M. J. (1996). A conceptual model of attitudes toward natural resource issues: A case study of wolf reintroduction. *Human Dimensions of Wildlife*, 1(1), 1–21.
- Browne, K. (2005). Snowball sampling: using social networks to research non-heterosexual women. *International Journal of Social Research Methodology*, 8(1), 47–60.
- Bruskotter, J., Schmidt, R. H., & Teel, T. L. (2007). Are attitudes toward wolves changing? A case study in Utah. *Biological Conservation*, 139, 211–218.
- Bruskotter, J. T., Enzler, S., & Treves, A. (2011). Rescuing wolves from politics: Wildlife as a public trust resource. *Science*, 333, 1828–1829.
- Bruskotter, J. T., & Fulton, D. C. (2012). Will hunters steward wolves? A comment on Treves and Martin. *Society and Natural Resources*, 25(1), 97–102.
- Bruskotter, J. T., Vaske, J. J., & Schmidt, R. H. (2009). Social and cognitive correlates of Utah residents' acceptance of the lethal control of wolves. *Human Dimensions of Wildlife*, 14(2), 119–132.
- Bruskotter, J. T., Vucetich, J. A., Enzler, S., Treves, A., & Nelson, M. P. (2014). Removing protections for wolves and the future of the U.S. Endangered Species Act (1973). *Conservation Letters*, 7(4), 401–407.
- Bruskotter, J. T., & Wilson, R. S. (2014). Determining where the wild things will be: Using

- psychological theory to find tolerance for large carnivores. *Conservation Letters*, 7(3), 158–165.
- Bump, J. K., Peterson, R. O., & Vucetich, J. A. (2009). Wolves modulate soil nutrient heterogeneity and foliar nitrogen by configuring the distribution of ungulate carcasses. *Ecology*, 90(11), 3159–3167.
- Carolan, M. S., & Bell, M. M. (2003). In truth we trust: Discourse, phenomenology, and the social relations of knowledge in an environmental dispute. *Environmental Values*, 12, 225–245.
- Carroll, C., Phillips, M. K., Lopez-Gonzalez, C. A., & Schumaker, N. H. (2006). Defining recovery goals and strategies for endangered species: The wolf as a case study. *BioScience*, 56(1), 25–37.
- Chapron, G., & Treves, A. (2016). Blood does not buy goodwill: allowing culling increases poaching of a large carnivore. *Proceedings of the Royal Society B*, 283(1830).
- Cialdini, R. B., & Goldstein, N. J. (2003). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55, 591–621.
- Cristancho, S., & Vining, J. (2004). Culturally defined keystone species. *Human Ecology Review*, 11(2), 153–164.
- Daly, K. J. (2007). *Qualitative Methods for Family Studies and Human Development*. Sage Publications, Inc.
- Dickman, A. J. (2010). Complexities of conflict: the importance of considering social factors for effectively resolving human-wildlife conflict. *Animal Conservation*, 13, 458–466.
- Elder, G. H. (1998). The life course as developmental theory. *Child Development*, 69(1), 1–12.
- Elder, G. H., & Conger, R. D. (2000). *Children of the Land: Adversity and Success in Rural America*.
- Ellis, S. (2018, February 2). Living with wolves. *Capital Press: The West's Ag Weekly*.
- Farrell, J. (2015). *The Battle for Yellowstone*. Princeton, New Jersey: Princeton University Press.
- Friese, S. (2014). *Qualitative Data Analysis with ATLAS.ti* (2nd ed.). SAGE Publications Ltd.
- Fortin, D., Beyer, H. L., Boyce, M. S., Smith, D. W., Duchesne, T., & Mao, J. S. (n.d.). Wolves influence elk movements: Behavior shapes a trophic cascade in Yellowstone National Park. *Ecology*, 86(5), 1320–1330.
- Gray wolf Canis lupus*. (2011, December). U.S. Fish & Wildlife Service.
- Greenville, A. C., Wardle, G. M., Tamayo, B., & Dickman, C. R. (2014). Bottom-up and top-down processes interact to modify intraguild interactions in resource-pulse environments. *Oecologia*, 175, 1349–1358.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough?: An experiment with data saturation and variability. *Field Methods*, 18(1).
- Hagemaster, J. N. (1992). Life history: a qualitative method of research. *Journal of Advanced Nursing*, 17, 1122–1128.

