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MOUNTAIN LIONS, WOLVES, AND BEARS: DETANGLING THE ISSUES
SURROUNDING PREDATOR CONSERVATION IN THE WEST

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Mountain Lions, Wolves, and Bears: Detangling the Issues Surrounding Predator Conservation in the West

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Possible inequity in the distribution of benefits and costs of predator conservation is thought to be a particularly important factor in generating social conflict over predator conservation at specific locales. Predator compensation programs are an attempt to move beyond merely a regulatory solution and represent an economic strategy that attempts to deal with economic costs associated with predator conservation. However, if one conceives of predator compensation programs as solely economic strategies, then one overlooks the potential for compensation programs as a tool for solving issues of equity and distribution of costs to a greater segment of society as well as a tool for building communication around predator conservation and management issues. A purpose for this dissertation was aimed at obtaining an understanding of the social debate underlying views towards predator compensation in order to find out what the conflict/debate is really about.

The results indicate that predator compensation is widely viewed as desirable by both livestock owners and the general public. Considered collectively, the results suggest that the widespread sentiment that compensation is desirable stems from underlying beliefs about the question of how society should distribute the costs associated with predation; thus, compensation is seen as a desirable management option because it is seen as spreading the costs of predator conservation more fairly in society. Among many of the livestock owners, compensation was valued as a means of distributing the costs of predation more fairly rather than as a solution to the problem of predation. However, the results also indicate that there are important issues, such as predator impacts on deer and elk populations; human safety concerns; simply not wanting predators around; and private property rights, which compensation does not address. There was widespread support for other management options, in particular lethal control methods such as giving livestock owners the right to kill problematic predators and hunting by the public. The results also suggest that even though livestock owners typically readily identify complaints about the implementation of compensation, such as the verification process, they are still open to communication and having a dialog consisting of predator management issues.

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Chapter 1 : Introduction

Wildlife management emerged in a social context where rural ranching and farming lifestyles, sport hunting, and to a lesser extent subsistence were more prevalent than today, and were the predominant concerns shaping wildlife management. Values and beliefs were more widely shared than at present, helping to create a profession that focused primarily on two goals, both of which encouraged elimination of predators (Catton and Mighetto, 1998). The first goal was to protect and increase valuable game populations. Hunting in the West was culturally and, to a lesser extent, economically important. Hunting deer and elk was a national pastime in the West. By limiting predator numbers, the logic was, there would be an increase in hunting opportunities. Secondly, the West was livestock country with cattle and sheep scattered across private and public lands. The federal government sanctioned large-scale predator control programs in order to protect livestock from depredation. The eradication/control program greatly reduced numbers of grizzly bears and mountain lions and eliminated wolves from most of the West. The West was regarded as big game and livestock country and predators were undesirable.

However, as wildlife management grew as a profession, so did the diversity of the public's viewpoints and values towards wildlife and wildlife management. The practice of predator eradication was questioned as early as the 1940s by Aldo Leopold, who suggested that predators were a necessary part of a healthy landscape. Leopold even pushed for the re-colonization of wolves onto lands from which they had been eliminated. The 1960s and 1970s, saw growth in public support for wildlife conservation. Policy

milestones, such as the Endangered Species Act of 1973, established wildlife preservation as an important issue in contemporary American culture for reasons much broader than just game hunting. By the 1990s social and political support for endangered species recovery had gained sufficient momentum that predator reintroduction efforts were possible.

Numerous studies over the last decade have looked at the extent of public support for predator reintroductions (for example, Bath, 1987; Duda, Bissell, and Young, 1998; Bright and Manfredo, 1996; Schoenecker and Shaw, 1997). Overall, these studies indicate that, among the public in general, a greater percentage support predator reintroductions than oppose it (Montag and Patterson, 2001). But many people remain opposed to the idea, for example two studies in western states found a greater percentage of people opposed to wolf reintroductions compared to those supporting such efforts (Duda et al., 1998; Schoenecker and Shaw, 1997). The differences may be explained, in part, by the “urban-rural divide.” Studies indicate that support for predator reintroduction and conservation is higher in urban areas, whereas rural residents are less likely to be supportive. This comes as no surprise; unlike rural residents, urban dwellers do not have to co-exist with predators or suffer the costs of livestock depredation.

Although as a society we are becoming increasingly urbanized and urban populations tend to be more supportive of conservation measures, that does not mean that conflicts will disappear. Partly what is occurring in contemporary society is a shift from a rural social context where meanings and values of wildlife were relatively stable and widely shared, compared to the current urban social context where meanings of wildlife have become less understandable in terms of culturally shared utilitarian/instrumental

meaning and have become much more individualized (Sutherland and Nash, 1994; Tapper, 1988). The increase in the diversity of values and meanings towards wildlife, and especially towards predators, increases the chance for, and escalates the intensity of, social conflicts regarding wildlife management. In addition, as rural communities feel the pressure of urbanization, wildlife conflicts become conflicts not just over specific animals, but also over larger sociopolitical issues such as private property rights, state rights versus federal rights, and power (Patterson, Montag, and Williams, 2003). Essentially, supporters and opponents of predator restoration are engaged in a profound social debate involving “differential access to social power, conflicting ideas about private property, and divergent beliefs about humankind’s proper relationship with the natural environment” (Wilson, 1997; p. 454). Thus, to be effective, conservation strategies must be socially acceptable and therefore should address the cultural history, social values, ecology, management systems, and policy process (Clark, Curlee, and Reading, 1996). Therefore, environmental decision-makers need to understand public discourse about social values, stakeholder interests, and formal and informal claims on natural resources (Patterson and Montag, 2000). They also need to be able to translate public discourse about values into shared, or at least mutually acceptable, social goals; to identify socially acceptable conservation strategies to attain these goals; and to successfully implement these strategies (Duane, 1997:779; Fairfax, Fortmann, Hawkins, Huntsinger, Peluso, and Wolf, 1999).

While there has been growing recognition of the importance of social knowledge in wildlife management in the last 30 years, much of the previous research has focused on attitudes toward wildlife in general. However, contemporary theory in social psychology

increasingly reflects the view that knowledge about general attitudes is not effective in understanding how people respond to specific wildlife controversies (Patterson, Guynn, and Guynn, 2000). Rather, people's environmental concerns and attitudes are thought to be more narrowly focused, rooted in day to day experience, and focused on immediate circumstances and context rather than on general or abstract attitudes or values regarding wildlife, ecology, or the destruction of natural systems (de Haven Smith, 1987). Thus, this trend in perspective in social psychology research indicates the need to explore underlying views in regard to specific controversies or political initiatives rather than in terms of wildlife values or attitudes in general.

Despite the existence of and progress made in predator reintroduction efforts, predator conservation efforts remain controversial as is evident with the current controversies over wolf delisting. As a result, research on the social perceptions and consequences of specific initiatives to mediate conflicts regarding predator conservation efforts is timely. Possible inequity in the distribution of benefits and costs of predator reintroduction is thought to be a particularly important factor in generating social conflict over reintroduction efforts and predator conservation at specific locales. In response, predator compensation programs, programs that pay livestock owners for livestock killed by predators, have been developed both by state governments and by nonprofit wildlife organizations (Wagner, Schmidt, and Conover, 1997). Bangs and Fritts (1996) asserted that the reintroduction of gray wolves to central Idaho and Yellowstone Park "is occurring with less conflict than predicted" (p. 411) and many in the environmental and wildlife management community, as well as in popular press, have credited the Defenders of Wildlife's Wolf Compensation Trust for contributing to that success (Clark, 1998). A

number of individuals involved in wolf reintroduction efforts perceive these compensation programs as an important component in reducing social conflict associated with reintroduction efforts and sustaining predator populations (Bangs and Fritts, 1996; Clark, 1998; Devlin, 1998). However, little is known about their effectiveness as a strategy to deal with social conflict over predator conservation and to date no systematic and rigorous evaluation of the use of these programs as a tool for reducing conflict has been conducted.

My dissertation research has focused on gaining a better understanding of perceptions and views surrounding predator compensation programs from the perspectives of the general public and of livestock owners. The dissertation explores how individuals frame the underlying issues and conflicts surrounding predator compensation, how individuals conceive of concepts like equity, fairness, individual versus societal responsibilities in relation to predator conservation and compensation, and views about compensation program funding. In particular, the dissertation focuses on three overarching themes surrounding compensation. Those three themes are:

1. Views surrounding the endorsement of the concept of compensation

Do livestock owners and the general public of the region encompassing Idaho, Montana, and Wyoming find compensation a desirable government management option? How does the desirability of compensation compare to other management options such as lethal control by livestock owners, hunting by the public, and non-lethal control methods such as relocation? Is it possible to identify characteristics that differ between individuals who endorse compensation and those who do not?

2. Views surrounding the role compensation plays in society

What are the beliefs about the role of compensation in society as perceived by the general public and livestock owners?

To what extents are the general public and livestock owner respondents concerned about predator related issues that compensation does not address (for example, the impact of predators on elk and deer populations) or the extent of skepticism about the feasibility of compensation (for example, would there be enough money to pay for compensation)? What are the general public respondents' and livestock owner respondents' views towards what are appropriate sources of funding?

3. Views surrounding program administration

What do livestock owners think about the verification process?

How do livestock owners perceive their relationship with wildlife officials?

A multi-method approach to data collection was taken. Mail surveys were sent out to the general public and to livestock owners in the three states of Idaho, Montana, and Wyoming. In addition, in-depth interviews were conducted with livestock owners. Livestock owner's views were examined more in-depth since compensation programs are intended to address their concerns and possible objections to predator conservation. The analysis presented here examines the region as a whole. In other words, the data from the

three states have been combined and analyzed as a whole. This approach makes sense, as management of large ranging predators such as wolves and grizzly bears may have impacts on neighboring states. In addition, the U.S. Fish and Wildlife Service has grouped the three states together for the wolf delisting process. Each state, Idaho, Montana, and Wyoming, must have an acceptable wolf management plan in place before the U.S. Fish and Wildlife Service will start the delisting process. An analysis by state has been presented in an earlier project report (Montag, Patterson, and Sutton, 2003).

The remainder of the dissertation is organized into four chapters. The next chapter, the literature review, examines how compensation fits into the broader strategies for addressing social conflict underlying predator conservation, and discusses past research and current research needs regarding public views towards the use of compensation as a management tool. The third chapter discusses the methods for this study. The fourth chapter presents results and discussions. It is organized into three major sections: views about the concept of compensation; discriminant analyses exploring the relationship between respondent characteristics and endorsement/opposition to compensation programs; and views about verification, relationships and trust-related issues. The final chapter presents conclusions and discusses the implications and future research questions.

Chapter 2 : Literature Review

Traditionally, wildlife management and predator restoration projects have focused attention on the biological and ecological factors involved in management and decision making. Understanding the components of what will allow for viable populations of large ranging predators such as wolves and grizzly bears is vital for sustaining these species. Issues such as habitat connectivity and availability, prey densities and accessibility, fecundity and recruitment rates, survival rates, and genetic problems such as loss of heterozygosity and inbreeding depressions are important to incorporate into discussions of predator conservation/restoration projects. With that said, however, as wildlife conservation efforts and time have progressed, it emerged that projects with the best biological and ecological science could still cause conflicts and be 'thwarted' by the social concerns (Primm, 1996).

Wildlife management in the 21st century is becoming less about biology and more about people management. The shift away from principally a biological based wildlife management program toward a more interdisciplinary approach has been more clearly recognized with the increasing diversity in values and attitudes towards wildlife and natural resources associated with urbanization and other changing social trends. Leopold, in fact, saw the need for this shift in the 1940s and increasingly more and more researchers have indicated the need for a more interdisciplinary approach to help to reduce the conflicts surrounding many wildlife management programs and conservation efforts (Yaffee, 1994a; Yaffee, 1994b; Clark, Reading, and Clark, 1995; Clark et al., 1996; Kellert, Black, Rush, and Bath, 1996; Primm, 1996; Primm and Clark, 1996;

Wilson, 1997; Wondelleck and Yaffee, 2000; Clark, Mattson, Reading, and Miller, 2001; Conover, 2002). Yaffee (1994b:53) in fact states that, “policy and management decisions are shaped by their sociopolitical context. To understand why things are the way they are, professionals and organizations need to understand this context.” In fact, in the case of wolf reintroduction, Bath (1991:367) stated that “wolf recovery in Yellowstone National Park is not as much a biological issue as a sociopolitical one.” In other words, conservation depends on more than just the biological necessities, it requires an understanding of human values, attitudes, and how the public defines the issues involved (Clark et al. 1996; Primm, 1996; Clark et al., 2001; Johnson, Eizirik and Lento, 2001). Recognition of the need for human dimensions work in wildlife management issues, such as wolf conservation, is not an attempt to downgrade the importance of the biological understanding that is needed. Predator conservation (or really any wildlife species conservation) “rests both on reliable [biological] information and informed public consent” (Minta, Kareiva and Curlee, 1999:374).

There are, however, a myriad of ways one can attempt to define and solve social conflicts of this nature. Primm (1996) ultimately outlined three different avenues that have been and continue to be taken in an attempt to define and solve human-wildlife conflicts, or as he states “advance ways to navigate the difficult cultural and political dimensions involved.” (p.1027). The three avenues are: regulatory, economic, and social. Each will be discussed briefly below, with an emphasis on the social avenue since this is especially where my dissertation attempts to make a contribution to the broader discussion.

Regulatory Approaches to Problems in Wildlife Conservation

Laws and regulations are one primary route used to resolve social and political conflicts underlying wildlife conservation. In one sense laws are an expression of the values a society holds. For a segment of the American public they may even be the basis as to why we should restore and conserve large predators. In other words, these laws and the process through which they are developed are used to represent the public's voice in wildlife management.

Both at a state and national level in the U.S. there are multiple laws and regulations influencing predator management and recovery. At the state level, regulations differ from state to state, affording predators different levels of protection. (However, federal law supercedes state regulations and laws and so the Endangered Species Act overrides states' protection/lack of protection.) For example, in the West, Montana has state laws that protect wolves, but Idaho and Wyoming classify wolves in a less protected class (such as big game/trophy animals, furbearers, or predators) which regulates the "taking" of that species (Keiter and Locke, 1996).

However, while this is in the process of changing, currently wolf management is subject primarily to laws at the national level. At a national level, three main laws and policies affect large carnivores, such as the wolf: the National Environmental Policy Act (NEPA; 1970), the Endangered Species Act (ESA; 1973) and the National Forest Management Act (NFMA; 1976) (Keiter and Locke, 1996). NEPA is more procedural than overall protective, however, it does require an environmental impact statement to be conducted for any federal action (including any projects that are federally funded) that may significantly alter the environment. Nonetheless, the U.S. Supreme Court has ruled

that, “As long as an agency meets NEPA’s procedural requirements, it may reach any substantive decision regardless of its impacts on wildlife (Robertson v. Methow Valley Citizens Council 1989)” (Keiter and Locke, 1996).

Provisions that influence the amount of clearcutting, require interdisciplinary and coordinated planning and other restraints on timber harvesting are some benefits that the NFMA provides to large predators, such as wolves (Keiter and Locke, 1996). However, the courts leave much of the discretion up to the agency. An important aspect of NFMA is that it is the only federal statute that refers to biological diversity. This can be implemented by agencies in different ways, such as the U.S. Forest Service utilizing indicator species, but some courts only require that agencies consider the implications of their actions (Sierra Club v. Robertson 1992; Sierra Club v. Marita 1994, 1995) and do not actually require them to protect biodiversity (Keiter and Locke, 1996).

The main legislation obligating us to conserve predator populations (or any species for that matter) is the Endangered Species Act of 1973. The ESA clearly requires that all federal agencies engage in the conservation of endangered species (Scott, Temple, Harlow, and Shaffer, 1996). The Supreme Court (Tennessee Valley Authority v. Hill 1978) upholds the power of the ESA to protect endangered species over other considerations, such as economics (Scott et al., 1996; Keiter and Locke, 1996).

Although regulatory mechanisms like laws are passed in an attempt to portray the public’s values, they are not without controversy. The sociopolitical context of wildlife conflicts is set up in part by the political forces at play. These political forces include struggle over the ESA as well as other political factors that are often seen as an expression of human/society’s values and strategic behaviors. These strategic behaviors

include lawsuits over the ESA as well as the increasing popularity of ballot initiatives. Ballot initiatives have become increasingly popular as state game commissions and wildlife agencies are perceived as continuing to cater to consumptive and utilitarian users. Stakeholders with differing values often feel as though they are not represented by wildlife agencies or the game commissions that often dictate wildlife agency policies. Ballot initiatives allow them a voice to be heard and to be represented in wildlife management plans. By using ballot initiatives stakeholders present their viewpoints to the public and let the public decide. This increase in initiatives has been discussed in the literature and there is no consensus on whether this pathway for development of regulatory mechanisms has primarily positive or negative consequences for wildlife conservation (Pacelle, 1998; Whittaker and Torres, 1998; Patterson et al. 2003; Van Riper and Patterson, in press). Some argue that it should be allowed, in order for the public to have more say, whereas others argue that some of the wildlife issues should be decided by the experts (i.e. wildlife biologists) and not by the public.

Even in the absence of ballot initiatives and court cases, regulatory mechanisms may have problematic consequences for predator conservation. Restrictions imposed by regulations may generate hostility and resentment among local human populations, especially when regulations reflect a national initiative. As a result, this enhances the likelihood that encounters between humans and predators may become more lethal for the wildlife (Primm, 1996).

This rise in popularity for ballot initiatives and litigation over the ESA and other environmental laws and the possibility of generating resentment that contributes to more lethal encounters with predators help to suggest that perhaps regulatory mechanisms by

themselves are not a wholly satisfactory basis for both achieving a meaningful understanding of the public's values and incorporating the diverse array of values into wildlife conservation strategies. Whereas, other avenues for addressing and resolving conflicts in wildlife conservation by (economic and social) identified by Primm (1996) may hold some opportunities for reducing the intensity of conflict if employed in conjunction with regulatory mechanisms.

Economic Approaches to Problems in Wildlife Conservation

It may be argued that there is value in protecting endangered species and restoring other species and that estimates of benefits and costs may be immaterial; that economics should not be confused with morality (Roughgarden, 1995). However, others argue that the economics component is essential for endangered species and large predator conservation (Innes, Polasky, and Tschirhart, 1998; Shogren, 1998, Shogren et al., 1999). Shogren et al., (1999:1258) believes that "economics plays a role in determining whether a species is endangered and whether it ought to be listed because human adaptation to economic parameters affects the odds of species survival." Shogren et al. (1999) further suggest that economics needs to be incorporated into the discussion for three reasons: 1) "human behavior generally, and economic parameters in particular, help determine the degree of risk to a species" (p.1258); 2) "in a world of scarce resources, the opportunity cost of species protection – the costs of reduced resources for other worthwhile causes – must be taken into account in decision making" (p.1259); and, 3) "economic incentives are critical in shaping human behavior, and consequently the recovery of species" (p.1260). Economic incentives for predator conservation and restoration can take many forms, including: paying landowners for habitat; tax breaks for landowners with habitat;

market based approaches such as encouraging locals to capitalize on wildlife viewing interests or 'green' labeling. In fact, a new approach taken by some livestock owners is a market based approach in which they label their beef as 'predator friendly' meaning they do not take lethal control actions against any predators.

Livestock/wildlife conflicts can occur wherever their ranges overlap. With 401 million ha (991 million acres) of land under agricultural control (which is 45% of total U. S. land surface area) in 1990 (U. S. Bur. Of the Census, 1992; as reported in Conover, 1994), there is a definite need to resolve these conflicts. Although proper management of livestock may help to prevent livestock depredation by predators, losses will occur (Roy and Dorrance, 1976). The discussion of economic approaches to predator conservation in this dissertation focuses on issues related to livestock depredation.

Most research indicates that livestock depredation does not seriously impact the livestock industry as a whole; however, the effects of livestock depredation can be devastating to individual ranchers and farmers (Balsler, 1974; Dorrance and Roy, 1976; Gee, 1979; Robel, Dayton, Henderson, Meduna, and Spaeth, 1981; Fritts, 1982; Weaver, 1983; Hoffos, 1987; Fritts, Paul, Mech, and Scott, 1992; Cozza, Fico, Battistini, and Rogers, 1996). Reoccurrence of depredation on a single farm and chronic problem farms are often affected by wolf packs, instead of by transient opportunistic individual wolves (Fritts et al, 1992), thus creating different management problems for both the responsible governmental agency and for the farmer and rancher.

The real number of head lost to depredation may not be as important as how the livestock owners perceive the severity of damage. Actual damage is often lower than the perceived damage, *but* it is perceived damage that influences public opinion (Fourli,

1999). Conover (1994) reported that 53% of the respondents felt that their losses (both crop and livestock) exceeded their tolerance levels. Furthermore, 39% of the National Farm Bureau Convention participants said that wildlife damage (both crop and livestock) was so severe that they were less willing to provide for wildlife habitat on their property. This is especially important in areas where private land is vital for the conservation of certain species.

Although most people outside of the farming and ranching community do not perceive livestock damage as a major threat to the industry, stockowners disagree. Hoffos (1987) conducted a study that included investigating the perceptions of three groups of people: stockowners, hunters, and non-hunters. The results showed that 56% of the stockowners agreed that wolves were a serious threat to the economic well being of the beef industry, whereas 60% of the hunters and 75% of the non-hunters disagreed. Furthermore, a majority of stockowners and hunters agreed that without a control program in ranching areas, more depredations would occur (82% and 74% respectively). Only 37% of the non-hunters agreed with that.

This research indicates that a dichotomy exists surrounding the perceptions about the severity of livestock damages. Livestock owners tend to believe that it is a serious threat to the industry, while the public and researchers disagree. However, for the conservation of predatory species, livestock owners have to be included in on the dialogue and their concerns taken seriously. Although the research indicates that livestock loss to predators is not a serious threat to the industry, individual ranchers and farmers can be severely impacted. In order for the conservation of large carnivores and predators to be successful, concern for livestock depredation must be addressed. Of

interest here is the economic incentive of compensation as a method put forth to address livestock depredations and increase the tolerance of predators in livestock producing areas. Compensation programs for losses to predators exist worldwide. Figure 2-1 presents the states, provinces, and countries that could be identified as having compensation programs for livestock depredation (Montag and Patterson, 2001). The states of interest for this dissertation are Idaho, Montana, and Wyoming. These states and their corresponding compensation programs are highlighted in bold text in the figure below.

Figure 2-1: Compensation Programs for Predator Damage to Livestock¹

State/Province/Country	Qualifying Species	Administered by	Preventive measures required	Amount Paid
Alberta	Wolves, bears, mountain lions, eagles	Provincial wildlife agency administers, paid by Alberta Conservation Association	No	85% market value at time of death: confirmed 50% if unconfirmed but confirmed kills within 10 km and 90 days
Arizona	Wolves	Defenders of Wildlife	No	100% market value for verified 50% market value for probables
Colorado	Black bears, mountain lions	State wildlife agency	Yes, but can be interpreted differently	100% market value
Idaho	Black bears, mountain lions	State wildlife agency	No	Agreed upon cost, based on market value 1/3 paid after claim is verified, the remainder is paid at the end of the fiscal year based on the program balance and amount of other claims \$1000 deductible to be deducted from amount compensated to claimant
	Wolves	Defenders of Wildlife	No	100% market value for verified 50% market value for probables

State/Province/ Country	Qualifying Species	Administered by	Preventive measures required	Amount Paid
Kentucky	Dogs, coyotes	State agricultural agency	No	100% market value, up to \$200 horse/mule \$250 registered cattle \$200 unregistered cattle \$40 unregistered swine, goats, sheep \$80 registered swine, goats, sheep \$6 full-grown goose \$10 full-grown turkey \$2 other poultry and domesticated rabbit/hare
Manitoba	Black bear	Provincial wildlife agency	Not Available (NA)	NA
Michigan	Wolves	State agricultural agency administers and partly funds it, other funding provided by International Wolf Center	NA	100% market value
Minnesota	Wolves	State agricultural agency, funded by State legislature	No	100% market value, up to \$750/animal
Montana	Wolves, grizzly bears	Defenders of Wildlife	No	100% market value for verified 50% market value for probables
New Hampshire	Black bear	State agricultural agency	No	100% market value
New Mexico	Wolves	Defenders of Wildlife	No	100% market value for verified 50% market value for probables
North Carolina	Red wolf	NA	NA	NA
Ohio	Coyote	State agricultural agency	No	100% market value
Ontario	Coyotes, wolves	Provincial wildlife agency	NA	NA
Pennsylvania	Bear	State wildlife agency	Yes for beekeeping, no for livestock damage	100% market value and veterinary costs
	Coyote	State agriculture agency	NA	NA
Saskatchewan	Bear	Provincial wildlife agency	NA	NA
Utah	Black bears and mountain lions	State wildlife agency	No	% based on market value, depends on number and value of claims \$100,000/year paid out
Vermont	Black bear	State wildlife agency	No	100% market value
Virginia	Black bear	Counties, funded through damage stamps	No	100% market value
West Virginia	Black bear	State wildlife agency, funded through bear damage stamps	No	100% market value
Wisconsin	Black bears, wolves	State wildlife agency	No	100% market value if between \$250 and \$5,250.50

State/Province/ Country	Qualifying Species	Administered by	Preventive measures required	Amount Paid
Wyoming	Black bears, grizzly bears, mountain lions	State wildlife agency	No	100% market value for verified, plus have multiplier for unverified losses when owner has verified claim
	Wolves	Defenders of Wildlife	No	100% market value for verified 50% market value for probables
Austria	Species covered by hunting legislation	Regional authorities, liability falls on hunting associations, paid by insurance	No	100% market value
Belgium – Flemish Region	Game species not hunted (season closed) for 5 years	Flemish Community	No	100% market value
Czech Republic	68 species listed in the Hunting Act n° 512/1992, including bears	The State, paid by the State if damage caused by protected species, otherwise paid by holder of hunting rights	Yes-unstated	100% market value
Finland	Brown bear, wolf, lynx, wolverine, grey seal, Baltic marbled seal	The State is responsible and pays for the compensation	Yes-unstated	100% market value minus the value of any usable derivative products 50% market value for reindeer damage unable to be investigated thoroughly because of weather
France	Bear	State administers through Department of Direction of Agriculture and Forests	Yes, in Alps there must be preventative measures before 4 th attack (for wolf and bear damage); however it's rarely enforced	100% market value, 30 euro or 10% of animal value (if > 302 euro) for forgone income, 91 euro for shepherd disturbance, and 100% of veterinary costs paid
	Wolf	Subsidizing associations		110% market value, 0.75 euro per head, with a maximum of 300 heads + 0.6 euro per kilogram of milk lost, and 100% of veterinary costs paid
	Lynx	Subsidizing associations		100% market value
Greece	Bears	The State	Yes- wardening and enclosures/ele ctric fencing	100% market value
	Wolves			80% market value

State/Province/ Country	Qualifying Species	Administered by	Preventive measures required	Amount Paid
India: Corbett, Dudhwa, Katerniaghdt, Andhra Pradesch- Nagaziunsagar- Srisaillam, Eturnagaram- Pakhal, Bihar-Palamau regions	Tigers	Tiger Conservation Programme through World Wildlife Fund administers and funds most of it Some funding is through NGO partners	NA	100% market value
Italy Abruzzo region	Bear, wolf	Regional authority	Yes-guarding	88.6% of market value (ave.), depends on available fund
Abruzzo Park	Bear, wolf	National Park	Yes-guard dogs/electric fences, penning at night	100% market value
Gr. Sasso Park	Bear, wolf	National Park	No	100% market value
Lazio region	Bear, wolf, golden eagle	Regional authority	No	100% market value, unless predator is killed, then no compensation
Maiella Park & (Umbria)- Sibillini Park	Bear, wolf	National Park	No	100% market value, 100% veterinary costs
Marche	Bear, wolf, golden eagle	Regional authority	Yes-1 guard dog per 50 sheep/goats, enclosures	60% market value, 100% veterinary costs for bears and wolves
Friuli-Venczia	Bear	Regional authority	No	100% market value
Trento	Bear	Regional authority	Yes-electric fencing	100% market value, difference between healthy and injured animal for veterinary costs
(Emilia Romagna) - Gigante Park	Wolf	National Park	No	100% market value and 20% market value for income forgone
Piemonte	Wolf	Regional authority	No	60% market value and 60 euro for every 5 animals killed

State/Province/ Country	Qualifying Species	Administered by	Preventive measures required	Amount Paid
Norway	Brown bear, wolf, lynx, wolverine, golden eagle	County Governor, funded by public funds	Yes-unstated	100% market value and 25% market value for owner disturbance
Poland	Bears	State authority	No	damage to property, but not for loss of earnings
Portugal	Wolf	State authority (The Institute for the Conservation of Nature)	Yes-1 shepherd and 1 dog per 50 free-roaming sheep/goats, 1 dog per 50 sheep/goats in enclosure, groups of 8 free-roaming horses/cows, guarding of groups less than 8 horses/cows	100% market value minus the value of the remains, 100% veterinary costs
Russia Khasanski Rayon Region	Amur leopard Siberian tiger	Phoenix Fund, funds provided by Tigris Foundation	No	Market value
Slovenia	Protected species Species covered by hunting legislation	Ministry of Environment Hunting associations & Ministry of Agriculture	No	NA
Spain La Rioja	Wolf	Regional authority, paid by either the regional authority, holder of hunting rights, or owner of land where the animal originated	No	NA
Aragon	Bear, wolf	Regional authority	No	120% market value and 60 euro for income forgone
Asturias	Bear	Regional authority	No	100% market value and 12- 20% of animal value for income forgone
Cantabria, Galicia & Castilla	Bear	Regional authority	No	100% market value
Cataluna	Bear	Regional authority	No	200% market value and 60 euro for income forgone
Navarra	Bear	Regional authority	No	100% market value and 300- 450 euro for income forgone

State/Province/ Country	Qualifying Species	Administered by	Preventive measures required	Amount Paid
Switzerland	Lynx, eagle, carnivores?	Regional authority/Cantons	Yes-unstated	30-50% market value

1. Data comes from several sources including personal communication with different states and provinces, and the following articles:

de Klemm, C. (1996). Compensation for damage caused by wild animals, Council of Europe.

Fourli, M. (1999). Compensation for damage caused by bears and wolves in the European Union. Luxembourg, Office for Official Publications of the European Communities.

Hotte, Michiel & Benuk, Sergei. (2001). "Compensation for livestock kills by tigers and leopards in Russia." Carnivore Damage Prevention News (3): 6-7.

Wagner, K. K., Schmidt, R. H., & Conover, M. R. (1997). "Compensation programs for wildlife damage in North America." Wildlife Society Bulletin 25(2): 312-319.

Fritts and others (1992) and Gunson (1982) believe that compensation is helpful in motivating farmers to report claims of depredation. Additionally, Gunson (1982) sees compensation programs as a way to "open channels of communication with agriculturists" (p. 105). Dorrance (1983) thinks that compensation is justifiable on private lands because "the welfare of wildlife on private land is largely dependent on the landowner" (p. 323). Furthermore, Fourli (1999) suggests that compensation programs are used to "alleviate the economic and social disequilibria caused to one group which was caused by the desire of another group to conserve the wolf and the bear" (p. v). Tolerance of predatory species in livestock producing areas has lowered in areas where carnivores, once missing, are returning (Fourli, 1999). The use of compensation programs is thought to help to mollify the livestock producing community and reduce the animosity towards the agencies that manage carnivores (Fritts et al., 1992). Although recent research in Wisconsin indicates that compensation did not "ameliorate individuals' grievances against wolves" compensation programs are still widely supported by the public and discontinuing payments may have detrimental effects (Naughton-Treves,

Grossberg, Treves, 2003). Overall, such measures as compensation programs and prevention have the following objectives:

- Decrease the negative impact of the conservation of species on human populations located in large carnivore areas, and to
- Decrease the hostile attitude and avoid revenge of the local populations against large carnivores (Portillo, 1996; as cited in Fourli, 1999).

While supporters argue that compensation programs for livestock depredation are a good investment of public and private funds, others suggest that there are limitations inherent to compensation programs. While some may consider compensation as a secondary measure, critics believe it to be a non-sustainable tool (Fourli, 1999). Among ranchers some believe compensation to be helpful, others see it as a way for environmentalists to “spruce” up their image (Olsen, 1991) and finally others do not find the underlying principle acceptable. Limitations of compensation programs are discussed in more detail below.

Potential to Decrease Tolerance for Predators. Compensation programs created to increase tolerance towards a specific species, for example wolves, may actually have the reverse effect and actually create a bias against that animal. This is in part due to the fact that compensation programs often do not address the real problem species (Wagner et al., 1997; Fourli, 1999). Coyotes and dogs are the most damaging species to livestock in the United States, yet most compensation programs target species that cause much less damage. This can cause bias and animosity towards the target species. This is especially problematic for wolf compensation programs because coyote, dog, and wolf attacks are

difficult to distinguish from each other (Fritts, 1982; Fritts et al., 1992; Cozza et al., 1996; Wagner et al., 1997; Fourli, 1999). Fritts and others (1992) stated that there were several instances in Minnesota where the wolf compensation program created a bias towards wolves, with farmers attributing the damage to wolves even when overwhelming evidence indicated otherwise. Furthermore, Dahier and Laquette (1997) suggest that, in the absence of direct observation, most shepherds will not admit that an attack was caused by a dog. As a result, in the case of compensation programs that are trying to increase tolerance of wolves by compensating wolf damage, the absence of coyote and dog compensation, in fact, may cause the program to have the opposite effect, i.e. increased animosity towards the wolf. By having a compensation program, livestock producers may become predisposed to blaming the species that are targeted by compensation programs as the depredating animals.

Potential Negative Impact to Relationships Among Stakeholders. In addition, creating compensation programs sets up expectations that need to be actualized by the agencies and organizations involved. Any failure to do so can greatly impact the relationship and the establishment of trust between the agencies/organizations and those the program was meant to serve. Determining the value of losses to be compensated may have unanticipated adverse consequences. Complaints about livestock value limits being too low, market value being based on time of loss and not the projected value of when it would be heading to market, and having no compensation for missing livestock, even if there are other verified claims can all have a significant impact on the relationship between livestock producer, the agency/organization and the predator in question. However a good payment value is difficult to determine (Fritts et al., 1992; Wagner et al.,

1997; Fourli, 1999). Ranchers and farmers often complain that payments are too low (Fritts et al., 1992). Therefore, payments based on recent price lists updated at regular intervals (i.e. monthly) and that add other costs at percentages of market value will be closer to the real cost endured by the rancher and farmers. However, in some programs, payments are high enough that it becomes more profitable to have livestock “eaten” by predators than taken to market (Fourli, 1999).

Closely related to the payment value discussion is the idea that variations in payments and timeliness of compensation payments may distort attitudes and treatment of species populations (Fourli, 1999). For carnivore populations that inhabit multiple political boundaries, if one region compensates for losses caused by a target species and a neighboring region does not, animosity may arise for that target species due to what is perceived by livestock producers as unfair treatment. In addition, slow payments can cause ill will towards predators (Fourli, 1999) and managing agencies/organizations because livestock producers may feel that agencies/organizations do not care about their losses or their conflicts. This, in turn, undermines the relationship that the agency/organization is trying to build with livestock producers. Furthermore, slow payments may cause livestock producers to practice unacceptable management techniques (Wagner et al., 1997).

Finally, the financial burden may be too great for compensating authorities (Olsen, 1991; Rimbey, Gardner, and Patterson, 1991; Wagner et al., 1997). Agencies and organizations may become trapped in paying damage claims for an indefinite period or risk failing to meet the expectations that they, themselves, created. Failure to make payments threatens the relationship and the trust the agency has with the livestock

producer and ultimately can create animosity towards the agency and the target species because of unfulfilled expectations.

Possible Disincentive for Adopting Livestock Management Practices. Another possible limitation and unanticipated negative consequence is that payment for losses (even real cost payments) does not encourage ranchers and farmers to improve animal husbandry or farm management practices (Dorrance, 1983; Fritts et al., 1992; Wagner et al., 1997; Fourli, 1999). This is especially true when doubtful or unconfirmed losses are always paid (Fourli, 1999). Partial payments designed to provide incentives for better farm management can be frustrating for recipients who may not be able to afford preventive measures. Furthermore, partial payments, for both probable and verified cases, can be frustrating to livestock owners. A full payment can be seen as taking responsibility for the damage, but then a partial payment seems to say that the agency only takes partial responsibility (Wagner et al., 1997). How do agencies and organizations alleviate the tension between trying to compensate for real costs (to increase social tolerance of these problematic species) and yet provide incentives for improving animal husbandry practices?

Requiring preventive measures can be uneconomical for some ranchers and farmers, thereby increasing their animosity towards predators (Fritts et al., 1992; de Klemm, 1996; Fourli, 1999). It may cost not only money, but also time and energy that livestock producers may not have. Requiring preventive measures may only contribute to the bias against the target species of the compensation program and not help to reduce the conflicts.

Economic Incentives Do Not Address all the Issues and Values in Conflict.

Opposition to predator restoration and conservation includes issues much larger than just livestock depredation. There are some issues that livestock producers, and the general public as well, have with carnivores that compensation programs do not address.

Compensation programs often do not address the human safety concerns that are common with large predator restoration/conservation, such as grizzly bear or wolf conservation.

Studies indicate that concern over human safety is a large factor for opposing such conservation (Schoenecker and Shaw, 1997; Duda et al., 1998; Responsive Management, 2001). Popular media and newspaper articles also indicate that human safety concerns factor into people's perceptions of large carnivores (Montag and Patterson, 2001).

Furthermore, compensation programs are limited in addressing concerns over game populations. The perceived effect of carnivores, especially wolves, on deer and elk populations contributes to opposition for carnivore conservation efforts (Wolstenholme, 1996; Schoenecker and Shaw, 1997; Duda et al., 1998; Montag and Patterson, 2001).

Moreover, the very concept of compensation may conflict with livestock producers' norms of responsibility to their livestock (Montag and Patterson, 2001). Livestock producers do not see their livestock as only monetary items, but as animals that they have responsibility for, and they do not like them to be harassed and killed by predators. They feel helpless when predation occurs (Wolstenholme, 1996; Hurst, 1999; Helena Independent, 2001).

Additionally, there are limits to the use of economics to convey the values the public has towards wildlife (Kellert et al., 1996). In fact, Kellert et al. (1996:987-988) notes that "policies for conserving and restoring wolves, grizzly bears, and mountain

lions to the Rocky Mountains must emphasize all values represented by the species. Too often, the importance of these species has been limited to their presumed ecological significance or their economic importance. This view ignores the many emotional, intellectual, and even spiritual benefits provided by these charismatic mega vertebrate.”

Wildlife management for many species, especially species that are more controversial such as predators/carnivores, often becomes a surrogate for larger and broader concerns and issues, such as private property rights, “big brother is watching you” fears, biological diversity, getting grazing off of public lands, public land management and private land management (Cohn, 1990; Thompson, 1993; Primm and Clark, 1996; Wilson, 1997). The idea that wildlife management conflicts may be seen as emblematic or surrogates of larger concerns indicates that these issues have a sociopolitical context that is important to understand for management implications. If the public, or even part of the public, sees wildlife management tied to these other concerns, that can limit the effectiveness and efficiency of the management objectives. Essentially, wildlife management is very contextual, meaning that issues surrounding management in one area can be very different from issues surrounding management of the same species in another area, both biologically as well as socially (meaning the sociopolitical/sociocultural aspect). What this means here is that to better understand the complexity of compensation as a mechanism for accomplishing predator conservation, one needs to better understand the sociopolitical context in which it takes place (Yaffee, 1996).

Social Approaches to Problems in Wildlife Conservation

The preceding sections highlight the difficulties inherent in trying to solve social conflicts in predator conservation solely through regulatory and/or economic avenues. Primm (1996) also argues for the use of a more socially-based process aimed at forming reason-based public opinion as the basis for developing public policy to achieve conservation goals. With respect to compensation as a strategy for predator conservation, this approach requires that an understanding public views and perceptions about towards compensation be developed. Several past studies have examined public perceptions about the concept of compensation as a basis for dealing with livestock depredation. This literature has provided mixed results regarding public acceptability of compensation programs administered by government agencies.

One of the earliest studies was a national survey that examined public support for compensating sheep ranchers for coyote depredations as an alternative to killing coyotes (Kellert, 1979). This measure was strongly disapproved by both the general public (74% disapproved) and livestock owners (89% of sheep producers and 93% of cattlemen). However, given the nature of the question, it is impossible to know to what extent respondents were rejecting to the concept of compensation in general versus the suggestion that compensation completely replace killing coyotes as a means of control.

In a more recent national survey, Reiter and others (1999) found that 54% of the public believed that individuals should not receive compensation for wildlife damage (their definition of wildlife damage was broader than predator/livestock losses and included such wildlife damage as ungulate damage to crops). When faced with the question of who should pay compensation for wildlife damage, 34% again responded that

no compensation should be paid while 41% indicated that private insurance should be the source of compensation. While the majority (56%) of the public felt government agencies should be involved in wildlife damage management, 50% disagreed that agencies should be involved in compensation. Overall, Reiter and others (1999) interpreted the responses to questions about animal damage control as indicating a general agreement that predator control is acceptable, but that compensation is not an appropriate role for government agencies.

In contrast, in a study examining opinions of agricultural community opinion leaders, Conover (1994) found greater support for compensation; 30% preferred it as a solution for wildlife damage problems. However, a larger proportion (53%) preferred an active animal damage control program managed by the state or federal government. An even broader base of support was found in a study of Wyoming residents. Duda and others (1998) found that the concept of compensation for wolf depredations was overwhelmingly supported; 80% of Wyoming residents supported compensation and only 14% opposed. Fifty-six percent of the respondents felt a federal agency should be the responsible agency while 33% felt it should be a state responsibility. Furthermore, 60% of New Mexico residents supported compensation of ranchers for wolf depredation on livestock.

Three studies provide insights into how the public rates compensation relative to other forms of control as a strategy for dealing with animal depredation. In a national study on coyote control, Arthur (1981) found that compensation ranked low on a scale of acceptability (3.2 on a 10 point scale) falling below use of guard dogs (7.1), repellent chemicals (7.0), birth control (5.8), fast poisons (4.3), and ground shooting (4.3). A study

from British Columbia (Hoffos, 1987) looked at support for compensation programs as an alternative to wolf control, factoring in relative costs. When costs of compensation programs exceeded costs of wolf control, there was little support for compensation among any of the groups (livestock owners, hunters, nonhunters) assessed. In fact, only 24% of the livestock owners, 10% of the hunters, and 28% of the nonhunters favored compensation when the cost of compensation was greater than the cost of control. However, when costs were equal, the majority (61%) of the nonhunting public supported compensation. The proportion of livestock owners supporting the option was 46%, but it still fell slightly lower than the proportion opposing (49%). Support among hunters still remained low (22%).

A study by Frost (1985) looked at the extent to which compensation for livestock depredations would serve as an incentive for protecting grizzly habitat on private lands by residents of the Flathead Indian Reservation (Figure 2-2). Compensation was among the top three incentives, supported by almost 42% of respondents. However, rapid assistance to bear problems was rated as a far greater inducement, supported by 76% of respondents. A recent study of Wyoming residents by Responsive Management (2001) yielded a similar conclusion. When a question regarding public support/opposition to efforts to increase grizzly bear populations in Wyoming was coupled with the idea of stationing wildlife managers locally to help track bears, inform and educate people, and resolve conflicts, overall support increased from 42% to 61%. However, under the latter scenario opposition did not decrease greatly (it only dropped from 39% to 33%), indicating that much of the shift came from the undecided rather than the opponents.

Figure 2-2: Support for the five inducements to promote grizzly bear habitat protection on private land on the Mission Valley Flathead Indian Reservation

Type of Inducement	% of Respondents
Received rapid assistance if problems w/ grizzly arose	76.1
Felt safe having grizzly bears near	43.4
Received payments for livestock losses	41.6
More information was available on "how to"	38.1
Tax incentives were available	19.5

Another study on public perception regarding wolves and wolf depredation issues occurred in the Ninemile Valley of Montana (Wolstenholme, 1996). This study is particularly interesting because, rather than reintroduction it explores resident perceptions of compensation in relation to a "natural recovery" population. Figure 2-3 presents responses to general questions dealing compensation in relation to wolf depredation. Overall, only 38% of the respondents indicated that the compensation program made the presence of wolves more tolerable. Of the 38% suggesting that this program increased tolerance, 75% were already favorable to presence of wolves and only 7.6% said their attitudes had changed favorably over time. Moreover, over half of the cattle producers in the study disagreed with the statement that the program increased tolerance for wolves. (Note, although the number of ranchers in the sample was small, Wolstenholme estimated that only 10-15 livestock producing households occur in the valley). This may in part be due to the general perception that reimbursement for the market value of cows killed by wolves is not enough to make up for the loss of the cow (49.3% of respondents).