- Holsman, R. H. (2000). Goodwill hunting? Exploring the role of hunters as ecosystem stewards. *Wildlife Society Bulletin*, 28(4), 808–816.
- Houston, M. J., Bruskotter, J. T., & Fan, D. (2010). Attitudes toward wolves in the United States and Canada: A content analysis of the print news media, 1999–2008. *Human Dimensions of Wildlife*, 15, 389–403.
- Husseman, J., & Struthers, J. (2015). *Idaho Wolf Monitoring Progress Report*. Idaho Department of Fish and Game.
- Kaltenborn, B. P., & Bjerke, T. (2002). The Relationship of general life values to attitudes toward large carnivores. *Human Ecology Review*, 9(1), 55–61.
- Kaltenborn, B. P., Bjerke, T., & Nyahongo, J. (2006). Living with problem animals--Self-reported fear of potentially dangerous species in the Serengeti Region, Tanzania. *Human Dimensions of Wildlife*, 11, 397–409.
- Killion, A. K., Melvin, T., Lindquist, E., & Carter, N. H. (2018). Tracking a half-century of media reporting on gray wolves. *Conservation Biology*.
- Lopez, B. (1978). *Of Wolves and Men*. Scribner.
- Loveridge, Andrew J., Reynolds, J. C., & Milner-Gulland, E. J. (2006). Does sport hunting benefit conservation? *Key Topics in Conservation Biology*, 224–240.
- Lute, M. L., & Gore, M. L. (2014). Knowledge and power in wildlife management. *The Journal of Wildlife Management*, 78(6), 1060–1068.
- Mali, J. (1991). Jacob Burckhardt: Myth, history and mythistory. *History and Memory*, 3(1), 86–118.
- Manfredo, M. J., Teel, T. L., & Bright, A. D. (2003). Why are public values toward wildlife changing? *Human Dimensions of Wildlife*, 8, 287–306.
- May, D. L. (1994). *Three Frontiers: Family, Land, and Society in the American West, 1850–1900*.
- Meadow, R., Reading, R. P., Phillips, M., Mehringer, M., & Miller, B. J. (2005). The influence of persuasive arguments on public attitudes toward a proposed wolf restoration in the southern Rockies. *Wildlife Society Bulletin*, 33(1), 154–163.
- Mech, D. L., & Boitani, L. (2003). Wolf social ecology. In *Wolves: Behavior, Ecology, and Conservation* (pp. 1–34). Chicago & London: University of Chicago Press.
- Mech, L. D. (2012). Is science in danger of sanctifying the wolf? *Biological Conservation*, 150, 143–149.
- Mech, L. D., & Barber-Meyer, S. (2015). Yellowstone wolf density predicted by elk biomass. *Canadian Journal of Zoology*.
- Messmer, T. A., Reiter, D., & West, B. C. (2001). Enhancing wildlife sciences' linkage to public policy: Lessons from the predator-control pendulum. *Wildlife Society Bulletin*, 29(4), 1253–1259.
- Montana Gray Wolf Conservation & Management: Annual Report*. (2016). Montana Fish, Wildlife, & Parks.