Figure 2-3: Ninemile Valley residents' responses to questions related to wolf compensation/depredation

	Agree (%)	Neutral (%)	Disagree (%)
The program for reimbursement of verified wolf-related livestock depredation makes the presence of wolves in the Ninemile Valley easier to tolerate.	37.9	26.9	35.2
The program for reimbursement of verified wolf-related livestock depredation makes the presence of wolves in the Ninemile Valley easier to tolerate. (Cattle Ranchers, n=16)	31.2	12.5	56.2
Reimbursement for market value of a cow killed by wolves is not enough to make up for both the loss of the cow and the inconvenience to the rancher.	49.3	21.9	28.8

Wolstenholme (1996) noted that wolf supporters in that area were likely to indicate that certain factors may cause them to change their position of support for wolf presence in the Ninemile Valley. A majority of current supporters indicated that land restrictions (68%) and failure to respond rapidly to wolves that kill livestock (65%) were important factors that might decrease their support for the presence of wolves in Ninemile Valley. Loss of the compensation program was the third most important factor with 41% of current supporters indicating that it might change their position of support. In addition, Wolstenholme (1996) also noted that most wolf opponents indicated they would not change their opinion under any management scenario. Only 22% indicated that if research studies showed that wolves have no long-term effects on deer and elk numbers their opinion might change towards wolf presence in Ninemile Valley. Her research also suggests that compensation would have little impact on changing wolf opponents views (only 4.6% indicated that this factor might change their opinion). Additionally, prompt and effective control (which seemed to be an important factor in

Frost's (1985) study about grizzly bears) was a potential factor for changing opinions towards wolf presence in Ninemile Valley for only 9% of the wolf opponents.

These results are consonant with what Bath (1989) found when looking at public attitudes towards wolf reintroduction in Yellowstone National Park. He found that wolf opponents would not change their opinion under any of the options he described. The options were: a program of financial compensation for livestock losses attributed to wolves (80% indicated that would not change their opinion); if it were possible to hold livestock losses at less than 1 percent (75% indicated that would not change their opinion); if it were possible to keep wolves in the park and surrounding wilderness areas (68% indicated that would not change their opinion); and if wolves that killed livestock were killed (79% indicated that would not change their opinion). On other hand, Wolstenholme concluded that those who currently are supportive of wolves were much more likely to be swayed toward a negative view pending changes in management (as discussed above). Furthermore, research out of Wisconsin examining attitudes towards wolf depredation and compensation concluded that, "compensation payments apparently do not improve individual tolerance toward wolves or people's approval of lethal control" (Naughton-Treves et al., 2003).

As noted above, the results from the previous studies provide a mixed and sometimes contradictory picture. Mixed results of this sort are not atypical of this approach to assessing public attitudes and opinions to complex, multi-faceted issues like compensation. In fact, this type of apparent discrepancy in results led Primm (1996) to conclude that survey research is too problematic for generating an adequate understanding of social conflicts in wildlife conservation because attitudes, values, and

beliefs cannot be measured readily or reliably. This conclusion overstates the case. First, part of the apparent problem is due to the fact that the research summarized above was conducted on different populations at different times. And, as Primm himself notes, it is wrong to conceive of social values and political reality as if they are immutable facts that do not change with time and circumstances (1996).

However, it is true that there are limitations to the type of approach to measuring and assessing public attitude/opinions illustrated in the research described above (Patterson et al., 2000; Patterson and Montag, in prep). First, attitude/opinion based approaches of this sort are based on the assumption that it is possible to measure complex phenomena with either single items (questions) or a set of items in a survey format. While it is true that there has been great success in measuring unidimensional or multi-dimensional psychological constructs like satisfaction with multi-item measure (see for example, Churchill, 1979; DeVellis, 1991), the statistical properties and nature of these types of psychometric scaling approaches are not adequate for *multi-faceted* concepts like compensation (i.e., concepts for which people's perspectives depend on a host of qualitative, context dependent factors). For measurement of the latter, social science as a whole has increasingly turned to interpretive approaches and qualitative forms of measurement usually employing interviews rather than surveys (see for example, Dizard, 1993; Peterson and Horton, 1995; Peterson et al., 2002; Patterson et al., 2000).

Attitude/opinion surveys are used to measure general opinions, attitudes, values, and ideologies. These provide useful information for helping to understand the public in general. However, contemporary theory in social psychology increasingly reflects the view that knowledge about general attitudes is not effective in understanding how people

respond to specific wildlife controversies (Patterson et al., 2000). Rather people's environmental concerns and attitudes are thought to be more narrowly focused, rooted in day to day experience, and focused on immediate circumstances and context rather than general or abstract attitudes or values regarding wildlife, ecology, or the destruction of natural systems (de Haven Smith, 1987). Thus rather than simply inventorying general attitudes and values there is an emerging trend in human dimensions of natural resource social science toward focusing on political conflicts in specific contexts using interpretive research methods.

Contributing to this emerging trend in approaches to social assessment in natural resource conservation is a growing focus on and shift in decision making philosophies (Primm, 1996; Primm and Clark, 1996; Patterson et al., 2000; McCool and Guthrie, 2001; Lachapelle, McCool, and Patterson, 2003; Patterson et al., 2003). Traditionally, decision making approaches followed the Progressive Era model associated with Gifford Pinchot and the Forest Service though broadly, it served as the foundation under which most natural resource agencies initially developed. The Progressive Era model of decision making was based on the notion that decisions about natural resource conservation and management were best left in the hands of technically and scientifically trained, politically neutral experts and civil servants (Rothman, 1989; Taylor, 1992). Initially the emphasis was primarily on technical training and biological knowledge. Ultimately, though, the need to integrate social knowledge into decision making was recognized. Early attempts to integrate social knowledge followed the Progressive Era decision making philosophy. Researchers collected social data then made recommendations for decisions based on what the data suggested.

What dominated much of this type of social research, especially with regard to wildlife conflicts, was attitude theory from social psychology. Essentially, this approach reflected the belief that it is possible to predict behavior based on measurement of attitudes and ultimately to identify the types of underlying beliefs that shape the attitudes relevant to behavior. The appeal of this approach is that, in addition to characterizing the attitudes that drive the behavior of various stakeholders, it is also possible to identify the underlying beliefs that drive the attitudes. This held the enticing promise of being able to influence and change attitudes by changing mistaken beliefs thus making it possible to bring public attitudes in line with biological/technically correct decisions made by experts. However, wildlife related research typically has found that it is not factually based beliefs that have the strongest influence on shaping attitudes related to wildlife conflicts, but symbolic beliefs (e.g., deeply held values) (Bright and Manfredi, 1996). Deeply held symbolic beliefs are resistant to change (Bright and Manfredi, 1996) and in such situations facts and knowledge, though relevant, do not directly resolve conflicts. Thus, while this approach may provide useful insights regarding what symbolic beliefs the public might respond to in information campaigns, it is not well suited for yielding insights into how to negotiate a resolution to problems where fundamental symbolic beliefs are in conflict (Patterson et al., 2000).

In addition to recognizing this limitation in using an attitude approach to social assessment, over the last decade there has also been a growing interest in shifting away from the Progressive Era decision making model to experimenting with more participatory and collaborative approaches. Essentially, the goals of social research have shifted as well from an emphasis on predicting behavior, understanding attitudes, and

using education to change mistaken beliefs to an approach to social assessment that focuses on facilitating communication, identifying common ground, and developing an understanding of what people think about a specific issue rather than focusing on attitudes in general (Primm, 1996; Primm and Clark, 1996; Patterson, et al., 2000). Other researchers also indicate the need for approaches that are more participatory in nature and will help facilitate the navigation through differing problem definitions, varying public values and goals, and understanding of the public's interest (McCool and Guthrie, 2001; Lachapelle et al., 2003). Developing social assessments capable of meeting the goals of and facilitating a more participatory type of decision making approach therefore has been another factor leading social science researchers to explore interpretive approaches to research mentioned above. While examples of this research approach are beginning to grow in wildlife literature (Dizard, 1993; Peterson and Horton, 1995; Peterson et al., 2002), this approach to research and social assessment is still in the process of being developed and refined. A contribution of the dissertation is the further development of this type of research approach in the wildlife literature.

Chapter 3: Study Design and Methods

Description of Study Area Compensation Programs

The study was conducted in the western states of Idaho, Montana, and Wyoming. Currently four compensation programs exist within these states including Defenders of Wildlife's 'Bailey's Wildlife Foundation Wolf Compensation Trust,' which operates in all three states; Defenders of Wildlife's 'Bailey's Wildlife Foundation Grizzly Bear Compensation Trust' which operates in Idaho, Montana, and on the Wind River Reservation in Wyoming; Wyoming Game and Fish Department which compensates for grizzly bear, black bear, and mountain lion depredation; and Idaho Department of Fish and Game which compensates for black bear and mountain lion depredation. The following descriptions of the programs briefly discuss the design and implementation processes of these programs at the time of the study.

The compensation procedures for all the programs are rather similar. As soon as the owner identifies damage, s/he must report the damage to the proper authorities. The proper authorities are often the conservation officer/game warden/or wildlife services individual for that area. The proper authorities then either inspect the damage themselves or bring in another competent authority who can identify cause of death, identify characteristics of the attack and subsequent damage (when, where, how it may have happened; where was the livestock—pasture, confined, etc.), and the cost of damage. This generally includes looking for/at the carcass, inspecting the surrounding area for evidence, and interviewing the livestock owner. This verifying agent reports whether the damage/loss is a positive (verified), possible, doubtful (unconfirmed/unverified), or negative (unverified) loss by a specific predator species. Once a report has been written

it goes to the administrating agency to determine if the claim will be paid. None of these three programs will compensate for losses covered by insurance or for loss of pets.

The compensation program administered by Idaho Department of Fish and Game determines payment by negotiating the value of the verified loss with the livestock owner, basing the amount on the market value. If the parties cannot agree on the value then it goes to arbitration. If and when the value of the payment is agreed upon, one third (1/3) of the claim is paid. The remainder of the payment value is paid at the end of the fiscal year, based on the program's balance and the amount of other claims. If the total value of all the claims for the year is greater than the program's balance, then the remainders of the claims are paid on a pro-rated basis. In addition, this program has a \$1000 deductible which is to be deducted from the amount paid/compensated to the claimant. The basis as to why the Idaho Department of Fish and Game pays compensation for black bear and mountain lion damages to livestock and beehives is found in the Idaho Statutes; in particular sections of Chapter 36 Idaho Code covers the depredation and compensation program. Thus the state is legally mandated to compensate for the confirmed/verified losses. Although the statute states that "it is the obligation of landowners to take all reasonable steps to prevent property loss from black bears and mountain lions or to mitigate damage by such" (Chapter 36; 36-1109), no measures are prescribed and preventive measures are not thereby required in order to get compensation for verified losses. The funding for the compensation program comes from state appropriations.

The compensation program administered by Wyoming Game and Fish Department also is legally mandated through state regulations, in particular Chapter 28:

Regulation governing big or trophy game animal or game bird damage claims. As with Idaho's program, Wyoming Game and Fish Department's program pays only for verified livestock and beehive losses. This program pays for damages to anything defined by Wyoming law as livestock. Payment for sheep and calf losses can be determined two ways, both requiring that the claimant have verified at least one calf or one sheep injured or killed by a trophy game animal. Wyoming Game and Fish Department will pay whichever payment is less. One payment determination process is that in geographic areas determined by the Department to have terrain and geography that would make it difficult to find sheep and calves that may have been killed by trophy game (grizzly bears, black bears, and mountain lions), claimants may use a count on/count off process. This means that for a grazing season that a claimant turns in a claim for missing sheep or calves believed to be injured or killed by a trophy game animal; the claim also needs to include total known death loss and number of losses due to causes other than trophy game animals. The payment will then be determined by paying fair market value for the missing sheep and calves (at a 1:1 ratio). The second payment determination is more complex. In areas occupied by grizzly bears, payment for calf and sheep losses is determined by multiplying the value of the number of verified calf and sheep killed by grizzly bears, black bears, and mountain lions by three and one-half (3.5) (for example for 3 verified calf losses, where each calf was valued at \$500, the formula would be: 3 calves x \$500/calf x 3.5 = \$5,250) . In areas not occupied by grizzly bears, payment for sheep losses is determined by multiplying the value of the number of verified sheep killed by black bears and mountain lions by three (3). For all other verified livestock losses/damages (such as yearlings, cattle, horses, etc.) compensation payments are valued

at fair market value, at a 1:1 ratio as opposed to a formula as described above. Although this formula has been debated in Wyoming, Wyoming Game and Fish Department believes it more accurately portrays the amount of losses livestock owners are really sustaining, but are not always able to verify (Terry Cleveland, personal contact, February 24, 2003). As with the Idaho program, the value of the damage is negotiated between the Game and Fish Department and the claimant involved. If the value of the damage is not agreed upon, then the party has the ability to appeal the payment decision made by the Department. The claimant can appeal the decision in front of the Wyoming Game and Fish Board of Commissioners. If either party is unhappy with the decision made there, it can go into arbitration and then to the court system. Funding for this compensation program primarily comes from the nonrefundable application fee that nonresidents pay for hunting license fees.

Unlike the two previous programs, the compensation programs administered by Defenders of Wildlife (The Bailey Wildlife Foundation Wolf Compensation Trust and The Bailey Wildlife Foundation Grizzly Bear Compensation Trust) are not legally mandated by any state or federal wildlife statutes. Defenders of Wildlife created these programs as a tool to help eliminate economic fears as opposition to conservation of these species and to shift the economic burden to those who support these conservation efforts (Defenders of Wildlife, 2004a, 2004b). Payment values are negotiated with the parties involved and are based on 100% fall market value for verified losses. However, Defenders of Wildlife will also compensate 50% of the fall market value for probable losses (these losses are those that indicate reasonable physical evidence that depredation was caused by wolves or grizzly bears, but lacks exclusive proof). If the parties cannot

agree upon the value, then the dispute is sent to the local extension agent to determine the value. Unlike the other two programs, Defenders' programs have a \$2000 limit on how much they will pay per animal. Funding for both of these programs administered by the Defenders of Wildlife are from private donations that have been put into dedicated funds. The Bailey Wildlife Foundation Grizzly Bear Compensation Trust has a dedicated fund of \$100,000 and the Bailey Wildlife Foundation Wolf Compensation Trust has a dedicated \$200,000 fund. Both of these funds used to be known simply as Defenders Wolf Compensation Program and Defenders Grizzly Bear Compensation Program, however the name was changed as a way to recognize the Bailey Wildlife Foundation which gave generous donations to help set up the dedicated funds.

Research Design

This dissertation project explored questions related to the perceptions of predator compensation programs from the perspectives of livestock owners and the general public. More specifically, it explored how individuals frame the underlying issues and conflicts related to predator compensation; how they view issues related to equity, fairness, individual versus societal responsibilities, and the public interest in regard to predator conservation and compensation; and how they view compensation program administration and funding.

The research questions and goals underlying this study required a research design capable of providing an empirically based, in-depth understanding of issues such as: (1) the constellation of beliefs, values, meanings, and perceived conflicts that characterize livestock owners' perceptions of predators and predator compensation programs; (2)

views about the administration and effectiveness of compensation programs; (3) how individuals frame the underlying issues and conflicts related to predator conservation; and (4) how individuals formulate concepts like equity, fairness, individual versus societal responsibility, and the public interest in regard to predator conservation.

Essentially there are two types of research questions examined in this dissertation. One type pertains to opinions or attitudes about compensation, such as whether an individual endorses compensation or not. The second type of research question pertains to a more in-depth understanding or characterization of people's belief systems regarding compensation. In other words, how do they frame the issues surrounding compensation and think about it in relation to social concepts like equity, fairness, and society versus individual responsibility? Thus, the research strategy I chose included both in-depth interviews and mail surveys. Surveys can readily capture the opinions surrounding the concept of compensation, such as: yes, I will vote for a state run compensation program; or no, I will not vote for a state run program. In addition, the surveys have a much larger sample size, which allows for more generalizability. The interviews, on the other hand, allow for a greater depth and clarity of understanding how issues surrounding compensation are characterized. Surveys capture the views and opinions about the concept of compensation sufficient for generating the level of understanding I am trying to gain of the general public. However, since compensation programs are meant to address issues pertaining directly to livestock owners, interviews with livestock owners were conducted in addition to the survey in an attempt to get a more in-depth characterization of the underlying issues and context of their views surrounding predator compensation programs. Furthermore, while these interviews were an important primary

source data for analysis, they also served a secondary function as an elicitation study. Elicitation studies are used in opinion and attitude research to identify salient beliefs about the research issue among the stakeholders of interest (Bright and Manfredi, 1996). Though not always employed, conducting open-ended elicitation enhances the validity of surveys by ensuring that the issues explored are relevant to study populations. Thus, the interviews were a primary resource in helping to develop the questions about compensation and related issues that were ultimately explored in the survey.

Interviews

Sampling Logic - Interviews

Sampling followed a two-stage process: selection of communities impacted by the predators and the compensation programs followed by selection of individuals within communities. The first stage emphasizes a community rather than a random, statewide focus because perceptions about this issue are likely to differ across different communities. One reason communities may differ is the influence of differences in tangible/physical characteristics such as types of predators and types of livestock in the area, as well as differing population and demographic statistics. Additionally, intangible features of communities, such as their culture and character, may influence views on compensation-related issues. Furthermore, perceptions are often socially influenced by the environment in which one lives; therefore, I considered the influence of these factors before aggregating the data for an overall analysis.

The community selection criteria emerged out of a review of prior literature (Montag and Patterson, 2001), the research questions, and workshop discussions with stakeholders interested in the study. I identified seven factors on which to evaluate communities for selections; these factors were:

1. Type of Program—private versus state run: This factor helped to ensure that the sample would include respondents with experience in all the programs described above.
2. State of Residence—MT, ID, WY: The goal was to ensure that each state was represented in the sample.
3. Type of Predator—wolves, grizzly bears, black bears, mountain lions: The type of predator may influence livestock owners' perceptions about depredation issues. Differences in perceptions may arise from the type of predator causing the damage.
4. Type of Livestock—cattle, sheep, etc: Differences in perceptions may arise from the livestock type being preyed upon.
5. Type of Livestock Owner: I sought communities that had individuals that varied on the following characteristics: traditional rancher, a corporate rancher, absentee owner, or "hobby farmer," etc.
6. Involvement in Compensation Program—have they been compensated, denied compensation, not sought compensation for a loss: I sought communities where there would be individuals who reflected all levels of involvement in compensation programs.
7. Public Land Grazing Permit: Incorporating differences in whether livestock owners have public land grazing permits allows for exploration of issues pertaining to livestock depredation on both private and public lands, as well as public land policies that may impact livestock owners' perceptions.

With these factors in mind, I mapped out where compensation payments have been made by the three compensation programs. The data mapped from Defenders of Wildlife include compensation payments from August 1987 through June 2001; the data from Wyoming's program was from January 1998 through May 2001; and the data from

Idaho only included fiscal year 2000-2001. In addition to mapping out payment areas, I created a figure that broke down payments by location, by program, by predator and by livestock type (Figure 3-1). From this table and the map, I created a new map that highlighted areas with the most compensation payments (Figure 3-2). I then looked at which predators were causing the damage and which kind of livestock was being lost in those areas. Through this process I ultimately chose four communities that reflected diversity in the facets described above while at the same time representing each state, type of program, type of livestock, and type of predator. The following indicate the primary reasons the communities were selected.

Augusta, MT: primary reasons for choosing included:

- wolf and grizzly bear activity in the area
- it has a naturally recolonized wolf population
- public land is nearby for the potential of public land grazing
- there was a mixture of livestock producing types

Salmon, ID: primary reasons for choosing included:

- wolf activity in the area
- the wolf population was reintroduced
- grizzly bear reintroduction had been proposed and approved (though it was indefinitely put on hold with the change of administrations)

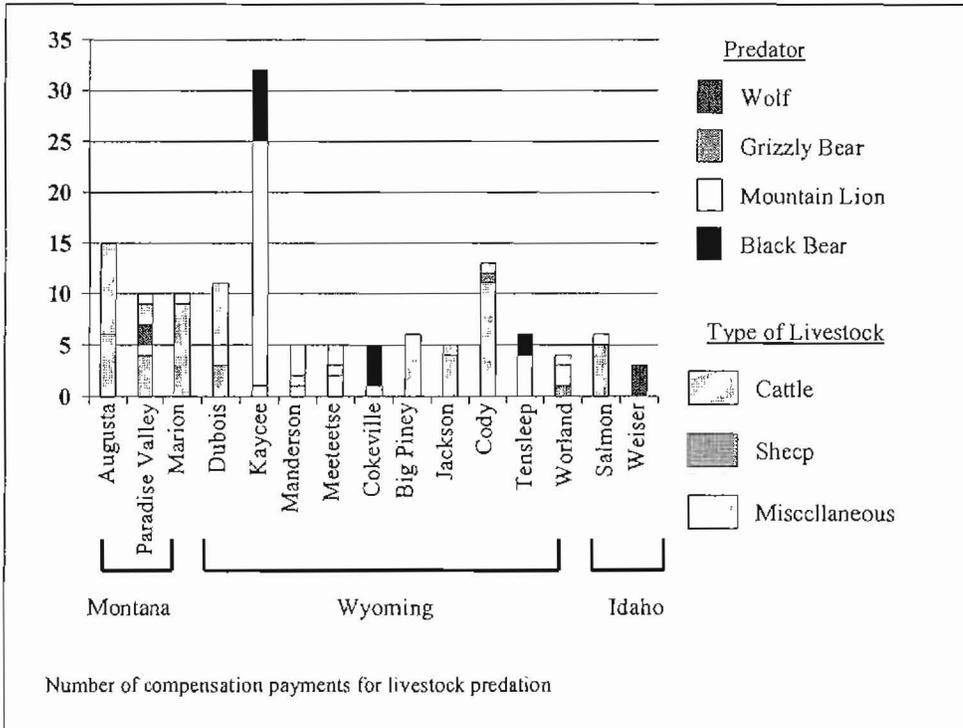


Figure 3-1: Compensation payments for livestock losses by predator

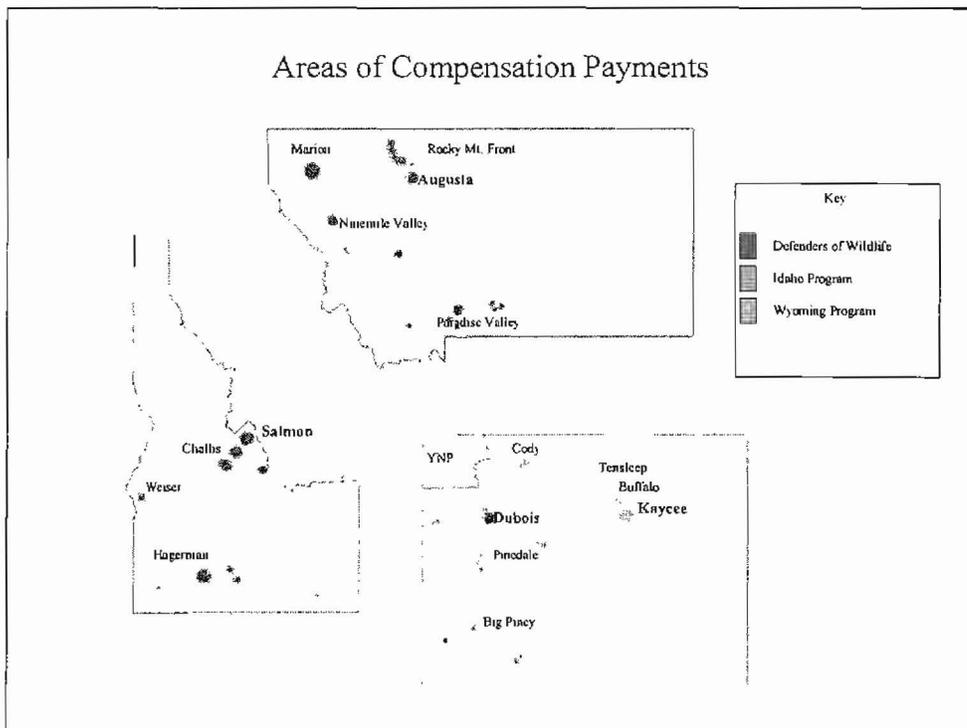


Figure 3-2: Map of areas with compensation payments

Dubois, WY: primary reasons for choosing included:

- the area has had compensation payments by both the Defenders of Wildlife and by Wyoming's programs
- public lands nearby
- mixture of livestock losses
- wolf and grizzly bear activity in the area

Kaycee, WY: primary reasons for choosing included:

- there were black bear and mountain lion losses (predators that were not reintroduced/listed as endangered)
- there were both sheep and cattle losses in the area, but predominately sheep

The second stage of sampling for the interview phase of the study involves selection of individuals within communities. Interviews were conducted only with livestock owners¹.

Sampling can be described as a process of selecting observations (Babbie, 1998). Since it was not possible to measure the entire population of interest for this study, sampling was necessary. The goal of any sample is to represent the population of interest; however there are different ways of representing the population. In large samples, as with survey research, a random process is frequently used to permit unbiased estimators of population parameters. However, the notion of an unbiased estimator is only meaningful for those phenomena that can be represented by a single statistic. Belief systems such as those explored here cannot be reduced to that type of population parameter. Further, when dealing with small sample sizes, randomization is often a poor strategy for ensuring the population is adequately represented. In types of research such

¹ The term 'livestock owner' was broadly defined for this project as individuals who have livestock or livelihood that potentially could be impacted by predators. This includes livestock owners who own any number of cattle, sheep, horses, goats, poultry, etc., as well as beekeepers, and outfitters who own horses and dogs that can be killed by predators as well. The majority of the sample is livestock owners who run traditional livestock such as cattle and sheep in these three states.

as this study (where I am using interviews to attain an understanding of the context and the underlying belief system) purposive sampling strategies are more commonly employed. For the interviews, then, the sampling approach used here reflects a purposive strategy. Unlike quantitative research based on hypothesis testing where the goal is to attain unbiased estimators of population parameters and achieve statistical generalizability, the logic underlying the sampling approach employed in this study has been referred to as one based on the notion of "representative types" (Bellah, Madison, Sullivan, Swidler, & Tipton, 1985; Patterson and Williams, 2001). The sampling goals were: (1) to represent the community populations by capturing the range of diversity in how the livestock owner population conceives of the program; and (2) at the same time provide a holistic and in-depth understanding of the constellation of beliefs, values, meanings, and conflicts which characterize an individual's perceptions.

In selecting livestock owners I ensured that the sample from each community included a number of individuals from each of the following categories: those who had received compensation for livestock depredations, those who had applied for compensation and were denied; and livestock owners who live in the geographic area but have not sought compensation. How a person was classified according to this criterion was based on their self-report. Initial community contacts were done after consulting with state wildlife officials who knew the area and the local livestock owners. The initial community contacts then helped me to gain the trust of the community and to identify potential interviewees. Subsequent interviewees were also used to help identify additional respondents. In addition to prior history with compensation programs, the following factors were used in selecting study respondents: the type of predators causing

problems, the type of livestock owned, type of livestock producer (for example, traditional ranchers, corporate ranchers, absentee owners, 'hobby', outfitter, etc.), and whether they have public land grazing permits. These latter characteristics were used to ensure that the sample included respondents with a variety of backgrounds.

Determining the sample size for a study of this nature requires balancing three factors (Patterson and Williams, 2001). First, the sample needs to be large enough to meaningfully capture the range of diversity within the population. Second the sample needs to be large enough to provide insight into commonalities within the population, to provide insight into differences within the population, and to offer the possibility of seeing patterns that might be associated with the differences in perceptions. The third factor deals more with the maximum suitable size of the sample. The data in this study consisted of tape-recorded and transcribed interviews (described in more detail in the section on data collection) typically lasting 45 minutes to 2 hours in length. Unlike quantitative data where data are represented and structured in a way that allow computer algorithms to conduct the analysis, or content analyses which entail counting the occurrence of terms or concepts in the interview text, analysis of these interviews followed a more holistic iterative process in which I repeatedly read and coded interviews (described in more detail in the section on data analysis). Based on previous experience with interpretivist research of this type and the nature of the questions being asked (Montag, Patterson, and Freimund, in review; Patterson, 2000; Patterson, Watson, Williams, and Roggenbuck, 1998; Pohl, Borrie, and Patterson, 2000) a sample of 75 was deemed appropriate to provide meaningful insight into the questions being asked while still allowing for a systematic and rigorous analysis.

A total of 79 interviews with 104 individuals were conducted (some interviews were conducted with more than one interviewee involved). The breakdown by community was: Augusta, MT: 21 interviews, 30 individuals; Dubois, WY: 20 interviews, 21 individuals; Kaycee, WY: 18 interviews, 29 individuals; Salmon, ID: 20 interviews, 24 individuals. No one refused to participate in an interview. The interviewees selected represent the diversity found among each of those communities as well as across all the factors described above (Figure 3-3).

Number of Respondents by Categories: Interviews

Type of Livestock			Type of Producer				Compensation Experience			Public Allotment	
Cattle	Sheep	Other	Traditional	Corporate	Absentee	Hobby/Outfitter	Compensated	Denied Compensation	Has not tried/will not try again	Public allotment	No public allotment
59	21	14	66	4	4	12	39	31	33	44	32

Figure 3-3: Number of respondents by categories for interviews. Note that individuals may be placed in multiple categories (i.e. an individuals may have cattle and sheep and would be placed under both of them).

Data Collection: The Interview Process

The interview process used in this research reflects a constructivist model in which the interview is conceived as a "directed conversation" (Charmaz, 1991). Under this model, the interview structure is variable to accommodate the way a respondent understands, structures, and communicates about phenomena. The role of the researcher is to lead the respondents to discuss certain themes without directing them to express specific meanings (Kvale, 1983:190) and to do so in a way that is adaptable to the way the respondent thinks and communicates while at the same time remaining systematic and focused enough to cover relevant and comparable (across interviews) information. In practice, interviewers using a constructivist model seek to achieve this end by developing an interview guide that consists of a list of the research themes to be explored in the interviews as well as multiple lead-in questions for each theme that serve to initiate a discussion about those themes. The phrase "interview guide" is used rather than the more traditional term "interview schedule" to emphasize the flexibility in conducting the interview. The guide is not intended to function as a schedule of questions asked in exactly the same order. Themes are pursued when relevant during the emergent course of the interview. Thus, if an adequate discussion about a theme emerged prior to its being explicitly asked by me, I checked it off my "guide" rather than re-asking it subsequently and running the risk of communicating to the interviewee that the earlier discussion was not acceptable. Finally, the list of questions were seen merely as a guide because contextual follow-up probing was done; this technique emerges in response to features of the on-going conversation and is necessary to obtain adequate responses. During the interview process, I was alert to ambiguities, responses that appeared incomplete, or

responses that appeared contradictory. When such cases arose, I probed to determine if these ambiguities "are due to a failure of communication in the interview situation, or whether they reflect real inconsistencies, ambivalence, and contradictions by the interviewee" (Kvale, 1983:177).

Following the interview guide approach described above, the end result was an interview text that was co-produced by a respondent describing her or his experience and by me asking questions. This means that each interview had a unique structure/organization. However, because the interview guide ensures that equivalent/comparable information was explored across interviews and because individual interview-level analysis serves as the foundation for all subsequent across individual analyses (rather than beginning analyses at an aggregate level), this variation across interviews is acceptable and accommodated in the approach to analysis described below.

The data collection process described below is based on a rigorous, iterative, and prolonged exploration of parts of a given interview in relation to the whole interview (and set of interviews). With this approach, individual words, specific phrasing, and sometimes even tone of voice may become highly significant. Further deeper meanings of comments not apparent during the course of the interview or from an initial reading of interviews may emerge under more rigorous analysis. A thorough, accurate, and permanent database is essential to make this type of analysis possible. During the interview process it was not possible for me to record the necessary detail and nuances, therefore interviews were tape-recorded and later transcribed. The transcriptions, notes, and original tapes serve as the empirical basis for data analysis. However, in one

instance a respondent indicated that he/she did not want to be tape-recorded. I did interview this individual, taking extensive notes rather than tape recording.

Data Analysis: Interviews

Data analysis centers on the development of what Tesch (1990) described as an organizing system. The purpose of the organizing system is to identify predominant themes through which narrative accounts (interviews) can be meaningfully organized, interpreted, and presented. The process of developing an organizing system is the "analysis," while the final organizing system is the product of the analysis (Patterson et al., 1998). This "organizing system" approach is fundamentally different than a "content analysis" approach that proceeds by developing a system of categories into which data are coded (an approach that is frequently associated with qualitative analysis). One of the main differences, though one that is hard to express, is that a successful organizing system makes the analysis "holistic" (Patterson and Williams, 2001); a content analysis, on the other hand, is more like a descriptive analysis in that one counts the frequency with which people said things. A content analysis may identify important themes, but this approach fails to show the inter-relationships among these important themes. In contrast, a successful final organizing system promotes a more holistic understanding of the phenomenon by showing the inter-relationships among themes.

The development of an organizing system is a systematic process beginning with (1) the identification of meaning units (segments of the interview that are comprehensible on their own; these represent the data or basic unit of analysis), followed by (2) the

identification of themes (these represent the researcher's interpretation of what one or more meaning units reveal regarding the phenomenon being studied) into which the meaning units are ultimately coded, and ending with (3) an analysis of the interrelationship among themes. Each interview was analyzed individually first, then a subsequent phase of nomothetic analysis (across individual interviews analysis) was conducted. The development and coding of interviews at the individual and nomothetic level was an iterative and rigorous analytical process that entailed continual re-reading of the interviews during the course of the analysis. An understanding of the themes emerged for an individual, for each community, and for the region (across all interviews). Qualitative analysis software (Atlas-Ti) was used to facilitate the analysis. Atlas-Ti indexed each line (a line being a line of text) with a number so that when coded, those text lines were put with the code given to it. The indexing created a referencing system by which to retrieve text and it was through coding that I identified and marked meaningful text units.

As stated previously, the analyses presented here represents the three state region as a whole, rather than by community. With knowledge about the individual and community themes, I can then make statements about what is occurring across the region by looking at the themes that are common throughout all the communities. In other words, the dissertation looks at themes common across communities, but I considered the information at the community level first to make sure it was appropriate to “aggregate” the communities. I concluded that the themes discussed in the dissertation were common across all communities. Although variation was observed within those common themes, the variation appeared to be a consequence of individuals rather than variation among

communities. This analysis is attentive to variation among individuals regarding those regional themes.

Surveys

Sampling Logic - Livestock Owner Survey

The second research initiative was a mail survey sent to livestock owners in 12 communities. Surveys allowed me to explore livestock owners' views about predator compensation programs and policies related to them on a broader scale, though in less depth than through the interview initiative. I continued to follow a "community based" sampling approach for the mail survey of livestock owners. I sent surveys to three of the four communities in which interviews were conducted (Augusta, MT; Salmon, ID; and Dubois, WY). Since surveys were sent before my interviews in Kaycee, WY were conducted and since I did not want to lose the ability to interview any individuals, surveys were not sent to this community. Nine additional communities were chosen using the same criteria used to select the interview communities. The following reflect the primary reasons these communities were selected:

Marion, MT: primary reasons for choosing included:

- an area with naturally occurring wolf population
- both wolf and grizzly bear depredations
- primarily cattle depredations
- Defenders of Wildlife compensation programs active

Ninemile Valley, MT: primary reasons for choosing included:

- a naturally occurring wolf population
- focus is mostly on cattle depredation
- Defenders of Wildlife compensation program active

Paradise Valley, MT: primary reasons for choosing included:

- a reintroduced wolf population
- both wolf and grizzly bear depredations
- a mixture of livestock types
- Defenders of Wildlife compensations program active

Cody, WY: primary reasons for choosing included:

- considerable amount of grizzly bear activity
- mountain lion activity
- mostly cattle, however sheep have been lost in area

Tensleep, WY: primary reasons for choosing included:

- predators other than grizzly bears and wolves such as black bears and mountain lions
- sheep losses primarily

Big Piney, WY: primary reasons for choosing included:

- grizzly bear depredations
- cattle depredations primarily

Challis, ID: primary reasons for choosing included:

- reintroduced wolf population
- grizzly bear reintroduction had been proposed and approved (though it was indefinitely put on hold with the change of administrations)
- public land is nearby for the potential of public land grazing

Hagerman, ID: primary reasons for choosing included:

- wolf depredation on sheep
- some depredation has occurred on cattle

Weiser, ID: primary reasons for choosing included:

- both wolf and mountain lion depredation
- sheep losses primarily
- both Idaho's Compensation program and Defenders of Wildlife program active

One hundred mail surveys were sent to each community. A random sample was drawn from a database of livestock owners in the three states by the Montana Agricultural Statistics Service, a state statistical office of the National Agricultural Statistics Service, USDA. I believed that this was the best available database from which to derive a sample of livestock owners. In order to generate a large enough sample size,

it was necessary to expand the sample beyond the mailing addresses linked to the specific communities listed above. So, in order to obtain 100 respondents per area, a random sample was drawn from zones centered around the specific communities listed. In communities where interviews and surveys were both conducted (Augusta, MT; Salmon, ID; Dubois, WY) surveys were not sent to individuals interviewed. Since the interviews were conducted before the surveys were mailed out, I did not want interviewees to have the impression that what they discussed in the interviews was not pertinent or valuable. In addition, it was important to me that the interviewees not have to take even more time to complete a survey after talking at length and in more depth about the same issues that appeared on the survey.

Respondents were mailed a survey with a letter explaining the nature of the study. This initial mailing was followed up by a postcard reminder/thank you card mailed approximately a week after the first mailing. Approximately 2-3 weeks after, a second survey packet was sent to those who had not returned the earlier survey. The final response rate (adjusted for those that could not be delivered due to wrong addresses) was 51.1% (52.3% for Idaho, 51.1% for Montana, and 49.7% for Wyoming).

Data Collection: Survey Design

Prior to designing the survey, interviews were conducted in three communities (Augusta, MT; Dubois, WY; and Salmon, ID). These interviews were a primary resource in helping to develop the questions about compensation and related issues that were ultimately explored in the survey. The survey emphasized issues related to what people

think about compensation (is it desirable, what are appropriate sources of funding, is it acceptable to have a state run program, views about the design and implementation of compensation, etc.). The survey also assessed views about wildlife and sociodemographic characteristics so that it was possible to explore the relationship between these respondent characteristics and views on compensation. The actual surveys can be found in Appendix A. The particular themes covered in the surveys include the following:

Views about the Concept of Compensation Programs in General

It is important to explore what individuals think about compensation as a concept in general in addition to looking at the views about existing programs or possible future programs. This is particularly important for the general public who might not be familiar with the specific details of existing programs. Specific sections included in the survey regarding this theme include: (1) views about who should administer compensation programs; (2) views about how programs should be funded; (3) views about the types of situations (defined in terms such as species status, existence of restrictions on property owners' ability to respond to predation events, location of predation event, and existence of preventative measures) in which predator compensation programs by environmental, state, or federal agencies are deemed acceptable/appropriate; (4) reasons for supporting or opposing compensation programs administered by various environmental, state, or federal agencies; (5) views about what should be compensated; and (6) support for alternative means of addressing livestock depredation issues relative to support for compensation programs.

Views Regarding Predators & Predator Conservation in General

Support for predator compensation programs may depend in part on one's support or acceptance of predator conservation and reintroduction efforts in the first place. The primary purpose of questions in this section, therefore, was to develop an understanding of respondent's views relative to the topic of predators and predator conservation in general.

Awareness of Compensation Programs

The purpose of this section is to understand the level of awareness of compensation programs among ranchers and the public. This information is helpful in assessing questions related to whether or not compensation programs increase tolerance (i.e., such programs cannot have an effect on tolerance if the individuals are not aware of them) and provides insights into the degree of understanding of programs and possible misperceptions.

Perceptions about the Design and Implementation of Compensation Programs

This section explores the perceptions about the administration of existing predator compensation programs across the three states. This section looks at experiences, satisfaction, and overall perceptions of compensation programs including views on success, efficiency, responsiveness, and consequences of the programs.

Information on Respondent Characteristics

This section collects respondent characteristics that are important to help describe who is represented in the sample.

Sampling Logic - General Public Survey

The third research initiative focused on the general public's views regarding predator compensation programs. Like the second research initiative, this one used a mail survey. The survey for the general public was identical to the livestock owner survey except approximately 3.5 pages of questions dealing with compensation experiences and specifics of the design/implementation of compensation were not included (see Appendix A). The goal of the general public survey was to obtain the general public's views on the same issues as the livestock owners; that is why both surveys contained the same questions, except for questions pertaining to the specifics of the design and implementation of compensation programs. This latter section of the livestock owner survey was not included on the general public survey because members of the general public are unlikely to be applicants for compensation programs, to have knowledge about specifics of program administration, or to have an interest in specific details about implementation.

While for the livestock owner sample a community-based approach was used to randomly sample individuals, for the general public survey a statewide sampling frame was employed. Therefore, a random sample survey of the three states (ID, MT, WY) was conducted to represent the general public's opinions (across those three states) regarding

predator compensation programs. Conducting a survey of the general public is appropriate since I was attempting to understand what opinions and attitudes people held rather than a detailed understanding of why they held those opinions. The survey of the general public simply attempts to describe broad opinions held on the issue of predator compensation programs, as well as to generalize those opinions to the broader statewide population. For each state, a random sample of 653 residents was generated from a database on state residents/contact information from a commercial company that maintains and updates this type of information for survey research. The sample was limited to people over the age of 18. In an effort to achieve a good response rate, individuals were first mailed a letter telling the potential respondent that the survey was on its way to them, what it was for, and requesting their participation. Two days later, the survey and a cover letter were sent. The cover letter again described, in more detail this time, the purpose of the study, seeking to communicate: that the survey was evaluating existing and proposed programs; that everyone's views were relevant because wildlife management and compensation programs involve public funds, governmental agencies, and private donations; and that the survey was supported by a diverse set of organizations. One week later, a reminder/thank you postcard was sent. Two weeks after the postcard mailing, a second survey was mailed. The final response rate (adjusted for those that could not be delivered due to wrong addresses) was: 43.9% (41.7% for Idaho, 48.5% for Montana, and 41.6% for Wyoming).

Data Analysis: Livestock Owner and General Public Surveys

In this study, the data from Idaho, Montana, and Wyoming has been combined and analyzed to look at the region as a whole. An analysis by state has been presented in an earlier project report (Montag et al., 2003). A nonresponse bias analysis was conducted. However, because of restrictions on access to the contact information from the Montana Agricultural Statistics Service database (based on their policy to protect the privacy of individuals within the database), the nonresponse analysis was conducted only for the general public. For the nonresponse analysis, a sample of 50 nonrespondents was contacted for each state. Because study participation was voluntary and nonrespondents had declined to participate through two follow up mailings requesting their response, the follow-up phone nonresponse survey was kept brief. It typically took three minutes to complete. The questions asked included familiarity with compensation programs and whether one would vote for a state run compensation in an upcoming election, views about the importance of two issues not addressed by compensation (impact of predators on elk/deer populations and simply not wanting predators in the area), and views about whether people have a responsibility to learn to coexist with the three predators emphasized in the study (grizzly bears, mountain lions, and wolves). These latter issues were asked based on the belief that these issues would play a more substantial role in discriminating among individuals with respect to the views about compensation that analyses ultimately indicated. However, as will be shown in the discriminant analyses results, other variables played a more substantive role than these and in retrospect would have been better choices for the nonresponse analysis. The results of the nonresponse analysis indicate that overall there was not a difference between respondents and

nonrespondents with regards to familiarity with compensation programs. However, nonrespondents were more likely to indicate that they would simply not vote (as opposed to vote in favor or vote against) as to whether there should be a state run compensation program. In addition, nonrespondents were more likely to be neutral with regards to views about the importance of the two issues not addressed by compensation as well as views about the importance of co-existing with grizzly bears and mountain lions. There was no difference between respondents and nonrespondents with regards to views towards the importance of co-existing with wolves (Montag et al., 2003). In addition, Montag et al. (2003) conducted an analysis that examined over/underrepresented populations in the sample and there do not appear to be any important differences.