- Mortimer, J. T., & Shanahan, M. J. (2003). *Handbook of the Life Course*. New York: Kluwer Academic/Plenum Publishers.
- Muhly, T. B., & Musiani, M. (2009). Livestock depredation by wolves and the ranching economy in the Northwestern U.S. *Ecological Economics*.
- Musiani, M., Mamo, C., Boitani, L., Callaghan, C., & Gates, C. C. (2003). Wolf depredation trends and the use of fladry barriers to protect livestock in western North America. *Conservation Biology*, 17(6), 1538–1547.
- Musiani, M., & Paquet, P. C. (2004). The practices of wolf persecution, protection, and restoration in Canada and the United States. *BioScience*, 54(1), 50–60.
- Nazarea, V. D. (2006). Local knowledge and memory in biodiversity conservation. *Annual Review of Anthropology*, 35, 317–335.
- Noy, C. (2008). Sampling knowledge: the hermeneutics of snowball sampling in qualitative research. *International Journal of Social Research Methodology*, 11(4), 327–344.
- Olson, E. R., Stenglein, J. L., Shelley, V., Rissman, A. R., Browne-Nunez, C., Voyles, Z., ... Van Deelen, T. (2014). Pendulum swings in wolf management led to conflict, illegal kills, and a legislated wolf hunt. *Conservation Letters*, 8(5), 351–360.
- Painter, L. E., Beschta, R. L., Larsen, E. J., & Ripple, W. J. (2015). Recovering aspen follow changing elk dynamics in Yellowstone: evidence of a trophic cascade? *Ecology*, 96(1), 252–263.
- Peterson, M. N., & Liu, J. (2007). Impacts of religion on environmental worldviews: The Teton Valley case. *Society and Natural Resources*, 21, 704–718.
- Ripple, W. J., & Beschta, R. L. (2011). Trophic cascades in Yellowstone: The first 15 years after wolf reintroduction. *Biological Conservation*.
- Ripple, W. J., Larsen, E. J., Renkin, R. A., & Smith, D. W. (2001). Trophic cascades among wolves, elk and aspen on Yellowstone National Park's northern range. *Biological Conservation*, 102, 227–234.
- Robisch, S. K. (2009). *Wolves and the Wolf Myth in American Literature*.
- Scarce, R. (2008). What do wolves mean? Conflicting social constructions of *Canis lupus* in “bordertown.” *Human Dimensions of Wildlife*, 3(3), 26–45.
- Schroeder, S. A., Fulton, D. C., & Cornicelli, L. (2018). How Minnesota wolf hunter and trapper attitudes and risk- and benefit-based beliefs predict wolf management preferences. *Human Dimensions of Wildlife*.
- Sillero-Zubiri, C., Sukumar, R., & Treves, A. (2006). Living with wildlife: the roots of conflict and the solutions. In *Key Topics in Conservation Biology* (pp. 255–272).
- Slagle, K. M., Bruskotter, J. T., & Wilson, R. S. (2012). The role of affect in public support and opposition to wolf management. *Human Dimensions of Wildlife*, 17(1), 44–57.
- Slagle, K. M., Wilson, R. S., Bruskotter, J. T., & Toman, E. (2018). The symbolic wolf: A construal level theory analysis of the perceptions of wolves in the United States. *Society and Natural Resources*.

- Smith, D. W., Peterson, R. O., & Houston, D. B. (2003). Yellowstone after wolves. *BioScience*, 53(4), 330–340.
- Treves, A., Krofel, M., & McManus, J. (2016). Predator control should not be a shot in the dark. *Frontiers in Ecology and the Environment*, 14(7), 380–388.
- Treves, A., & Martin, K. (2010). Hunters as stewards of wolves in Wisconsin and the Northern Rocky Mountains, USA. *Society and Natural Resources*.
- Treves, A., Naughton-Treves, L., & Shelley, V. (2013). Longitudinal analysis of attitudes toward wolves. *Conservation Biology*, 27(2), 315–323.
- Walker, P. A. (2003). Reconsidering “regional” political ecologies: toward a political ecology of the rural American West. *Progress in Human Geography*, 27(1), 7–24.
- Whelan, Y. (2016). *Heritage, Memory, and the Politics of Identity: New Perspectives on the Cultural Landscape*. Routledge.
- Wilkinson, T. (2017). The undeniable value of wolves, bears, lions and coyotes in battling disease. *Mountain Journal*.
- Williams, C. K., Ericsson, G., & Heberlein, T. A. (2002). A quantitative summary of attitudes toward wolves and their reintroduction (1972-2000). *Wildlife Society Bulletin*, 30(2).
- Williams, S. C., DeNicola, A. J., Almendinger, T., & Maddock, J. (2013). Evaluation of organized hunting as a management technique for overabundant white-tailed deer in suburban landscapes. *Wildlife Society Bulletin*, 37(1), 137–145.
- Wilmers, C. C., Crabtree, R. L., Smith, D. W., Murphy, K. M., & Getz, W. M. (2003). Trophic facilitation by introduced top predators: grey wolf subsidies to scavengers in Yellowstone National Park. *Journal of Animal Ecology*, 72, 909–916.
- Wilson, P. I. (1999). Wolves, politics, and the Nez Perce: Wolf recovery in central Idaho and the role of native tribes. *Natural Resources Journal*, 39(3).
- Young, J. K., Zhao, M., Laudati, A., & Berger, J. (2015). Human-carnivore interactions: Lessons learned from communities in the American West. *Human Dimensions of Wildlife*, 20, 349–366. <https://doi.org/10.1080/10871209.2015.1016388>
- Zackary, B. A. (2013). *Wolves at the door: contested space in the American West* (University of Colorado).
- Zinn, H. C., Manfredo, M. J., Vaske, J. J., & Wittmann, K. (n.d.). Using normative beliefs to determine the acceptability of wildlife management actions. *Society and Natural Resources*, 11, 649–662.