The survey examined in several different ways respondents' endorsement of and views about compensation. However, as the results will show, different ways of asking about endorsement of compensation resulted in different levels of support. Similarly, no single question provides an adequate understanding of what people think about compensation. Therefore, I conducted an interpretive analysis that looked at patterns of responses across questions in conjunction with interview responses to construct an understanding and characterize what respondents think about compensation as a whole.

Discriminant analyses were conducted in an attempt to see if it was possible to identify respondent characteristics that were related to level of endorsement of compensation. Since there are different ways of asking about the extent to which a person endorses compensation two different questions tapping into endorsement of compensation were used as dependent variables. The first question asked respondents how desirable a program that "pays individuals for losses/damages caused by predators"

would be as part of a government policy for managing grizzly bear, mountain lion, and wolf populations that are not threatened or endangered (tapping into desirability of compensation). The second question asked individuals to respond to whether they would “vote for or against, or were undecided in how they would vote for a state run compensation program to pay for losses/damages caused by predators in an upcoming election.” Thus, for each dependent variable a discriminant analysis was conducted. The specific discriminant models analyzed are explained in detail in the results chapter in the discriminant analysis section.

The discriminant analysis requires evaluating loadings of variables (either single item variables or composite variables, i.e. factors) on discriminant functions. Loadings for discriminant analysis indicate the correlations between variables and functions and the higher the loading, the more influential that variable is in defining that function (loadings can range from 1.0 (perfect correlation) to 0 (no relation). One follows the same rules or guidance outlined for factor analysis (described below) in order to determine what variables load on discriminant functions (Tabachnick and Fidell, 1989). As with the factor analysis, I used the .40 loading as a cutoff while also considering where there were notable gaps between loadings.

One means of evaluating the strength and generalizability of the results of a discriminant analysis is check the adequacy of the classification of respondents into the appropriate group memberships on a different sample. When there is only one data set, a cross validation approach is employed in which a portion of the sample is used to calculate the discriminant functions while the remainder of the sample is used to test the classification accuracy of the functions (Tabachnick and Fidell, 1989). I conducted

cross-validation by randomly selecting 65% of my sample to be used to calculate the discriminating relationships (functions). The remaining 35% was then used to test the relationships (functions). The question of whether the improvement in classification was statistically significant when using the discriminant functions compared to what would be expected by chance alone was evaluated by calculating a z statistic as described by Brown and Tinsley (1983).

Where appropriate, factor analysis was used to help define the specific discriminant variables used in the analysis due to the superiority of multi-item measures in this type of analysis (Churchill, 1979; Tabachnick and Fidell, 1989). The use of factor analysis here is based on the assumption that some of the specific survey questions are indicators of broader psychological constructs. Factor analysis is a statistical procedure that looks at the inter-correlations among responses to survey questions to determine if, empirically, certain groups of questions indicate a broader psychological construct.

The empirical basis for identifying the number of factors in the data is based on evaluating eigenvalues (Tabachnick and Fidell, 1989). Eigenvalues represent variance; the guideline that is generally followed is that factors with values greater than one are considered meaningful (Tabachnick and Fidell, 1989). In order to determine what variables should be considered a measure of a factor, one looks at how much the variable loads on that factor. Higher loadings indicate that the variable is more of a pure measure of the factor. Loadings of approximately .40 are considered fair, with .55 loadings considered good (Tabachnick and Fidell, 1989). For my analyses, I used the .40 loading as the cutoff in determining what items loaded and did not load. However, factor loadings alone are not the only means by which the results of a factor analysis are

evaluated. As Tabachnick and Fidell (1989:640) suggest, “Sometimes there is a gap in loadings across the factors and, if the cutoff is in the gap, it is easy to specify which variables load and which do not.” In addition, it is also important to evaluate whether the factors are meaningful conceptually. That is, when the items of the composite factor are read collectively, are they interpretable and do they seem to reflect a common underlying factor (Tabachnick and Fidell, 1989)? All of these issues were taken into consideration when evaluating the results of the factor analyses.

Each composite factor was then checked for reliability. Reliability analysis indicates the internal consistency (to what degree the variables/items which make up the composite factor ‘hang together’ (Churchill, 1979; Pallant, 2001)). One of the most common indicators used is Cronbach’s alpha. Higher values of Cronbach’s (values range from 0 to 1) indicate greater reliability. There is no definitive criterion for determining what level of reliability is acceptable. However, for newly developed (as opposed to established) multi-item measures, an alpha of 0.6 or 0.65 is considered acceptable (Churchill, 1979; George and Mallery, 2001; Pallant, 2001).

Chapter 4: Results and Discussion

Views about the concept of compensation are complex and multifaceted. With such a subject, no one question in the survey or the interviews can adequately portray the respondents' views. Data from any single question may be misleading if not interpreted in conjunction with questions exploring other dimensions of the respondents' views about compensation. One must look at the data collectively and not at answers to single questions in order to gain a full understanding. In order to provide this type of comprehensive understanding, the results are analyzed and presented in three sections.

The first results section uses descriptive statistics and interview excerpts to present an interpretive analysis of respondents' views about the concept of compensation. Specifically, this section focuses on study respondents' endorsement of the concept of compensation; beliefs about the role of compensation in society and the extent to which compensation addresses concerns associated with predator conservation; and views about how such programs should be funded. The results are analyzed and presented in a way that seeks to build a **collective understanding across the questions**. The analysis becomes a synthesis of the data that seeks to provide a coherent, integrative collective understanding of peoples' perceptions of compensation. The second results section uses discriminant analysis and seeks to identify respondent beliefs and characteristics that might be linked to whether or not a respondent endorses compensation. Endorsement is assessed in two ways: perceived desirability of predator compensation programs and intention to vote for a state run compensation program. Finally, the results and discussion concludes with a section exploring a potentially contentious issue, verification of losses, and an issue that may lead to more effective predator management, relationship

and trust building between the public and agency personnel. Because I am looking at the region as a whole, the data from the three states has been combined in the analyses. A state by state analysis of results was included in the final project report (Montag et al., 2003). Due to the interest in whether responses from the general public differ from the livestock owners, these two populations have been kept separate on most analyses of the survey responses here.

VIEWS ABOUT THE CONCEPT OF COMPENSATION

Desirability of Compensation and Other Management Programs

Survey Results

In a survey format, there are several different ways to ask respondents about the extent to which they endorse predator compensation programs. Three examples from the mail surveys used in this dissertation include: perceived desirability of compensation as part of a government management program; perceived acceptability of a state compensation program for endangered predators; and whether the respondent would vote in favor of a state run compensation program (Figure 4-0).

Over 74% of the mail survey respondents (public and livestock owners combined) indicated that a compensation program would be desirable as part of a government policy for managing grizzly bears, mountain lions, and wolves. However, endorsement drops to 50% when respondents were asked if they thought that a state run compensation program is acceptable for endangered predators, and only 29% indicated they would vote in favor of a state run predator compensation program. Thus, each of those questions alone only

partially characterizes the extent of public endorsement for compensation and one needs to look at the data collectively.

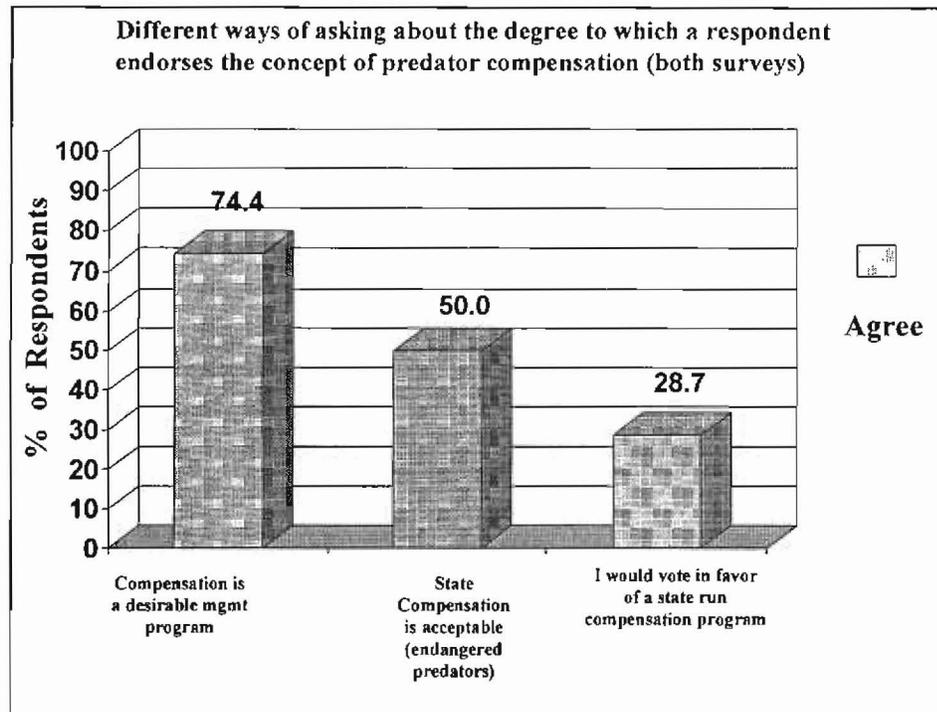


Figure 4-0: Endorsement of the concept of predator compensation

The remaining portion of the chapter attempts to evaluate the data collectively and to provide a realistic and meaningful characterization of how livestock owners and the public view the concept of compensation and how it fits into the broader scheme of predator management.

There are several different management options available for dealing with predator-livestock conflicts. The surveys explored respondents' views about the desirability of compensation and nine other management options (Figure 4-1). The respondents were asked to indicate how desirable they thought each of the management

alternatives would be as part of a government policy for managing grizzly bear, mountain lion, and wolf populations that *are not threatened or endangered*.

Although the intensity with which individuals in the two samples typically endorsed compensation differs (68.7% of the livestock owners found it highly desirable whereas only 37.5% of the general public of states of Idaho, Montana, and Wyoming found it highly desirable), compensation was found desirable (indicated by combining the highly desirable and moderately desirable percentages) by a majority of the livestock owner respondents (86.5%) and the general public respondents (65.7%) (Figure 4-1).

Overall, across both samples, the four top management alternatives for predators (as indicated by the percentage of respondents finding them desirable) were: owner's right to kill, hunting by the public, a monitoring program, and compensation.

Compensation was not the most widely endorsed in either survey. In both samples, two of the lethal control management alternatives, using hunting by the public to control populations and giving livestock owners the right to kill predators that attack livestock, were rated desirable by a slightly higher percentage of respondents than compensation. Over 94% of the livestock owner survey found giving livestock owners the right to kill predators that attack livestock a desirable management option, with 87.4% finding this option *highly* desirable. In addition, 75.4% of the general public found this option as desirable, however only 55.2% rated it as *highly* desirable (Figure 4-1).

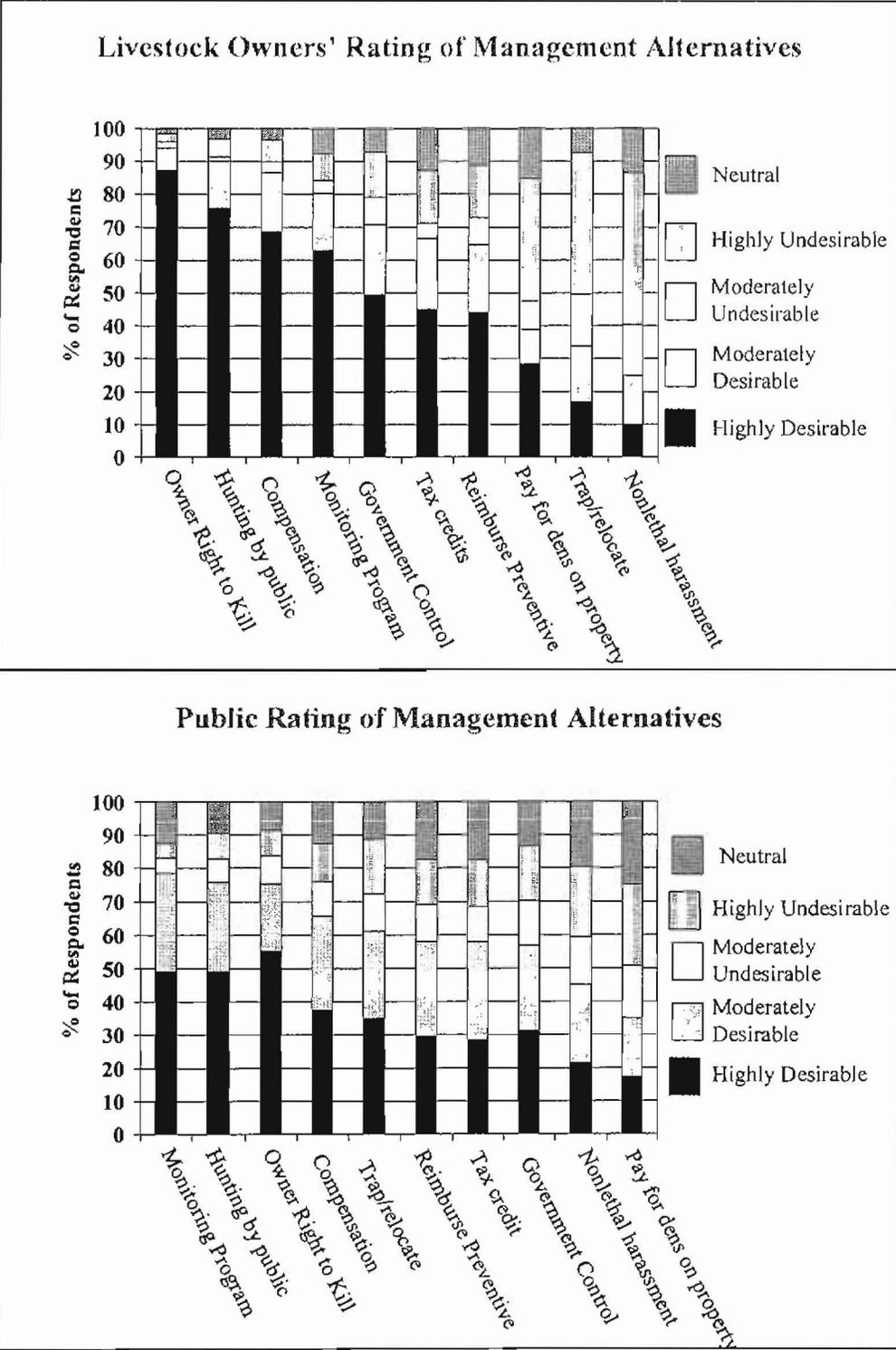


Figure 4-1: Respondents ratings of the desirability of management alternatives

Closely resembling these percentages is the three states' general public's support for hunting by the public to control populations; 75.7% of the general public respondents found this option a desirable management alternative. The livestock owners also widely endorsed this management alternative; 90% of them found it a desirable option, with 75.8% rating it as a *highly* desirable management alternative.

Monitoring and informing livestock owners about the location of predators is another management alternative where the percentage of the general public finding it desirable was slightly higher in comparison to compensation. In fact, 78.4% of the general public respondents rated a monitoring program as desirable, as opposed to the 65.7% that found compensation desirable. In contrast, a greater percentage of the livestock owners found compensation desirable (86.5%) than found a monitoring program desirable (80.4%). Clearly, though, a monitoring program was widely endorsed by respondents in both samples.

A majority of both the livestock owners and the general public also found government control (using government personnel to kill predators that attack livestock), creating a tax credit for livestock owners suffering predator losses, and reimbursing livestock owners for preventive measures desirable (70.8%; 66.6%; 64.7% livestock owner sample; 56.9%; 57.9%; 57.9% general public sample). However, less than a majority of both populations found paying property owners if predators successfully den on their property desirable (38.9% livestock owner sample; 35% general public sample). In fact, in both samples a greater percentage found paying for dens undesirable than found it desirable (45.7% undesirable vs 38.9% desirable livestock owner sample; 40% undesirable vs 35% desirable general public sample).

The management alternative that garnered the greatest discrepancy across the two populations was trapping and relocating predators that prey on livestock. Over 61% of the general public found this a desirable management alternative whereas 58.9% of the livestock owners rated this an undesirable (43.1% found it *highly* undesirable) management alternative. Trapping and relocation could be a potential source of conflict in policy making since a majority of the general public supports this option, while a majority of livestock owners do not. Reasons why trapping and relocating is not widely endorsed by livestock owners will be discussed in more detail below using data from the interviews; however, one possible explanation may be the perception that trapping and relocating is not a permanent solution to the problem and that it only transfers the problem.

A second management alternative for which a notable discrepancy in the pattern of responses between the livestock owner and general public sample exists is in regard to the desirability of nonlethal harassment. A plurality of the general public respondents of the three states found nonlethal harassment desirable (45% desirable vs 35.3% undesirable). Conversely, a majority of the livestock owner respondents found nonlethal harassment undesirable (61.4%; with 46.1% finding it *highly* undesirable). Interestingly, as with trapping and relocating, this management alternative may also be considered a temporary solution. Overall, then, there is most agreement across the two samples in regard to the desirability of lethal, financial, and monitoring programs and least agreement with regard to nonlethal (removal or harassment) management alternatives.

Interview Results

The interviews conducted with livestock owners provide a basis for a more in

depth exploration of livestock owners' views related to desirability of compensation as a management alternative. Excerpts from the interviews are presented in the accompanying tables and represent the data that provide the justification for the interpretation/discussion and allow external peer review (that is, allow a reader to make a relatively independent judgment about the warrants for the interpretation). To ensure anonymity of the interview participants, all names used are pseudonyms.

Given the volume of "data" from the interviews, it is not feasible to provide every comment from every interview related to a theme. The purpose of the presentation of interview excerpts in this section is not to present a detailed description of every individual interviewed, but instead to represent the views evident within the whole set of interviews. Two criteria were used to guide the selection of specific interview quotes for inclusion in the tables in the dissertation. First, collectively, the quotes presented represent the range of views within the whole set of interviews (that is no viewpoint identified during analysis has been excluded in the presentation of results). Second, the excerpts were chosen based on their clarity of meaning, succinctness, and representativeness. The excerpts are meant to accurately portray both the speaker's meaning and intent as well as adequately reflect the perspective of other individuals with similar viewpoints who were less able to express the sentiment as precisely and succinctly.

Three additional issues should be kept in mind when evaluating the data excerpts. First, the number of excerpts does not represent the number of people who discussed these issues. The themes presented in the dissertation were issues that were brought up repeatedly across interviews. The number of excerpts in a given table is reflective of the

diversity of viewpoints regarding the theme, not the number of respondents raising it. Second, it is also important to realize not only the complex nature of people's views on compensation, but also the interrelatedness of all of the components that are discussed throughout the dissertation. The issues raised in this section are related not only to the issue of desirability of compensation, but to the ideas in other sections of the discussion as well. For example, verification issues also relate to and influence views about desirability. Unlike the survey that separated these two questions, the interviews allowed for the integration of these issues in a manner which actually reflects the way people think about compensation. It becomes apparent in the interviews that issues pertaining to compensation were not always considered as separable and distinct. Interviews therefore provide a more accurate and complete characterization of people's thinking, compared to survey questions where respondent's ability to express what they mean is severely restricted by the response format.

The survey data indicated that 86.5% of the livestock owner survey respondents indicated that compensation was desirable (moderately or highly). Table 4-1 presents the perspectives of why compensation may be found desirable. The nature of the interview responses provide a better indication of what a "desirable" response to the survey may mean - that is, the context in which compensation is perceived as desirable. Generally speaking, many of the interviewees did view compensation as a "big help" because it does take the "hurt" out of livestock losses (T4-1#1, T4-1#2, T4-1#3, T4-1#4, T4-1#5, T4-1#6, T4-1#7). This is especially true when there were a great number of losses. While livestock owners interviewed typically expected one or two losses to predators they tended to find compensation especially desirable when there were large or drastic

numbers of losses. As Maxwell explains with increasing predator populations, as a landowner you would expect some conflicts and losses to occur. He would not look for compensation if he lost just one calf, but if several bears came in and killed 10 head of cattle, a drastic loss, then he would want compensation (T4-1#8). (See also the more extensive discussion of this issue below in Table 4-6, excerpts T4-6#1, T4-6#2, T4-6#3, T4-6#4, T4-6#5.)

If the predator has been reintroduced, and populations are allowed to increase or control measures are restricted due to status (such as endangered species) livestock owners expect there to be compensation (T4-1#8, T4-1#9, T4-1#10, T4-1#11, T4-1#12, T4-1#13). A common sentiment reflected by these excerpts is the view that the respondents did not want the predators and that it is therefore only reasonable that those responsible for predators being present to pay.

The desire, or one might say expectation, for compensation is especially strong when livestock owners are limited in their ability to take care of the problems. Like Mark, several livestock owners believe that, if you cannot take care of the problem yourself, there should be compensation (T4-1#12). There is an underlying belief among many of the interviewees that predator populations can have a significant impact on livestock owners' livelihood and those owners need to be compensated in order to make a living (T4-1#14, T4-1#15). But that view is often expressed in conjunction with the "restrictions" on livestock owner's ability to control problem predators or reintroduced predators. Walter provides another illustration of this type of expectation. He doesn't really like compensation because he does not like to get "something for nothing," but he supports ranchers receiving it because they can lose enough livestock to predators that

they don't make a profit (T4-1#14). This excerpt illustrates a very telling story in that many of the interviewees believe that an undue hardship is placed on livestock owners when predators are reintroduced while at the same time their ability to control predators themselves is restricted.

Considered collectively, the excerpts in Table 4-1 suggest that even though there is widespread support for the idea of compensation, this support comes with qualifications. It is a cautious endorsement, one in which livestock owners suggest compensation helps, but it is not, by itself, a wholly adequate solution to the problem; it is not a 'sole answer' (T4-1#2, T4-1#3, T4-1#5, T4-1#7, T4-1#18). Additionally, it is also clear that respondents believe that there needs to be control measures as well (T4-1#3, T4-1#5, T4-1#10, T4-1#16, T4-1#17, T4-1#18, T4-1#19).

Finding compensation highly desirable does not mean that one does not also see the need for other management techniques, such as individual control or hunting. For example, Stuart said, "Not only do I want compensation, I want the bear out of here now. Compensation is just for damages done" (T4-1#16). Many of the interviewees believed that it does not have to be all one way or the other, but that by having multiple tools, such as control measures and compensation, a middle ground of give and take could be found (T4-1#8). This qualified endorsement of compensation reflects the depth to which livestock owners consider this issue. They are thinking about the implications of compensation and the roles it may play. As times change, and predator populations change, the role of compensation also changes. Compensation is not seen as "the solution" but as a "political" tool and its role may evolve over time (T4-1#13).

Overall, the analysis of interviews in which respondents felt that compensation was desirable reveals a number of insights. There is an expectation among interviewees that reintroduction of predator species and restrictions on the ability to control predators do create a responsibility for society to compensate those whose livelihood is affected. However, that expectation appears bounded, in that livestock owners mentioned that they expect a certain level of loss to predators and some, while uncomfortable with the idea of “taking something for nothing,” felt forced into doing so. Compensation was seen as desirable not just because of the financial need but also because it was tangible evidence that the costs of reintroduction and preservation of endangered species were recognized and society was seeking to address them even if compensation did not address the whole problem. At the same time, it is important to note that perceptions of compensation as “desirable” often reflect a more cautious or qualified endorsement than might be assumed from the survey question and that endorsement of compensation is often linked to the need for additional management approaches. Compensation was seen as a “political tool” that seeks to address an issue of equity, of spreading the costs of predator conservation to a larger segment of society, which is a politically important goal and a dimension of the problem of predation. However, compensation is seen as not addressing the problem of predation in its entirety.

Compensation is not always seen as desirable; Table 4-2 and the following discussion focus on why that may be. This discussion likely reflects the 14% of the livestock owner survey respondents who were neutral or who found compensation undesirable. The lack of endorsement for compensation is based upon many factors. Some expressed the sentiment that they do not raise livestock to feed the predators (T4-

2#1, T4-2#2, T4-2#3), but instead “raise cattle to feed people” (T4-2#2). In other words, for these individuals, the whole concept of compensation was simply contradictory to the goal of the activity that was to be compensated. Closely related to this view is the sentiment among these livestock owners that compensation does not address the actual problem, which is that a specific predator is eating their livestock. Instead of a solution, compensation is seen as a band aid that doesn’t really take care of their problems (T4-2#1, T4-2#2, T4-2#3, T4-2#4, T4-2#5, T4-2#6). In addition, some interviewees held the view that taking compensation means that it is okay for the predators to kill your livestock and that you fall under “their” line of thinking, meaning that you agree with the groups that pushed for the predators to be there in the first place (T4-2#6, T4-2#7, T4-2#8, T4-2#9, T4-2#10). A closely related sentiment discussed by several livestock owners was that they do not want to take compensation, that they “don’t like the whole idea of holding my hand out to the government or some charity for help” (T4-2#11, T4-2#12). A common sentiment was “[Compensation’s] the sorriest way to sell your livestock there ever was. You can’t get any lower than selling your livestock to the Game and Fish” (T4-2#8). Moreover, some individuals do not support compensation because they believe that it is not worth their time (T4-2#13), that compensation comes with ‘strings’ (T4-2#14) or that compensation infringes upon their private property rights (T4-2#15).

The verification process was also a basis influencing some interviewees who were characterized as finding compensation undesirable. Many of the livestock producers do not believe that they will be compensated for their actual losses because the losses will not be found or verified (T4-2#3, T4-2#4). This issue of verification is one of the most

contentious and most discussed issues in the interviews; it was brought up across all the interviews by both those people who see compensation as desirable or helpful (T4-1#3, T4-1#14) as well as those that do not (T4-2#3, T4-2#4, T4-2#8). The topic will be discussed in more depth in the final results section in this chapter.

Collectively, when looking at livestock owners' perspective on the desirability of compensation, many of the same practical and political concerns or “objections” were held by both those interviewees who discussed why they found compensation desirable and those who discussed why they did not. Examples include: a belief that compensation does not solve the cause of the problem; political concerns over private property rights; and a belief that the broader public, those who value predators, should share responsibility for the costs of predation. What appears to be most different is how heavily each group weighed these concerns. For example, some of those finding compensation undesirable expressed the sentiment that they do not raise livestock to feed the predators, but instead “raise cattle to feed people.” For these individuals, the whole concept of compensation was simply too contradictory to the goal of the activity that was to be compensated to be acceptable. In addition, some interviewees who found compensation unacceptable held the view that taking compensation is saying that it is okay for the predators to kill your livestock and that you fall under “their” line of thinking, meaning that you agree with the groups that pushed for the predators to be there in the first place.

Clearly livestock owner interviewees who did not find compensation desirable prefer other management options. However, even among those interviewees who were able to see its desirable aspects, compensation alone is not seen as “the” answer or, by

itself, the solution to the livestock loss issue. Compensation may be seen as one tool of many that can be used to deal with these predators issues, but (consistent with the survey results) control techniques are seen as even more desirable (Table 4-3). The issue of control, meaning either giving livestock owners the ability to kill problem animals and/or having hunting seasons, was one of the most discussed issues in the interviews. Many of the interviewees stated that the real issue with livestock losses is having control and this perspective is supported by interviewees whether they have been compensated, denied compensation, or have not tried for compensation (T4-3#1, T4-3#2, T4-3#3, T4-3#4, T4-3#5, T4-3#6, T4-3#7, T4-3#8). Even those individuals who did not find lethal control efforts appealing indicate that there is a breaking point when control efforts are to be used. For example, Debra discussed how she does not think shooting is the answer and perhaps a nonlethal strategy could be utilized (joking about the idea of prisons), but she also thinks lethal control methods should be used after a certain amount of conflict (T4-3#9).

Control efforts are believed to be preferable because they are seen as an action that actually solves the problem (T4-3#3, T4-3#5, T4-3#6, T4-3#10, T4-3#11, T4-3#12, T4-3#13) by removing the offending animal (T4-3#13, T4-3#14, T4-3#15, T4-3#16). Control of problem or offending animals is really thought to eliminate the problem because it eliminates the source of continuing losses. Rick reflects the view of so many of the livestock owner interviewees in the following comment: “They pay me for [the loss]. Well, that’s not solving the problem. You’ve still got something out there killing [livestock]. You’ve got to deal with that aspect of it too” (T4-3#12).

The perceived desirability of control was so strong for several of the livestock owners interviewed that they indicated they would not need compensation if they could control or take care problem predators (T4-3#3, T4-3#16, T4-3#17, T4-3#18, T4-3#19, T4-3#20). The mail survey suggests that this sentiment is widespread; 74.9% of the livestock owner survey respondents indicated that they were willing to give up compensation for the freedom to kill problem predators (Figure 4-3). However, 14.6% disagreed with that sentiment. Similarly, not all interviewees went so far with respect to control versus compensation. Some believe that even with control efforts, compensation is necessary because it is impossible to completely control the problem of predation and because one becomes aware of the problem only after losses occur (T4-3#15, T4-3#21). This discussion reinforces the “forced choice” nature of survey questions. In the interviews, there was a strong tendency not to see it as an either/or type of question. While some think compensation is not necessary if there is the ability to control problem predators, others see it as a nice thing to do (T4-3#22) because it helps take the ‘hurt’ out of it (T4-1#1, T4-1#2, T4-1#3, T4-1#5, T4-1#6); and it is perceived as part of the responsibility that goes with reintroduction or allowing predator populations to expand (T4-1#8, T4-1#9, T4-1#11, T4-1#12).

The interviews explored livestock owners' views about other management alternatives beyond compensation. Although hunting does not target the specific problem animals, it was seen as a way to solve a lot of the problems livestock owners have with predators including: controlling predator populations, human safety concerns, keeping predators wary of humans, and eliminating problem animals (Table 4-3). Kevin, for example, discusses what hunting could do: “For the grizzly if you pick areas and put one

permit in each area, I'm willing to bet 80% of the time you are going to take the problem animal. Because he's down, he's the one causing the problem.... The rest of them are up away because they don't want to be around humans. The problem ones are getting used to humans, so they are the ones that are more likely the one[s] to [be taken]" (T4-3#11). This excerpt expresses what many interviewees felt was important about hunting, that even though hunting does not target specific problem predators, there is the belief that those animals killed by hunting would be those that cause problems. In addition, interviewees tended to believe that hunting would not only help control the population (T4-3#22, T4-3#23); some also believed hunting pressure would reduce conflicts by keeping animals 'wild' (reducing habituation, maintaining fear of humans) and therefore enhance human safety (T4-3#11, T4-4#14, T4-3#24, T4-3#25, T4-3#26). Finally, an additional benefit of hunting expressed by many interviewees was as the potential source of revenue for the compensation program (T4-3#6, T4-3#27, T4-3#28, T4-3#29). However, there were a few livestock owners who were skeptical about these types of economic benefits, as reflected in a comment by Nicolas: "I'm certain that a few wolf hunters might bring in something, but if the wolves get thick enough that we make money out of hunting them, then we're in deep trouble as a rancher" (T4-3#30). He is saying that if the predator population can sustain hunting, then ranchers may be seriously troubled by the economic impact of depredation.

Although there was desire for lethal control and hunting, the focus was not to eliminate all predators, but to control the problems that arise (T4-3#10, T4-3#14, T4-3#23, T4-3#31, T4-3#32, T4-3#33,). Most of the livestock owners, regardless of whether they were cattle owners, sheep owners, or beehive keepers, share the sentiment: "all I'm

advocating is control of the problem bears, not all bears” (T4-3#14). Their focus is on dealing with the problem animals. Several of them even realize that if hunting were to occur on certain species, such as the grizzly bear, it would have to be closely monitored so that the bear would not end back up on the endangered species list (T4-3#33). Therefore, the support by livestock owners for lethal control measures should not be equated with a desire to eliminate all predators.

As the survey results indicated, relocation is widely seen as an undesirable management option among livestock owners (58.9% indicated it was undesirable). The interviews provide insight into why this was the case (Table 4-4). For example, Dylan said in regard to problem animals, “if they got in trouble in one place they will get in trouble in another place” (T4-4#1). Many other livestock owners interviewed also expressed the view that relocation just moved the problem somewhere else (T4-4#2, T4-4#3, T4-4#4, T4-4#5). In addition, some believe the same problem animal will return, thus not creating a permanent solution (T4-4#6).

Compensation is endorsed in part because it is seen as spreading the costs of predator conservation to a broader segment of society. However, that does not mean that livestock owners advocate putting the burden of dealing with predation entirely on other people’s shoulders. In fact, many of the livestock owners surveyed and interviewed indicated that they attempt to be proactive when dealing with livestock losses through different preventive measures. As indicated by a number of the excerpts in Table 4-5, many of the livestock owners interviewed indicated that they are taking preventive steps such as changing calving times, fencing, using guard animals, timing pasture use around predator activity patterns, burying carcasses, spending more time in the range, and

rearing more aggressive livestock (T4-5#1, T4-5#2, T4-5#3, T4-5#5, T4-5#6, T4-5#7, T4-5#8). Thus many livestock owners describe prevention as normal practice, since they want to reduce conflicts and avoid them when possible (T4-5#4, T4-5#5). The idea that preventive measures are a normal practice is also supported by the survey data. In particular, a question asked livestock owners whether they have adopted certain management practices in response to the presence of grizzly bears, mountain lions, or wolves. If a management practice was not adopted, respondents were also asked to indicate why they have not adopted that practice (Figure 4-2). The results indicate that a majority or near majority have adopted the following preventive management practices: ‘observe the animals more frequently during calving/lambing’ (78.8% adopted); ‘dispose of carcasses more quickly’ (61.7% adopted); and ‘use riders/herders to check on livestock more frequently’ (49.2% adopted).

Please tell us about any livestock management practices you have adopted in response to the presence of grizzly bears, mountain lions, and wolves.						
Management practice	% that <i>Have adopted</i>	% that <i>Have Not adopted</i> because: (Please check all that apply.)				
		Too expensive	Too much work	Causes other problems	Not effective	Other
Observe animals more frequently during calving/lambing	78.8	10	10	1.3	27.5	58.8
Use guard animals	29.6	19	4	21.7	34.1	29.2
Use riders/herders to check on livestock more frequently	49.2	48.5	7.8	1.8	18	32.3
Dispose of carcasses more quickly	61.7	6.3	7	3.1	35.9	50
Electric fences	29.3	28.1	7.6	9.8	47.8	23.7

Figure 4-2: Preventive measures adopted and reasons why individuals may not have adopted them

Another management strategy frequently raised by livestock owners in the interviews was being informed of where problem animals were so livestock owners could then keep a better eye on their herds and possibly move them out of that area (T4-5#9, T4-5#10, T4-5#11, T4-5#12). Considering that livestock owners indicated they do try and move livestock away from predator activity in order to avoid conflicts/losses in the interviews, that 78.8% (Figure 4-2) observed their animals more frequently during lambing and calving, and 49.2% (Figure 4-2) reported using riders more frequently, and they feel as though they have limited personnel and resources to do this (48.5% of those who did not use riders more frequently indicated that cost was a reason for not doing so (Figure 4.2)); being informed about problem animals would greatly facilitate use of this preventive measure. This also lends insight into why monitoring and informing livestock owners about problem predators was so widely endorsed (80.4% of the livestock owner survey respondents found this a desirable management option). Such a management practice, however, requires trust and communication between the livestock owners and agency personnel, a topic that will be discussed in the final results section of this chapter.

However, even among those who viewed preventive measures as a normal practice, the perceived limitations of such approaches included: there is too much cost involved (T4-5#13, T4-5#14); it's unrealistic to do (T4-5#15, T4-5#16); or there simply isn't time (T4-5#1, T4-5#14). And there is a belief that one person can do only so much and though you can try things, they do not always work (T4-5#17, T4-5#18). These sentiments also appear in the survey results (Figure 4-2). Cost appears to be a limiting factor in using riders/herders to check on livestock more frequently (48.5% of those that

have not adopted this practice indicate that cost was a factor in that decision). The perception was also prevalent that certain practices, such as electric fences, disposing of carcasses more quickly, and using guard animal were not effective. In fact, 47.8% of those who have not adopted electric fencing indicated that it not being effective was a factor in not using it. Almost 36% of those that have not adopted disposing of carcasses more quickly indicated that their perception that it was not an effective practice was a factor in that decision, and 34.1% of those that have not adopted using guard animals indicated that they perceived it as not effective. Livestock owners believe that the issue gets more complicated when there are multiple kinds of predators in the area, because one technique will not work for all of them (T4-5#19, T4-5#3). In addition, a few interviewees believe that if you have to go through all those preventive measures, then perhaps it is not worth being in the livestock business (T4-5#20). This view may be linked to the sentiment raised earlier that compensation conflicts with the goal of raising livestock for people rather than for predators.

Summary – Interpretive Analysis of Desirability of Compensation

In summary, a program compensating for predator losses/damage was widely seen as a desirable management alternative in both the livestock owner survey sample (86.5%) and the general public survey sample (65.7%). In fact, in the livestock owner survey sample, over 65% of respondents indicated that compensation was *highly* desirable. Compensation was the most widely endorsed of the management alternatives employing financial incentives. However, in both survey samples, giving livestock owners the right to kill predators attacking livestock and hunting by the public both

received somewhat more widespread endorsement. And among the general public sample, monitoring programs also received more widespread support than compensation.

The interview data provide deeper insight into what livestock owners mean when they indicate that compensation programs are a desirable management alternative. The interviews suggest that compensation is seen as legitimate and desirable, especially when the predator has been reintroduced, the population has been allowed to increase or control measures are restricted due to status (such as endangered species). However, this widespread support for compensation comes with qualifications. It is a cautious endorsement, many livestock owners believing that, by itself, compensation is not an adequate solution because it does not deal with the “cause of the problem,” for those predators that kill livestock will continue to do so and compensation will not stop that from happening. Interviewees who found compensation desirable tended to characterize it as a means of making losses (rather than predators themselves) more acceptable. Among many of the livestock owners, compensation was valued as a means of distributing the costs of predation more fairly rather than as a solution to the problem of predation. Control issues (giving livestock owners the ability to kill problem animals and having hunting seasons) were among the most discussed issues in the interviews. Many interviewees, both those who do and do not find compensation desirable, see control as a preferable solution because it actually eliminates the problem by removing the offending animal. In fact, several (but not all) of the interview respondents commented that they would not need to be compensated if they were allowed to take care of the problem animals. The survey data provide additional support for these observations. In both survey samples (livestock owners and general public) giving livestock owners the right to

kill predators attacking livestock and hunting by the public received more widespread endorsement as a management alternative than did compensation.

Although there is an expectation among livestock owners that reintroduction of predator species and restrictions on the ability to control predators do create a responsibility for society to compensate those whose livelihood is affected, they indicate that they do take responsibility for their livestock and engage in preventive measures. Yet due to limited time and resources livestock owners have not always adopted certain preventive management practices. Such preventive activities might be facilitated by better communication about predator activities; 80.4% of the livestock owners and 78.4% of the general public finding monitoring and informing livestock owners about location of predators a desirable management option.

Beliefs About the Role of Compensation in Society

Respondents' beliefs about issues related to the role that compensation, predators, and ranching play in society might influence their willingness to endorse the concept of compensation. The discussion here provides an interpretative analysis that looks at patterns of responses to a variety of questions both in the survey and the interviews as a means of characterizing respondents' opinions and views on the whole set of issues intertwined in the questions of compensation and predator conservation. A later section will present a discriminant analysis that statistically explores which issues influence endorsement of the concept of compensation.

Beliefs Related to the Social Consequences of Compensation

Survey Results

Given the complex nature of the issue of compensation, an individual's perception is likely to be influenced by numerous factors. The interviews suggested numerous reasons why people may support or oppose compensation. The most prevalent of these issues were then incorporated into the survey. Three of these issues were related to the role that compensation might play in society (Figure 4-3).

The first statement explored respondents' views about whether losses caused by predators should be considered a normal cost of doing business and should not be compensated. Over 83% of the livestock owners disagreed with this statement. A majority of the general public also disagreed with this statement (59%). However, while 67.2% of the livestock owners *strongly* disagreed, only 34.9% of the general public respondents *strongly* disagreed. If these losses are not considered a normal cost of doing business, then at least some management alternatives that deal with these losses should be desired. A majority of both populations endorsed giving livestock owners greater latitude in dealing with problem predators, as shown by the percentages of respondents finding the livestock owner's right to kill problem predators desirable. In fact, across both the livestock owner and general public samples endorsement of this lethal option was somewhat more widespread than for compensation (Figure 4-1). Again, this is important because, as discussed previously, livestock owners do not perceive compensation alone as an adequate solution.

A second statement explored a related issue, the extent to which respondents believed that compensation is a means of spreading the costs of predator conservation

more fairly in society. A slight majority of the livestock owners (51.4%) agreed with this belief and only 23% disagreed with it. A plurality of the general public (44.1%) agreed that compensation spreads costs more fairly within society, whereas only 23.9% disagreed with it. Interestingly, in both populations a larger percentage was neutral than disagreed with this statement (25.6% neutral and 23% disagreed, livestock owner sample; 32.1% neutral and 23.9% disagreed, general public sample).

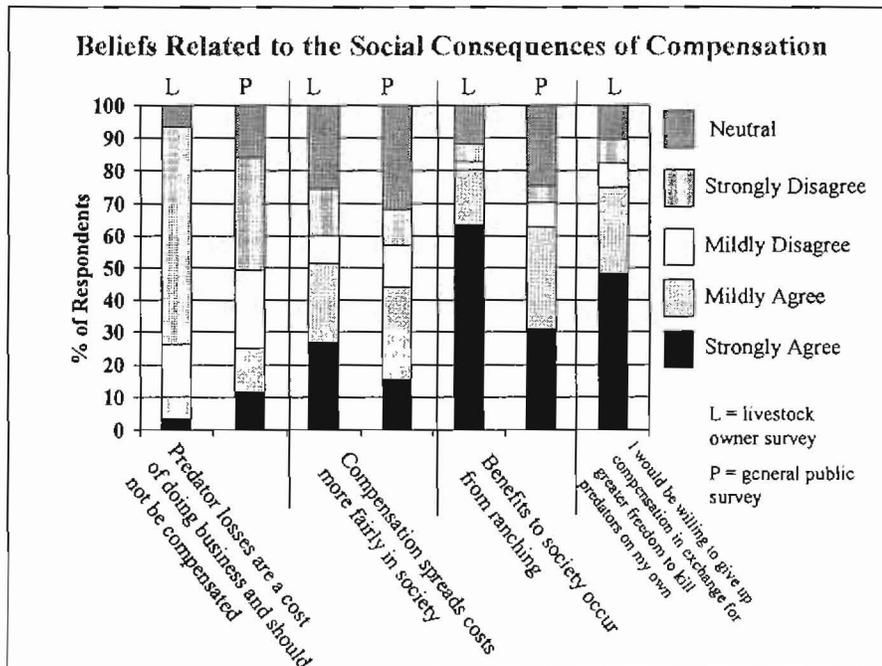


Figure 4-3: Respondents' agreement with beliefs related to the social consequences of compensation

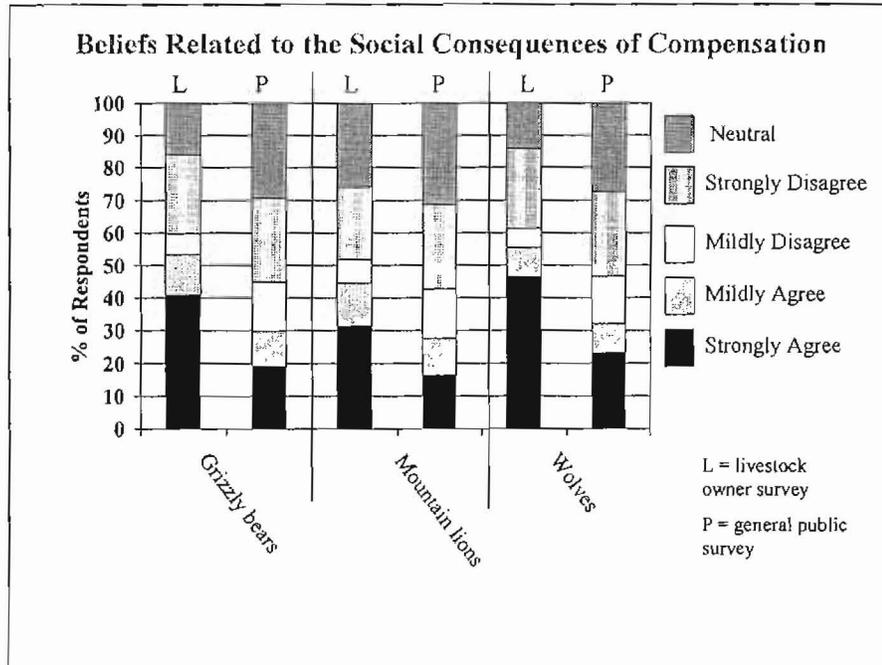


Figure 4-4: Respondents' agreement with beliefs related to the social consequences of compensation: Tolerance would decrease without predator compensation

Additionally, among the three states' general public sample, 62.6% of the respondents agreed with the view that "benefits to society occur from ranching" (Figure 4-3). Not surprisingly agreement among ranchers was higher (80.4%).

Survey respondents were asked to indicate whether "My tolerance for the following animals would decrease if predator compensation programs were no longer available" for grizzly bears, mountain lions, and wolves. Due to possible differences in perceptions based on the specific predator, this question was asked for each species separately. As one might expect, compensation had a greater impact on livestock owner's tolerance for these species than for the general public. In fact, while a majority (54% for grizzly bears; 55% for wolves) or plurality (44.6% for mountain lions) of the livestock owners agreed with the statement for those species, the plurality of the general

public respondents of these three states disagreed with this statement for each species (40.8% for grizzly bears and mountain lions; 40.4% for wolves) (Figure 4-4).

Collectively the data indicate that perceptions about the desirability of compensation appear to stem from notions of social responsibility and fairness in relation to the costs of predation. Furthermore, as one might expect, the results indicate that the general public's (of these three states) tolerance for grizzly bears, wolves, and mountain lions do not appear to be as tied to compensation as the livestock owners' tolerance is. However, while the general public's tolerance may not decrease without compensation, there is still widespread support for compensation as well as for other management alternatives, including giving livestock owners the ability to kill problem predators by the general public.

Interview Results

The interviews allow us to probe livestock owners' views about whether predator losses are a normal cost of doing business (Table 4-6). In the survey it was only possible to determine whether predation as a whole was considered a normal cost of business. In the interviews, respondents provided a more nuanced response. The interviewees tended to express the view that losing a few livestock to predators is part of the normal course of business, it is expected, but that at some point chronic losses may indicate a problem above and beyond the normal (T4-6#1, T4-6#2, T4-6#3, T4-6#4, T4-6#5). Robert put it this way: "if you live out West and you live with the predators, you've got to expect a few [livestock] to die once in awhile to them" (T4-6#1). Also, like Robert, many of the

interviewees feel that, all things being equal, the owner is at fault "if you are losing too many, [it means] you're not out there managing your own [problems]." But when livestock owners are not able to respond to the problem due to legal restrictions, or if the losses are too great, then losses are no longer considered a normal cost of doing business. In addition, for a few of the livestock owners the question of predation is not framed simply as a cost of doing business, rather it is a question of loss of livelihood (T4-6#6, T4-6#7). Losses to predators are seen as a real threat to their livelihood, and Jerry wonders (as did several other interviewees) how would other people react if their livelihood was being threatened, would they consider it just a cost of doing business (T4-6#7)?

As already seen in Table 4-1, the sentiment among some livestock owners interviewed was that compensation is justifiable for predators particularly because presence of the predators reflects values imposed by outsiders. This viewpoint is further elaborated in Table 4-7. Many of the livestock owners interviewed believe that since the general public wants these predators that they should be the ones to share the cost (T4-7#1 – T4-7#5). Derek captures the sentiment well when he said, "If somebody back in California or New York City wants to have a wolf in my backyard, they have to share the responsibility. They get to help pay for it, their tax dollars get to help pay for it" (T4-7#2). However, some livestock owners indicate that with money comes input and that when "you invite money from across the Nation, you invite their input" (T4-7#6) and such input may not always be wanted. Some livestock owners think that taking money from compensation programs is showing agreement with the agenda of those organizations and an offshoot of that sentiment is being expressed here (T4-2#6, T4-2#7,

T4-2#8, T4-2#9, and T4-2#10). Nonetheless, the more prevalent perspective among interviewees was to note that they were not the ones who wanted these predators (seen in Tables 4-1 and 4-2) and therefore they viewed compensation as a way to spread the cost of living with predators to those people who want them, but do not have to deal with the conflicts.

Livestock owners see compensation as a means of sharing responsibility, whereas certain wildlife advocacy groups discuss compensation as a tool for increasing tolerance towards certain predators. While the survey results indicated that, for a majority of the livestock owner sample, tolerance for wolves and bears would decrease if compensation was not available (55.5% for wolves, 53.5% for grizzly bears), the interview results help us understand the livestock owners' views with regard to compensation in relation to tolerance (Table 4-8). Those interviewees who see the positive aspects of compensation most typically describe it in terms of making the losses, rather than the predators, more acceptable (T4-8#1, T4-8#2). This implies that increased tolerance does not necessarily equate to an improved attitude towards the predator. In fact, it was common for respondents to say that compensation helps address problems arising from predation on livestock but that compensation by itself should not be seen as being capable of fully solving the problem (T4-8#3, T4-8#4, T4-8#5, T4-8#6). Some respondents did indicate that compensation would lessen the desire to use lethal control in response to predators, in recognition that most predators are not problems (T4-8#7). Yet the stronger view is that lethal responses to dealing with predators was preferable to compensation (T4-8#8, T4-8#9, T4-8#10, T4-8#11, T4-8#12; see also T4-3#3, T4-3#16, T4-3#17, T4-3#18, T4-3#19, T4-3#20). Richard put it succinctly: "If I [had a] bear in the yard and there was a

compensation program, my initial reaction would be to take [kill] the bear" (T4-8#8). Similarly, Patrick said "I would rather not have the wolf, then I wouldn't have to be paid because there wouldn't be the problem" (T4-8#10). The livestock owner survey results indicated that 74.9% of livestock owners were "willing to give up compensation in exchange for greater freedom to kill predators on my own" (Figure 4-3). However, the interviews provided respondents greater flexibility in how they could respond to this issue. The resulting discourse suggests that the survey question posed something of an artificial choice. Seeing other management tools as more desirable does not mean that compensation is without an important role. However, the data do indicate that livestock owners generally tend to value compensation as a means of more fairly distributing the costs of predation than as a solution to the problem of predation. Finally, as in the survey, some interview respondents clearly indicated that compensation would not increase tolerance. These individuals tended to see too many gray areas for compensation to work effectively, such as what should and should not get compensated and what variables do you measure to include in value determination (T4-8#11).

Beliefs Related to Concerns Not Addressed by Compensation

The survey also included a series of questions that explored either the extent to which respondents were concerned about predator related issues that compensation does not address (for example, the impact of predators on elk and deer populations) or the extent of skepticism about the feasibility of compensation (for example, would there be

enough money to pay for compensation). These issues are often raised by various parties expressing concerns about compensation.

The first potential issue of concern that compensation does not address is the impact of predators on elk and deer populations. Within the livestock owner sample, there was widespread agreement (77.1%) that the effect of predators on elk and deer populations was a major concern and was not addressed by compensation (Figure 4-5). Agreement was somewhat less widespread in the general public sample, but still reflected a near majority across the region (52.3%). Whereas 24.8% of the three states' general public respondents were neutral towards this issue, only 12.6% of the livestock owner sample were neutral.

A second concern about predators that compensation programs could not address is the widespread sentiment that residents simply do not want predators in the area (Figure 4-5). Among the livestock owner sample, a clear majority (72.9%) agreed with this statement, 16.9% disagreed with this statement and 10.1% were neutral. Among the general public, a plurality (44%) of respondents agreed while a sizable proportion disagreed (34.7%).

A third issue not addressed by compensation that was explored in the survey was human safety. A majority of livestock owners agreed that human safety issues were a real concern left unaddressed by compensation (68.4% agreed, 17.3% disagreed). Within the general public sample, a slight majority of respondents (52.5%) agreed with the statement and 24.1% disagreed with the statement.

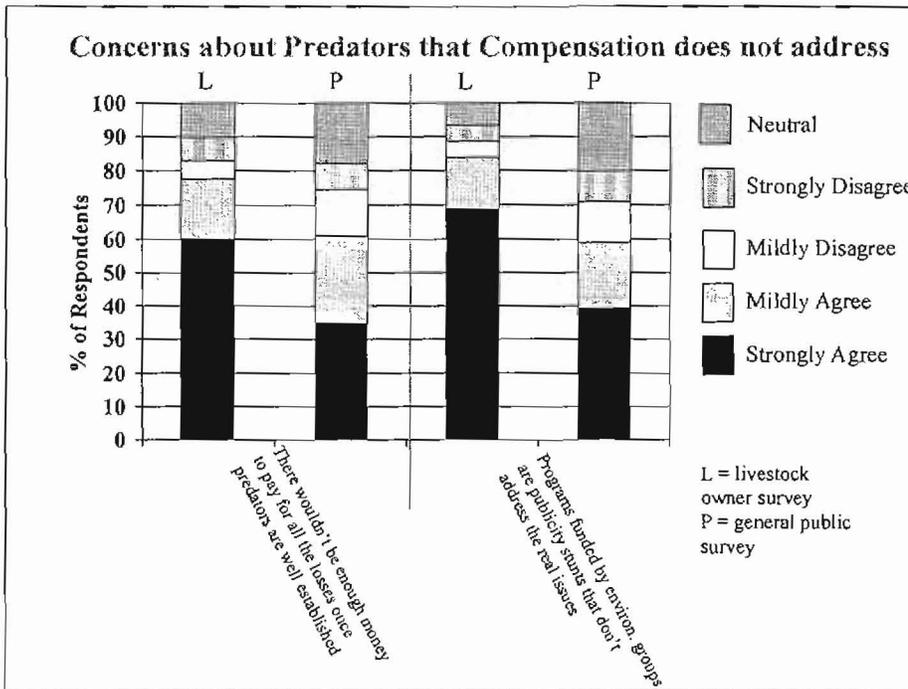
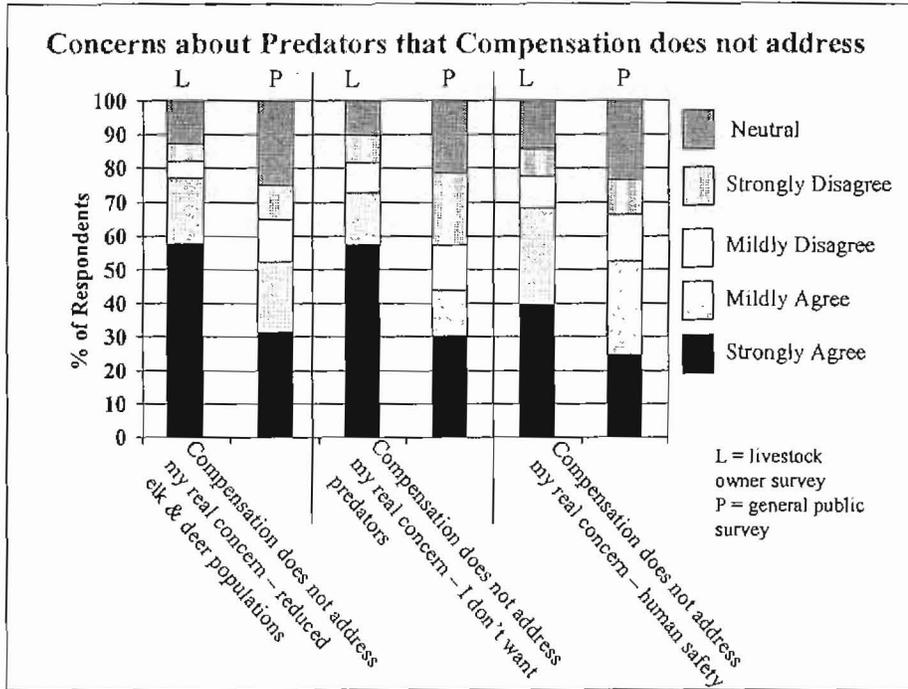


Figure 4-5: Respondents' agreement with concerns not addressed by compensation and beliefs about the feasibility of compensation

Human safety concerns were also brought up by many of the interviewees either voluntarily (that is, without being asked by the interviewer specifically about this issue) or in response to general questions about what it was like to live in an area with predators (Table 4-9). Table 4-9 illustrates the nature of the safety concerns expressed by respondents for whom safety was an issue. First, as might be expected, the species of predator in question did influence the degree of concern. As Derek noted, “I don’t worry about a wolf coming and attacking my kid, even though it’s possible, there have been stories about that happening, but the grizzly bear is a whole different deal. Yeah, that’s a great concern” (T4-9#2). Also illustrated in his comment are two other significant points. First, there is a focus on safety in relation to kids. Second, more implicitly, these represent the concerns of someone who lives in an area where grizzly bears are constantly a consideration. The view that it is different when you actually have to live with grizzly bears and the concern over children’s safety is prevalent throughout the interviews (T4-9#1, T4-9#2, T4-9#3, T4-9#4, T4-9#5, T4-9#6, T4-9#7, T4-9#8). One interviewee succinctly said what several of the other interviewees discussed “[grizzly bears] were coming in to the house [area] and I have two children and it was a concern.” For these interviewees, human safety concerns about grizzly bears do affect how they use their property, as illustrated by Rick’s comment: “It gets pretty bad when you go on your own private property and my daughter doesn’t want to ride with me because she’s afraid of the bears” (T4-9#5). Again, what comes across again and again is that safety is a real concern for people living in areas with grizzly bears, and the greatest focus of the concern is over children’s safety.

Some interviewees also indicated that they no longer feel as safe recreating in areas where grizzly bear populations have recently expanded (T4-9#9, T4-9#10, T4-9#11). Several commented on how recreating in areas with grizzly bears is “frightening” or makes them “nervous.” Furthermore, several who were outfitters indicated that clients are concerned about going to areas with grizzly bears (T4-9#12, T4-9#13).

In contrast, many of the interviewees did not have the same level of concern for human safety regarding wolves that they did with grizzly bears (T4-9#2, T4-9#4, T4-9#14). They worried less about wolves attacking them, except under unusual circumstances, and they clearly indicated that grizzly bears are “a whole different deal” or “a different animal” with respect to safety (T4-9#2, T2-9#14). Still, some interviewees do have safety concerns over potential human-wolf interactions, especially if the wolf population continues to increase (T4-9#15, T4-9#16, T4-9#17, T4-9#18). There was also a tendency to see mountain lions as a definite human safety concern in areas where they occurred (T4-9#19, T4-9#20).

Concern for safety among those living and working in areas with large predators (especially grizzly bears) has affected how some of the interviewees conduct their business and lives. This includes having bear dogs for protection (T4-9#3), not allowing children play in creek bottoms (T4-9#10), not taking your family camping in bear areas (T4-9#6), and, for one interviewee, changing the time of day when he checks his traplines (T4-9#19). One outfitter believed that safety concerns are reducing his business because some clients feel “their lives are in jeopardy” in areas with grizzly bears (T4-9#12). However, with respect to grizzly bears, other interviewees who grew up in areas with a grizzly population indicated that they had always recognized the precautions individuals

should take when they are out in bear country. One such individual concluded that today people are almost “lackadaisical,” “don’t think there is anything out there that can hurt them,” and are used to having someone else take responsibility for their safety, which is “not very good when you are living in area[s] with grizzly bears” (T4-9#21).

A fourth possible area of concern about predators not addressed by compensation examined in the survey concerned respondents’ views about how financially viable they thought compensation programs would be. Within the general public sample, the majority (60.8%) indicated they believed that there would never be enough money to compensate for all the losses once predator populations were well established (Figure 4-5). Among livestock owners, this opinion was even more widespread, with 77.5% believing that there would never be enough money (Figure 4-5). In fact, the majority (59.9%) *strongly* agreed with this sentiment. Additionally, the livestock owner survey asked respondents if they were confident they would be compensated if they suffered a predator loss. Approximately 60% of the respondents indicated that they were not confident they would be compensated, while only 17% felt confident they would receive compensation in the event of a loss (Figure 4-10). However, it should be noted that this question may also reflect views towards the verification process as well, an issue that is discussed in more detail in the final section of the results.

Another question elicited skepticism in another area. The mail survey asked respondents about their views regarding predator compensation programs funded by environmental groups. An opinion sometimes voiced in editorials criticizing compensation programs is that programs run by environmental groups are merely publicity stunts rather than a sincere attempt to address the real issues associated with

predation. The survey asked respondents' opinion of this. Among the livestock owner sample, respondents widely agreed (83.9%, with 69.1% strongly agreeing) that compensation programs by environmental groups are "publicity stunts that do not address the real issue;" only 9.5% disagreed. Overall a majority of respondents in the general public sample (58.8%) agreed with this perspective, while 21% disagreed.

Interestingly, an earlier question had asked respondents if they thought "privately funded compensation programs encourage environmental groups to bear the cost of predator conservation." A majority of the livestock owners surveyed (53.3%) agreed with this view and a clear plurality of the three states' general public (43.9%) also agreed. Only 23.3% of the livestock owner population and 21.1% of the general public disagreed with this sentiment. The apparent discrepancy in response to this question relative to the widespread skepticism when asked about whether compensation programs by environmental groups is simply a publicity stunt may reflect a number of different factors. For example, in not identifying a specific environmental group, respondents may have been expressing their view of "environmental groups in general" rather than an opinion about an actual, existing program. Another possibility is that while, ideally, respondents find a privately run program desirable, a great deal of skepticism exists about the real motivations of environmental groups as currently understood by respondents to the survey.

In relation to the topic of issues not addressed by compensation, a theme about private property rights was not specifically explored in the survey but emerged as a significant issue in the interviews (Table 4-10). The reason for discussing this issue in relation to compensation is that this issue of private property rights allows for better

insight into the situation; an understanding of this issue can allow decision makers and managers to better navigate the problems associated with compensation and predator conservation. In looking at issues such as human safety concerns and private property rights, one gains insight into the nature of issues underlying people's views towards compensation.

Many interviewees expressed the belief that the current system of predator management does not allow them the ability to take care of problem predators and protect their livestock and that this equates to a loss of private property rights (T4-10#1 to T4-10#19). There is a clear sentiment that "people don't like their private property rights stepped on. That is what they are doing with these wolves" (T4-10#4). Many of the interviewees believe that private property rights are important and that they should have "every right in the world to protect my personal property" (T4-10#3). The livestock owners value their private property rights and perceive the management of predators at times as conflicting with what they see as their right to protect their private property. In discussing this issue many interviewees emphasize that they are only advocating the ability to control those problem animals that are actually causing damage (T4-10#3, T4-10#4, T4-10#9, T4-10#10, T4-10#11, T4-10#12, T4-10#14, T4-10#15, T4-10#16), and not all bears and wolves. However, they do recognize that "there is a fine line" and that some individuals would "take advantage" of the situation by trying "to shoot every [predator] they see" (T4-10#4, T4-10#9). Though many of the livestock owners recognized that there would be some abuse, it was more common for interviewees to indicate that they did not want wholesale elimination, and some thought that the ability to control problem predators would lead to an overall lower loss of predators (T4-10#14).

But the predominant perspective is that, even if there would be occasional abuse and indiscriminant killing of predators by some individuals, the loss of private property rights is the greater of the two harms. As Seamus said: "When they [predators] come on your private land and you can't control them, that land is not your private land" (T4-10#18). However, that is not to say that all livestock owners are of one mind on this subject. Some, albeit only a few, did not think that predator management infringed upon their private property rights (T4-10#20).

The interviewees discussed private property rights in relation to both private and public land situations. Many viewed livestock as their property, and believed they should be able to protect them on both public and private land (T4-10#4, T4-10#17 are explicit). However, a few see their public land lease areas differently from private land and feel as though different expectations about the ability to respond to predators apply in the two situations (T4-10#3).

Yet there is more to the interviewees' comments here than just the idea that many of the livestock owners take great stock of their private property rights and perceive that the current policies associated with predator conservation conflict with those rights. Contributing to their frustration over perceived loss of private property rights is the view they are not being treated the same as people living in the city. Consider, for example, the analogy raised in excerpt T4-10#13. In cities, when damage occurs to your property you can sue, but when predators kill livestock, the owner has to bear all the economic, social, and opportunity costs to take care of the problem. This notion of inequity and the idea that the rules for property loss for a rural rancher are different than for urban

residents contributes to this frustration. Many rural livestock owners support compensation because it spreads the costs to others in an equitable and fair fashion.

Another deeper issue with regard to private property rights is the idea that more than just finances is being impacted. The notions of livelihood, emotional bonds and investment, and the building of a way of life that is being torn down through predator depredations are all reflected in the interviewees' comments as well. Excerpts T4-10#5 and T4-10# 16 touch upon emotional bonds and investment; not only are livestock a monetary investment (T4-10#16), but you are with these livestock for long hours and you are trying to take care of them and through all this you create a bond with them (T4-10#5). Moreover, the ranching lifestyle defines who they are and ranching is their livelihood. Ranching is "fabulous" and when you "go out on the prairie and you just think, god, dang, this is worth it" (T4-10#21). There is an underlying perception that many things are trying to take away the ranching lifestyle, whether it be the government or two legged or four legged predators. Still, ranching is "in the blood. It's tough to quit" (T4-10#21). This succinctly expresses what many of the livestock owners believe about predators, depredation, and compensation. The discourses about private property rights are underpinned by a fear that a way of life is being lost – their way of life. Bringing this underlying issue to light is not meant to take a position about the validity or lack of validity of the concern, but to communicate the livestock owners' point of view. Beyond the concern over property rights, from their perspective they stand to lose their way of life in which they are emotionally invested. Their perception of predator management and compensation issues is colored by this concern. Identity and livelihood are at stake here and the livestock owners feel unable to do anything about it (T4-10#7).

Perceptions of inequities in relation to strongly held private property rights and concerns about threats to emotionally invested ways of life have fueled suspicion and mistrust about the motivations and agendas of various groups involved with predator conservation (Table 4-11). Several of the interviewees talked about how the management of some of these species is simply a pretext for certain groups trying to further their “own private agendas and it is control” (T4-11#1). The sentiment that groups are using the Endangered Species Act as well as other federal regulations in an attempt to control both public and private lands came across quite clearly (T4-11#1, T4-11#2, T4-11#3). Even emotional and value laden responses should not be dismissed when the goal is to understand how livestock owners think about issues surrounding compensation programs (recall that 84% of survey respondents believed that privately funded compensation programs were merely publicity stunts). Livestock owners see people with different values and agendas seeking to achieve ends that go beyond predator conservation. One individual summed up the sentiment that many had expressed when he said, “I don’t know if I’m radical or what, but I feel that there is a lot of this that’s being done to try to control public land, possibly even private land” (T4-11#2). Some believe that special interest groups have the agenda of shutting down areas and getting ranchers and cattle off of public lands (T4-11#4, T4-11#5, T4-11#6). Some perceive that certain species are being used as “a tool, a tool to get areas shut down for logging, mining, grazing, ... whatever their target may be at that time” (T4-11#4). Some think that the intention is to shut down logging, mining, grazing, et cetera, so the area will become parkland; that's what several livestock owners believe is what much of the public wants the government to do (T4-11#7).

Although one may wonder why these issues get brought up in a discussion on compensation, the concerns are pertinent because they help us to better understand the complexity and multifaceted nature of the views about predator management and about the management alternatives available. There is a hint here of an ‘us versus them’ situation, where a segment of the population sees another group opposed to what they consider their way of life. This is not to say, however, that the interviewees feel as though everyone is trying to control public lands and take over private property rights. In fact, Rose expressed the sentiment that several felt; she talked about how a large portion of the population does not seem to know what is going on with regards to trying to get grazing off public lands - and that they think it is “normal to have cattle out there” (T4-11#5). Rose and several of the other livestock owners interviewed believe there are those people or special interest groups with an agenda to get ranchers and cattle off public lands but they also recognize that perhaps not everyone shares that agenda.

Additionally, this discussion of issues compensation does not address suggests a possible role that compensation may play in conflicts over predator conservation. While financial compensation does not necessarily resolve the concerns about loss of rights, the existence of inequities, nor entirely compensate for loss of emotional investments, it is valued in part because society cares about the costs imposed on livestock owners. Many respondents do not see these predators losses as the normal cost of doing business, and many also see that compensation spreads the costs of predator conservation. Thus, if framed appropriate, compensation might function not just as a financial incentive, but as a means of building trust and addressing inequities. However, currently there appears to be a great deal of skepticism about such programs (at least those that are privately run).

This possibly may occur because groups running these program tend to frame and publicize them as a means of changing attitudes toward predators and/or increasing tolerance for predators rather than dealing with issues of equity.

Summary – Interpretive Analysis of Beliefs about the Role of Compensation in Society

Overall, with respect to beliefs that might predispose people to be supportive of compensation, the majority of livestock owners and the general public believe that general societal benefits accrue from ranching and disagreed that predation should be considered a normal cost of business and therefore not compensated. When asked more directly about the possible positive consequences of compensation programs, approximately half of respondents in the livestock owner sample agreed that it spread costs of compensation programs more fairly throughout society. Less than half of the general public sample held this view; however, more respondents agreed with this belief than disagreed. A majority of the livestock owner sample indicated that their tolerance for wolves and grizzly bears would decrease if compensation programs were not available; however, among the general public a greater percentage indicated that tolerance would not decrease in the absence of compensation. Thus, the majorities in both samples hold opinions about ranching and predation, which might help make compensation programs a viable management option and at least a plurality saw compensation as a means of more equitably distributing costs of predator conservation.

Through the interviews it becomes clear that while livestock owners generally expect some losses, when they are unable to control or manage the problem, or losses are too great, this is no longer considered a normal cost of doing business. While

compensation was seen by many interviewees as having a positive impact, it was more typically described in terms of making losses, rather than the predators themselves, more acceptable. The interviews suggest that there is a tendency among livestock owners to value compensation as a means of dealing with more fair distribution of the costs associated with predation, but not as a solution to the problem of predation.

With respect to issues not addressed by compensation (impacts to elk/deer, human safety, simply not wanting predators in the area, private property rights), survey and interview results indicated there was widespread concern, which does not necessarily mean that compensation would not be desirable to these respondents. However, these findings do indicate that the public has additional concerns about predators not addressed by compensation. Somewhat more directly linked to the question of the social viability of compensation (that is, the extent to which a compensation program would be endorsed by the public) are: (1) the widespread skepticism in both samples about whether there would be enough money in such programs to cover losses once predator populations are well established; (2) skepticism among livestock owners about whether they would be compensated if they did experience a loss; (3) the widespread view that programs run by environmental groups are simply publicity stunts (in spite of the fact that respondents believed that having compensation programs run by environmental groups encourage those groups to bear the cost of predator compensation); (4) the widespread concern over human safety when living and working in areas with predators, especially the grizzly bear; and (5) the widespread belief by many of the livestock owner interviewees that the current system of predator management does not allow them the ability to take care of

problem predators and protect their livestock and that this equates to a loss of private property rights.

There is a tendency in conflicts over issues related to predator conservation and management to fight over the correctness or accuracy of the “facts” and “statistics” underlying points of view (such as documenting actual number of losses to predators versus perceived number of losses or looking at the actual frequency of documented cases of grizzly bear attacks on humans versus the more general fear of grizzly bears). There is a great danger in this of overlooking the more fundamental source of tension and conflict. Beyond the objective facts, conflicts surrounding predator conservation and management (including compensation) arise from differing social values and are discussed in such terms as fair and equitable treatment, emotional bonds, loss of a way of life/livelihood, and human safety concerns, especially with regards to children. Oftentimes it is thought that if we just can educate people to the ‘facts’ then there will not be conflict; that if we say that only a certain number of people are killed each year by grizzly bears in North America, that people's "irrational" fear of grizzly bears will go away. In other words, we sometimes try to simplify conflicts to the readily stated facts, and that is, indeed, an unfortunate consequence of our current political and media system (Lange, 1993). Navigating a socially acceptable resolution to conflicts such as whether compensation is a desirable management option requires obtaining a meaningful understanding of public sentiment towards these issues. And this requires moving beyond a simplistic characterization of peoples’ views, to a more comprehensive exploration and understanding of the set of issues underlying peoples’ views. To have solutions be seen as socially acceptable requires at the very least that various stakeholders

feel that their concerns have been heard, understood, and weighed in the process (Patterson et al., 2003; Peterson and Horton, 1995). Failure to do so promotes, rather than resolves lack of trust and concerns about “hidden agendas” of the sort reflected in Table 4-11.

Views About Appropriate Sources of Funding For Compensation Programs

With any financial incentive, one needs to discuss how that may be funded. Discussion has already noted respondents' concerns over the viability of funding for compensation programs once predator populations are well established as well as the widespread views that compensation programs by certain organizations or groups are ‘publicity stunts.’ This portion of the results will delve further into respondents’ perspectives regarding appropriate sources of funding.

Survey Results

The surveys asked respondents to indicate how appropriate a list of ten (10) potential funding sources were (Figure 4-6a). A majority of both the livestock owner sample and the general public sample of the three states of Idaho, Montana, and Wyoming (83.9% and 58.8%, respectively) believe that compensation programs funded by environmental groups are publicity stunts, yet the largest percentage of both samples indicated that environmental/wildlife groups were an appropriate source of funding for compensation programs. Over 74% of the general public survey found funding by environmental/wildlife groups as appropriate (48.9% found it *highly* appropriate) and 87% of the livestock owner sample found it appropriate (51.9% found it *highly*

appropriate). In other words, there was widespread agreement that funding via environmental groups was appropriate despite skepticism about the motivations behind such programs. The results indicate that large proportions of livestock owners support funding by environmental groups, but as the interviewees elaborated, many of them are concerned that taking compensation says that it is okay for the predators to kill your livestock and that you fall under “their” line of thinking, meaning that you agree with the groups pushing for the predators to be there in the first place. Therefore it *appears* that a tension exists between believing compensation programs funded by environmental groups are appropriate and believing that such programs are simply publicity stunts. When one looks at the data in an integrative way, however, the complex nature of this supposed dichotomy emerges. Overall, the data suggest that what supporters of compensation programs tend share in common is a desire to address the social costs generated by predator conservation. The data also provide insights into possible sources of conflict that could be avoided if various groups seek to work collectively to address the social costs of predator conservation. For example, if livestock owners perceive groups as promoting compensation as a tool for education or for changing values towards wildlife, they may be seen as not addressing the real issue.

Similar to finding environmental groups an appropriate source of funding was the use of private donations for funding compensation programs. A majority of both the livestock owners and the general survey respondents found private donations an appropriate funding source (71.5% of the livestock owners and 71.1% of the general public respondents).

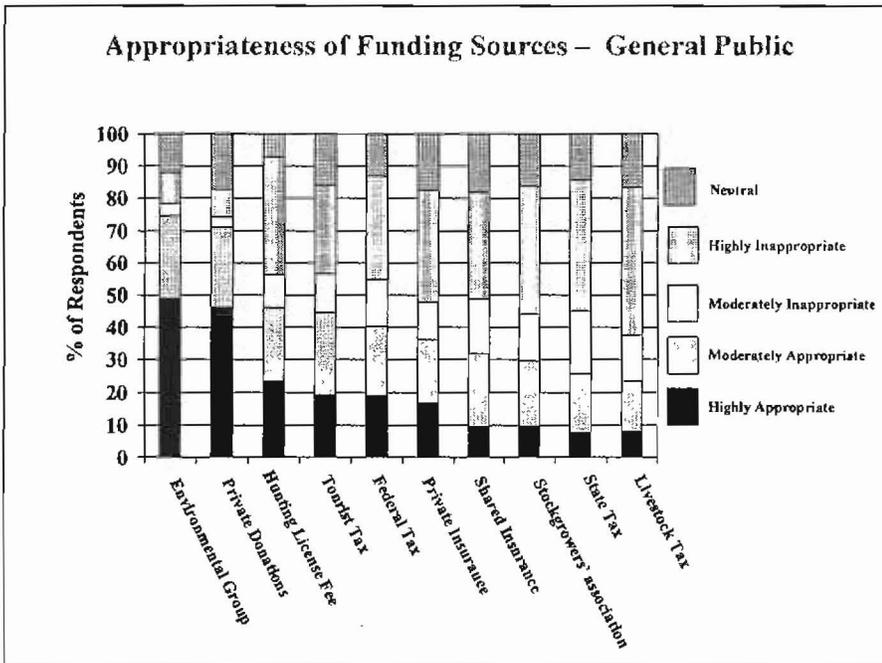
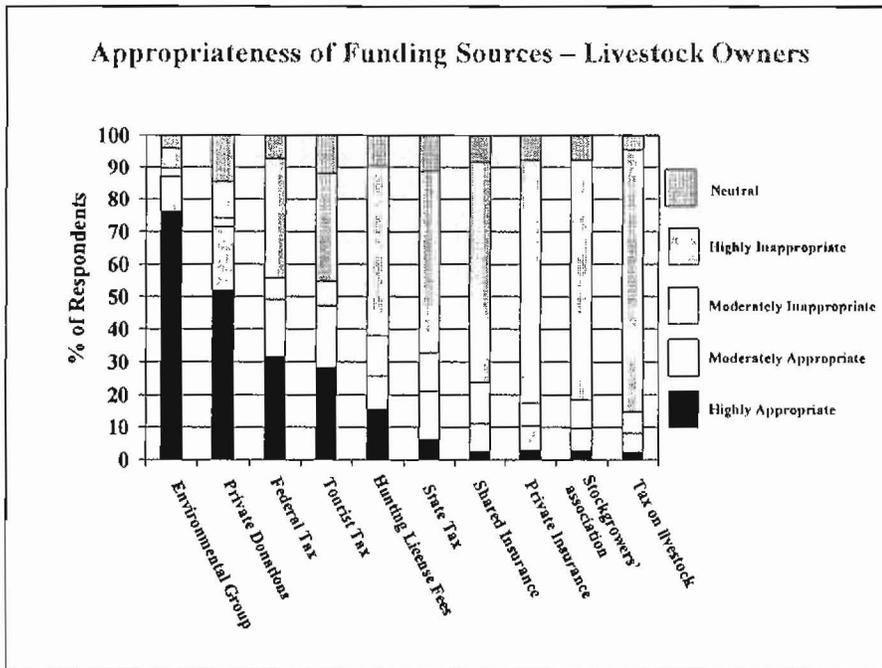


Figure 4-6a: Appropriateness of funding predator compensation programs via various sources

Only two other funding mechanisms were found as appropriate funding sources by a plurality of the livestock owner respondents (determined by the percentage of the respondents finding the funding mechanism appropriate as opposed to inappropriate). These two funding mechanisms are federal tax (49.1% found it appropriate and 43.6% found it inappropriate) and a tax on tourists (47.2% found it appropriate and 40.8% found it inappropriate). Although a plurality of respondents found the two funding mechanisms appropriate, over 40% of the respondents found them inappropriate. All six remaining funding mechanisms have a clear majority of the respondents finding them inappropriate funding sources: hunting license fees (64.4%); state tax money (67.5%); insurance with costs shared by the state and livestock owners (80.6%); private insurance purchased by livestock owners (81.9%); stockgrowers' associations (82.6%); and tax per head of livestock (87.4%). In fact a majority of the livestock owner respondents find these funding mechanisms *highly* inappropriate.

The general public respondents for these three states were almost evenly split in whether hunting license fees were an appropriate funding mechanism: 46.2% found it appropriate and 46.6% found it an inappropriate funding mechanism. A clear plurality found a tax on tourists as an appropriate funding source (44.5% appropriate vs 39.7% that found it inappropriate). A majority (54%) of the general public respondents indicated that funding from stockgrowers' associations was inappropriate. The remaining five potential funding mechanisms had a plurality of the respondents finding each an inappropriate funding source: federal tax money (46.6%); private insurance purchased by livestock owners (46.2%); shared insurance (49.9%); state tax money (60.1%); and tax per head of livestock (60%).

Collectively, when one looks at the data and also reflects back on previous discussions on why people may support compensation, a pattern in the support for funding mechanisms is revealed. Funding mechanisms that spread the costs around to a larger segment of the population (such as funding by environmental/wildlife groups; federal tax, tourist tax) are found appropriate by larger proportions (majorities or pluralities) of the samples. Conversely, funding mechanisms in which only the segment of the population that actually experiences the impact must bear the cost (livestock tax, private and shared insurance, state tax) were found inappropriate by larger proportions (majorities or pluralities) of the samples.

Potentially contentious issues surround the funding of compensation for losses that occur on public lands. Closely tied to the issue of compensating for losses on public lands is the issue of grazing on public lands. This issue in particular is one fraught with controversy in the West with certain groups advocating the elimination of public land grazing. That said, grazing on public lands still occurs across much of Idaho, Montana, and Wyoming with livestock losses to predators occurring in which compensation is paid. A majority of both the livestock owner sample (85.8%) and the general public sample (50.7%) indicated that they agreed that losses on public lands and private lands should be compensated at the same rate. In addition, the survey tapped into this discussion by having respondents indicate how acceptable it was to have the state or federal government run a compensation program that pays for losses that occur on private and federal lands (Figure 4-6b). A majority of both samples also found a state run program acceptable for losses that occur on private land (59.0% livestock owner sample, 50.6% general public sample). Whereas a majority of the livestock owner sample (51.3%)

found a state run program acceptable for losses that occur on federal land, a plurality of the general public sample (45.1%) found it unacceptable. However, a majority or plurality of both samples found a federal program acceptable for losses that occur on both private and federal lands (64.7% livestock owner sample on private land, 51.1% of general public sample on private land; 64.7% livestock owner sample on federal land, 47.9% of general public on federal land). The distinction between federal versus private land with respect to compensating for depredation does not seem to be relevant to respondents overall. What is relevant is whether it is a state program or federal program compensating for losses on federal land. This indicates that there is less support for state programs to pay for losses occurring on federal lands.

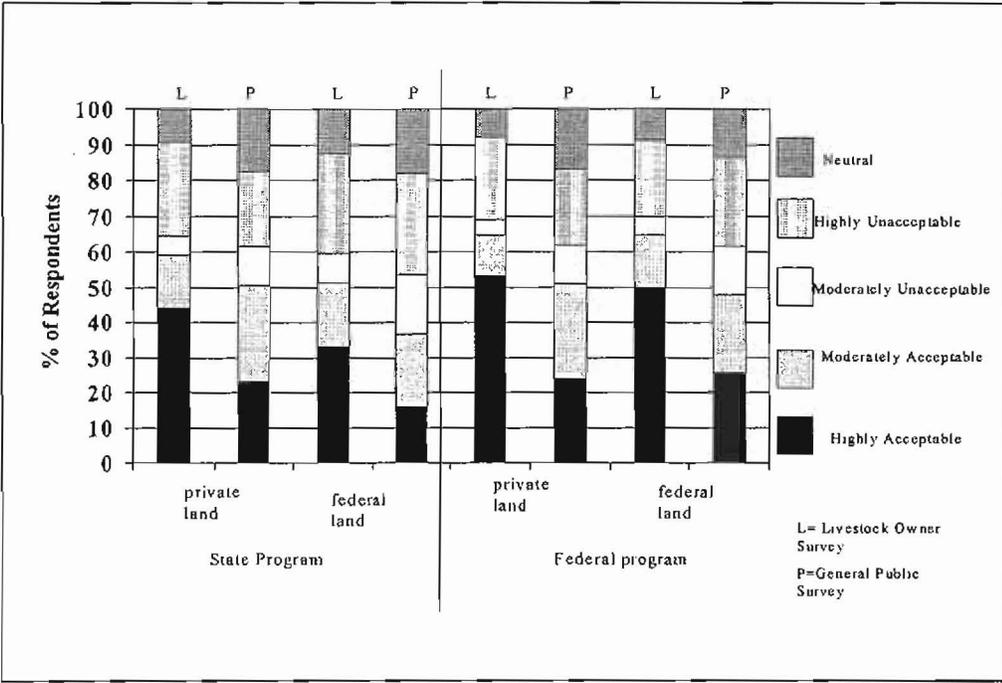


Figure 4-6b: Appropriateness of funding predator compensation programs via various sources on private and federal lands

Interview Results

The interviews with livestock owners explored respondents' views about various social institutions (federal government, state government, private groups) in relationship to the administration and funding of compensation programs in a less directive way than the survey. Rather than having to respond to a predetermined set of narrowly focused questions about particular roles of each institution, the interviews allowed respondents the freedom to define how they viewed specific institutions in relation to compensation programs. During the interviews respondents did tend to focus on a different set of issues depending on the particular institution being considered.

The most prevalent theme among those advocating federal government involvement in compensation was an underlying view that the very presence of wolves and grizzly bears was a consequence of federal action ("the federal government put these animals here") (T4-13#1, T4-13#2, T4-13#3, T4-13#4, T4-13#5). Thus, among many of those calling for federal involvement in compensation, the rationale was that the "federal government's" choice to pursue wolf reintroduction or increase grizzly bear populations carried an obligation for them to cover the costs (including compensation) that management of these species imposed on the states and private citizens. Some respondents advocating a role for the federal government viewed the presence of these predators not so much as a consequence of an action by the federal government, but rather more as a reflection of values held by the broader public (T4-13#6, T4-13#7). However, even from this perspective, the cost of management, including compensation, was viewed as being a responsibility of the broader public. This likely reflects the

reasoning underlying the 49.1% of livestock owner survey respondents who supported federal tax money as an appropriate funding source.

When state government became the focal point of discussions about predator compensation programs, the discussion among those advocating a governmental role in compensation shifted from a theme of governmental responsibility for funding (which was the focus of those advocating federal involvement) to a theme of effectiveness in administration. In general, the state was seen as a more desirable institution to interact with in an administrative sense because of issues such as accessibility, the ability to adapt to and incorporate changes, and other issues related to effectiveness in administration (T4-13#1, T4-13#2, T4-13#3). Other advocates of state government having a role in the administration of compensation programs argued that having the state in charge would be more desirable than the existing situation in which compensation programs are run by private environmental groups. Some advocates of state run programs expressed greater confidence in the motivations and intentions of state government compared to private environmental groups (T4-13#4, T4-13#5, T4-13#6, T4-13#7). One advocate of state government administration was so concerned about giving private or federal institutions a foothold into state affairs he advocated state funding to prevent this situation (T4-13#7), because he was concerned about "dealing with a bunch of people from other states that I don't believe should have any say on what we do in our state at all. None." However, more often than not, respondents were more likely to discuss only an administrative role for the state or to suggest a dual role where the state monitors and administers while other institutions are responsible for funding (T4-13#8).

When private programs became the focal point of discussions about predator compensation, among those advocating a role for private institutions, the theme of "who should be responsible for funding" appears as a prevalent rationale again. For example, Mark (T4-14#1) initially begins by suggesting that the government should pay the costs of predator conservation incurred by private livestock owners because it was the public who wanted wolves. But then he realizes that not all the public was in favor of wolves and shifts to environmental groups as the appropriate source of funding for that reason. In his view, funding through private donations provides a mechanism whereby only those who wanted wolves need pay the costs; a situation seen as desirable by other respondents advocating a role for privately run compensation programs (T4-14#2, T4-14#3, T4-14#4, T4-14#5). In fact, some respondents suggested that an additional benefit of privately funded programs was that such programs were a means of increasing the credibility of wolf advocates because it is "putting your money where your mouth is" (T4-14#4, T4-14#6) and even creates an opportunity for bringing different sides together (T4-14#7). Though a concern among some respondents was that separating funding of programs like compensation from management through initiatives like privately funded compensation programs may result in simply perpetuating the real problem (T4-14#7). Finally, some advocates of privately run compensation programs referred to concerns about the inefficiency of government bureaucracy and either the hope that privately run programs could help address that (T4-14#4, T4-14#8, T4-14#9) or more pessimistically that at least if privately funded programs were used, the costs would only be borne by those who wanted wolves (T4-14#3).