Appendix A

Interview Guide

Demographics

1. How old are you?
2. What is your occupation?
 - a. What are some of your duties?
 - b. Do you oversee other employees?
3. Where do you live?
4. How long have you lived in this region?
 - a. Are you first-generation to live out west, or are your parents/grandparents from here as well?

Ties to landscape/hunting

5. Why did you move here?
 - a. What do you like about living in this region?
 - b. Is there anywhere else you would consider living? Why/why not?
6. How long have you been hunting?
7. What animals do you hunt and where?
 - a. Where are your favorite places to hunt and why?
 - b. What is your favorite animal to hunt and why?
 - c. Have you been hunting anywhere outside of this region? How was that experience different from hunting where you normally go?
8. Why do you hunt/why do you enjoy hunting?
9. Do you hunt more for sport or for subsistence?
10. Do you feel you have learned more about ecology through formal education or through hunting experience?
11. What is your experience with and opinion of environmental organizations/environmentalists?
12. What are some hobbies you have other than hunting? How much time do you spend doing those other activities?

Family/Culture

13. Did you grow up with both your parents/grandparents?
14. What was your relationship like with your parents? Grandparents?
15. What were/are your parents' occupations?
16. Were your parents/grandparents hunters?
 - a. What did they like to hunt?
 - b. Did you hunt with them? What were those trips like?
 - c. What were/are their opinions on wolves?

17. Do you have siblings? What is your relationship with them?
 - a. Do they hunt/what do they hunt?
 - b. Have you hunted with them? What were those trips like?
 - c. What were/are their opinions on wolves?
18. What kind of relationship do you have with your extended family? Are any of them hunters?
19. Were you raised practicing a certain religion? Which one?
 - a. Do you consider yourself to be religious?

Wolf-specific

20. Have you had any personal experiences with wild wolves? If so, what was that experience and how did it affect you?
21. Generally, how do you feel about wolves?
 - a. What about other predators (bears, cougars, coyotes, etc.)?
22. How are wolves impacting the ecosystems where you hunt/live?
 - a. How have the places you hunt changed since wolves were reintroduced?
23. How do you feel wolves impact your hunting experience?
24. How do you think other hunters, both in this region and around North America, feel about wolves?
 - a. How about your personal friends who aren't hunters?
25. What are your thoughts on those who view wolves as a cultural symbol of the Northwest?
26. What, if anything, would change your opinion about wolves?

Appendix B

Codebook

Code Group		
Personal	Code	Description
	Wolf Attitudes	Personal feelings about wolves in general, wolf reintroduction, and wolves in the GYE
	ATT: mix	Mixed feelings about wolves
	ATT: neg	Negative attitude towards wolves
	ATT: neu	Neutral attitude towards wolves
	ATT: pos	Positive attitude towards wolves
	Hunting Experience	Length of time they've been hunting, experiences of the landscape and wildlife while hunting, ecological knowledge
	Improved Hunting	Believes wolf presence on the landscape makes you a better hunter
	Landscape Ties	Reasons they choose to live in this region
	Public Land Access	References access to public land as reason for living in region
	Future Generations	Participant wants to preserve regional lands/access for future generations
	Other Predators	Attitudes towards predators other than wolves
	Different Wolves	Participant believes the reintroduced population of wolves is significantly different from the original "Idaho wolf," or references this widely held belief; mostly reference perception of larger size
	Original Wolf	Participant believes the original Idaho subspecies of wolf was not extinct before reintroduction
	Environmentalism	Opinions on environmental organizations and environmentalists
	ENV: neg	Negative opinion of environmentalists/environmental organizations
	ENV: neu	Neutral opinion of environmentalists/environmental organizations
	ENV: pos	Positive opinion of environmentalists/environmental organizations
	Environmentalism vs. Conservationist	Distinction between the terms "environmentalist" and "conservationist"
	Folklore	Reference to wolves as mystical/nightmarish
	Hobbies	Regular activities other than hunting
	Part of Nature	Participant sees him/herself as part of the ecosystem
	Perception of Others	Perception of others' wolf-related attitudes
	Personal Hunting Preferences	Where, what, and how they like to hunt
	PREF: big	Preference for hunting big game