Summary – Descriptive Analysis of Appropriate Funding of Compensation Programs

Funding provides a complicated picture. There was widespread agreement that funding via environmental groups was appropriate despite the skepticism about the motivations behind such programs. Overall, funding via sources directly linked to livestock owners (tax per head of livestock, private insurance) were seen as inappropriate by a larger percentage than those finding such funding appropriate, even among the general public sample. The majority in both samples believed that funding through general state taxes was not appropriate. The pattern of responses to both the livestock/insurance funding questions and the state funding possibly reflects a belief that predator conservation represents a broader national interest and that costs should not be borne solely by livestock owners themselves or state residents. This possible explanation is supported by results presented in the preceding results sections that suggest that a majority or plurality of respondents in both samples value compensation because they see it as a means of more fairly distributing the costs of predator conservation.

Discussions in support of federal government involvement tended to reflect the theme of “responsibility for funding” as a consequence of either the “federal action” of reintroducing wolves or the fact that wolf conservation serves the values and interests of the broader public who should therefore contribute to the costs. Support for state government involvement tended to reflect the themes related to “efficiency in administration” and/or greater confidence in motivations of a state run program compared to privately run programs. Discussion in support of private programs tended to focus on the desirability of a funding mechanism where only those who want predators have to pay and on concerns about the inefficiency of governmental bureaucracy with respect to such

programs. While the results suggest that the question of how to fund predator compensation programs would likely be a difficult issue to resolve given the diversity of perspectives, it is worth noting that a majority of respondents (69.0% of livestock owner sample and 72.3% of the general public sample) endorsed at least one of the four broader societal funding mechanisms (federal tax, tax on tourists, hunting fees, state tax). In other words, while there was disagreement among respondents about the most appropriate means by which to generate funding, over two-thirds of the respondents did indicate that they would find a broader “societal funding mechanism” appropriate (as opposed to finding only private donations or funding via the livestock owners themselves as the only appropriate basis).

DISCRIMINANT ANALYSIS OF SURVEY RESPONDENTS

Analyses were conducted in an attempt to identify respondent characteristics related to level of endorsement of compensation. Since there are different ways of asking about the extent to which a person endorses compensation two different questions tapping into endorsement of compensation were used as dependent variables. The first question asked respondents how desirable a program that “pays individuals for losses/damages caused by predators” would be as part of a government policy for managing grizzly bear, mountain lion, and wolf populations that are not threatened or endangered (tapping into desirability of compensation). The second question asked individuals to respond to whether they would “vote for or against, or would not vote for a state run compensation

program to pay for losses/damages caused by predators in an upcoming election.” For each dependent variable a discriminant analysis was conducted. The discriminant analyses were conducted in attempt to identify what characteristics (such as beliefs about predators, views about compensation funding mechanisms, age, gender, etc.) may play a role in discriminating (that is, in separating out) individuals based on responses to endorsement of compensation.

Description of Measures Used in Discriminant Analysis: Desirability of Compensation

The survey respondents were asked to indicate how desirable they thought each of the management alternatives would be as part of a government policy for managing grizzly bear, mountain lion, and wolf populations that *are not threatened or endangered*. Compensation was found desirable (indicated by responding to the statement, “paying individuals for loss/damage caused by predators”) by 86.5% of the livestock owner respondents and 65.7% of the general public respondents when highly/moderately desirable and highly/moderately undesirable are collapsed into two groups – “desirable” or “undesirable” (Figure 4-1). The discriminant analysis then attempts to determine what characteristics, if any, discriminate among individuals finding compensation desirable, neutral, and undesirable. I am trying to explain the variation among the three groups of people who find compensation desirable, undesirable, and neutral; I am not interested in distinguishing between degrees of desirability (i.e. highly desirable versus moderately desirable, etc.).

Selection of possible discriminant variables is based upon which variables should provide “information about group membership,” or in this case, how would individuals

respond (desirable, undesirable, or neutral) (Tabachnick and Fidell, 1989). The types of characteristics explored in the survey, which might be related to endorsement of compensation, can be thought of as falling into six categories or themes (Figure 4-7). The six categories include: beliefs about the role or function of compensation in society; personal impacts of predators and compensation; views about appropriate funding sources for compensation; familiarity with compensation programs, views about predators, and socio-demographic characteristics. When appropriate, factor analysis was used to help create the discriminating variables (as discussed in the methods chapter).

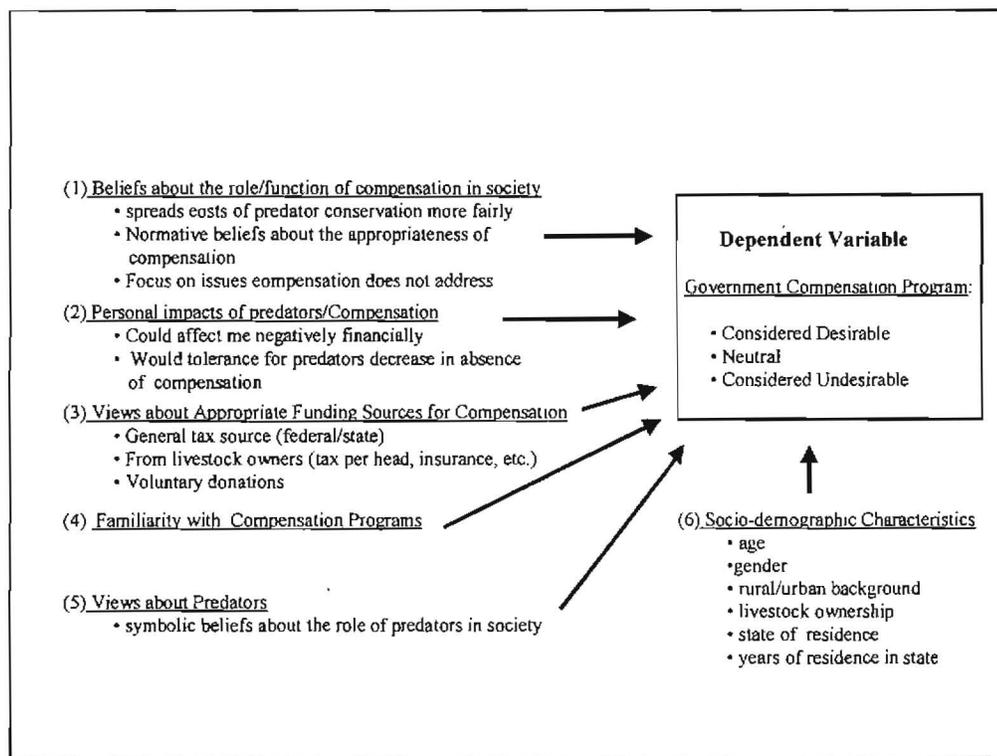


Figure 4-7: Model describing variables in the discriminant analysis for desirability of government compensation programs as a management alternative for nonendangered predators

The first category of discriminant variables is ‘beliefs about the role or function of compensation in society.’ Three discriminant variables included in the analysis reflect this theme. The first variable is comprised of a single item measure, “compensation programs spread costs related to predator conservation more fairly in society.” Factor analysis indicated that it had been grouped into a composite factor, but that factor had an unacceptable reliability (Cronbach’s alpha = 0.14). I decided to include this particular item in the analysis due to the prevalence of this idea as a basis for thinking about compensation in the interview data. The second variable, “normative beliefs about the appropriateness of compensation” is a composite factor. It is made up of individuals’ responses regarding the beliefs that “predator losses are a cost of doing business and should not be compensated” and “accepting compensation violates livestock owners’ responsibility to their livestock” (Cronbach’s alpha = 0.65). The third variable is a composite factor composed of beliefs regarding issues that compensation does not address. This factor included a combination of beliefs that reflected the extent to which individuals’ agreed/disagreed with concerns that compensation does not address (reduced elk and deer populations; that people do not want predators around; and human safety concerns) as well as beliefs regarding whether or not compensation programs are publicity stunts and there would never be enough money to fund all the losses. This composite factor then reflects the degree of cynicism that people may have towards compensation and the role it serves. The Cronbach’s alpha for this factor was 0.83.

The second category of discriminant variables pertains to how predators and compensation may impact an individual personally and is represented by two variables. The first variable pertains to whether respondents felt that the predators would have a

negative impact on them financially. The survey asked this question for grizzly bears, mountain lions and wolves separately. The second discriminant variable in this category also separated out the three predators and asked whether tolerance for that specific predator would decrease in the absence of a compensation program. Because of the high correlation between the responses for all three predators ($r = 0.97$ to 0.98 for the first variable and $r = 0.88$ to 0.93 for the second variable) and the possible complications due to multicollinearity, the analysis focused only on the wolf variable. I consciously chose to focus on wolves because people tend to be more divided on wolves and because of the current political discussions involving wolves right now (i.e. the possible delisting process here in the West).

The third category of variables pertains to beliefs and views about appropriate sources of funding for compensation programs. Factor analysis of survey questions regarding the appropriateness of various funding sources suggested that respondents conceived of three types of funding sources: public funding through general taxes, funding originating from livestock owners, and funding through voluntary donations. The general tax source composite factor combined items related to the appropriateness of state tax monies and federal tax monies (Cronbach's alpha = 0.74). The second composite variable for livestock owners pay included perceptions about the appropriateness of funding compensation through: tax per head of livestock; stockgrowers's associations; private insurance the livestock owner carries, and shared insurance where costs are shared among livestock owners and the state (Cronbach's alpha = 0.91). The third composite factor pertains to voluntary donations and included voluntary donations and funding by environmental groups (Cronbach's alpha = 0.66).

The fourth category of discriminating variables is represented by a single variable that reflects a respondent's self assessment of their familiarity with compensation programs. The familiarity question distinguished among people who had submitted claims or had other experience with compensation programs (7% of the respondents); those who knew someone who had experience with compensation or had heard of compensation programs (74% of the respondents) and those who had not heard about compensation (20% of the respondents). Since so few individuals had actually submitted a claim a dichotomous variable distinguishing between those that knew about compensation (submitted a claim, have experience with these programs, knows someone who has had experience with these programs, or has heard of these programs) and those that did not (have not heard about these programs) was created. What this does is create a variable distinguishing between those who are learning about compensation programs for the first time and those that have had prior knowledge or experience with compensation programs.

The fifth category of discriminating variables deals with views towards predators. Recent research in human dimensions of wildlife (Bright and Manfredi, 1996) suggests that symbolic beliefs about predators are important factors in shaping views or attitudes towards wildlife. Thus, questions pertaining to symbolic beliefs towards predators were included in the survey. Factor analysis indicated that four questions reflected a coherent symbolic belief factor. Therefore, symbolic beliefs towards predators is a composite factor comprised of responses to the following belief statements: "I would like to see populations increase in my area," "these animals are an important part of the ecosystems they occupy," "people who live in my state have a responsibility to learn to co-exist with

these animals,” and “these animals attract tourists to my state.” As with the second category questions, these questions were asked separately for grizzly bears, mountain lions, and wolves. Again, because of the high correlation in responses ($r > 0.90$) and concerns over multicollinearity in the discriminant analysis, I chose to focus on the symbolic beliefs of wolves (Cronbach’s alpha = 0.86). Therefore, this category is comprised of a composite factor that focuses on the symbolic beliefs about wolves.

The sixth category of discriminating variable deals with the general sociodemographic characteristics. In particular, the analysis focused on the characteristics of age, gender, rural/urban background, livestock ownership, state of residence, and years of residence. State of residence was incorporated in the analysis as a dummy variable, meaning the variables were recategorized into a series of dichotomous variables (Tabachnick and Fidell, 1989). The influence of rural versus urban backgrounds was assessed using two dichotomous variables: where residents grew up and where residents reside now. Rural communities were considered communities of 10,000 or less whereas urban areas were considered 10,001 and more people. The final sociodemographic characteristic attempted to separate out individuals who have or currently own livestock and from those who do not. The livestock owner survey respondent’s sample was based on livestock ownership (that is, they were identified and included in the sample because they owned livestock); however, respondents in the general public sample may also have livestock. Therefore, for the general public sample, responses to the question of whether respondent has ‘ever engaged in ranching/beekeeping’ was used to determine livestock ownership for the discriminant

Figure 4-8a: Discriminant analysis – desirability of a compensation program

	Function 1	Function 2
Eigenvalue	0.576	0.049
Percent of Variance Explained	0.921	0.079
Canonical Correlation	0.605	0.217
Group Centroids		
Desirable	0.437	-0.020
Neutral	-0.952	0.672
Undesirable	-1.444	-0.248
Characteristics with loadings ≥ 0.40		
	Function 1	Function 2
	Loadings	Loadings
Normative beliefs about the concept of compensation	-0.776	-0.088
Compensation spreads costs of predator conservation more fairly	0.486	.163
Rural/urban residence – where respondent currently lives	-.246	.571
Livestock ownership	.253	-.503
Rural/urban residence – where respondent grew up	-.159	.468
Increased wolf populations would negatively affect me financially.	-.251	.428
Characteristics with loadings ≤ 0.40		
Tolerance for wolves would decrease w/o compensation programs	.366	.237
Appropriateness of funding through a general Federal/State tax	.340	.044
Appropriateness of funding through via livestock owners	-.333	.295
Appropriateness of funding through voluntary donations	.331	-.097
Symbolic beliefs about wolves	-.233	.098
Age	.147	-.108
Gender	.094	.049
How many years have you lived in the state	.150	-.281
Focus on issues compensation does not address	.173	-.234
State dummy variable (W)	.072	.192
Familiarity with compensation programs	.146	-.179
State dummy variable (M)	-.010	.047

Cross validation classification results table (numbers = %)

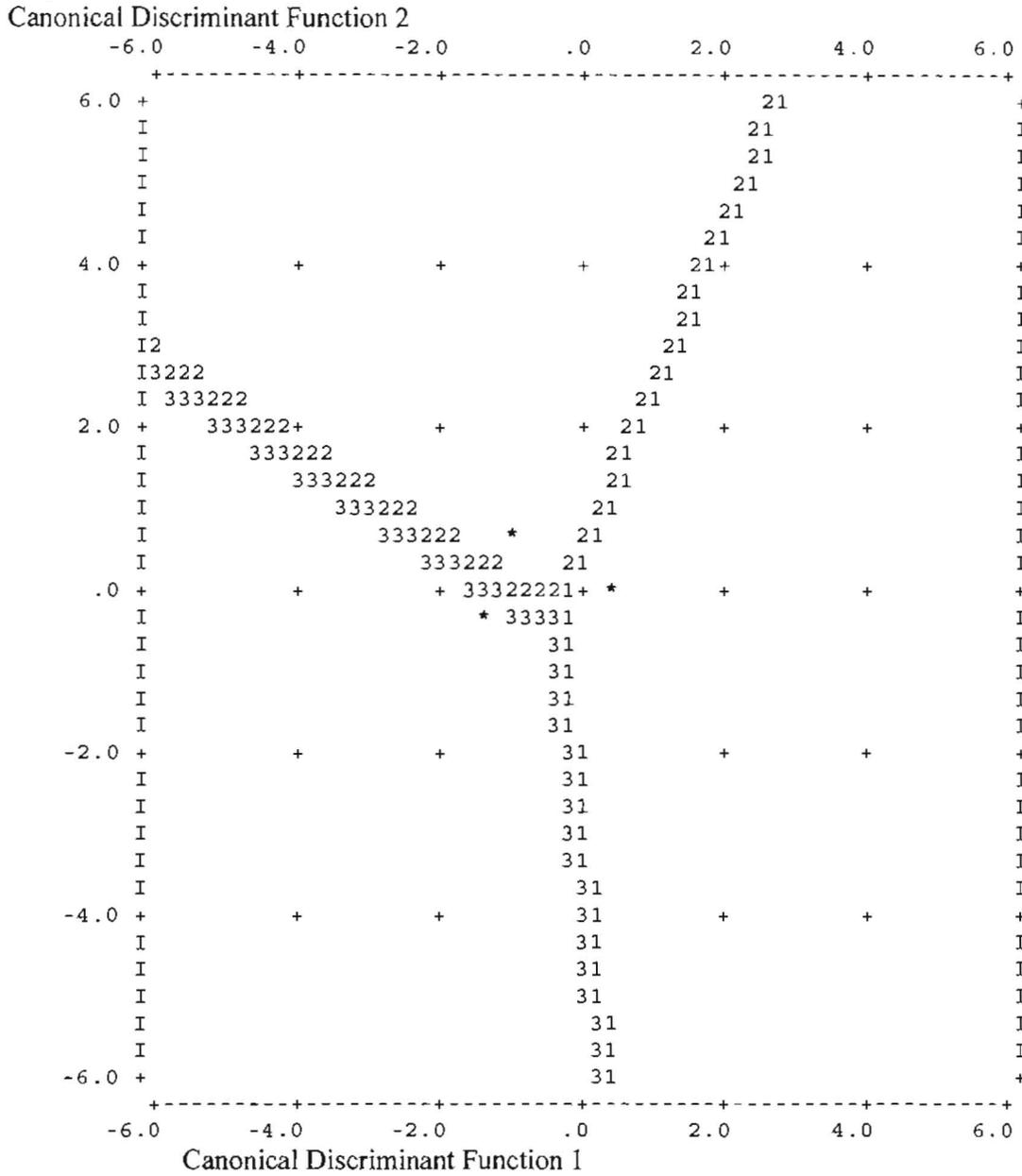
Actual Group	Predicted Group Membership		
	Desirable	Neutral	Undesirable
Desirable	70.1	17.1	12.7
Neutral	34.3	42.9	22.9
Undesirable	14.0	28.0	58.0

Percentage of correct classifications overall = 65.6%

Percentage of correct classifications expected by chance alone = 59.1%

Statistical significance test of improvement in classification: $z=2.42$, $p=0.016$

Figure 4-8b: Discriminant analysis -- desirability of a compensation program - Territorial Map



Symbols used in territorial map

Symbol Group Label

1 1
2 2
3 3

* Indicates a group centroid

analysis. A dichotomous variable was created to distinguish people who do have or have had a livestock owning background (ranching/beekeeping) from those that do not. Although this measure may be imperfect, if livestock owning is an important discriminating variable it should become apparent by this method.

Discussion of Results: Desirability of Compensation

With three categories (people that find compensation desirable, people that find compensation undesirable, people that are neutral) in the dependent variable, there are a maximum of two possible discriminant functions. Both functions were significant in this case. The first discriminant function maximally discriminates those who found compensation desirable from those who find it undesirable, and most clearly separates the group of people who found compensation desirable from the two other groups (people who were neutral and people who found compensation undesirable) (Figure 4-8a and Figure 4-8b). This function had a canonical correlation of 0.605 (this measures the degree of the relationship between the discriminant function and the groups), indicating a strong relationship. The two most important characteristics distinguishing among respondents in function one were: normative beliefs about the concept of compensation and compensation spreads costs of predator conservation more fairly. These two discriminating variables had function loadings with an absolute value greater than 0.40 (this is the criterion used as a cutoff for deciding which variables meaningfully contributed). The variable, 'normative beliefs about the concept of compensation' reflects beliefs about the appropriateness of compensating livestock owners for losses (i.e. losses should be viewed as a normal cost of doing business and accepting

compensation violated livestock owners' responsibility to their livestock) and had a function loading = -0.776, which is considered excellent as a measure of the factor (Tabachnick and Fidell, 1989). This indicates that respondents who disagreed with the beliefs that losses should be considered a normal cost of doing business and that accepting compensation violated livestock owner' responsibility to their livestock were more likely to indicate compensation is desirable. The second discriminating variable in the first function, compensation spreads costs of predator conservation more fairly, has a lower function loading = 0.486. Respondents agreeing to this statement tended to find compensation desirable which suggests that those who found compensation desirable were more likely to hold the belief that compensation spreads costs of predator conservation more fairly than those who found compensation undesirable or neutral.

The second discriminant function has a much lower canonical correlation (0.217). This indicates that the relationship between this discriminant function and the groups (desirable, neutral, undesirable) is not as strong as the first discriminant function. Although the relationship was quite weak, it was still statistically significant. Group centroids indicate that this function separates out the group of people who are neutral towards the concept of compensation from those groups who find compensation desirable and undesirable. There are four discriminating variables that have a loading ≥ 0.40 . Two of the variables pertain to the difference in an urban rural background (as indicated by where respondents currently live and where respondents grew up) and the other two variables pertain to the possibility of experiencing a loss (owning livestock and whether increased wolf populations would negatively affect the respondent financially). The results indicate that respondents who do not own livestock, who have an urban

background tend, and who do not see a financial impact occurring to them tend to be neutral. None of the other variables help to meaningfully separate between groups.

In order to check the classification adequacy (the accuracy of the classification of respondents into the appropriate response groups), cross-validation checks were performed. The cross validation table shows that the discriminant analysis correctly classified 65.6% of the respondents. This is above what chance alone would correctly classify (59.1% of the respondents). The improvement in classification by the discriminant analysis was statistically significant ($z=2.42$, $p=0.016$). Overall, 70.1% of those respondents finding compensation desirable were correctly classified as finding compensation desirable. In addition, 42.9% of the respondents who were neutral were correctly classified and 58% of the respondents that found compensation undesirable were correctly classified.

Description of Measures Used in Discriminant Analysis: Voting Intentions

Another discriminant analysis was conducted in an attempt to identify characteristics that differ between individuals with regards to voting intentions (whether people would vote in favor, would vote against, or were undecided in how they would vote). Survey respondents were asked to indicate how they would vote if a state-run compensation program to pay for losses/damages caused by predators were on the ballot in an upcoming state election. Whereas the previous discussion focused on the question that explored the concept of compensation in general (how desirable would it be to have a government program that pays livestock owners for losses/damages caused by predators that are not endangered), this question indicates people's endorsement of compensation in

a more specific example (would vote for or against a state run compensation program.). Although there was a fourth category (would not vote), due to the small number of responses (only 2.2% indicated they would respond this way), the analysis of voting intentions only included the other three categories (vote in favor, vote against, undecided).

The discriminate variables can be considered grouped into 7 categories (Figure 4-9). Six of the categories are the same as those discussed in the previous section and will not be rediscussed here. However, there is one additional category of discriminate variable - 'views about compensation' (Figure 4-11). The first variable under 'views about compensation' is a single item variable that reflects the desirability of compensation that 'pays individuals for losses/damages caused by predators' that are not threatened or endangered. The second variable is a composite factor (created through factor analysis) which incorporates beliefs about the acceptability of a state run compensation program when: the predator is endangered; the predator is not endangered; the livestock owner's ability to kill or harass the predator is restricted; and when the predator has been reintroduced (Cronbach's alpha = 0.84).

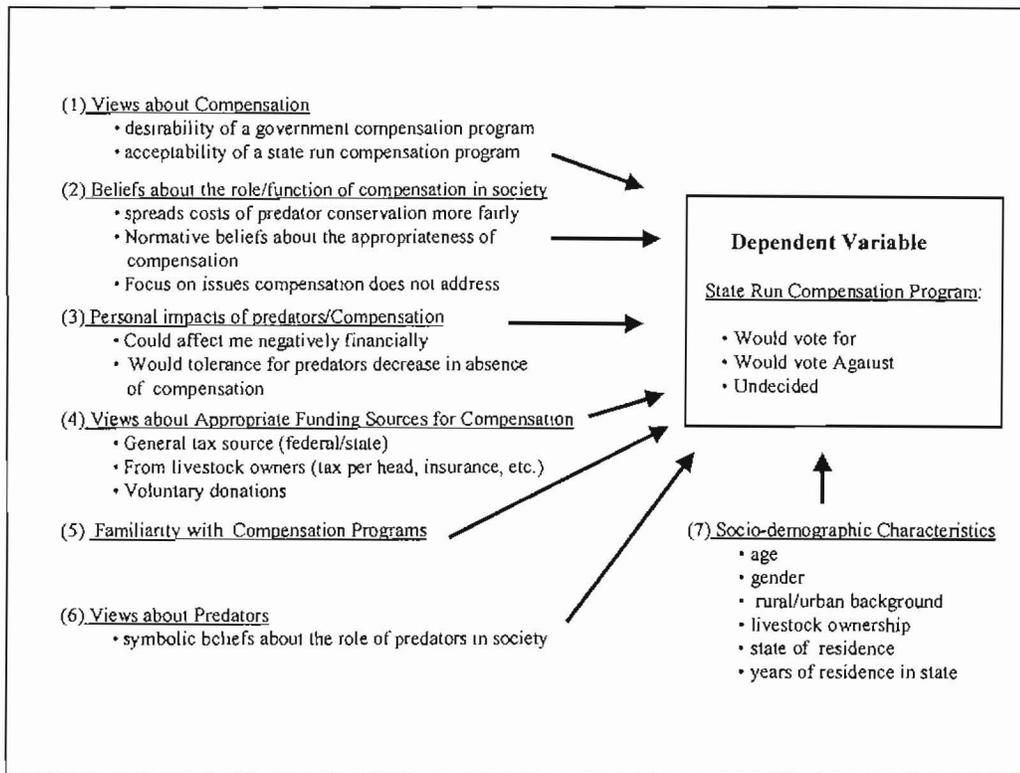


Figure 4-9: Model describing variables in the discriminant analysis for voting intentions with respect to a state run compensation program for predators

Figure 4-10a: Discriminant analysis – voting for a state run compensation program

	Function 1	Function 2
Eigenvalue	0.629	0.095
Percent of Variance Explained	0.868	0.132
Canonical Correlation	0.621	0.295
Group Centroids		
would vote in favor	0.878	-0.288
would vote against	-1.034	-0.149
were undecided	0.204	0.423
Characteristics with loadings ≥ 0.40		
	Function 1	Function 2
	Loadings	Loadings
Acceptability of a state run program	0.748	-0.069
Desirability of government compensation program	0.568	.206
Compensation spreads costs of predator conservation more fairly	0.455	-.147
Appropriateness of funding through a general Federal/State tax	0.433	-.140
Normative beliefs about the concept of compensation	-0.398	-.169
Gender	.012	-0.401
Familiarity with compensation programs	.044	-0.397
Characteristics with loadings ≤ 0.40		
Tolerance for wolves would decrease w/o compensation programs	.190	.015
Livestock ownership	.159	.064
Appropriateness of funding through voluntary donations	.155	-.059
Symbolic beliefs about wolves	.139	-.056
Rural/urban residence – where respondent currently lives	-.089	-.005
Rural/urban residence – where respondent grew up	-.059	.016
State dummy variable (M)	-.021	.016
Focus on issues compensation does not address	-.151	.296
State dummy variable (W)	.070	.250
Increased wolf populations would negatively affect me financially.	-.085	-.228
Appropriateness of funding through via livestock owners	.010	.134
How many years have you lived in the state	-.024	.134
Age	-.060	.099

Cross validation classification results table (numbers = %)

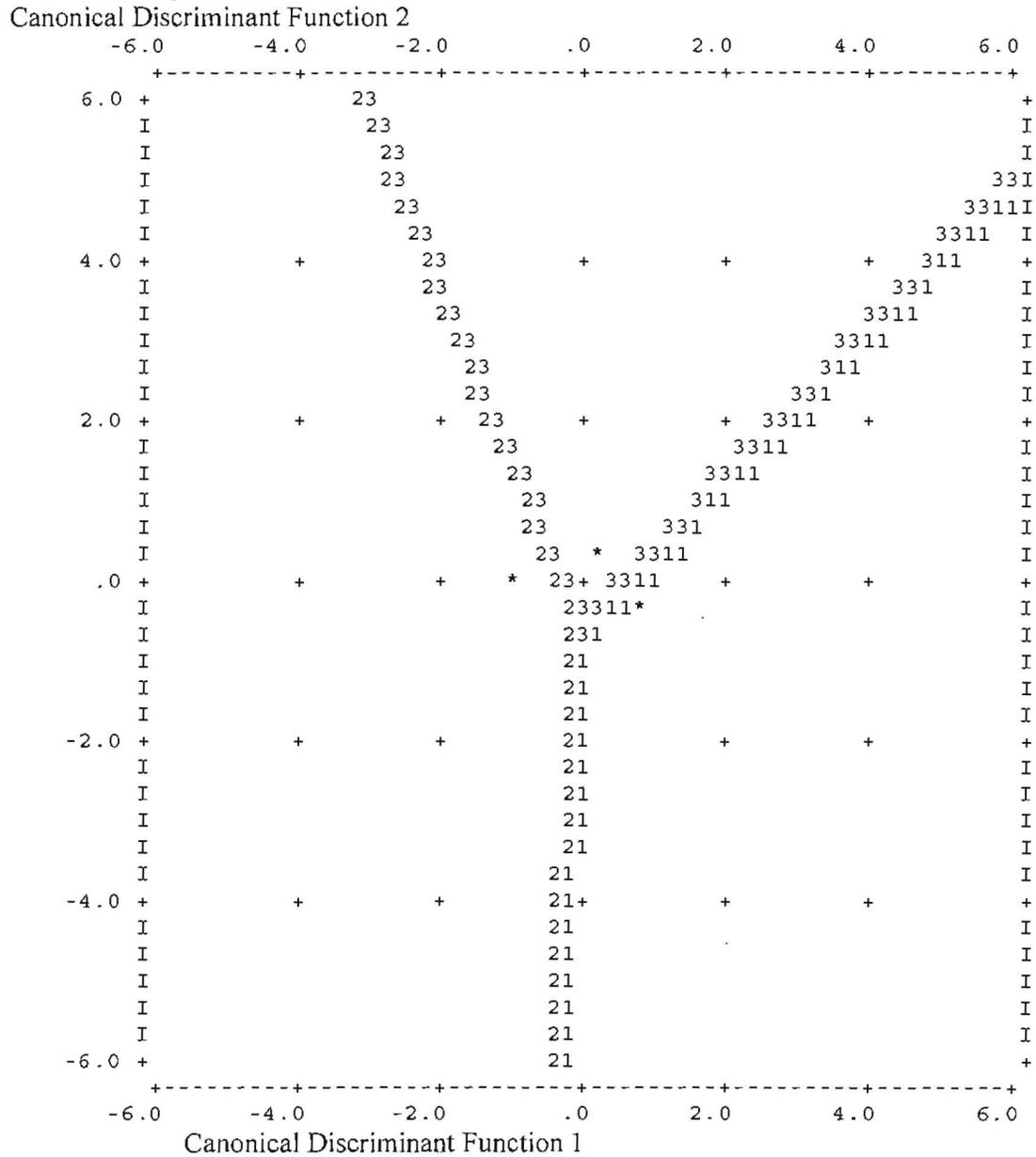
Actual Group	Predicted Group Membership		
	Would vote in favor	Would vote against	Undecided
Would vote in favor	64.9	11.7	23.4
Would vote against	8.7	64.3	27.0
Undecided	38.3	19.2	42.5

Percentage of correct classifications overall = 56.5%

Percentage of correct classifications expected by chance alone = 33.8%

Statistical significance test of improvement in classification: $z=8.704$, $p<0.001$

Figure 4-10b: Discriminant analysis – voting for a state run compensation program –
Territorial Map



Symbols used in territorial map

Symbol Group Label

Symbol	Group Label
I	1 would vote in favor
2	2 would vote against
3	3 don't know how I would vote
*	Indicates a group centroid

Discussion of Results: Voting Intentions

With three categories (would vote in favor, would vote against, undecided) in the dependent variable, there are a maximum of two possible functions. Both functions were significant in this case. The first discriminant function maximally discriminates, or separates the group of people who would vote in favor of a state run compensation program from the group of people who would vote against (Figure 4-10a and Figure 4-10b). This function had a canonical correlation of 0.621 indicating a moderately strong relationship. Five discriminating variables had function loadings greater than 0.40 (including both of the variables that loaded on the first function of the previous analysis: compensation spreads costs of predator conservation more fairly; and normative beliefs about the concept of compensation). The three remaining variables were: acceptability of a state run compensation program; desirability of a government compensation program; and appropriateness of funding through a general Federal/State tax. The variable, 'acceptability of a state run program had a function loading = 0.748, which is considered excellent as a measure of the factor (Tabachnick and Fidell, 1989). This indicates that respondents that agreed with that a state run compensation program was acceptable would tend to vote for a state-run compensation program. The remaining discriminating variables in the first function show a marked drop in function loadings (ranging from 0.568 to -0.398). This suggests that although these variables still help to meaningfully separate respondents that would vote in favor for a state-run compensation program, they do not explain as much variation as the first discriminate variable (acceptability of a state-run program). This intuitively makes sense as well. People who

find a state-run compensation program acceptable tend to be in favor of voting for a state-run compensation program.

The second discriminant function the analysis has a much lower canonical correlation (0.295). This indicates that the relationship between this discriminant function and the groups (would vote in favor, would vote against, and would not vote) is not as strong as in the first discriminant function. Although lower, this function loading still indicates that this second discriminant function meaningfully separates out the group of people who were undecided from those who would vote in favor or would vote against a state run compensation program. There are two discriminating variables that have absolute values for function loadings ≥ 0.40 . The two variables are gender (loading of -0.401) and familiarity with compensation programs (-0.397). The results indicate that females and respondents who had never heard of compensation were more likely to be undecided.

As discussed above, in order to check the classification adequacy (the accuracy of the classification of respondents into the appropriate response groups), cross-validation checks were performed. An examination of the cross-validation table shows that the discriminant analysis correctly classified 56.5% of the respondents. This is markedly higher than what chance alone would correctly classify (33.8% of the respondents). The improvement in classification by the discriminant analysis was statistically significant ($z=8.704$, $p=0.001$). Overall, 64.9% of those respondents who would vote in favor of a state run compensation program were correctly classified; 64.3% of those that would vote against were correctly classified; and, 42.5% of those who were undecided in how they would vote were correctly classified. Only 11.7% of those respondents who indicated

they would vote in favor of a state run compensation program were incorrectly classified as voting against and only 8.7% of those respondents indicating they would vote against were incorrectly classified as voting in favor of a state run compensation program. However, 38.3% of the respondents indicating they were undecided were incorrectly classified as voting in favor of a compensation program as opposed to the 19.2% who were incorrectly classified as voting against. This indicates a tendency for incorrectly classified undecided voters to be classified into the category of would vote in favor versus would vote against.

Summary of Discriminant Analyses

The discriminant analyses were conducted in an attempt to see if it were possible to identify respondent characteristics that were related to endorsement of compensation (as expressed by desirability of compensation or voting for a state run compensation program). Overall, the two discriminant analyses help provide insight into what factors influence people to support or endorse the concept of compensation and more broadly into how people conceive of compensation and what role it plays in predator conservation. In both analyses, the idea that compensation helps to spread the costs of predator conservation and normative beliefs about the concept of compensation (such as losses to predators are not a normal cost of doing business) factor into people's endorsement or support of compensation. This is indicative of what was discussed in the previous results section (views about the concept of compensation). In other words, the discriminant analyses are another line of evidence supporting the notion that views about compensation seem to center around equity issues (such as spreading the costs of

predator conservation to a broader segment of society and whether it is appropriate to pay or accept payment for compensation). Furthermore, the additional variables that helped to explain the variation in differences in voting intentions (acceptability of a state run program; desirability of a government compensation program; and appropriateness of funding through a general federal/state tax) suggests that views about compensation and the views about appropriate funding sources play a role in differentiating people that will vote for a state run compensation program. Having additional variables factor in on the voting intentions discriminant analysis intuitively makes sense, in that one could argue that for an individual to decide whether or not to vote on a state run compensation program, he/she would need to have formed opinions about the general concept of compensation (in other words the acceptability and desirability of compensation) as well as thought about issues pertaining to the funding of such programs.

Since the goal of the analysis is to understand what factors influence whether or not an individual endorses compensation, it is also instructive to consider those variables included in the analysis that did not contribute to discriminating among individuals. For example, recent research (Bright and Manfredi, 1996) suggests the importance of symbolic views about predators (i.e. views about the role of predators in society) are important in shaping attitudes towards wildlife; however symbolic beliefs about predators (for these analyses it was specifically wolves) do not appear as an important influence in either of the discriminant analyses. This suggests that what people think about compensation has more to do with things other than how they value wildlife. The personal and social factors that appear to be driving endorsement or lack of endorsement for compensation are not wildlife attitudes, but are instead factors associated with equity

and the appropriateness of compensation and the appropriateness of governmental funding.

In addition, the variation in the willingness to endorse compensation appears to be driven more by normative beliefs about compensation (such as whether or not losses to predators are considered a normal cost of doing business) and the legitimacy of compensation as a social means of spreading the costs of predator conservation than by sociodemographic variables and characteristics. For example, in the discriminant analysis, residence type issues (where the respondent grew up and where the respondent currently lives) were only influential factors when separating the respondents who were neutral in their view of the desirability of compensation from the other two categories of respondents (those who found compensation desirable and those who found compensation undesirable). However, these variables loaded on the second discriminant function, which in both of these discriminant analyses generally has weaker relationships as indicated by the lower percent of variance explained, the lower canonical correlation, and the lower percentage of correctly classifying the group membership in the cross validation analysis.

Variables pertaining to issues that compensation does not address, other funding mechanisms, whether tolerance for predators would decrease without compensation programs, and what state individuals were from did not meaningfully load the discriminant functions (that is, they did not meet the criteria of a .40 or higher load) of either discriminant analysis. However, it is important to look and consider all the research results collectively and see the story it tells. Although the discriminant analyses indicated that issues not addressed by compensation were not meaningful in explaining

the variation in level of endorsement for compensation programs, that does not mean that these issues are not important to understanding how people think about compensation. The previous discussion regarding views about the concept of compensation indicates that these issues are, in fact, quite important in developing an understanding of people's views on compensation. In fact, the previous results indicate that although there is widespread support for compensation, that it is a qualified endorsement, suggesting that compensation does not address the cause of predation, concerns over human safety, or reduced game numbers and that, therefore, other management options are still desired. However, how one feels about issues not addressed by compensation does not appear to explain variation in voting intentions or desirability of compensation programs. Nonetheless, when these two sections of results (views about the concept of compensation and the discriminant analysis) are considered collectively, what emerges is the suggestion that the discourse/debate surrounding the acceptability of compensation programs is about the role society should take in handling costs, both social and individual, caused by predator conservation.

VIEWS ABOUT VERIFICATION, RELATIONSHIPS AND TRUST-RELATED ISSUES

Views about Verification

Since the issue of verification dealt with detailed information the general public would likely not be familiar with or have an opinion on, these issues appeared only on the livestock owner survey and the interviews. Thus, the following results focus solely on the livestock owner data. Verification was one of the most talked about issues in the

interviews. Not surprisingly it is one of the more contentious issues. It is unrealistic to assume that an analysis of people's perceptions regarding such a complex social issue alone will yield an unproblematic solution or answer to the controversies underlying verification. Contentious social issues such as this can only be resolved through a process of negotiation among stakeholders. Social research, however, can generate insights useful in helping to negotiate a solution through dialog among stakeholders. The goal of the following analysis is to deconstruct the respondents' discussions to identify the types of issues, concerns and conflicts in regard to verification that they are raising. Doing so will reveal the receptivity of the stakeholders to a dialog about the verification standards, the obstacles that the stakeholders perceive, and the diversity in opinion across the stakeholders.

Results

A majority of the livestock owners surveyed believed that the verification process used to confirm predator losses is too strict; 61.6% agreed with this statement, 43.4% *strongly* agreed to it (Figure 4-11). Only 8.5% expressed the view that verification standards are not too strict. Concerns over verification and the possibilities of livestock owners taking advantage of the program were some of the most discussed issues in the interviews (Table 4-15, Table 4-16). As with the livestock owner survey, many of the interviewees also believe that the verification process for compensation is too strict (T4-15#1, T4-15#2, T4-15#3, T4-15#4, T4-15#5), and that “you’ve almost got to photograph the wolf or bear killing to ever be reimbursed for it” (T4-15#1). A large part

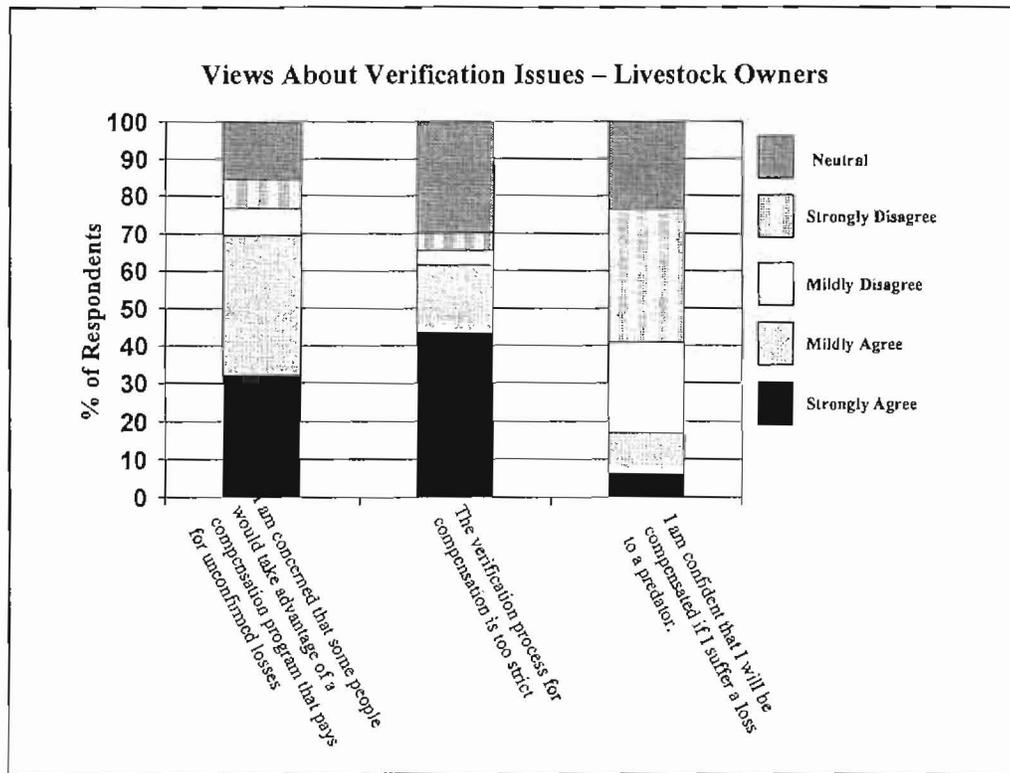


Figure 4-11: Views about verification issues (livestock owner sample only)

of the frustration with the verification process is that oftentimes livestock owners and verifying agents cannot find the carcasses or evidence in time to be able to confirm that a predator killed the livestock (T4-15#2, T4-15#5, T4-15#6, T4-15#7, T4-15#8, T4-15#9, T4-15#10, T4-15#11, T4-15#12, T4-15#13, T4-15#14, T4-15#15). These concerns likely explain why a majority of the survey respondents (59.5%) indicated they were not confident they would be compensated for losses to predators covered by an existing program (Figure 4.11).

Several of the excerpts (T4-15#7, T4-15#9, T4-15#10, T4-15#12, T4-15#13, T4-15#14, T4-15#15, T4-15#16 are explicit) illustrate that many of the livestock owners do not separate out the verification process from finding the carcasses. In other words, the

first part of getting a loss verified is finding the carcass. Part of the problem of not finding carcasses was attributed to predators consuming the entire carcass in a short amount of time and/or to the fact that other predators and scavengers will help to consume the carcass and the necessary evidence before it is found or can be verified as a confirmed kill. Interviewees discussed it in phrases such as “you got to find them pretty fast, because there isn’t much left. If wolves get them, there isn’t hardly anything left, or bears, either one” (T4-15#7); “if you come onto a kill that was two days old, there’s not enough proof left on dry conditions like we have around here where you can pinpoint anything” (T4-15#2); and “just the coyotes and the ravens, and the eagles and whatever will pretty much do away with [the carcass] and fairly fast. I mean, like in a day they’ll be gone, so to verify a wolf kill or a bear kill is just about ridiculous” (T4-15#10). Many of the livestock owners also recognized the need for a quick response by verifying agents in order for there to be enough evidence to confirm the losses, especially if the criteria for confirmation is going to be strict (T4-15#11, T4-15#17, T4-15#18, T4-15#19). In addition, some interviewees commented on the need for *qualified* verifying agents who have expertise in verifying these types of losses (T4-15#20). However, several of the livestock owners also realize that both for them and the verifying agent, finding the carcasses and getting them verified is a very time consuming process (T4-15#8, T4-15#21). One individual suggested that there should be blanket compensation for individuals living in areas with predators because, “trying to pinpoint individual attacks is so difficult, so time consuming, so controversial” (T4-15#21). Overall, most livestock owners recognize why there is a verification process, but many think it is too stringent. Some also believe that it takes too long for verifying agents to come out and that a delay

in getting there allows for evidence to be lost. Moreover, some livestock owners recognize that some of owners may get tunnel vision and think all their losses are predator related (T4-15#22).