	PREF: none	No preference for type of game to hunt
	PREF: small	Preference for hunting small game
	Possible Attitude Change	How/if they foresee their wolf-related attitudes changing
	PossChng: Flexible	More possibilities for attitude change
	PossChng: Rigid	Few/no possibilities of attitude change
	Huntable Wolves	Reference to change in attitude since wolves became huntable
	Reasons for Hunting	Why they hunt/what they enjoy about hunting
	Sport vs. Subsistence	Hunting more for the experience or for the meat
	Non-sport	Dislikes use of the word "sport" to describe recreational, non-subsistence hunting
	Tradition	Reference to tradition as an important part of hunting culture
	Wolves as Cultural Symbol	Reaction to the view of wolves as a cultural symbol of the North/Northwest
	SYM: agree	Agree with view of wolves as cultural symbol
	SYM: disagree	Disagree with view of wolves as cultural symbol
	SYM: neutral	Neither agree nor disagree with view of wolves as cultural symbol
	Wolf Experience	Personal experiences with wild wolves and landscape-change experiences related to wolves
	EXP: Neg	Negative experiences with/perceptions of wolves/wolf impacts
	EXP: Neu	Neutral reaction to wolf experiences
	EXP: None	No personal experiences with wild wolves
	EXP: Pos	Positive experiences with/perceptions of wolves/wolf impacts
	Dog Safety	Express concern for pet/dog safety in the presence of wolves
	Wolves as Scapegoat	Reference to wolves/wolf debate as representative of underlying issues
	Trust in Reintroduction	Participant has positive view of the wolf reintroduction process
	Mistrust in Reintroduction	Participant has negative view of the wolf reintroduction process
	Remorse	Participant expresses feeling remorse when killing an animal
Family	Code	Description
	Family Wolf Attitudes	Family members' wolf-related attitudes
	FamAtt: dk	Respondent doesn't know family members' wolf-related attitudes
	FamAtt: neg	Family has negative wolf-related attitudes
	FamAtt: neu	Family has neutral wolf-related attitudes
	FamAtt: pos	Family has positive wolf-related attitudes

	Familial Hunters	Family members who are hunters
	Family History	History of family relationships and residence
	Family Hunting Trips	Experiences going hunting with family members/friends
	FamTrip: Neg	Negative experiences on family hunting trips
	FamTrip: Neu	No strong feelings associated with family hunting trips
	FamTrip: Pos	Positive experiences on family hunting trips
	Family Hunting Preferences	Family members' preferences for where, what, and how to hunt
	FamPref: big	Family members prefer hunting big game
	FamPref: none	Family members have no preference for game size
	FamPref: small	Family members prefer hunting small game
	Extended Family Relationships	Existence/quality of relationships with aunts, uncles, and cousins
	Relationship with Grandparents	Existence/quality of relationship with grandparent(s)
	Relationship with Parents	Quality of relationship with parent(s)
	Sibling Relationship	Quality of relationship with sibling(s)
Demographics	Code	Description
	Age	Current age of participant
	Occupation	Current job title and duties
	Parent Occupations	Previous/current occupation of participants' parents
	Parental Marital Status	Were their parents married or divorced during childhood
	Siblings	Number/gender of siblings
	Religion	What religion they were raised practicing, what religion they practice now, and level of devoutness
	Residence	Where they live currently
	Previous residence	Where they lived before moving to the region