Emerging out of the discourse surrounding the verification process are four particularly meaningful insights. First is the notion that livestock owners do see and they outline what they perceive as *difficulties in the verification process*. As discussed above, emphasis is placed on time problems, both in relation to finding the carcasses in the first place (T4-15#2, T4-15#7, T4-15#18, T4-15#23) and in timely response (T4-15#11, T4-15#18, T4-15#19). Additionally, there are difficulties due to the vastness of the landscape and/or the manner of the operation (T4-15#8, T4-15#9, T4-15#10, T4-15#12); the inability to find evidence in the first place (T4-15#3, T4-15#14, T4-15#15); difficulty in protecting evidence when you do find it (T4-15#19, T4-15#24); subjectivity in the verification process (T4-15#25); and the perception that the verification process places a burden on the livestock owner for paperwork, time, et cetera (T4-15#26).

Secondly, there are insights about *consequences of standards that are perceived as unrealistic*. When livestock owners feel that the standards of evidence for verification are too strict, they may not try for compensation anymore (T4-15#4) and/or if the livestock owner makes the effort but does not get compensated anyway, this may raise suspicions and be another factor contributing to poor or unconstructive relationships (T4-15#27, T4-15#28). However, one individual did note a positive outcome to the verification process in that he found it to be a learning experience; a loss he would have attributed to a predator was in fact from an infection (T4-15#22). Thus, positive outcomes are possible.

Thirdly, many interviewees did offer *alternatives to what are perceived as unrealistic standards of evidence*. Again, many of the livestock owners see the standard of evidence or the verification as too strict. And, as T4-15#1 indicates, they are the ones out there, they know what is going on in their herd, but to have a standard that is perceived as one of absolute proof is nearly impossible. Therefore some livestock owners suggest moving from a standard they perceive as requiring something akin to absolute proof to the concept of a standard reflecting something closer to a preponderance of evidence (T4-15#1, T14-15#6, T4-15#3). Other alternatives discussed include that if the standards of evidence do not change, change the response time so that it is quicker (T4-15#17) or change the implementation of compensation so it is not tied to identifying specific instances of depredation but instead provides blanket compensation, meaning providing compensation to livestock owners who live in areas that are impacted by predators (T4-15#21). Finally, despite these potential problems, the results indicate that some livestock owners do express optimism that existing standards are obtainable, if better training is provided (T4-15#20) or if new techniques that are less subjective are developed (T4-15#29).

Fourthly, *livestock owners generally see the need for a verification process*, even though a tension between verification being too strict and the concerns over it being taken advantage exists in the views of many. Over 69.4% of the respondents to the survey were concerned that a compensation program would be taken advantage of if it paid for unconfirmed losses and only 15.3% disagreed with this sentiment (Figure 4-11). Likewise, although many livestock owners see the verification criteria as too strict, many of those interviewed also have concerns over a compensation program being taken

advantage of, if confirmation is not part of the process (T4-16#1, T4-16#2, T4-16#3, T4-16#4, T4-16#5). Typically, there was some recognition for the need of a verification program. Many of the interviewees couched their discussion of the verification process in relation to the goals that legitimate a compensation program – equity, responsibility, and restrictions on the ability to respond to depredations by predators (T4-16#5, T4-16#6, T4-16#7). In this sense many respondents did emphasize that they were seeking only what is fair as opposed to trying to scam or take advantage of the government (T4-16#2, T4-16#8) and expressed the view that they did not want the program to be taken advantage of (T4-16#9). However, if abuse does occur, livestock owners felt that individual should be punished/prosecuted (T4-16#10). Several livestock owners expressed the view that the community of livestock owners would be self policing in that regard (T4-16#9). Though a more common sentiment was to recognize that there would be the need for some kind of verification system or process (T4-16#1, T4-16#3, T4-16#4, T4-16#5, T4-16#6, T4-16#11, T4-16#12, T4-16#13, and T4-15#30). It is important to note in this regard that ranchers as a group were not of one mind. One expressed a sentiment held by a few of the interviewees that the amount of money for compensation was not enough to tempt cheating (T4-16#14) and another expressed the view that if there was flexibility in the payment that people would not take advantage of the program (T4-16#5). However, with that said, a few livestock owners had a wholly pessimistic view that compensation/verification would inherently promote cheating by one or both sides (T4-16#16, T4-16#17).

Among livestock owners, there appears to be a desire for more local involvement in verification policy and implementation. In part, this was indicated in the discussion

regarding funding where there was a tendency to see state run compensation programs as more accessible and flexible to the situation (Tables 4-12, 4-13, 4-14). Furthermore, in the survey, the majority of respondents in the livestock sample (67%) agreed with the statement that “a local elected or appointed board (similar to a conservation district board) should run the compensation program” and only 13% disagreed. However, it should also be noted that when asked in an earlier section of the survey about the desirability of a compensation program run by a local stockgrowers association, only 31% of the livestock owner sample indicated this would be desirable while 50% indicated this would be undesirable. One possible explanation for the difference in responses comes from the context in which the questions were asked. The “desirability” question was asked immediately following questions about funding while the “local elected board” question was asked in the context of questions about implementation of a compensation program (e.g., what should be compensated, opinions about verification, etc.). Thus the difference in responses may be an indication that there is a desire for local involvement in the specifics of design and implementation issues such as verification, but not for the more general aspects of administration and funding.

Summary -- Interpretive Analysis of Views towards Verification

Verification was the most talked about issue in the interviews. Some respondents focused on listing the problems, such as perceptions that verification is ‘too strict’; subjectivity in verifying; that you never find all the losses, et cetera. These problems are barriers or obstacles that must be addressed. Some respondents have suggestions for how to deal with such obstacles; a few even have an optimistic perspective that they can be

overcome. A large proportion of livestock owners recognize and are concerned that a compensation program may be taken advantage of; thus they do recognize a need for such a process. The analysis reveals that livestock owners recognize the complexity of the issue and the types of issues that need to be addressed from the livestock owners' perspective. Although this research does not provide the answer to the verification issue, it does suggest that livestock owners recognize the complexity of the situation, are willing to acknowledge the need for some type of process, have a diversity of opinions, but are receptive to engaging in a dialog about this dimension of a compensation program.

Views on Relationship and Trust-related Issues

Peterson and Horton (1995) and Patterson et al. (2003) suggest that for solutions to social conflicts such as predator compensation to be seen as socially acceptable, at the very least, stakeholders must feel that their concerns have been heard, understood, and weighed in the process. Social research such as this study can facilitate the type of understanding about stakeholder concerns necessary to promote perceptions of legitimacy. Research alone cannot resolve these types of social conflicts, however. Successful resolution requires stakeholders to engage in dialog. Both perceptions of legitimacy and willingness to engage in dialog require trust, which the data summarized below suggest currently is generally lacking among livestock owners in regard to their relationships with agency personnel. Although the current status of relationships is important information to document, the more meaningful insight is whether lack of trust can be overcome or is simply an inevitable outcome of the conflicting values. The results

below suggest that even though livestock owners typically readily identify reasons for a lack of trust or why a constructive relationship does not exist, they are still open to communication and having a dialog regarding predator management. For this reason, the analysis starts by exploring the issues that are perceived as problematic or the causes of poor relationships and concludes with a suggestion that the opportunity for trust and dialog still exists. These problems or causes are not intractable and the possibility for constructive working relationships still exists. The data here pertain only to livestock owners; these questions were not asked of the general public.

Survey Results

Two questions in the survey explored respondents' views regarding relationships and trust. Overall, 89.7% of respondents indicated that there was a lack of trust from livestock owners toward wildlife managers (Figure 4-12). It is important to note that this question asked respondents to give their perception about livestock producers as a whole rather than to respond whether they as individuals trusted wildlife managers. In other words, they were expressing their view about livestock owners as a group and not necessarily whether they personally trusted wildlife managers. However, a second question was framed in terms of respondents' perspectives as individuals. It asked whether the respondents themselves would be more willing to work with agency personnel (for example, informing agency personnel about grizzly bears seen) if there were assurances that doing so would not hurt their livelihood. Eighty-one percent of respondents agreed with this sentiment. These two results indicate the importance of focusing on relationship building as part of the predator compensation and management

process. At the same time, it is worth noting that respondents were also aware of the need for verification and the possibility that some people might take advantage of a compensation process without verification. Thus, while relationship and trust issues may be of concern, 69.4% of the livestock owner respondents do recognize the need for a verification process.

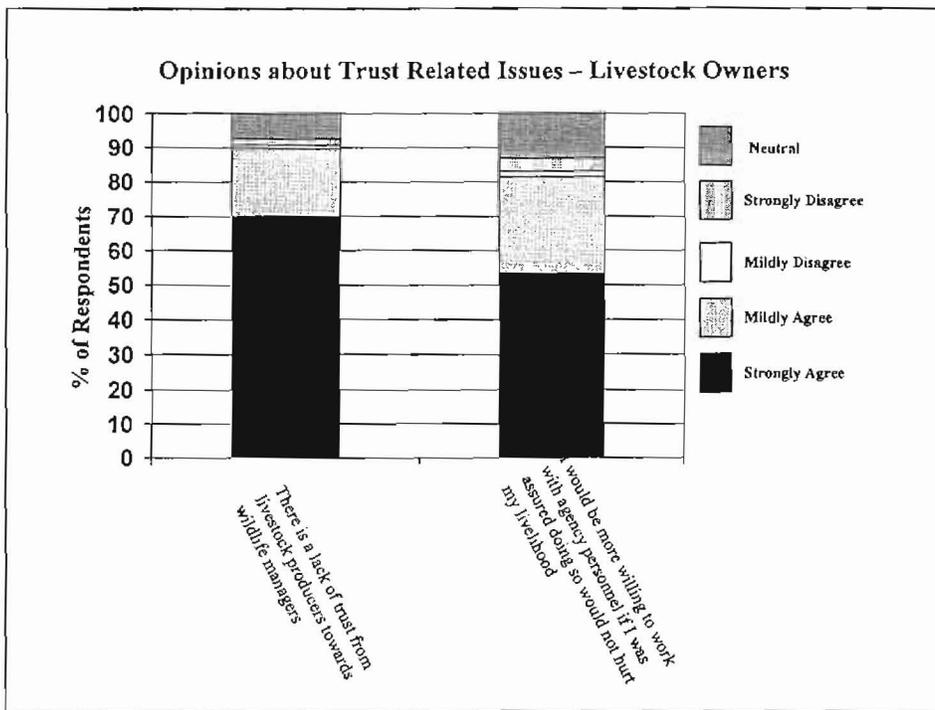


Figure 4-12: Opinions about trust related issues (livestock owner sample only)

Interview Results

* The relationship with and trust towards agencies and agency personnel has been a thread seen throughout the results. Individuals have alluded to certain verification issues as being trust based. The interviewees went into more depth about their views towards

agencies and the relationship they have with agency personnel. They often discussed their views and perceptions through the use of stories, describing their experiences as examples (Table 4-17). “Trust, there is no trust” (T4-17#1) states simply what many of the interviewees believe. Several commented that they do not believe what the agencies say and that agency individuals “just flat lie to me” (T4-17#2, T4-17#3, T4-17#4). Reasons given for lack of trust toward agency officials include the perception that they are being called a liar by agency officials when they claim predator depredation (T4-17#5); reportedly hearing conflicting numbers on population estimates from different government agencies (T4-17#4); and feeling out of the loop because agency officials did not tell them about management actions that might affect them. For example, Jerry commented that agency officials “have the bear trap set next to our bees. Not a word to us” (T4-17#3).

In many cases, this lack of trust does appear to be linked to the perceived lack of communication between agency individuals and the livestock owners. The linkage between trust and communication indicates that the lack of trust can be overcome in part by communicating about agency actions and predator movements, provided that respondents believe they are hearing a consistent and truthful message. Moreover, the linkage illustrates that even when there may not be trust on the part of livestock owners, they are still open to a dialog to try and deal with predator management issues.

Although a large portion of the livestock owner (80.4%) sample endorsed a program that monitors and informs livestock owners of locations of predators, the interviewees believe that this is not occurring. There is the sense that agency officials do not call and inform them of problem predators being in the area (T4-17#6, T4-17#7, T4-

17#8). Several individuals made comments like “I’ve never had anybody call and say there’s a collared wolf here” (T4-17#7). Others commented that if they had been informed about problem predators being in the area they would have altered management of the herd (“If we would have known, we’d have been locking the sheep up” (T4-17#8)).

Additionally, concerns about lack of communication are raised for issues other than livestock protection. For example, one individual told of an instance when a grizzly bear was in town near a park. The federal agency officials “knew he was right here, had a collar on him, they knew that bear was here during that time they had three ball games at the park which is a hundred yards where they had the bear traps at. They had three night ball games at the park, nobody was ever notified...They never told anybody that the bear was out here running loose and it is a problem bear” (T4-17#6). Not only was this a lack of communication, it was also perceived as a safety issue: “What would happen if somebody from wherever was out walking their little grandson or granddaughters or whatever down by the river and that bear would have got them?” (T4-17#6). The discourse surrounding a management alternative of monitoring predators and informing livestock owners of their locations indicates there is immense support for it. This is a management option that could build a constructive working relationship between wildlife officials and livestock owners, one built on communication and, if done correctly, on trust. The results indicate that many of the livestock owners want this dialog to occur, and if they have this dialog, many indicated they are willing to try to avoid conflicts, either by penning sheep or moving cattle to other areas.

In addition to the perception that there is a lack of communication, many of the livestock owners felt that the agency personnel do not listen; that “they don’t hear

nothing” (T4-17#9). There is the sense that the agency personnel do not ask for information from the landowners and livestock owners in the area about the wildlife and their populations (T4-17#9, T4-17#10). Livestock owners feel that they have good knowledge about the wildlife in the area because they are out in the middle of it, yet agency folks never ask them about it. It amazes several of them that the agency folks, “don’t want to talk to the guy that [is out there], or the person that lives amongst these mountains and these animals” (T4-17#10). However, livestock owners do realize that communication is a two way street and like Mark, says “Communication never hurts anything. So I think it would benefit both sides really” (T4-17#11). Livestock owners see the benefits of communication, but they do not necessarily see it occurring. When it does occur, for example, when agency officials inform them of problem predators, they not only consider that “nice”, they remember it (T4-17#12). However, livestock owners also indicate that sometimes agency officials will say one thing to them, but then do not say it to anyone else, such as their supervisors (T4-17#13). They see a lack of communication within the agency as problematic.

Clearly the livestock owners do desire a dialog with wildlife officials. Many of the livestock owners feel that communication would be beneficial, both for them and for wildlife officials. The opportunity for dialog is there, if the parties are receptive to it.

However, despite the opportunity for dialog, the overall perception by many of the livestock owners interviewed is that the agencies do not seem to care about livestock owners (T4-17#14, T4-17#15, T4-17#16, T4-17#17). As one individual noted how an agency official didn’t seem to care and why should he since “he was always going to get his paycheck” (T4-17#14). This sentiment - that the agency personnel do not need to be

concerned about livestock owners since they will have a paycheck, regardless of whether they help livestock owners - was held by many of the interviewees. In addition, a few of the livestock owners also mentioned that there was a lack of compassion towards the livestock by the agency officials. One individual illustrated it by telling of a time when he saw a bear attack a sheep. The sheep was still alive, although badly injured. The owner called the Game and Fish official and said, "can I kill this sheep? And he said, 'no, I want you to keep it alive, but I can't get there until tomorrow.' Okay, so this animal is suffering so I had to tie it up and I said screw that, so I slit his throat. Well he came up and said wasn't a bear kill; it may have fallen off a cliff" (T4-17#17). Not only is there the underlying current of perceived lack of trust, but this illustrates the feeling that several of the livestock owners mentioned about the view of non-caring by agency officials. The perception of non-caring by agency officials and lack of trust are barriers to effective dialog. If a stakeholder perceives that others involved do not care about addressing their concerns it can cause constructive communications to fail.

Several interviewees also talked about how the agency personnel did not seem to care about the wildlife. One individual gave the example of an antelope kill he found and thought might be a wolf kill. He was hoping to have the game warden check it out because it would confirm that wolves were in the area. He felt that "it was a game and fish animal, why wouldn't they want to take care of it, I don't understand that. It wasn't mine, I had nothing to do with it, I'm not going to get compensated, but it's going to annihilate their herd that they make money off of. I just don't, didn't understand that... Caring. There's just none there, and that's his job. I just didn't see it there. It's like, 'I'll get paid the same, it doesn't matter'" (T4-17#16). Although this is a specific example

and it may misconstrue agency personnel's actual view, it helps to illustrate the perception that several of the livestock owners have about the lack of care they perceive by the agency officials towards wildlife. Underlying the perception that not only do agency personnel not come when asked to look at a wildlife issue, but they also do not ask livestock owners about the wildlife they see a view that the agency personnel are not legitimizing the livestock owner's concerns.

When it is perceived that agency personnel are helping, it is much appreciated by the livestock owners. As Janet exclaims, "you just feel better when the Game and Fish tries an effort" (T4-17#18). Another described it: "if they can kind of help us, we're a little happier to have the game wardens here" (T4-17#19). In other words, that agency personnel simply provide information generates positive feelings on the part of livestock owners. The livestock owners would appreciate it if agency personnel informed them of management actions that might affect them and when problem predators might be in the area. As Walker pointed out, "And the game warden stopped and says, 'I just want you to know that there's a marked bear back here.' And you know that was nice. At least you can kind of, you're probably going to be checking things a little closer" (T4-17#12). Although there are potential pitfalls, such as the perception that agency officials may lie to them, the desire for communication is strong.

Although there were several comments about the desire for more local control (see funding discussion), and at times it appears there may be better relationships with local state agency officials (T4-17#20), some livestock owners have had poor relationships with local state agency personnel and positive relationships with federal agents (T4-17#3). It does not appear that the type of relationship (good versus bad) is

necessarily predicated or preordained by whether the agency is federal or state. There are actually several points that came across as integral to building constructive relationships between agency personnel, be it a federal agency or state agency, and livestock owners. Showing that agency personnel do care and are willing to help livestock owners is important. Responses suggest this should not be done only when conflicts arise, such as when there are livestock depredations, but that agency personnel should, “get out and visit with the people. Get to know them” (T4-17#21). By getting to know them in other contexts and building up a relationship, when there are livestock killed, “they know each other and they already have this trust bonded” (T4-17#21).

And the interviews also suggest that even small efforts toward enhancing communication can go a long way. For example, it also helps to build trust if agency personnel show the kind of damage that they look for during kill verification. This is illustrated by Eric who stated that after the animal damage agent showed him what he looks for, Eric now, “trust[s] these guys that they’re going to make the right call so that I don’t need to be wasting my time watching them skin out another calf” (T4-17#22). Again, it reconfirms that communication between agency personnel and livestock owners is key. As discussed previously, livestock owners want there to be two-way communication where the agency asks for their opinion and will listen to them as well as inform them of pertinent management actions or issues. There is opportunity for dialog.

Fair treatment is another important issue. Livestock owners believe that the agency does a good job when they feel as though they were treated fairly (T4-17#23). While the notion of positive feelings from perceiving that one has been treated fairly may seem trivial at first glance, the interviews suggest fairness (respect, perceived legitimacy)

can occur even in situations where there is not agreement or there are consequences adverse to livestock owner's self interest. For example, even when livestock owners may not like the agency personnel, they can still trust and respect him/her if he/she treats everyone fairly and the same; in other words, "rules are rules" (T4-17#24). Another livestock owner offered a similar sentiment about fairness, respect and having a positive relationship even when things do not go your way and there is a large cost to you; he ends up paying the cost, but still has a positive view of the agency personnel: "To tell you the truth, [a local game warden] caught me one time, costing me about \$9,000 in fines and restitution. I was working for an outfitter that... I was guiding sheep hunters for him and he sent me in, or he brought in two sheep hunters and he sent me off with this sheep hunter. And they killed a sheep and I never knew nothing about it because I was just guide, I wasn't the outfitter. And come to find out I was in the wrong area. I never knew anything about it; well the Game and Fish had an undercover officer working there, and about a year later, three guys in suits beat on my door. And well they got me on that one, throughout the ordeal [the local game warden] and me got to be good friends out of the deal. Even though it cost me a lot of money. [Another game warden] got me one day and cost me a little bit of money, and we've come to understandings. It was just a minor mistake that day but he was right there and I reported myself in, and so it, you know, we got to know each other pretty good there for a while. INTERVIEWER: Is there almost ...a sense of trust and respect do you think? BRUCE: Yeah, I think so; you know I can go talk to him. He's came to me, called me up and came to talk to me before about some stuff....I think communication is a big deal. There used to by a game warden lived up in [nearby town]. He was probably one of the nicest people that you would ever meet, but if

you got on the wrong side of him. You know you could go to church with him on Sunday, and he would arrest you Monday morning. You know your friendship went so far, but if you went past it, you was in trouble, he would get you. I think that's the way it should be. I've seen a lot of stuff slip before" (T4-17#25). This long quote amply illustrates the sentiment that many of the livestock owners have about wanting to be treated fairly and with respect, even if that does mean there is a cost to them.

Summary – Interpretive Analysis on Views on Relationship and Trust-related Issues

According to the data, to have good relationships that are conducive to more effective management there needs to be trust, communication, honesty, prompt response, fair treatment and a sense that agency officials care about what is happening. Although one may look at the interview excerpts and see a lot of the complaints about the verification process or the things agency officials are doing wrong, once one reads beyond that, what emerges is that even though livestock owners can readily identify reasons for a lack of trust or why a constructive relationship does not exist, they are still open to communication and to having a dialog regarding predator management issues. Furthermore, even if there is a cost to the individual, such as being fined for breaking the law, positive relationships can still exist. In addition, it may appear that local state agency officials who are perceived to be part of the community (T4-17#20) oftentimes have better relationships with local livestock owners than federal officials. However, local agency officials may still have poor relationships with individuals if they fail to address the issues that are key to building relationships. Further, those federal agency personnel who appear trustworthy, respond quickly, communicate effectively, and build a

rapport with the livestock owners can also have a positive working relationship. It is not simply a matter of state versus federal agency personnel, but of these few key elements that can help to create relationships conducive to more effective wildlife management. Essentially, for successful resolution of these types of conflicts, stakeholders need to engage in a dialog. Perceptions of legitimacy and willingness to engage in dialog require trust; and the results suggest generally that trust is currently lacking among livestock owners in regard to their relationships with agency personnel. However - and this is more important - the results also indicate that the problems in these relationships are not intractable and the possibility for constructive working relationships still exists.

Table 4-1: Interview excerpts reflecting the perspective of why compensation may be found desirable

T4-1#1	Oh, I think <i>[compensation] helps take some of the hurt out of it.</i> (Rick, both compensated and denied compensation)
T4-1#2	Well <i>[compensation] helps, but they're not doing enough of it.</i> (Hugh, has not tried for compensation)
T4-1#3	Can they [livestock owners with losses] ever prove it good enough to get compensation? No. If they get compensation and that bear kills, if they catch him killing one calf, how many did he kill before he got that, that they didn't get compensation for? <i>No, compensation isn't the thing. It's control.... You don't get compensated enough, but it's a help.</i> I think it puts a better taste in the rancher's mouth. At least somebody is trying to do something, but they should do more of it. They shouldn't be so nit picky on what's done. (Keenan, has not tried for compensation)
T4-1#4	<i>Financially [compensation's] not going to help me much.</i> Mentally it makes me feel that <i>at least there's someone that cares a little bit.</i> (Chris, both compensated and denied compensation)
T4-1#5	<i>[Compensation] is one of the big things.</i> There are two things in my opinion that can soothe this wolf thing over, and compensation is one of them. (Lenny, denied compensation. He comments later in the interview that the other important thing to soothe the wolf thing is control.)
T4-1#6	I think <i>it would be nice if the people that are losing livestock know that they can be compensated for it. I think that's a big help</i> and I don't know how many years they've finally started helping people, but I've heard of some. (Walker, has not tried for compensation)
T4-1#7	<i>I think it helps, but it is still the way it is administered right now, they are not, they are not getting, it is not a good deal for them.</i> I mean if you are getting paid twenty or thirty percent of your losses, it is better than nothing, but I mean put yourself in their place, <i>it is not a sole answer... I think it is a good idea, but it is not a cure all.</i> I mean it is, I think you know, in <i>go hand in hand with good sound wildlife management practices is what it needs...</i> A hunting season or if you have a problem bear, I mean call somebody in to maybe have a hunter...you have a list that you call somebody. You go out there, <i>okay there is the problem bear, shoot it, you know. I mean it is the end of the problem.</i> (Craig, has not tried for compensation)

- T4-1#8 When you talk about compensation for livestock, the wolf issue *I'm in full support that there needs to be compensation. Because that's a back induced species* that developed numbers. The grizzly, they've allowed them to increase in numbers, we are going to have some conflict and kills there too. *I think as a landowner, we accept some of those. We know that unless it gets to be drastically severe, I'm speaking of me personally, I'm not looking for compensation unless it's drastic.* Say we had a grizzly, or three or four grizzly come in and kill ten head of cattle. That would need compensation, if we lose a calf, or we are missing a calf, I'm not one that's going to be looking for compensation. So I don't know what that middle ground is, but there has to be give and take between environmentalist pressing and the wildlife being allowed to be there. And then the rancher being allowed to have, he's paid for that land, it's his, I mean, *he has the right to protect his livestock too*...So I just think that it's a medium ground that has to be there. But I don't think that either side can have 100% control and say well there shouldn't be any livestock in this area or there shouldn't be any wildlife, it should all be done away with. There has to be that medium ground of give and take. *So compensation is a fair middle road for the keeping of numbers of grizzlies and livestock being in [a] closer area.* (Maxwell, has not tried for compensation)
- T4-1#9 The federal government has introduced this new predator, and it's their responsibility to control it, and their responsibility to clean up after it. (Derek, has not tried for compensation)
- T4-1#10 It's good to have these programs. *If they're going to protect these animals, I think they have to have the program to compensate. But if they would take the endangered species thing off,* at least to a large extent so we could take care of the problem, then I'd say, no, *we wouldn't need any compensation.* (Andrew, both compensated and denied compensation)
- T4-1#11 We're not the ones that wanted to bring the wolves in. *If they want to bring the wolves in, then they can pay for it* because they're hiring helicopters and lots of men. They're spending lots of money on them. (Russell, both compensated and denied compensation)
- T4-1#12 If we're going to have predators, the compensation program is going to have to continue, I think. Because, as long as there are predators, there's going to be livestock loss...Well, *if they're not going to let the rancher protect his livestock, there's got to be some kind of compensation, because basically, he's taking the hit for what the general public want to see running around out there.* (Mark, has not tried for compensation)
- T4-1#13 *People would like to see the problem solved, you know, rather than*

saying, well, we won't let them eat half your sheep, but we'll pay for them. I don't want to be paid for them, I want [my livestock] protected. I don't think we expect anyone else to protect them, but our hands are tied. I mean, in order to protect them you're going to, for every ranch[er] to protect his livestock, he's going to have to break the law...*I think they're going to have to compensate us over a certain period of time until they get caught up where they can control them and then no, I think if they're controlled then you don't need to be compensated...They need to pay for something because they're going to protect them* and they're going to go stand in front of somebody with a rifle to keep him from killing it so yeah, I think they ought to have to pay for it. *But only for a certain amount of time because by them paying us, it's going to take a lot longer for us to go down, but we're still going to go down without taking care of the problem.* (Seamus, denied compensation)

- T4-1#14 From the outfitting standpoint, I don't think there would be enough of it that a person really needs to worry about compensation, *but I think having cows on the range or sheep or whatever it is, I think those people should be compensated.* The problem with the compensation now is a pack of wolves would, you know, let's say they kill a yearling steer or a calf, they eat him up to nothing, and the only thing you find out is when you round up in the fall you're short so many animals. You don't know what happened to them. So how do you prove it? That's what they are not paying, and it has really hurt some of the ranchers....I'm just really not one of those people [that] likes to compensate, you know, that's just my basic lifestyle. You know, I don't like something for nothing. I do feel really sorry for the ranchers that are running cows out there because they can lose enough that they make no profit, or can lose money in a year...*I think for the livestock industry, the farmers and ranchers, you've got to compensate those people somehow.* (Walter, has not tried for compensation)
- T4-1#15 *I think we need compensation,* because a lot of people, well, even us, you can't afford to try to make a living and then have the bears and wolves have it, and I think we should be paid for it. (Debra, denied compensation)
- T4-1#16 I want to see the Game and Fish come out and do something if there is a problem bear...*not only do I want compensation I want the bear out of here now. Compensation is just for damages done...*But I want the predator out of my hair on deeded lands. I can say I want them out of my hair on public lands too, but that probably won't happen...I think that the compensation needs to be wide open though. *I am not sure it is a dollar value thing.* (Stuart, has not tried for compensation)
- T4-1#17 *Money can help but the, the tools, you know, every year it seems like*

you lose another tool in predator control and if compensation of some sort, for like the money we spend on things that aren't meant to eradicate the predators, like these guard dogs. You know, we spend a lot of money on them, and a lot of money, they're another job, and they're another expense and some of those things would really help...If there wasn't some control in place, I think the compensation would go hand in hand with the control and mainly because the compensation would dictate the control. I mean, if the state and maybe a couple of other agencies had to put forth the money to compensate people, they could adjust that pretty directly, according to how many they want, and how big a paycheck they want to make. (Justin, has been compensated)

T4-1#18 Well, I think *[compensation's] a very nice thing to do. I think that that should be done, but I don't think it's an answer to anything,* certainly. I think that the real issue is being able to,...like just with the grizzly bears too, having some sort of season to be able to control that population. (Lauren, has not tried for compensation)

T4-1#19 *I would rather not have damages. I would rather have the population down to where I didn't lose any sheep...*And we have to have compensation because *without compensation then they are not going to control the population. There is no incentive for them to control the population.* (Janet, has been compensated and denied compensation)

T4-1#20 *I think you certainly need [compensation] for PR purposes.* For a political tool, I would say yeah [you need compensation]. You know you're asking a certain group of people to sustain the highest loss for the perpetuation of certain species. The guy who has a computer business in Helena doesn't have to worry that he's going to lose, you know, five percent of his annual income to a grizzly bear. So yeah, for that reason *I would say compensation programs seem like a logical tool for a long period of time. But I think that as those populations gain in population, it's probably something to revisit.* (Anne, has not tried for compensation)

Table 4-2: Interview excerpts reflecting the perspective of why compensation may be found undesirable

- T4-2#1 ***[Compensation's] not a solution.*** I'm not in the business to feed bears. ***I'm in the business to raise honey, not feed bears.*** And by just paying me money and not dealing with the bear, that's just making me feed bears. That's all it is, plain and simple....Because again, still it's boiling down to I'm feeding bears. They want the bear alive... All I'm doing is feeding bears. Should I be sitting in my warehouse just building hives just to feed bears? That's not the idea of what my job is. ***My job is to feed a nation, not a bear.*** (Jerry, denied compensation and has refused compensation)
- T4-2#2 I don't know, ***it just seems to me like such a terrific waste of money...It just, it's completely asinine to be putting money out to save something that is, that is taking production.*** I don't know anything they could do with the program that would make me in favor of it...I just can't see, ***we raise cattle to feed people. We don't raise them to feed wolves.*** That's just, it's ridiculous, the thinking is way off...***[Compensation] does nothing whatsoever for me other than irritate me.*** (Howard, has not tried for compensation)
- T4-2#3 Sometimes ***I don't know if them paying is the answer.*** It's kind of like you are giving them permission, instead of destroying them, ***you're giving them permission to come and eat my calf as long as you buy it from me....The compensation is probably the dumbest thing I've ever heard of because of the verification.*** Most people don't realize the type of land that we run cattle in. It's different than if you had a herd of dairy goats and you're getting them in everyday... Most of the time in the summertime, if I lose a calf, if I find any sign of them it's rare...It looks good on paper I guess. But in practicality it just, it just isn't going to work. (Patrick, has been compensated)
- T4-2#4 And that ***compensation doesn't work.*** If you don't catch them, you don't get anything. That compensation thing if, like a lot of times if it's a calf and say this thing goes in and they kill this calf. Okay these guys are going to come in and write you a check for this calf. Well, that's fine, but a lot of times if that cow loses a [calf] early, she's not going to breed back [so] you've lost your cow too. I mean you'll get the salvage value but the genetics and everything is gone...***That compensation thing is, makes you feel good for a little bit, but in the long run it's not really doing a lot.*** (Kevin, denied compensation)
- T4-2#5 Interviewer: Do you think compensation is a useful tool for dealing with these conflicts? Lou: ***I really don't, because then you are just buying***

somebody's herd out... I mean, eventually going to buy probably the whole herd. (Lou, has not tried for compensation)

- T4-2#6 *I don't think [compensation] is the way to go. I think they should control the wolves, not the kill.* I get paid for what they kill that is kind of a left handed way to go at it in my books...*I am all for control and that compensation is a backhanded way to go that just eases their conscience. Well then the do-gooders can say well we paid him for it.* That is kind of iffy. (Charles, refused compensation on verified claim)
- T4-2#7 What we've lost is no real big deal but it just seems like *if you take it you fall under their hypocrisy, their line of thinking.* (Peter, has been compensated "but didn't want to do it")
- T4-2#8 *[Compensation's] the sorriest way to sell your livestock there ever was. You can't get any lower than selling your livestock to the Game and Fish...*The problem with compensation is [the] rancher always trying to cheat and [the] Game and Fish tries to pay less. That's where the conflict is. (Moe, both compensated and denied compensation)
- T4-2#9 *I see it as a,* I guess, probably a, what do I want to say, *a media thing.* Where they can say, 'look we compensated for this, aren't we good'. (Dennis, denied compensation and has stopped trying for it)
- T4-2#10 I denied the first [payment]. In fact I denied the next [payment]...*I thought it was a little hypocritical to accept compensation from an organization that was so intent on spoiling the western way of life, so to speak.* But then I got to tallying up my expenses incurred with not just the loss of livestock, the loss of livestock didn't excite me that much, but when I started adding up the hours I spent away from my operation and my telephone bills alone were so astronomical that I thought, hummm, I'd better take another look at this thing...So I said, baloney, I am going to keep that compensation. You know what, *that didn't even compensate me for a fifth of my time, much else my losses.* (Dylan, has been compensated)
- T4-2#11 *I don't like the whole idea of holding my hand out to the government or some charity for help. I like to stand on my own two damn feet and take care of myself.* And the thing that I don't like about [predator management] is being prevented from doing that. (Joel, has not tried for compensation)
- T4-2#12 *Anytime you get compensation, you're into the government that much more...*and nobody likes to take that. I don't think there is one person that I talked to that took this money that the government gave out that didn't

feel like dirt in taking it. There was one rancher, granny says by god, they owe it to us and that's the only reason he took it. (Gwen, denied compensation)

- T4-2#13 And if I'm riding up in the forest, for instance, and if I should come across anything that has been killed by grizzly or wolves or whatever, I'm not going to be in a position to say okay folks, I'll see you around, I'm going back to get somebody to prove that the wolves had killed one of our cows. *You just can't do it, I mean it's not worth it. You might get, I don't know, \$600 or \$800 for the cow but your time is worth a lot more than that. And it's hard enough to hang on to business in this country without taking time to mess with something like that.* If you are not using your day to make more money than that, you are going to be the hell out of there in a hurry. (Joel, has not tried for compensation)
- T4-2#14 *Who pays money today with out strings?* The Fish and Wildlife, they will want strings, the Fish and Game, if we pay you for this or that you've got to let the public on your lands to hunt or fish or if we do this you've got to do that, horse pucky. It ain't happening. I don't play strings, I don't blackmail very well. I plainly don't. (Nathan, has not tried for compensation)
- T4-2#15 *Participating in a program of which you don't really approve because it essentially removes control of managing of our property.* (Robin, both has not put in claims as well as been compensated. She does discuss later in the interview that she does recognize that some people are hit hard by predators and need compensation.)

Table 4-3: Interview excerpts reflecting views on predator control and hunting as management alternatives

- T4-3#1 *But I still think the landowner should have the right, if they're in there devastating their herd or whatever, [to] shoot them, you know. Why chase them off and give somebody else the heartache?* (Phil, both compensated and denied compensation and will no longer try for compensation)
- T4-3#2 *I don't think [compensation] is the way to go. I think they should control the wolves, not the kill...* I am all for control and that compensation is a backhanded way to go that just eases their conscious. Well then the do-gooders can say well we paid him for it. That is kind of iffy. (Charles, refused compensation on verified claim)
- T4-3#3 It's good to have these programs. If they're going to protect these animals, I think they have to have the program to compensate. *But if they would take the endangered species thing off, at least to a large extent so we could take care of the problem, then I'd say, no, we wouldn't need any compensation.* (Andrew, both compensated and denied compensation)
- T4-3#4 Can they [livestock owners with losses] ever prove it good enough to get compensation? No. If they get compensation and that bear kills, if they catch him killing one calf, how many did he kill before he got that, that they didn't get compensation for? *No, compensation isn't the thing. It's control.* (Keenan, has not tried for compensation)
- T4-3#5 *By killing the wolf that was just as good to me as getting [the] compensation, whether we had got compensated or not.* If we had never taken the money at least they took care of the problem real quick because we had a problem wolf that was just going to keep it up. (Jacob, has been compensated)
- T4-3#6 *I think it would be nice if a guy could just take care of the problem if he's got one.* I mean it seems like they give them too many chances. *If [the predator's] in killing livestock he needs to go.* And they give them too many chances and they kill more livestock...There's probably people out there that would pay some pretty big dollars to go on a grizzly bear hunt that's in an area that's doing some damage to somebody's livestock. It's a way for the state to make some money. (Walker, has not tried for compensation)
- T4-3#7 *Just the control I think is good. I think the key thing is control,* I think that's the overall [thing]. I don't think that anybody thinks that anything

- should be wiped out, you know, control is the big thing. (Buck, has been compensated and denied compensation)
- T4-3#8 Like the verification, *all of this gets pretty sticky when control would handle it all.* (Rudy, has been compensated and denied compensation)
- T4-3#9 I don't know if shooting is the answer. They build all these big prisons for our bad guys, maybe they can build a prison for these bad wolves and bears. I don't know what the answer is. Maybe they can take these old prisons and give them to the bears....But if they're real bad, *I think they do need to be three strikes and you're out.* (Debra, denied compensation)
- T4-3#10 *I think that [livestock losses will] be more palatable, that people will accept it more if they will have more control over taking [problem animals].* If they have a problem wolf harassing [livestock], if they can go up and take care of it, you know, shoot that, or kill that one wolf, they know it's [done]. If they can get compensated for their definite, confirmed kills, but not [the others], I think they're just going to have to accept the other as another cost related thing to raising cattle...I think they'd feel better about [control] than, trying to [go] through their books, or something, and submitting a bill on weight gain, or missing cattle, or something like that [for compensation]...I had a neighbor who's had two or three yearlings killed by a mountain lion, but he contacted the Fish and Game, and they took care of it. *I don't think you should be able to just go out and shoot anything, anytime.* (Derek, has not tried for compensation)
- T4-3#11 *For the grizzly if you pick areas and put one permit in each area, I'm willing to bet 80% of the time you are going to take the problem animal.* Because he's down, he's the one causing the problem, he's down low. The rest of them are up away because they don't want to be around humans. The problem ones are getting used to humans, so they are the ones that are more likely the one[s] to [be taken]. Yes, [hunting] would solve a lot of problems. (Kevin, denied compensation)
- T4-3#12 *They pay me for [the loss]. Well, that's not solving the problem.* You've still got something out there killing [livestock]. You've got to deal with that aspect of it too. (Rick, both compensated and denied compensation)
- T4-3#13 If they could take out the problem animals, I don't think that we would have the death loss. So *if you could eliminate the problem with the bears or the wolves then there would probably be very little compensation needed*...I think we need [compensation], yeah I do. (Harvey, both compensated and denied compensation)

- T4-3#14 *And all I'm advocating is control of the problem bears, not all bears, because I'm fully aware that there are bears that don't bother our hives. And I really think that I should have the right to defend my property. It's at a stage now, I'd have a better chance of shooting a human being than if I was to shoot a grizzly. I would stand a better chance of not going to jail or paying a fine and that's ridiculous if you're protecting your own property. It just seems ridiculous. (Jerry, denied compensation and has refused compensation)*
- T4-3#15 You have both options right now [compensation and control]. We can't take the bear anyway unless Fish and Game tells we can. They are in the driver's seat there anyway. Right now, I go to Fish and Game and get them to put a trap in that would be the first thing. They will set a trap there at night and see if we can take him. In one case in one yard, we waited a week for the bear. We just couldn't get it so we took the bear....*It would make waiting for a four a five day period much more palatable if we have a compensation program* or otherwise, you're down there every morning with Fish and Game saying, well, we didn't catch it, so let's do this, let's do that. *You're pushing to destroy the bear and they are pushing to save the bear.* (Richard, has not tried for compensation)
- T4-3#16 I guess when a predator becomes a problem and they start, like this bear got to where he started killing cattle. I think if they would've had the manpower and I'm not saying that they have the manpower right now, but *if they did have the manpower and the resources to go ahead and try to track that animal down, hunt him down and eliminate him, and eliminate those problems, I guess I'd be happier with that than I would with the compensation really.* (Jay, has been compensated)
- T4-3#17 *I don't think all this compensation would be required if we had some sort of predator control* and some sort of guidelines [when] these animals are killing domestic livestock on deeded land they should automatically be, you can do away with them. (Cliff, has not tried for compensation)
- T4-3#18 *I would rather not have damages. I would rather have the population down to where I didn't lose any sheep...* And we have to have compensation because *without compensation then they are not going to control the population. There is no incentive for them to control the population...* But we need to be compensated until they get the numbers back down and then if they want to go to the board and say: "we want them to be predators, you can trap them, you can snare them, you can shoot them." *You know then at that time they wouldn't have to be any compensation because we have ways of controlling them.* (Janet, both compensated and denied compensation)

- T4-3#19 *People would like to see the problem solved, you know, rather than saying, well, we won't let them eat half your sheep, but we'll pay for them.* I don't want to be paid for them, I want [my livestock] protected. I don't think we expect anyone else to protect them, but our hands are tied. I mean, in order to protect them you're going to, for every ranch[er] to protect his livestock, he's going to have to break the law... *I think they're going to have to compensate us over a certain period of time until they get caught up where they can control them and then no, I think if they're controlled then you don't need to be compensated... They need to pay for something because they're going to protect them* and they're going to go stand in front of somebody with a rifle to keep him from killing it so yeah, I think they ought to have to pay for it. *But only for a certain amount of time because by them paying us, it's going to take a lot longer for us to go down, but we're still going to go down without taking care of the problem.* (Seamus, denied compensation)
- T4-3#20 *I'd trade payments for predator status,* because I think my neighbor, by the time [the predator] got here he'd have a hole shot in him, I'm hoping, lose a few calves and get rid of him. (Moe, both compensated and denied compensation)
- T4-3#21 *Even if you're able to use lethal means on something that is bothering your livestock, the chances are that you're going to have losses before you realize where it's coming from.* And before you'll be able to get [the problem animal] it would be to the point that you'd have to either spend twenty-four hours a day watching them all the time, which you can't afford. And so I think it would have to be, to make it where you still have compensation because otherwise you'd just end up having to go back to where they were before they reintroduced the wolves, you'd have to pretty much take them all out! (Mark, has not tried for compensation)
- T4-3#22 Well, I think [compensation's] a very nice thing to do. I think that that should be done, but I don't think it's an answer to anything, certainly. I think that *the real issue is being able to, ...like just with the grizzly bears too, having some sort of season to be able to control that population.* (Lauren, has not tried for compensation)
- T4-3#23 *I've never wanted to see any one thing killed off completely.* Especially the bear, but I've never wanted to see them in the numbers we have them because it's too harmful for everybody. (Keenan, has not tried for compensation)
- T4-3#24 *You get some compensation after the fact. But you know that is not solving any problem,* that is not solving [the problem], you know. They come after people have had these big wrecks and then they say, 'well we

could trap or we could do this and that, or you know whatever”...I think the guys, the powers that be should really get the [grizzly bear] delisted or get a good plan in that is workable and get like *I say a little hunting and scare the bears a little bit. And get them a little more wild.* (Ryan, denied compensation)

- T4-3#25 *Well, by not having a grizzly bear season, I think we're training these wild animals to become problems.* Where as [when] we grew up, if there was a damaging animal, it was taken care of by someone and we kept them being wild animals instead of half domesticated. (Andrew, both compensated and denied compensation)
- T4-3#26 *If the bears are hunted a little bit so they have a little fear of humans they are not a problem.* I mean, you are going to have an occasional confrontation with them, but when you've got bears up here and I have run into them, I have saw over twenty this year. *But when you see a bear fifty feet away and he looks at you, he just starts walking towards you, you have got to get out of there. I mean that is not a healthy bear. There is no fear.* (Craig, has not tried for compensation)
- T4-3#27 I would say *they should definitely have a hunting season on wolves and grizzly bears* even if they sold the tickets for a hundred thousand dollars a piece to help pay for some of the compensation on these cattle. (George, has been compensated)
- T4-3#28 *I mean, if you have got a bad bear in the system here, why not take him out for ten grand or twenty grand* and pick a number, sure. You know trophy hunting like that is worth a ton of money so you know take those bears out and make it worthwhile. (Stuart, has not tried for compensation)
- T4-3#29 As far as I am concerned, I think you know when you have a problem bear issue a license. *There is people that pay real good money to go and shoot the bear,* you know. I mean issue the license, draw however you want to get it done. *Have the bear extinguished and until you have another problem bear, don't worry about it.* (Dennis, denied compensation and has stopped trying for it)
- T4-3#30 Rudy: I am quite suspect of the economist suggesting that we will have a lot of tourist income from people coming in to look for wolves. I know that we get a lot of economic benefits from hunters coming in and hunting, but I am really suspect of the value of looking at the wolf... What are there, 40 wolves that you would be able to hunt a year? Nicolas: It's not going to be, I hope it's not that big a number anyway, that wouldn't raise the economy. Rudy: Nothing like the forty thousand deer hunters that we might bring in. Nicolas: *I'm certain that a few wolf hunters might bring*

in something, but if the wolves get think enough that we make money out of hunting them, then we're in deep trouble as a rancher. (Rudy and Nicolas, both compensated and denied compensation)

T4-3#31 Having some hunting seasons and some of these problems out there are there because there are too many of those animals. *And [if we] hunted them down and eliminated a few more of them,* I don't think they're going to be extinct but *we would still push them back away from the rural areas where some of these problems are at.* (Robert, has been compensated)

T4-3#32 *I think it'd really help to open up a hunting season on [grizzlies here]. Not back in the wilderness, just [here] where there's conflicts.* I think it would keep the bear a little more educated if they're hunted. I think it would help on some bear/human conflicts too. *I don't mean to wipe them out either because I don't think [controlled hunting] would.* And I'm sure that's not going to answer all the problem[s], but I think it would help some. (Chris, both compensated and denied compensation)

T4-3#33 If they take [the grizzly bear] off the endangered species [list] and they put it on a hunting season we are going to have to be very careful on that limited number. I think they would go right back to that endangered species [status] awfully quick if it wasn't seriously watched and controlled. *So there could be that controlling factor with that hunting season, but it would have to be very closely monitored.* (Maxwell, has not tried for compensation)

Table 4-4: Interview excerpts reflecting views towards the relocation of problem animals

- T4-4#1 Those animals, *if they got in trouble in one place they will get in trouble in another place.* (Dylan, has been compensated)
- T4-4#2 But I still think the landowner should have the right, if they're in there devastating their herd or whatever, [to] shoot them. *Why chase them off and give somebody else the heartache?* (Phil, both compensated and denied compensation and will no longer try for compensation)
- T4-4#3 Now they take [a] problem bear from here and move it over there. It causes problems there, they move it over there, [it] causes problems. *Most of the time they just keep moving [it] around. I mean, it goes from one place to the other and causes problems.* I think if bears got shot at more often, they'd get scare[d] of humans. Nowadays I think they've been tranquilized so much, a lot of these bears, that whenever they see a human they turn their butt and want to get a shot. (Benjamin, has been compensated)
- T4-4#4 When you have a problem with a bear, *this shipping them from one place to another, half the time the bear dang near beat[s] the [agency personnel] back.* (Jerry, denied compensation and has refused compensation)
- T4-4#5 We hear all of these stories about problem bears being dumped over here or the problem bear has been taken over there. You know and then *the problem's just being moved.* (Ryan, denied compensation)
- T4-4#6 Well, one thing when they have a problem bear give them one chance, you know, if they screw up again, remove them. I mean that would help a bunch if some of these bears, I mean they know these roads by heart. *I mean they have been hauling them from here to Cody, and Cody to here and hauling them all over you know, just relocating them and in two days they are back.* (Craig, has not tried for compensation)

Table 4-5: Interview excerpts that reflect views towards preventive measures

T4-5#1	We tried to change our livelihood – our calving and stuff like that to try to keep our animals in pastures where we can really keep an eye on them until we go to summer pasture. <i>And [we] spend extra time up there, but sometimes you have to quit too to get other work done.</i> (Phil, both compensated and denied compensation and will no longer try for compensation)
T4-5#2	Coyote has probably been our main predator problem until we got the sheep dogs, until <i>we got those Pyrenees dogs and once we got them, that sure cut it down.</i> (Sarah, both compensated and denied compensation)
T4-5#3	<i>And another thing we've been doing is a different style of fencing.</i> Putting barb wire right against the ground trying to keep coyotes from burrowing underneath the fence and more barb wire up a little higher to kind of help keep stuff from jumping over...We thought it was dog proof, but [a] dog come and kill four [sheep]. (Brian, has been compensated)
T4-5#4	<i>I will go out of my way to avoid a conflict...</i> If there is a grizzly bear standing in the middle of a trail and I have got two clients with me...I will probably go around him and avoid the conflict. <i>Hell, it is natural that you are going to avoid a conflict.</i> (Cliff, has not tried for compensation.)
T4-5#5	<i>You try to have your cattle [in an area] when you think the grizzlies aren't there, like in the early spring.</i> [The grizzlies] will move through when they come out of hibernation, they'll pass through and move to higher ground or they'll follow the elk herd after the calves and stuff...I won't put cattle up there at a certain time like in April or May because of the [bears]. That just taught me that, well, I need to put the cattle in later if [the bears] are moving through at that time. I've tried to work with [the bears]. But when there's a drought year like the last two years, you got to put your cattle in a place. And if there's no other pasture to bring them to because of drought or whatever, your hands are tied. And you have a right to be on your own private property. <i>You shouldn't have to move your cattle because there's a bear there. They need to deal with the bear.</i> (Rick, both compensated and denied compensation)
T4-5#6	We take all our dead and I have a dead animal pit and I take everything. Something dies here, we haul it and it gets buried at my place totally out of here. (Russell, both compensated and denied compensation)
T4-5#7	If we have an animal that dies, [we] clean up the carcass and bury it and get rid of it. <i>[We] don't leave the carcass out there for smell. All it is, is</i>

an attraction and it'll bring [grizzlies]. (Maxwell, has not tried for compensation)

- T4-5#8 To me preventive is like the beehives and the big electric fence for the grizzly bears. Now that's preventive....The cows are a little more aggressive so I think [that's] the preventive method [to use] with the small amount of wolves around now... But when you hear about packs that are the size of 20 in Yellowstone, I don't know what a cow could do then. (Eric, has been compensated)
- T4-5#9 If they have most of these damn [grizzlies] collared or something and if you have the right person with the [receiver] you could do a lot of help [for] the neighbors. *You could go out and locate [the grizzlies] once in a while and say, "well, you have got a bear up there in your pasture, maybe you ought to kind of watch your cows a little bit or something."* (George, has been compensated)
- T4-5#10 If the wolf people called up and said there was a pack moved in [and] we got our cows right over there, I guess I have a good feeling that the wolves are opportunists, but once again, you got your family, you got things going on here. I'd like to say I'd go out there in the evening and just see what's going on, but you're talking about two hours down time so you become reactive. *I guess if I go up there and I find some cows that are dead or calves and you want to get even, instead of trying to [be] preventive.* (Eric, has been compensated)
- T4-5#11 *If you knew [that agency personnel] had dumped one out, you'd be a little bit more on the lookout.* (Mark, has not tried for compensation)
- T4-5#12 We did have a marked bear in here I think a couple of years ago. And *the game warden stopped by and says, "I just want you to know that there's a marked bear back here." And that was nice. You're probably going to be out checking things a little closer.* (Walker, has not tried for compensation)
- T4-5#13 We haul our cows up there [and] I really can't go live with them every day, but *I suppose if you stayed with them all the time, and you had some way of scaring the bears off, it might work...Not really [economically possible], not at the price you get to hire somebody and pay them enough wages to risk their live out here, fighting a thousand pound bear off.* And the price you get for your livestock in the fall, no it wouldn't be too economical. (Harry, both compensated and denied compensation)
- T4-5#14 *The more time you spend out there, the more it costs you to be out there....*If you can cut your losses and be money ahead by hiring some

more people, then maybe that's the way to go. It's like everything else in the world – it's money, money, money. *There is never enough money to do everything that needs to be done.* (Lenny, denied compensation)

T4-5#15 *I don't think you can be with [the livestock] twenty-four hours a day and that's what it would take.* You'd have to be there twenty-four hours a day with them [to limit depredations]. (Debra, denied compensation)

T4-5#16 *An electric fence is good for a bear, I will say that.* You go into the mountains now and all these outfitters got an electric fence around their campsites....Wolf, I don't know if that would make any difference on them. *But you couldn't go around and electric fence your whole place. No, that's not even in the reality form.* (Keenan, has not tried for compensation)

T4-5#17 *We've tried all kinds of tricks. Some of them work and some of them don't.* And certain years you have more bear problems than others. And that's the luck of the draw. (Jerry, denied compensation and has refused compensation)

T4-5#18 Last year they had sheep over there [in the valley]. They had two or three shepherders and those big guard dogs [the] wolf pack killed, I don't know how many sheep and killed the guard dogs. *They put up electric fences around the sheep at night and people were out there watching. Soon as they turned them sheep loose at daylight in the morning, whack, wolves started eating them.* (Russell, both compensated and denied compensation)

T4-5#19 What *I found out is by putting the sheep in a barn, a grizzly bear could tear the siding off, go in there and the whole flock is there. They could kill them all,* where if they're out in a big wide area, they might get one or two or three or four but, they ain't going to get them all. (Benjamin, has been compensated. He had been instructed by agency personnel to keep his sheep in the barn as a preventive technique to reduce mountain lion damage.)

T4-5#20 There is cost share for guard dogs and also for electrifying a corral. Well, *if you are going to have to go through that I don't think it is worth having the sheep.* (Peter, has been compensated)

Table 4-6: Interview excerpts reflecting concerns not addressed by compensation – losses are a cost of doing business

- T4-6#1 I guess *if you live out West and you live with the predators you've got to expect a few [livestock] to die once in awhile to them.* And if you're losing too many you're not out there managing your own [problems]. *[But] we're not able to go out and manage our own predator problems.* (Robert, has been compensated)
- T4-6#2 *You expect [some losses], it just happens. But when it's just a constant pounding of it where you're getting [hit hard].* I can think of one particular night that we had nine bears in seven different [bee] yards in one night...There are certain things and occupations that you just figure there's a certain amount of loss. I don't care if you run cows, you're always going to have a sick one that dies. If you run bees, occasionally you're going to have a bear that gets into them. If you raise barley occasionally there's a drought. It's just factored in. *You accept certain amount [of loss]....But when you're just overwhelmed with bears, then it gets real frustrating.* (Jerry, denied compensation and has refused compensation)
- T4-6#3 *Especially in the mountains [losses are] just a way of life.* (Peter, has been compensated)
- T4-6#4 *[Losses to predators] are kind of a cost because there are just so many things that can happen.* I mean some of it you just have to swallow the loss and go on. I mean you can't [do anything]. Things happen. (Walker, has not tried for compensation)
- T4-6#5 *And you are going to lose some* but like I ran my private property up there for quite a while and never lost a calf [for] five or six, seven years. And then [I] started to losing calves slowly and with more grizzly bear activity, more grizzly bear sightings. (Ryan, denied compensation)
- T4-6#6 I kind of think people that hate them, dislike them. I don't think money is the thing...That's not the issue. *Our livelihood is more, would be the issue.* (Andrew, both compensated and denied compensation)
- T4-6#7 I would really like to know who some of these people are, for example, people of the [environmental groups] and what they would do if their livelihood was threatened or chiseled away from them. I wonder how loud they'd scream...*I wonder how these people would react if their livelihood was threatened.* (Jerry, denied compensation and has refused compensation)

Table 4-7: Interview excerpts reflecting role of compensation in society – spreading the costs

- T4-7#1 Well, if they're not going to let the rancher protect his livestock, there's got to be some, some kind of compensation, because basically, *he's taking the hit for what the general public wants to see running around out there.* (Mark, has not tried for compensation)
- T4-7#2 *If somebody back in California or New York City wants to have a wolf in my backyard, they have to share the responsibility.* They get to help pay for it, their tax dollars get to help pay for it. (Derek, has not tried for compensation)
- T4-7#3 The people that wanted them here [should pay]. I didn't want [wolves and bears] here! So *I think the people that wanted them here should have to pay for it.* (Debra, denied compensation)
- T4-7#4 I think that this whole idea of [the] government beginning compensation programs is a really good idea. [Compensation] shouldn't be left to private organizations to fundraise for. *The public has determined that predators are valuable for, you know, purposes of beauty and nature and everything else... You know you're asking a certain group of people to sustain the highest loss for the perpetuation of certain species.* The guy who has a computer business in Helena doesn't have to worry that he's going to lose, you know, five percent of his annual income to a grizzly bear. So yeah, for that reason I would say compensation programs seem like a logical tool for a long period of time. But I think that as those populations gain in population, it's probably something to revisit. (Anne, has not tried for compensation)
- T4-7#5 My philosophy is, if you believe what you're told and what we read, a big chunk of *society wants these predators then somewhere along the line they're going to have to help foot the bill to have them there because there is a cost to have them...* So I think that there should be some way that, you know, a wider section of society should help to foot the bill for management and compensation for destruction of private property. (Anthony, has been compensated)
- T4-7#6 *If society inflicts the cost on you, society has got to pay the cost, right?...You invite money from across the Nation you invite their input, don't you?* (Moe, both compensated and denied compensation)

Table 4-8: Interview excerpts reflecting views on role of compensation in society – tolerance

- T4-8#1 *If you're going to lose something due to a predator and you're going to be compensated for it, it's not going to be as worrisome for you.* (Walker, has not tried for compensation)
- T4-8#2 *If we would of got paid for it, made you feel better.* (Debra, denied compensation)
- T4-8#3 Interviewer: Do you think that just the presence of the compensation program increase your tolerance towards those predators? Lenny: Yeah, I think it does, right with the wolf anyways... *Compensation isn't a problem solver.* (Lenny, denied compensation)
- T4-8#4 Interviewer: Does the idea of compensation increase your tolerance towards the wolves at all? Walter: If I was a rancher, it might. *I really have nothing against the wolves, it's the quantity.* You've got to keep the populations down, and as long as they just totally let them go, I can see it just getting worse and worse and worse. (Walter, has not tried for compensation)
- T4-8#5 *Compensation is one part, but it should never be considered, 'oh, we solved the problems.'* People still don't like you. I mean it is like we lost some but we are being paid for some [losses] but I need the money. (Jacob, has been compensated)
- T4-8#6 *If any of us find a problem if that could be jumped on right away and try to eliminate that problem, I think to me that's probably as important as the compensation.* (Jay, has been compensated)
- T4-8#7 I would probably say that half of the bears, probably more than half the bears we've had trouble with have been killed. And it's my impression that there's lots of black bears in this country, we don't always see them, but there is. And so I haven't been too worried about thinning them out. *If there were compensation that I could apply for, that would probably deter me from using [lethal control] so readily.* (Ralph, has not tried for compensation)
- T4-8#8 There are a lot of bears. If you have predator bears, then just might as well get rid of the problem bear. If you can't trap it and move it somewhere else, then you better get rid of it. I think that's probably my impression of where we are now. Even with the Fish and Game people we deal with, the first thing [is] let's try to trap it. Sometimes they are successful. If they are not, it's just a whim. How many days do you have

to go? It might be a little more palatable if you had some compensation coming during that time period...In my own mind, *if I [had a] bear in the yard and there was a compensation program, my initial reaction would be to take the bear.* (Richard, has not tried for compensation)

T4-8#9 I guess when a predator becomes a problem and they start, like this bear got to where he started killing cattle. I think if they would've had the manpower and I'm not saying that they have the manpower right now, but *if they did have the manpower and the resources to go ahead and try to track that animal down, hunt him down and eliminate him, and eliminate those problems, I guess I'd be happier with that than I would with the compensation really.* (Jay, has been compensated)

T4-8#10 Interviewer: You have been compensated. Does that make it more tolerable at all having wolves? Patrick: Not really. *I would rather not have the wolf then I wouldn't have to be paid because there wouldn't be the problems.* (Patrick, has been compensated)

T4-8#11 Interviewer: Does the idea of being compensated for losses help increase the tolerance level for the wolves in the area? Derek: *There's too many gray areas, I think.* It's obvious if you go out and you've got a definite kill and you should get compensated [for] that kill. But how do you measure weight loss, weight gain/loss? How do you measure pregnancy rates diminishing because of harassment? ...There's certain variables in there that you just can't measure. (Derek, has not tried for compensation)

T4-8#12 Interviewer: Do you think the presence of a compensation program makes the presence of these predators any easier for you? Stuart: No, *people still don't like them.* I mean you have s[a]t here and listen[ed] to me tirade for how long, nobody, you know, *they still don't like the bear. Just mainly because we can't do anything about it...*I have also had two good friends that have been hit by a bear. One of them had over two hundred stitches in him and so you know, and one of them hates the bear. [One] well, he doesn't blame the bear but he, you know, he still has mixed emotion, but he still has scars on his body. *So they curtail their lifestyle as far as where they hunted and how they hunted and the things they do...So the compensation doesn't mean anything to them.* (Stuart, has not tried for compensation)

Table 4-9: Interview excerpts reflecting concerns not addressed by compensation – safety concerns

- T4-9#1 *I'm just afraid [that] one of these times, a person is going to get hurt, a kid or something.* I mean, these bears are going right up the creek here and it goes right through town. (Benjamin, has been compensated)
- T4-9#2 *I don't worry about a wolf coming and attacking my kid,* even though it's possible, there have been stories about that happening, *but the grizzly bear is a whole different deal.* Yeah, that's a great concern. (Derek, has not tried for compensation)
- T4-9#3 I got [the bear dog] specifically for the grizzly bear problems we were starting to have about eight years ago. And by problems I just mean *they were coming in to the house [area] and I have two children and it was a concern.* (Lauren, has not tried for compensation)
- T4-9#4 I guess [people being attacked is] happening a little bit more now, that grizzly bears attack people and there's a lot of them [attacked people] get killed, now. There's people that's sure been hurt real bad around here too. And actually [with] *grizzly bears, I think [they're] worse for people than for cattle.* But wolves, I think are probably worse for cattle than for people. (Hugh, has not tried for compensation)
- T4-9#5 And last year in the drought it really was bad with the bears around here. *It gets pretty bad when you go on you own private property and my daughter doesn't want to ride with me because she's afraid of the bears.* I have to pack a shotgun or pistol or something for self defense. *They tell us to use pepper spray or everything else, but when they come out, the Game and Fish or the Forest Service or the Fish and Wildlife come out to inspect a bear kill, they're loaded to their teeth.* You ask them where's your pepper spray? Oh, we don't use that. They all have sawed off shotguns. But they're telling us to use pepper spray for defense. It really doesn't make any sense. When their life is on the line or their life could be on the line, they're protecting themselves. But they're telling us not to. (Rick, both compensated and denied compensation)
- T4-9#6 *And the way the grizzlies have been this year, I really wouldn't want the kids out on this creek* and that's depriving them of, well, a pretty dang nice childhood." (Jerry, denied compensation and has refused compensation)
- T4-9#7 I don't really have any concerns about [*mountain lions*] being too thick. Not right in this area. I can see areas that *...they would be a problem, especially where there's a lot of people that are building homes in these*

- areas out of town...* And I can see those being a problem especially people with younger kids.... Well, I don't know that it's a big issue, but I think it's an issue that maybe needs to be addressed before it does become a big problem. *I mean, if you're out there and you find a dead calf, and you see the tracks of a grizzly bear and the track...looks like a dinner plate out there in the mud, it makes you kind of nervous.* It really does. (Jay, has been compensated)
- T4-9#8 There was a dead cow in the field, this isn't the mountain, this is out of town, and they couldn't let the kids go out and play because the bear on the dead cow. Well who needs to put up with that? *You shouldn't have to put up with that.* (Neil, has been compensated and denied compensation)
- T4-9#9 I think [grizzly bears are] just going to be another straw that will break the camel's back. And to be real honest with you it makes me nervous. *I've spent a lifetime in that wilderness and to have to go around and worry about something [that's] going to eat you [doesn't seem right].* (Walter, has not tried for compensation)
- T4-9#10 *It really is frightening* to take a packhorse and take your family and go camp in areas you used to be able to. You cannot do that now. And even though you read and hear about how simple this is and how you are supposed to have your bear spray. I don't think we ought to let the grizzly bear control the National Forest. (Harvey, both compensated and denied compensation)
- T4-9#11 Fishermen, I will tell you what, they don't go to these hills now because of these darn bears, you know. *They are scared of them and there is good reason,* you know. Have you ever seen anybody that got knocked down and mauled by one of those things, *even if he doesn't kill you, he just mauls you, it is pretty bad...when is the last time you heard of anybody getting compensated for getting the hell mauled out of them?* (Dennis, denied compensation and has stopped trying)
- T4-9#12 *We have lost clients simply because they felt their lives were in jeopardy being in that type of environment and with that many grizzlies around.* You know if I have a client that gets up in the morning and all of a sudden there is a grizzly track in front of his tent even though he didn't see the bear, the bear didn't get into anything, maybe we ran him off with the dogs during the night, it is very trying on that individual and they don't want to mess with it. That is not with all people, but we have actually lost clientele because of the vast number of grizzlies. (Cliff, has not tried for compensation)

- T4-9#13 Well, with the grizzly bears there is a lot of people that won't [go hunting in the area] and the summer pack trips also a lot of people don't want to come up here in the summer to go fishing, you know, go out and spend a week out in the wilderness. *They are afraid of the bears, which makes sense because they are scary. There is places that I won't take people because there is so many bears there...One of the first questions people ask when they will call for a summer wilderness pack trip [is] 'are there grizzly bears' and they say we don't want to go, we don't want to take our kids.* And I would say that is seventy-five percent of the calls that you get will tell you that. (Craig, has not tried for compensation)
- T4-9#14 *I have never felt that wolves were a threat to humans*, except under just extreme circumstances, *but grizzly bear is a different animal.* (Duke, has not tried for compensation)
- T4-9#15 I think *if they continue with the wolf the way they are, there's going to be more problems*, because they're just taking the wolves' fear of humans away, by not letting [any control measures]. If you can't even shoot to harass one, they'll lose their fear of man, and once that happens, you're out there, maybe not necessarily an adult, but a younger person running around, they're just as vulnerable as somebody's dog on their front porch. (Mark, has not tried for compensation)
- T4-9#16 *I think if we get too many wolves around that there will be safety, human conflict with them.* But the numbers are going to have to get a lot larger then they are now...*But it isn't something I'm going to lose any sleep over* (laugh). (Howard, has not tried for compensation)
- T4-9#17 But *when some little kid gets in the way of a hungry wolf*, I don't know what he might [do, *he might*] *just go ahead and eat it.* (Lyle, both compensated and denied compensation)
- T4-9#18 *I've heard that they're really bold* and anytime you have a critter like that that gets into packs I think that increases their boldness and so, plus, they're big, a lot bigger than a coyote and strong and so yeah, that's *they're something to be concerned about from the standpoint of safety.* (Anthony, has been compensated)
- T4-9#19 So when you go down in the mornings to check the sheep and stuff, you automatically grab a gun because you never know with that brush that's tall around the edges of the field and stuff. Who knows what's in there. It's getting where *I used to run trap line at night, [and] I don't anymore...* Well, *when you go out to check on the sheep at night, there could be a mountain lion along the edge of the creek where you walk along.* I mean, at night everything sounds, the resulting of a tree or

something, you don't know whether it's an animal or what. [When you] come around the corner of the barn, [you] kind of peak around first before you. Your lights only shine so far, your yard lights and stuff, but still you walk around with a flashlight. *It's a little scary.* (Benjamin, has been compensated)

T4-9#20 *If you are out jogging or something like that, you know and the cat and something is running away from them, it is their instinct, I mean they will get you.* Yeah, they can be dangerous, they are more dangerous than a wolf, but I have been right up and close [to] lots and lots of mountain lions and *they are not really [worrisome]*. (Craig, has not tried for compensation)

T4-9#21 When I grew up, you were cautious. You knew the bear was there, you were pretty cautious. *Today, people are almost lackadaisical; they don't think there is anything out there that can hurt them at all.* You really have to change that [mentality]. People are getting more lackadaisical or let the government take care of them, rather than [taking care of] their own self, *that's not very good when you are living in area[s] with grizzly bears* (Richard, has not tried for compensation)

Table 4-10: Interview excerpts reflecting concerns not addressed by compensation – predator management impacts on private property rights

- T4-10#1 What we actually have are *laws that are keeping us from protecting our private property*. That just isn't right. (Howard, has not tried for compensation)
- T4-10#2 Well, I would say how does predator mis-management infringes on private property [rights]. I would phrase it that way, because that's what it is. That's what happens, *the mis-management infringes on our rights*. You have those things come down on your property and you're not allowed to take care of it. (Keenan, has not tried for compensation)
- T4-10#3 *I don't believe it should be an all out shoot-out*, but if I'm standing out there and I see one, two, five, ten wolves jump on one of my cows, or one of my horses, *I feel I should have every right in the world to protect my personal property...On the forest, it's not my property*. It's a Forest Service lease. I'm leasing it from the United States to graze my cattle on it or whatever. *But on my own private property I feel I should be able to protect it* just as much as a person coming into my house and stealing my money and taking my dog. I feel that when I go into the forest that I'm a guest there. (Bruce, has not tried for compensation)
- T4-10#4 I mean *my cattle out there just because they are on public land they are still my private property*, and God doesn't protect them. *I think what they are afraid of is that people will take advantage of that*, but there probably would be a certain amount of that, but there is already...*People don't like their private property rights stepped on. That's what they are doing with these wolves*. If something is on your place bothering something, you ought to be able to protect it. That's a real touchy [subject] because [there are some] people that don't like that. (Lenny, denied compensation)
- T4-10#5 If they're going to keep paying, they need to up the pay some and *they need to untie our hands a little bit so we can protect our property...* Well, you can't compare children with animals, but when you live with these cattle 24 hours a day, calve them, baby these calves along, get them through, get them healthy if they're sick, the cows or whatever, you create a bond with them just like a dog or anything else. And it's tough to see them die, especially in the cruel way in which they die. And then you have personnel come out there and say, 'well, maybe you need to move the cattle off the forest.' And I looked at the guy and I said this is private property. And he argued with me. He said, no, you need to move your cattle off the forest. And then when I did establish to him...He said, well you need to move them out of here. And I said, 'you're not going to dictate to us what we can do with private property. *And that's the whole*

- thing too that's getting kind of scary that they think they can keep us or tell us what to do with our private property.* (Rick, both compensated and denied compensation)
- T4-10#6 I do believe that private property, landowner rights are real important and *I think that there should be quite a bit of emphasis on the private property rights...* When the bear was put on the endangered list, the grizzly bear was put on, I certainly didn't have any input into that. It was something that was crammed down my throat and I feel that it's real important for private property owners to have their rights. *I don't like private property rights taken away.* (Jay, has been compensated)
- T4-10#7 And so when they get on private property that is a different deal I mean you own that piece of property and we should have some say of what goes on your property...If I owned a piece of property I would like to be able to say what went on it so *I think [these] game laws the way they are now do kind of infringe on private property rights.* I bet most everybody would agree with that. (George, has been compensated)
- T4-10#8 *But right now our biggest problem [with depredations] is on private property. I don't know what ever happened to your private property rights.* (Russell, both compensated and denied compensation)
- T4-10#9 See we're out there everyday and we've never had any troubles with [predators], but *we hear stories that guys that see wolves killing a calf or something and the animal damage control shows up and the birds on it by then. Cause they can't get there right away and then they say that they can't confirm it was a wolf kill.* And I think the rancher needs to, or the landowner needs to have the right to take those wolves if they see them. *There is a fine line there because some of the guys are going to shoot every one they see.* (Thomas, has not tried for compensation)
- T4-10#10 The only comment that I really feel that if there is wolf or grizzly bear problems on private property where they are causing a problem that the landowner, I mean it is a problem and he has seen it happen, then he should be able to eliminate that animal and not suffer consequences of endangered species act. (Kurt, has not tried for compensation)
- T4-10#11 If [that grizzly bear] is killing my cow *I should be able to protect my property* and take whatever measure is necessary. (Patrick, has been compensated)
- T4-10#12 And *all I'm advocating is control of the problem bears,* not all bears, because I'm fully aware that there are bears that don't bother our hives. And I really think that *I should have the right to defend my property.* It's

at a stage now, I'd have a better chance of shooting a human being than if I was to shoot a grizzly. I would stand a better chance of not going to jail or paying a fine and that's ridiculous if you're for protecting your own property. It just seems ridiculous. (Jerry, denied compensation and has refused compensation)

- T4-10#13 It is damaging my property and if this was a city and that was your dog damaging my stuff you would have to pay full compensation. But because for some reason you call it endangered even though it is not technically, maybe not endangered but at least it probably shouldn't be alive anyway. I have to bear all the economic and social and opportunity costs to take care of something, I am not being made whole. But everybody else gets to sue and all of these other things I can't do. (Jacob, has been compensated)
- T4-10#14 Livestock producers should be given the ability to control any wolf they feel, well any wolf, both on private ground and on public ground when they are in and around their livestock, instead of spending millions of dollars to let the federal government do it. Why not allow the livestock producers to do it? Fewer wolves would be killed. Wolves would finally be given the opportunity to be wild, much like the coyote now. You get a standing shot at a coyote once, and then you will never get that stand shot again. Wolves need to be taught that same lesson. ***If we were given the ability to protect our own property and our domestic livestock, there would be literally hundreds of wolves' lives saved over the course of the next 20 or 30 years.*** (Dylan, has been compensated)
- T4-10#15 I think if you catch [a grizzly bear] killing your livestock and you know it, or if he's bothering you and your family or something, like we go up there riding, you never know when you're going to run into one. ***I think you ought to have the right to defend yourself, or your property without facing a ten-year jail sentence and a hundred thousand dollar fine, or whatever it is.*** But right now, you've got to let him gnaw on you for a while before they'll believe that he attacked you, and that's about the way it is. I just think it's a bunch of crap. (Harry, both compensated and denied compensation)
- T4-10#16 ***If they are eating your private property, something that you have invested money into and you bought, and you've owned it; you're god damn right you should be able to shoot a wolf...***And it's a little defeating to have the wolves come in and the grizzly bears come in and just ravage the cattle, degut them. It is sad, I guess that is nature in a way, but they are screwing with private property when they kill cattle. (Lyle, both compensated and denied compensation)

- T4-10#17 . And it is just certainly helps the private property owner or the guy there in his position with the bear. I mean standing there with your hands tied, that is, that is unthinkable, you know to ask someone to stand there and let five hundred dollars out of their pocket time and time again. You can't ask somebody to do that. There is no way I mean *I think people have the right to protect their private property, especially if you have the right to have your cattle in that place.* You know there is just no question in my mind. (Ryan, denied compensation)
- T4-10#18 I don't feel that way [that predator management infringes on property rights]. But I'm certain that there are others who disagree with me. (Anne, has not tried for compensation)
- T4-10#19 It's really hard to manage public wildlife on private ground, especially intermittent private and public ground...Water's traditionally on private ground, but how much control do you have over the wildlife, because you control the water, there's a whole range of issues there...There's *and hopefully wildlife won't be used as a tool for further infringement on private property, and I've read a few things where that's the case, and I hate to see that. I hate to see them be a token by which people gain more, make people lose private property rights.* (Justin, both compensated and denied compensation)
- T4-10#20 When any predator or anything else, and this is my feelings, but when it comes on private land, it is yours to do whatever you need to do with it...*But when they come on your private land and you can't control them, that land is not your private land.* They'll sit and say, it's private land, well if it's your private land you have a right to control it and if your sheep is getting eaten on that land, you take care of the problem. (Seamus, denied compensation)
- T4-10#21 *It's fabulous. But then you have so many things trying to take that away from you. You know, from the government, to the two legged to four legged people and animals. And you go out on the prairie and you just think, god dang, this is worth it.* Then the sun will come up, and you'll see a new baby and yeah, it's all right. It'll work. Hang in there. ... I wouldn't change it for the world. I've ran stores before, you know, going to college. Was a manager, could've had a big career doing that, computer science degree and that good stuff. *But it's in the blood. It's tough to quit. You hate to go broke, doing it, but and I think, well I know, a lot of your government agencies, if it weren't for them, with their funding for like draught and flood and stuff, half your ranchers wouldn't be here.* And that's a really, hats off to those people for doing that, and your governors and senators and stuff that represent us. Because that was a lot money, they've put out in the last couple of years for that. Even though it doesn't

compensate for everything, it keeps you afloat until hopefully the prices go up. And you get to have good lamb crop or good calf crop, and you can do it. (Simon, both compensated and denied compensation)

Table 4-11: Interview excerpts reflecting concerns not addressed by compensation – the perception that predator management is a tool to fulfill other agendas

- T4-11#1 Like the Wildlife Federation in Wyoming, you know, they kind of think, make people think that they are for wildlife, but they are not. ***You know they've got their own private agendas and it is control.*** And they don't care a hoot about livestock, wildlife, anything. (Janet, both compensated and denied compensation)
- T4-11#2 And it's like almost every couple weeks there's some other species, a lot of them, I've never even heard of that get drug out for this endangered species act that it's like, you know, you wonder if people, most of the people that are pushing these things could even identify the animal that they're trying to use and I guess, ***I don't know if I'm radical or what but I feel that there is a lot of this that's being done to try to control public land possibly even private land.*** It just seems like to me that there is such a push on some of this stuff that does have a different agenda. (Anthony, has been compensated)
- T4-11#3 ***I think we are talking control of private lands.*** I think this issue is huge. But the Endangered Species Act is not as big of an issue as water quality, but yes it is a tool that they are using to get us off of public lands or to limit, to make it so costly to limit our numbers so much that we can't afford to stay there. (Stuart, has not tried for compensation)
- T4-11#4 [Environmental groups] are definitely using them [wolves and grizzlies] like the spotted owl is the same thing. I mean, they are using them for that, ***they are a tool, a tool to get areas shut down for logging, mining, grazing, whatever their, whatever their target maybe at that time.*** They are definitely just being used as a tool. They could, a lot of them could care less about the wolves or the snail darter, the bears. (Craig, has not tried for compensation)
- T4-11#5 ***There are people definitely that, that's their agenda – no more ranchers, no more cattle on public land, definitely.*** But then again, ***I think there's this big center thing that just don't know what's going on, they don't care, they think that's normal to have the cattle out there, that's fine.*** But, so yeah, there is [people with agendas] hopefully they don't get any more, because what's going to happen is they don't want the ranchers on there and pretty soon they're not going to want anybody on there, no hunters, no anything. (Rose, both compensated and denied compensation)
- T4-11#6 ***The environmentalists if they're honest with you will tell you the spotted owl was the foot in the door that they used to shut the lumber industry down. And now, the honest ones will tell you the prairie dog is going to***

be the spotted owl of the plains, 'we're going to put our foot in the door and shut the cattle industry down,' so it is far, far deeper than most Americans are willing to accept...They have a deeper agenda, far, far more complex. They're all vegetarians, they want you to become one at gunpoint if necessary. Don't kill anything. Don't eat anything. And ride a bicycle. Please, I'm sick of them. (Nathan, has not tried for compensation)

T4-11#7

The same thing with the wolf, I do not blame the wolf for doing what he, you know, what he is doing. That is what he knows to do. I blame the yoyos that brought him back in here. You know and that was strictly a federal thing and *I believe a lot of this country is wanting [these areas] to be taken over by the government as park area[s].* (Dennis, denied compensation and is no longer going to try for it)

Table 4-12: Interview excerpts reflecting views on federal funding of compensation programs

- T4-12#1 *The federal government put these animals here* through the Endangered Species Act, ...even though it's not governmental organizations, it's not taxpayer's dollars that's providing the compensation [currently], the government's footing the bill and should pay [compensation]. ...The federal government is going to have to continue to fund the management and the compensation funds throughout. *I'm not going to let them get away with putting these animals here and then walking away and giving the states management control without proper funding. That's just wrong.* (Dylan, has been compensated)
- T4-12#2 I think the federal government, ... *were responsible for bringing wolves in, they should continue to be responsible for them.* They can't just bring it in, and then dump it on the state or the local governments and just expect them to swallow it and just take it when they didn't want the to begin with. So they'll regulate it, they'll control it, but it needs to be with federal dollars. That's fair. *If somebody back in California or New York City wants to have a wolf in my backyard, they have to share the responsibility. They get to help pay for it, their tax dollars get to help pay for it...* The federal government has introduced this new predator, and it's their responsibility to control it, and their responsibility to clean up after it. (Derek, has not tried for compensation)
- T4-12#3 [Wolf reintroduction] was a federal law; *it came out of the federal legal system.* What I really believe is when Congress passes something, really they need to say is, "okay, this is what we think – a compensation program might be run." And [then] fund those programs, rather than just putting it out to the states. (Richard, has not tried for compensation)
- T4-12#4 *I think it should be the federal government [that funds compensation], they brought them.* I would prefer the state [to administer it]. You got your local guys here. (Russell, both compensated and denied compensation)
- T4-12#5 *[Compensation] should come out of the endangered species act...* Instead of being at odds with the private property owner, [saying] hey, if you're going to have an endangered species on your place we'll pay for the habitat ... that animal or plant....Any animal that was on [the list], or species that was on that, the federal government has to do their budget, they don't have it just sitting there. They [should] have a big policy that says this is all for compensation. (Eric, has been compensated)

- T4-12#6 I think *[if] the general public is behind [predator restoration]* I think the compensation should come through, somehow, through a government program, of some kind. (Mark, has not tried for compensation)
- T4-12#7 I think that *this whole idea of government beginning compensation programs is a really good idea*. That shouldn't be left to private organizations to fundraise for. *The public has determined that predators are valuable*, you know, for purposes of beauty and nature and everything else. (Anne, has not tried for compensation)

Table 4-13: Interview excerpts reflecting views on state funding of compensation programs

- T4-13#1 I think it should be *the federal government [that funds compensation], they brought them. I would prefer the state [to administer it]* You got your local guys here. (Russell, both compensated and denied compensation)
- T4-13#2 I think state government, as much as people moan, it's more accessible. It's easier to respond to both to individuals in terms of changing things that they need to be changed. *The state can respond more quickly than the federal government.* (Anne, has not tried for compensation)
- T4-13#3 *I think [a state run program] would be a lot easier*, especially now when I am getting letters following up on this [compensation payment]. I don't really care for that. (Peter, has been compensated)
- T4-13#4 *[Compensation] should be state run.* Because when you start getting in with those little private groups and they start making the decisions, I don't think that those decisions are as well made as they are with a state employee. Those people are doing that to enhance that population. *The state is doing it to try to keep everybody happy.* They have got to. *There is too much personal gain with those individual groups.* (Cliff, has not tried for compensation)
- T4-13#5 I think a state run organization would have to be a hell of a lot better. *[With private compensation programs] I think you would get too many personalities into it*, and the Defenders of Wildlife, they don't want you to kill anything. (Walter, has not tried for compensation)
- T4-13#6 *You know a lot of [other ranchers] don't even accept the money from the Defenders of Wildlife because they feel if they accept it they are agreeing with [wolf reintroduction].* ...I think if [compensation] were handed out through the tax thing or through a different agency, a lot of people they probably wouldn't be as ticked off about it. (George, has been compensated)
- T4-13#7 Although *when you get to dealing with the Defenders of Wildlife, there again you're dealing with a bunch of people from other states that I don't believe should have any say on what we do in our state at all. None.* Even though it's public lands, it's still in our state. And I don't think they should have a damn thing to say about it. We're the ones that have to put up with it and not them. So I think the compensation should come from the state...It's a local issue, is what it is. It's a local issue. It's a state issue and we just don't need anybody else's input. The more

money you take from out of state, the more control out of state wants to have on your state. And that's been the whole problem all along is [the state] took money from the federal government. Now [the] federal government has got their hands in control. (Keenan, has not tried for compensation)

T4-13#8

I guess I'd like to see a combination; I'd like to see the state being able to monitor, and administer a program like that and some of the funds coming from private organizations... Those organizations that push for the reintroduction or the limiting of personal control of those predators. (Ralph, has not tried for compensation)

Table 4-14: Interview excerpts that reflect views on private organizations funding compensation programs

- T4-14#1 But I think it's the general public that is behind [wolf conservation], so I think the compensation should come through, somehow, through a government program of some kind. I don't like government programs at all, but it's the [public that wanted the wolves], and maybe there's the people that say, "I'm not for it." *It was the environmental groups that pushed this through, it wasn't the general public, but so the environmental groups are the ones that should have to pay for the compensation.* But, it's a little hard to say there too, because *generally you're saying that everybody wants the wolf here, which maybe everybody doesn't*, and so maybe it is just the environmental groups. *[Environmental groups] it's their membership that maybe needs to pay the compensation.* I don't know, like I say, I don't like government programs, but the rancher can't carry all the losses if it's the general public that wants to put him in the predicament where he has to. (Mark, has not tried for compensation)
- T4-14#2 *I think as long as there's people out there that want these pretty wolves and stuff around they have got deep pockets, they might as well shell the money out.* That would be if the state took it over then it would be tax dollars and I don't know [if I like that]. Of course them animals belong to everybody, maybe everybody should pay, but then I would be paying for it too. (Patrick, has been compensated)
- T4-14#3 *[Compensation's] still a waste of money. At least when it was a private run [program] they were getting donations from people who wanted to pay for it*, then if it were state run then everybody would have to pay for them whether they wanted to or not. (Howard, has not tried for compensation)
- T4-14#4 *I can see more of a solution coming from a private organization* like these Defenders of Wildlife or something. Man, when I heard of that thing, I mean it is kind of a wacko idea, *but it is more of a put your money where your mouth is deal...* Because the more bureaucracy you have the less efficient it is going to be and less things are going to get done, more cost that is going to be. (Ryan, denied compensation)
- T4-14#5 It's just like all these animal rights morons, you know, they're going to save this wolf, well that's fine. So why don't everyone of them buy a wolf and for every cow or sheep it kills with their wolf, that's their wolf, why don't they pay for what he tears up? For what he kills? *I mean, if they're going to get up and scream and holler and say save the wolf, well they*

need to be responsible for the wolf and nobody wants to take any responsibility. (Seamus, denied compensation)

T4-14#6 *I think the Defender's of Wildlife have been real good on, well should I say putting their money where their mouth is.* I don't agree totally with everything, I mean, their mission statement, but I think they have done some good things. I think *they are one of the fewer groups that are actually out here trying to, trying to help solve some problems* rather than just blow their horn. (Craig, has not tried for compensation)

T4-14#7 *One part of me says at least [privately run compensation programs] brings opposite sides together, so that's good...* It probably helps the taxpayer, I guess if a foundation wants to do that. Once again it goes back to my idea of swift action and getting the problem animal out of the way. Maybe the agency, right now the way it is [with] the private compensation, they're hoping that buys us time to not have to go find that wolf. We'll wait until he kills ten animals and then we'll get serious. Well, maybe if it was coming out of their budget they'd be a little quicker [to act]. So I think private is fine but I still think the agency people should still show good faith and be right on top of what ever problem there is. (Eric, has been compensated)

T4-14#8 *I just hate the government setting something up* because if one person could probably handle it, they would have to hire fifty. (George, has been compensated)

T4-14#9 I'd say the compensation program should be just the way it is. Like the Defenders of Wildlife, because *I think once you get it tied up with states, it's going to be just a big headache trying to deal with all that.* I think you need some kind of a third party [to] look at the situation. If you have, say, like [state fish and game] deal with that, then they're also dealing with the bears. It's their bears. I think to be fair you need to have a third party, another group taking care of that. (Brian, has been compensated)

Table 4-15: Interview excerpts reflecting concerns regarding the verification process

- T4-15#1 There are losses, but normally people out looking at their calves a lot, you pick that sick calf out. You see him standing there by himself, and you bring him in usually and start doctoring him. And there are some like that yes, without a doubt there are. That other animals come in and start eating on them. But when you see a big healthy calf that's probably bigger or in the large end of your herd, you know he didn't just fall over. Especially when stuffs been on them so soon after death, you know, he's hardly cold and he's half eaten. I just don't think they, I don't think they look at it enough. I don't think they care. They had the funding for reimbursement, *you've almost got to photograph the wolf or the bear killing to ever be reimbursed for it. What's the point of turning it in?*... We had a cow out here about, it's been about five years ago. Now this is way out on the flats here, we're quite a ways away from those foothills, but there was a grizzly and a black bear both eating on that cow. Younger cow, now I don't know what she died of, or I don't know, maybe that old grizzly did the killing of it and the black bear came down quick and started eating on it. I don't think the black bear killed it, as far as the grizzly killing it, yeah. It was a heifer, replacement heifer is what it was, it didn't have a calf on it. *But I believe something killed it there, but how do you prove that? Bear eating on it? That doesn't prove anything there is a black and a grizzly eating on it. But there's no way of showing how. It's so far eaten that you can't show how it was killed so you just leave it go at that.* (Keenan, has not tried for compensation)
- T4-15#2 *You have to have such proof before they will pay for stock.* Well, a lot of times we might not see those cattle for a week, maybe more than that. *But if you come onto a kill that was two days old, there's not enough proof left on dry conditions like we have around here where you can pinpoint anything.* (Andrew, both compensated and denied compensation)
- T4-15#3 Yeah, *[the verification] was pretty strict, and was pretty hard to meet all the standards*...all the qualifications to show that the calf was actually killed by a wolf. It seemed to me that *sometimes the evidence was pretty compelling and that should have been enough.* (Ralph, has not tried for compensation)
- T4-15#4 Everyone that we have had, those guys look at they couldn't determine [what killed it]. And I think you will find that that is why *I don't ever even think about calling them or even think about being there early enough to figure them out.* Because they are going to come out and it is going to be tough for them to call it. *Their requirements are stringent.* (Ryan, denied compensation)

- T4-15#5 Of course *when a cow critter gets killed, you have to be right there on it because they'll come back in that night and finish it off. And then the evidence is all gone.* And I just feel that [the verifying agents] didn't feel that they had enough evidence and of course, the bear tracks are there all over. (Debra, denied compensation)
- T4-15#6 Well, we have had a couple of horses eaten by the wolves and we couldn't prove, one was so far gone there wasn't anything left to prove how he died but there was wolves seen in this, within a quarter of a mile at the same time this horse was consumed. And the other one was half eaten with wolf tracks right in the dirt, right on top of him and if they skinned him and what was there left they couldn't find teeth marks so they couldn't say. I don't know if a wolf necessarily has to tear a horse up with its teeth to kill him. Why I think they can circle them or frighten them or run them out of gas and start eating them as they die. And *some of the evidence is not always there, not how it appears and I know we have had animals lost and had people look at and still didn't get compensated for it. So it is a maze.* (Robert, has been compensated)
- T4-15#7 But that don't always mean the bear killed it, because they could have died by something else. But they confirmed it as a kill; they can tell by the bite marks on the hide and stuff. *But you got to find them pretty fast, because there isn't much left. If wolves get them, there isn't hardly anything left, or bears, either one.* (Harry, both compensated and denied compensation)
- T4-15#8 Well, let me put it this way, out on these mountains there are so many nooks and crannies and steep hillsides. When we ride we don't cover all of it. *We cover the most accessible way through, through different open areas, through creek bottoms where we can get through....We never see anything but a bone rack or a bone here and there. And for [an agency personnel] to come up there and go out there with us, it would take so damn much time, because you can't drive to it.* You ride a horse and a lot of times you spend all day long getting from one point to the other. (Lyle, both compensated and denied compensation)
- T4-15#9 But one thing that is frustrating to me is when I know that *I go in there with so many numbers and there is absolutely no way that you are going to find all these carcasses that these predators kill. You can't do it.* It's too big of a country. (Chris, both compensated and denied compensation)
- T4-15#10 *The compensation is probably the dumbest thing I've ever heard of because of the verification.* Most people don't realize the type of land that we run cattle in...It's different than if you have a herd of dairy goats and you're getting them in everyday. There's a lot of times that I will, *most of the time in the summertime if I lose a calf, if I find any sign of*

them it's rare. I mean sometimes you just happen to be there the day one dies or whatever, but usually you might find a skull or a leg bone or whatever. *And just the coyotes and the ravens, and the eagles and whatever will pretty much do away with [the carcass] and fairly fast. I mean, like in a day they'll be gone, so to verify a wolf kill or a bear kill is just about ridiculous.* It looks good on paper I guess, but in practicality it just isn't going to work. (Howard, has not tried for compensation)

- T4-15#11 I think compensation is a good deal, but I have heard the comment many times a guy has a calf killed. *Well he gets a hold of the [verifying agency], well they are busy, 'we will get up there tomorrow though.'* *By the time they get there they can't make a real determination whether that calf has been killed by a wolf, grizzly bear, coyote, or died of poison.* So the [verifying agent] goes, 'well, you know, it looks like a bear did it, but I am just not a hundred percent sure.' The only thing left may be a leg. (Cliff, has not tried for compensation)
- T4-15#12 The problem with the compensation now is *a pack of wolves would, let's say they kill a yearling steer or a calf. They eat him up to nothing and the only thing you find out is when you round-up in the fall, you're short so many animals.* You don't know what happened to them, so how do you prove it? That's what they are not paying and it has really hurt some of the ranchers. (Walter, has not tried for compensation)
- T4-15#13 Well, the strength is [that it's] fast, it paid you quick. And the downside of it, the downside of it is *they have to prove that the wolf killed that calf and the ones you can't find you don't get paid for and then it costs us out of our pocket.* (Russell, both compensated and denied compensation)
- T4-15#14 *You can't find [the kills], they eat 'em. Of course, a wolf, they'll eat 'em right up, won't leave nothing but the legs or something.* (Chad, both compensated and denied compensation)
- T4-15#15 *You got to find it to prove it first...* I think they need maybe more people available to confirm things, because they just got one guy down here...and he can't be everywhere at once. And you know, *overnight a critter can be [eaten], everything, because of all these things that eat on it.* (Harry, both compensated and denied compensation)
- T4-15#16 You can't just say well, I came out of the mountains five head short, gosh, I want to be paid for them. I don't think that that's going to work. *If you're going to have to prove them, you're going to have to be there more often to find them...* You might find a spot on the ground, and in the mountains, that's pretty hard to find...If you're going to be paid for them,

you're going to have to [be out there] if you're going to prove it. (Jay, has been compensated)

- T4-15#17 *They're going to have to have probably a quicker response...if they're going to have such tough criteria to say that an animal was or wasn't killed.* So they're going to have [to be quicker]. Somebody's going to have to be there quicker [to verify], or else they're going to have to be a little more lenient and not have quite such stringent [criteria]. (Mark, has not tried for compensation)
- T4-15#18 *[The verifying agents] don't come running* and number two, we used to never call anyhow. *But I have tried it and I've gotten no satisfaction from them. It's a joke.* It seems like if a wolf or a bear kills a single yearling, they get more response than we do and I can tell you quite often the damage is more than what the yearling is. (Jerry, denied compensation and has refused compensation)
- T4-15#19 I mean *you find the calf today, you get back home here and you get up there and cover it up so that it is still there cause you call the [verifying agents] and they can't be here until tomorrow or the next day.* And if you don't cover it up whatever killed it is going to come eat the rest of it the next night. If you do cover it up sometimes they come and dig it out from under there and eat it the next night and by the time the [verifying agent] gets here it is gone. (George, has been compensated)
- T4-15#20 I have heard of instances where all of a sudden you haven't been in this one little canyon for a week, ten days and you ride down there and hell, you have got dead cows laying all over. *You know you have got a bear in there killing them, you have got to have some real expert personnel make the decision what killed those animals...* But I think [verifying agencies] are taking a lot of guys that maybe that this is their summer project to make the determination whether they had a bear in there killing those cows or they had a wolf in there. And they don't have the expertise. *You have got to have somebody that really knows what is going on to make those calls.* (Cliff, has not tried for compensation)
- T4-15#21 But I think that maybe there would be a better way to compensate people for having to live with the wolves, and the grizzly bears, than paying them for the specific [animal] that had been killed. *Because trying to pinpoint individual attacks is so difficult, so time consuming, so controversial, that I think that a good deal of the money that was set aside for the compensation would be spent in administering the program.* So, you know, I would be more *in favor of some blanket compensation to people who were in areas, that were impacted by these predators.* (Joel, has not tried for compensation)

- T4-15#22 When the wolves first showed up I had one that come out. And an animal had caused the problem but probably died basically from an infection. But whether it was a lion or a bear; it had chewed up a little bit. But what had killed it was the infection. And of course, when the wolves first showed up that's automatically [what I looked for]. I looked by everything else and saw that. And [the verifying agent] came up and we went over it. *And I felt, well, it's pretty evident, but you have just tunnel vision for the first one. And then after that we'd go through it.* (Kevin, denied compensation)
- T4-15#23 Well *it's hard to tell sometimes [if you've had a kill] unless you're actually right on the spot waiting.* Our last coyote kill was pretty obvious, we had a cow come into the feed ground that had blood all over her face. I mean, she was literally trying to fight these coyotes off. We just followed her tracks were she came from and sure enough there were coyote tracks all around and she had calved. The minute she calved the coyote just got her. The calf couldn't defend itself; he was too young. (Walker, has not tried for compensation)
- T4-15#24 Of course, I know ranchers that carry, they will go get a video camera or they will go get their 35mm out and get some good shots, but still you have to got to get that out there and the [verifying agent] has got to see the holes in the hide. He has got to see the teeth marks in the bones or whatever the tracks and everything else that. Like I said for a bear he hits it and eats two-thirds of the calf, three days later there is nothing around it but raven and coyote tracks you know, the tracks aren't going to do anything for [the verifying agent]. So that is lost history. I think they have tried some of that, and people have tried to put a tarp or something around it and I don't think it has worked. *I mean the only way it is really going to work is if you stand there. And in the wilderness who wants to stand around a dead cow that a bear thinks that they own? That is suicide,* I guess is what they call it. (Stuart, has not tried for compensation).
- T4-15#25 They don't all work on the same, *each game warden actually works on his theory.* I mean, they try to not, but I mean, I'm sure it's kind of a...*very subjective.* (Buck, both compensated and denied compensation)
- T4-15#26 We've only been compensated for one calf, ever. And then when you do get compensated for it, you have to call up all these, I mean *it's a pain in the butt.* You have to call up these livestock sale barns and find out how much this calf was worth, at the day it was killed, you know. And then turn it in, with all this paperwork and stuff. (Cassie, both compensated and denied compensation)

- T4-15#27 But like right now in order to get a payment for a mountain lion kill on sheep, the sheep are in the far, far reaches of the ranch, they're 30 to 35 miles away. They're in high country. I've got to find the carcass, one, that means the carcass, gee whiz, you know, 14, 15, 18 thousand acre pasture. *It might be weeks before you stumble over the carcass, then you've got to go and get the game warden. Well, you'd think that's all he had to do? He's a busy man, he's got to find a time within three or four or five days to go up there, haul his four wheeler up there, ride to the carcass.* You have got to go; it takes all day. I've got to drop my tourist program, I've got to [drop] whatever, I'm moving cattle. *I have to take the game warden up there, he goes, he looks it over and he knows deep in his heart that it was done by a lion but he knows that the Fish and Game is out of money to pay for predators, so he says, 'well that was a coyote.' That's ridiculous.* I don't believe you should write me a check for thousands of dollars without some sort of affirmation that I am right, but *I don't want to wait days for a game warden and I don't want to make two or three trips to show somebody who's going to wind up saying, 'well I know it was done by a mountain lion, but I can't tell you that because we don't have any money. It's red tape, I despise it...* Why do I hate the government? Because of the damnable red tape and the fact that they don't give a rat's about what's going on out there and that sense that they're hurting and not helping. (Nathan, has not tried for compensation)
- T4-15#28 *And some of the wardens that we get are real fair and some are, act like the Game and Fish is threatened them that if they, you know, if they confirm something that is not 100% sure, then they may lose their job.* (Janet, both compensated and denied compensation)
- T4-15#29 I think [verification is a useful aspect] to a degree, but I think that's *it's a tough thing because it's not an exact science. The people on the ground know that it's not an exact science.* I think if compensation issues get in the limelight to a greater degree, I think you're going to find that as compensation funds become available, the people that are responsible for verification are way better trained, and see way more tools of, way more information that they can draw from, way more tools at their disposal to be able to confirm things. I think there's not a lot out there right now. I mean there's word of mouth and what usually happens, but I think there could be a lot more tools. (Justin, both compensated and denied compensation)
- T4-15#30 *They would compensate for them if you saw them kill the animal or basically they wanted a picture of it happening.* Well, now I walk around with my video camera and everything in my pocket all the time. I can't, I

can't keep a pair of binoculars without breaking them, well what in the hell am I going to do with a camera? ... *But you know there again, how do you keep people from taking advantage of the system?* (Dennis, denied compensation and has stopped trying for it)

Table 4-16: Interview excerpts reflecting concerns about people taking advantage of compensation

- T4-16#1 I'm pretty sure they're just going to want to see the confirmed kill. You know *you hate to see people take advantage of the system if you don't know for sure*. There's too much of [that] that goes on anyway. There's just a certain percentage of it you're just going to have to absorb anyway. (Walker, has not tried for compensation)
- T4-16#2 I know it would have to be as to an on-site inspection either by a game warden or Fish and Game to come up with a reasonable value. I think that would have to be evaluated on a basis of each instance as to, I mean, there is a lot of difference between one sheep or even say, even one cow. I mean, if it's a registered cow and they can prove that it's registered. *I think they have to take a reasonable value for that animal and I know that some individuals will say, she has a greater worth than that for the fact that she has a reproduction for say the next four or five years. That could well be, and even though that would be in my favor, I don't think that's fair. I think it would probably be abused*. Again you'd have to evaluate each situation rather than saying one cow is worth \$500 and one sheep is worth \$200 or whatever. I don't think you can do that. (Maxwell, has not tried for compensation)
- T4-16#3 *You know you can't go compensating for things that can't be proved because people are going to take advantage of it*. That's the hard thing, and so I don't feel that you can do that. No one's going to do that for you...I'm sure some ranchers would take advantage of it. They would if they could...*I think most of the ranchers will be pretty good about it*. (Chris, both compensated and denied compensation)
- T4-16#4 It goes back to these unconfirmed kills. What happens to that, I guess. People would really have to keep records or the burden of proof should rest on not the owner, but the agency. Like say, once again, *you're going to have people cheat the system*, but if we say we turned out 500 calves and 490 come back then 10 calves are missing and if they want to go up there and find them and say, yeah, this one died of pneumonia fine. (Eric, has been compensated)
- T4-16#5 Well, if they're not going to let the rancher protect his livestock, there's got to be some, some kind of compensation, because basically, he's taking the hit for what the general public wants to see running around out there. And, but I don't know for sure, because *there are people that would take advantage of a program like that, too. If, so as far as relaxing some of the verification of it, that wouldn't work either because then it could be*

taken advantage of, in the other direction. Yeah, it's just, it's a tough one, there. (Mark, has not tried for compensation)

T4-16#6 Well, I'm in the cow business to try to make some money, so I guess I do get money from compensation. If I was to take care of the problem myself, I don't get paid for it, other than then I know it may not happen from that bear again, it might happen from another one, or whatever, whatever the predator is, but I think they could probably work it both ways, if you turn something in and got compensated, now some people might take advantage of that too and just use it for a free license to kill bears...where I would say it would be a problem, is probably the people that didn't really have cows, or something, or maybe buy two cows or something and go out and shoot a bunch of bears, yeah, they could wipe them out, which maybe wouldn't be a bad idea! ***But people could figure out how to take advantage of anything,*** to have a little fun, that's human nature. (Harry, both compensated and denied compensation)

T4-16#7 You know I don't know exactly how things are done now, except that I understand there's a loss and then you get somebody out as soon as you possibly can. And they come and they look and they make a determination of whether they think it was a predator loss or not. And then you either are or are not allowed the compensation. And, you know, I guess, what you're really asking or maybe this is what your asking is who, who gets the benefit of the doubt in that situation. In the administration of it, is it the rancher or is it the public? And speaking as a rancher, I think that the benefit of the doubt should be with the rancher as much as possible. Because one, it's their loss, but two, there's just some political capital in [it] in smoothing the way for predators to co-exist with livestock. So, if it's \$300.00 and you can make somebody happy, that seems, I guess, ***I think most people are not going to be, are not going to lie about this intentionally. And, their biggest gain is to be able to keep their livestock alive. You know, it isn't to go and milk compensation programs.*** (Anne, has not tried for compensation)

T4-16#8 I think they need to say, okay if this is a three year old cow, she's had two calves or one calf and her life expectancy is average eight to ten years, they need to hit an average in there. ***We're not wanting to scam them and get rich off this one kill.*** There's a lot more invested in that cow, there's a lot of sweat, there's a lot of worry, there's a lot of time spent checking them if they calve all right. ***There's a lot more goes into them than just that dollar figure.*** (Rick, both compensated and denied compensation)

T4-16#9 ***The ranchers will police themselves to a certain extent,*** which is true. If you got a guy on your own allotment that's turning out too many cows, for example, we aren't going to let him do that because he's stealing our

grass. If I turn out the right amount of numbers, then he'd better turn out the right amount of numbers. That's happened. Guys will, pretty soon they will figure out and say, "We know what you're turning out. We counted them in. You didn't know we was counting them in, but we counted them in. We're not going to put up with that. We are going to go to the Forest Service. If we go to the Forest Service, they will jerk your permit like that. That's actually happened so if one started abusing the compensation program doing the same thing, we'd say no you don't. Don't be doing that or you will ruin the whole program for us. I think there is a certain amount of that would probably happen. *The honest people don't want to put up with somebody that isn't.* (Lenny, denied compensation)

T4-16#10 If after an investigation they felt that money was being inadequately given to, fraudulently given, maybe, then *I think that producer or that individual should be punished in federal court.* (Dylan, has been compensated)

T4-16#11 Well, I guess it's the best we have right now so we're going to have to live with it. But I say that there is probably improvements that could be made but I'm not sure just how and you know that *there's going to be people taking advantage if they get too [much].* (Patrick, has been compensated)

T4-16#12 You know, *you kind of want to troop around there a little bit.* Make sure it just wasn't somebody shot him in the head because it was old and sick and they want paid for it. Because any government program, they abuse it, you know...*I don't care who it is. There are people who are going to take advantage of it.* (Lou, has not tried for compensation)

T4-16#13 *They would compensate for them if you saw them kill the animal or basically they wanted a picture of it happening.* Well, now I walk around with my video camera and everything in my pocket all the time. I can't, I can't keep a pair of binoculars without breaking them, well what in the hell am I going to do with a camera? ... *But you know there again, how do you keep people from taking advantage of the system?* (Dennis, denied compensation and has stopped trying for it)

T4-16#14 *I don't think anybody takes advantage of it because their compensation thing doesn't pay you near what it's worth* you know. Like my stud horse out here, if a bear come and killed it or a lion killed that horse or a wolf or grizzly or something. If they killed that horse, they'd probably pay me a \$1,000 for the horse max. He's a registered stud horse and probably worth \$6,000 or \$7,000. (Keenan, has not tried for compensation)

- T4-16#15 Yeah, [allowing *flexibility in payment determination*] *that would help me a lot. I don't think a person could take advantage of a situation.*
(Andrew, both compensated and denied compensation)
- T4-16#16 *The problem with compensation is [the] rancher [is] always trying to cheat and [the] Game and Fish tries to pay less.* That's where the conflict is. (Moe, both compensated and denied compensation)
- T4-16#17 The compensation program has been abused so bad by the ranchers compared to what it once was that they're lucky that they have one at all in reality. But on the other hand now that they've got it kind of in place, what they want, it doesn't compensate for a lot either....Because *when they first came out with it, the ranchers milked it to death. And now it's hard to get, it's harder to get compensated for stuff.* (Neil, both compensated and denied compensation)

Table 4-17: Interview excerpts reflecting attitudes towards agencies and relationships with agency personnel

- T4-17#1 ***Trust, there is no trust.*** Who are you going to have come in and sit at your table and say, yeah we're going to pay you for every sheep you bring to us that you know a wolf killed. We're going to pay you. ***There isn't one person that could come to this table that I would trust to say that and mean it.*** (Gwen, denied compensation)
- T4-17#2 Well, just like the bears, you know the bears showed up on the Big Horns and there was an occasional bear track but when somebody saw a bear track it was all over the Big Horns, you know. And anymore there's bears, I mean all of the sudden there's bears and they're getting into cabins and they're tearing stuff up. Well, ***they're transplants and the Game and Fish will deny it to the end,*** but I mean, they don't just show up boom and go tearing cabins apart and camp trailers. They were in camp areas and they trapped them or something and transplanted them, that's exactly what's going on. (Seamus, denied compensation)
- T4-17#3 I have had different Fish and Game individuals ***just flat lie to me.*** Or see that your property is being destroyed and not say a word to you. This year, for example, my brother and myself were working a yard of bees. We saw a Fish and Game warden drive within [sight] on the road, and this is in a private field, drive right by us, not look left or right, drive down a little ways, stop, turn around and come back...I was curious of why he was there, what he was doing. I walked and the dirt was very easy to distinguish where he stopped. So I stopped where he stopped in his vehicle by just walking and looked and there ***they have the bear trap set next to our bees. Not a word to us.*** Didn't stop. I mean, we're in plain view, the trap wasn't and never said a word to us about it...Well, it would help if you were getting the truth told to you. And I believe that's one of the things that's why the U.S. government trapper is fairly popular with the people here...and on the other side [of the district] I've dealt with the government trapper out of [nearby town] and I would say he has pert near the same respect from most of the people up there as this guy down here does and there's a reason for it. ***Because he's truthful. He'll tell you what he can do and what he can't do and I guess that goes a long ways.*** When you're lied to, no you're not going to have my respect for anything. (Jerry, denied compensation)
- T4-17#4 There is places I won't , that I won't take people because there is so many bears there. ***I mean [federal agency] have lied to us so much on the numbers.*** You know originally when there was 350 bears they were to be delisted...The Wyoming Game and Fish Department does their own bear work studies and stuff and they can, they have told me that they feel real

confident that we have 750 – 1000 bears in Wyoming alone. That is their estimate, you know, and so that is a little over 350. And wolves are the same thing, you know. They have the fed have just lied to us so much you know. (Craig, has not tried for compensation)

T4-17#5 We'd call because we knew it was a [wolf kill]. And then *when you're called liars, then we don't bother calling anymore*. I mean, I basically tell them I don't want them on the place. So we get a problem, you know, we'll deal with it, I guess. (Phil, both compensated and denied compensation and refuses to try anymore)

T4-17#6 They captured that bear it was like on a Thursday night when they got the bear, but anyway Monday afternoon they had seen reports so they knew the bear was in town. Okay, so the Game and Fish turned it over to the US Fish and Wildlife Service...they got the local game warden to go down and set a trap and watch for him that night. The bear came around and didn't go in the trap. For over forty-eight hours like, I don't know, almost sixty hours that bear wondered around here. They knew he was right here, had a collar on him, they knew that bear was here during that time they had three ball games at the park which is a hundred yards from where they had the bear traps at. They had three night ball games at the park, nobody was ever notified...People camping in tents and everything, they never notified any of those people, they were right along the river by the park. They never told anybody that the bear was out here running loose and it is a problem bear, I mean it is one that had been collared that they had problems with and so it is known as a dangerous bear. Well, you know, now my question and I told the game warden and the cops here that too, I said, you know it looks to me like somebody here has really got their neck hung out. I said that is no different than if you have got an escaped felon armed and dangerous running around here for two days and you are just kind of sitting back there. Well, yeah, we have a got a trap out there for him, but he doesn't want to go in it and you are sitting here doing nothing. I said you know *you could at least warn the people. And they did nothing*...What would happen if somebody from wherever was out walking their little grandson or granddaughters or whatever down by the river and that bear would have got them? I mean who is liable? And that is the way the feds handle everything so you know I definitely think the Game and Fish would [be] better. It would be more of a close to home approach. (Craig, has not tried for compensation)

T4-17#7 *They never call you, never. I've never had anybody call and say there's a collared wolf here close to the game range or anything.* They never, I never have known [them] to call anybody...One of the worse things I think is a lot of the game department people don't believe you . They don't believe that [predators] are doing any damage. So they're not going

to call you , cause they think you're going to say, we got damage and we don't. So they don't tell you nothing, cause they figure let it happen and let you inform them. They never tell you anything. I've been around those people all my life, and they've never told anyone anything. (Keenan, has not tried for compensation)

- T4-17#8 Peter: And you never know [bears] are in the country until something happened. Kelly: But yet the Fish and Game know it...The Fish and Game knew it but didn't let us, let anyone know. Peter: Yeah, no one let us know that [the bears] were here. Kelly: If we would have known, we'd have been locking the sheep up. (Peter and Kelly, have been compensated)
- T4-17#9 Well, nobody even wants to go to their meetings. The ranchers used to drop everything to go and raise hell with the Game and Fish because they were having a meeting. Why go? That's another tank of gas you can save because *they don't hear nothing and what they tell you is not so...* They never stand up to the plate and say this is what we said, this is what's going to happen. (Seamus, denied compensation)
- T4-17#10 We have years like this when [the bears] come down, there's no food, and so I feel like, I, I have witnessed a good, a good part of this whole scene, just because I live where I do, you know. *And it's first hand, just seeing the animals, yet nobody ever asks me, you know, "Hey, what did you see out there this winter, what did you see out there?"* I mean, that too amazes me...They don't want to talk to the guy that [is out there], or the person that lives amongst these mountains and these animals, you know. (Lauren, has not tried for compensation)
- T4-17#11 *Communication never hurts anything.* So I think it would benefit both sides, really. (Mark, has not tried for compensation)
- T4-17#12 Trouble is you never know, unless he's a marked bear. We did have a marked bear in here I think a couple of years ago. *And the game warden stopped and says I just want you to know that there's a marked bear back here. And you know that was nice.* At least you can kind of, you're probably going to be checking things a little closer. (Walker, has not tried for compensation)
- T4-17#13 Well, I think [communication] is lacking with a whole lot of the others. The whole lot of the others in the office that isn't around [here]. *They'll tell you one thing. But if they go to a meeting they won't say that.* They won't tell anybody else that, they won't tell any of their supervisors that. (Keenan, has not tried for compensation)

- T4-17#14 And [agency official] was from Tennessee and had come to Wyoming and when he went fishing in the Middle Fork of the Powder River he knew it was unlikely that he would ever see a lion but he like to know that they were there. And he didn't care that we were the top sheep-producing county of the state, you know, or *he didn't care anything about the sheep men or the economics of the county. He was always going to get his paycheck.* (Janet, has been compensated and denied compensation)
- T4-17#15 But like right now in order to get a payment for a mountain lion kill on sheep, the sheep are in the far, far reaches of the ranch, they're 30 to 35 miles away. They're in high country. I've got to find the carcass, one, that means the carcass, gee whiz, you know, 14, 15, 18 thousand acre pasture. It might be weeks before you stumble over the carcass, then you've got to go and get the game warden. Well, you'd think that's all he had to do? He's a busy man, he's got to find a time within three or four or five days to go up there, haul his four wheeler up there, ride to the carcass. You have got to go; it takes all day. I've got to drop my tourist program, I've got to [drop] whatever, I'm moving cattle. I have to take the game warden up there, he goes, he looks it over and he knows deep in his heart that it was done by a lion but he knows that the Fish and Game is out of money to pay for predators, so he says, 'well that was a coyote.' That's ridiculous. I don't believe you should write me a check for thousands of dollars without some sort of affirmation that I am right, but I don't want to wait days for a game warden and I don't want to make two or three trips to show somebody who's going to wind up saying, 'well I know it was done by a mountain lion, but I can't tell you that because we don't have any money. It's red tape, I despise it...*Why do I hate the government? Because of the damnable red tape and the fact that they don't give a rat's about what's going on out there and that sense that they're hurting and not helping.* (Nathan, has not tried for compensation)
- T4-17#16 It's like we had, a[n] antelope killed out here, next to the road, and it's butt was just ripped out, and it wasn't an eagle, because I didn't see any eagle claw marks on it, it was kind of a weird dog kill. Which my guard dog doesn't kill, and there weren't any guard dog tracks, and so I called the local game warden, and he said 'well I can't make it out, I'm pretty busy. I'm eating dinner, can you bring it in.' Okay. Why can't you just come out, we can verify this where it's dead at, and you can kind of look around and see if you see, no you need to bring it in. This is like seven o'clock at night. And I said, 'well I can't it's just too big and too heavy,' so I just forgot the whole thing. So, what killed it I don't know? We had stories of mountain lions coming through; stories of wolves being dropped off, a pack, and guys' on motorcycles saw it. You know they told the paper, and then the game and fish said it was bullshit, it never happened. Well how can they make this up? Where do you see two big, black wolves, you

know. They're not dogs, they're wolves, and they saw it. So I don't know what killed it, but it was a game and fish animal, why wouldn't they want to take care of it, I don't understand that. It wasn't mine. I had nothing to do with it, I'm not going to get compensated, but it's going to annihilate their herd that they make money off of. I just don't, didn't understand that. And I think if I would have dealt with [a different game warden], he would have been here... *Caring. There's just none there, and that's his job. I just didn't see it there.* It's like, 'I'll get paid the same it doesn't matter'. You know. I just didn't understand that call. (Simon, both compensated and denied compensation)

T4-17#17 I've had problems with the local [verifying officials] guys. And so I finally went across the mountain and got a guy in [neighboring town]...*He's there as soon as I call him. We go through the actual kill and see where the claw marks are. We skin it ourselves before they take it.* If its throat had been ripped out, if like a bear, you can tell if it's been, bears will usually come and just hit it on the back of the neck, and it just breaks that bone automatically. It's an automatic bear kill. And some of the guys [here locally] wouldn't say it was. And then this person does. He's more knowledgeable, maybe, I suppose, of what he's doing...Knowledge and experience. I think it's a combination of everything. Yeah. I mean I had a Game and Fish guy, I had a bear attack the sheep, and I caught him before he killed it, and the bear took off. Call up the Game and Fish guy, and this sheep was wide open. It was hot and the flies were already getting on him and I call him up and said, 'can I kill this sheep?' And he said, 'no, I want you to keep it alive, but I can't get there until tomorrow.' Okay, so this animal is suffering so I had to tie it up and I said screw that, so I just slit his throat. Well he came up and said it wasn't a bear kill; it may have fallen off a cliff. And I'm just sitting here, just, you're serious? Do you see any cliffs around here? I mean it's probably half a mile away...I saw the bear run away. Now that is very disturbing. (Simon, both compensated and denied compensation)

T4-17#18 You know the Game and Fish do nothing really, once in a while they will set a bear trap. And I think maybe they have set a few snares, but they haven't set snares on us, [in] recent years, you know. When [agency official] was our game warden we had a fresh kill and he put a snare and it got the lion immediately. But the lion was so big it got out of his snare, you know, and *you just feel better when the Game and Fish tries an effort.* (Janet, has been compensated and denied compensation)

T4-17#19 *And if they can kind of help us, we're a little happier to have the game wardens here.* And we've never had a problem with game wardens, they've all been good friends of mine. But there's a lot of people that say ooh, don't let that game warden come on, well I've got nothing to hide. I

don't care if he comes around and if he's actually trying to help, you let him help you. (Buck, both compensated and denied compensation)

T4-17#20 But it's basically the feds are dictating to the state what has to be done. *And it's like the story when this [wolf] pack up here got caught taking [neighbor's] cows. [Local state agency official was] flying over monitoring some grizzly bears and he looked down and he called the rancher.* And the story is that the wolf people got really mad and he looked at them and he has a good rapport with the ranchers and looked at them and said, 'hey, I work with these guys. If I see something, I'm going to let them know, it's their cow.' So you already know there's, *you have people like [the local state agency official] who you trust and he lives in the community* and then you have feds that, you know, are monitoring all the wolves in Idaho and Montana, and Wyoming or whatever and they fly in and give a little prepared speech and then fly out. But if they have to live here, they start to see the whole picture, I'd guess you call it. (Eric, has been compensated)

T4-17#21 I think that [agency officials] should probably get out and like [the local state agency official nearby] *gets out and visit with the people. Get to know them.* I mean it don't have to be over just for a kill, he should get out in the field and feel the people out a little bit and get to know them. So that when they do go up on a kill, why they know each other and they already have this trust bonded. (Debra, denied compensation)

T4-17#22 When I've been out with the animal damage guy I was just trying to learn what he looks for and all that. Like, once I've seen the teeth mark and all that, I have better things to do if I ever have another kill. Just send the guy out there. *The trust factor. And I trust these guys that they're going to make the right call so that I don't need to be wasting my time* watching them skin out another calf if I suspect it was a wolf kill or something...If there is a miscall then hopefully it will be straightened out in the future. But the trust factor, yeah. If you get into more predator kills, I'm not going to be out there every time they skin a calf. I've got better things to do. (Eric, has been compensated)

T4-17#23 Well, in our situation, we felt like the game and fish did a good job of getting to the kills and verifying that the kills were made by either a bear or mountain lion, a trophy game animal, and then they, by their rules they paid at the market price for whatever it was at the time it was killed so if you lost something in June, they paid on what the market was then even though you would've normally kept it until September, but I felt that they were always fair the way they did that, they pretty much, anyway, in our own personal dealings they never contested what we thought they were worth and I thought that the way the formula worked, compared to what

our counts were, *I thought that we were always treated fairly* in that regard too, I don't think that we were ever short changed on the amount that we'd lost...There probably are some people that weren't totally satisfied, but in our situation we felt like we got, you know we were treated pretty fair. (Anthony, has been compensated)

T4-17#24 You know, the game warden here in town actually, I'm not a big fan of him really, but I like him in one respect because he's one that believes that this stuff isn't controlled enough either, I think. You know you talk to him and he thinks that, well jeez we ought to just, we ought to have a season sometime for problem bears. But yet he will write you a ticket if you do something. He's the first one to be there. But I would say that, *I think he's a trusted guy for that...Rules are rules*. That's right, I believe that. I think you can trust him pretty much. (Keenan, has not tried for compensation)

T4-17#25 To tell you the truth, [a local game warden] caught me one time, costing me about \$9,000 in fines and restitution. I was working for an outfitter that ...I was guiding sheep hunters for him and he sent me in, or he brought in two sheep hunters and he sent me off with this sheep hunter. And they killed a sheep and I never knew nothing about it because I was just guide, I wasn't the outfitter. And come to find out I was in the wrong area. I never knew anything about it; well the Game and Fish had an undercover officer working there, and about a year later, three guys in suits beat on my door. *And well they got me on that one, throughout the ordeal [the local game warden] and me got to be good friends out of the deal. Even though it cost me a lot of money.* [Another game warden] got me one day and cost me a little bit of money, and we've come to understandings. It was just a minor mistake that day but he was right there and I reported myself in, and so it, you know, we got to know each other pretty good there for a while. INTERVIEWER: Is there almost ...a sense of trust and respect do you think? BRUCE: Yeah, I think so; you know I can go talk to him. He's came to me, called me up and came to talk to me before about some stuff...*I think communication is a big deal*. There used to be a game warden lived up in [nearby town]. He was probably one of the nicest people that you would ever meet, but if you got on the wrong side of him. You know you could go to church with him on Sunday, and he would arrest you Monday morning. *You know your friendship went so far, but if you went past it, you was in trouble, he would get you*. I think that's the way it should be. I've seen a lot of stuff slip before (Bruce, has not tried for compensation)

Chapter 5: Conclusions

Summary and Conclusion

To be effective, conservation strategies like predator compensation must be grounded in an understanding of the social context. My dissertation has focused on gaining a better understanding of perceptions and views surrounding predator compensation programs in the states of Idaho, Montana, and Wyoming. It explored how individuals frame the underlying issues and conflicts surrounding predator compensation, how individuals conceive of concepts like equity, fairness, individual versus societal responsibilities, and views about compensation program funding. In particular, the dissertation has attempted to develop a collective coherent understanding of how individuals characterize the myriad of issues surrounding predator compensation programs. Primm (1996) outlined three different avenues that have been and continue to be taken to define and solve human-wildlife conflicts, or as he states “ways to navigate the difficult cultural and political dimensions involved” (p.1027). Those three avenues are regulatory, economic, and social. The remainder of the conclusion will discuss the nature of this study's results in terms of these three avenues and will finish with a brief examination of future implications and further research.

As a society we are somewhat accustomed to having regulatory mechanisms as a tool for dealing with conflicts. However, restrictions imposed by regulations may generate hostility and resentment among local human populations, especially when regulations reflect a national initiative but impose significant local costs. As a result, the likelihood that encounters between humans and predators become more lethal for the wildlife is increased (Primm, 1996). From a technical, decision making, and regulatory

perspective, there is a tendency in conflicts over issues related to predator conservation and management to argue over the correctness or accuracy of the "facts" and "statistics" underlying points of view (such as, documenting the actual number of losses to predators versus perceived number of losses or looking at the actual frequency of documented cases of grizzly bear attacks on humans versus the more general fear of grizzly bears). When this occurs there is a great danger of overlooking the more fundamental source of tension and conflict. Beyond just the objective facts, conflicts surrounding predator conservation and management (including compensation) are constructed by differing social values and discussed in such terms as fair and equitable treatment, emotional bonds, loss of a way of life/livelihood, and human safety concerns, especially with regards to children. Oftentimes it is thought that if we just can educate people to the "facts" then there will not be conflict; that if we say only a certain number of people are killed each year by grizzly bears in North America, that people's "irrational" fear of grizzly bears will go away. We often try to simplify conflicts to the readily stated facts, and that is, indeed, an unfortunate consequence of our current political and media system (Lange, 1993).

Predator compensation programs are an attempt to move beyond merely a regulatory solution, these programs represent an economic strategy attempting to deal with economic costs associated with regulations that protect species. Oftentimes, compensation starts with the assumption that livestock depredation is an economic issue and that paying for losses to predators will alleviate the problems involved in living with predators. However, the larger social context limits the ability of compensation as an economic strategy to reduce human/livestock and wildlife conflicts since it does not

address other, larger socio-political issues that are actually at the heart of the debate. Compensation as an economic strategy does not address the very real issues of land control, land use, and perceived governmental interference into private land rights and uses, all of which the results indicate are important topics to consider. Moreover, compensation is really only one group's definition of the problem. The results indicate that ranchers and livestock owners frame the issues of livestock depredation and predator conservation very differently; it's not simply an economic issue of losing a \$500 calf. There is a danger in conceiving compensation as solely an economic strategy when the issues and conflicts surrounding predator compensation programs involve more than economic costs. The results here suggest that livestock owners may see these issues and conflicts, not only as economic issues, but also as federal government issues, as private rights issues, equity issues, public grazing issues, public land management issues, or even as private land management issues, or as a combination of many issues specific to their social and political contexts. If one conceives of predator compensation programs as solely economic, then one overlooks the potential for compensation programs to bridge these other issues as well. For example compensation could be seen as a tool for solving issues of equity and distribution of costs to a greater segment of society. If one understands the social nature of the conflicts surrounding predator compensation, then predator compensation can be seen as a social strategy.

Navigating a socially acceptable resolution to conflicts such as whether compensation is a desirable management option requires obtaining a meaningful understanding of public sentiment towards these issues. We need to move beyond a simplistic characterization of peoples' views, to a more comprehensive exploration and

understanding of the set of issues underlying peoples' views. To have solutions be seen as socially acceptable requires at the very least that stakeholders feel their concerns have been heard, understood, and weighed in the process (Patterson et al., 2003; Peterson and Horton, 1995). Failure to do so promotes, rather than resolves lack of trust and concerns about "hidden agendas" of the sort reflected in these results. This study makes a contribution by expanding the understanding of the social values surrounding predator compensation and the role it could potentially play as a predator conservation strategy. However, it also needs to be noted that having this in-depth understanding does not necessarily guarantee that a socially acceptable solution will be reached. Resolution of social conflicts requires political negotiation and compromise, and that requires more than mere knowledge.

Nonetheless, even if an understanding does not guarantee a socially acceptable solution, the political process of negotiation still needs understanding of the underlying tensions if there is to be any real hope for reaching a solution. A broader purpose for this study was to obtain an understanding of the social debate underlying views towards predator compensation. The dissertation explored what types of underlying beliefs and other characteristics influence people's willingness to endorse compensation programs. What is of most importance is understanding the factors that cause variation in endorsement that exists; that is, what drives the debate? Emerging from the data is the insight that we need to look at the data in a collective and integrated fashion in order to understand the complexities surrounding the concept of compensation. The results indicate that in the three states of Idaho, Montana, and Wyoming predator compensation is widely viewed as desirable by both livestock owners and the general public.

Considered collectively, the results suggest that the widespread sentiment that compensation is desirable stems from underlying beliefs about the question of how society should distribute the costs associated with predation; compensation is seen as a desirable management option because it is seen as spreading the costs of predator conservation more fairly in society.

In the interviews, livestock owners commonly expressed the view that some losses to predators are expected. However, chronic losses in conjunction with restrictions on a livestock owner's ability to respond to those animals responsible for predation were not viewed as normal business costs. For such reasons, many livestock owners viewed predator reintroduction efforts and restrictions on livestock owners' ability to control problem predators (through legislation like the Endangered Species Act) as creating a responsibility for society (or the government) to compensate those whose livelihood is impacted. Further, a discriminant analysis suggests that the idea that compensation helps to spread the costs of predator conservation and normative beliefs about the concept of compensation (such as whether or not losses to predators are a normal cost of doing business) factor into whether or not people endorse or support of compensation. In particular, respondents agreeing to the statement that compensation spreads cost of predator conservation more fairly tended to find compensation desirable, suggesting that those who found compensation desirable were more likely to hold this belief than those who found compensation undesirable or neutral.

Overall with respect to beliefs that might predispose people to be supportive of compensation, the majority of livestock owners and the general public in the states of Idaho, Montana, and Wyoming believe that general societal benefits accrue from

ranching and disagreed that predation should be considered a normal cost of business and therefore should not be compensated. When asked more directly about the possible positive consequences of compensation programs, approximately half of respondents in the livestock owner sample agreed that it spread costs of compensation programs more fairly throughout society. Less than half of the general public sample held this view, however more respondents agreed with this belief than disagreed. A majority of the livestock owner sample indicated their tolerance for wolves and grizzly bears would decrease if compensation programs were not available; however, among the general public a greater percentage indicated that tolerance would not decrease in the absence of compensation. Clearly the majorities in both samples hold opinions about ranching and predation which might help make compensation programs a viable option, and at least a plurality saw compensation as a means of more equitably distributing costs of predator conservation.

Views towards appropriate funding sources provide a complicated picture and paint it as a problematic issue. Discussions in interviews in support of state government involvement tended to reflect the themes related to “efficiency in administration” and/or greater confidence in motivations of a state run program compared to privately run programs. Support for federal government involvement tended to reflect the theme of “responsibility for funding” as a consequence of either the “federal action” of reintroducing wolves or the fact that wolf conservation serves the values and interests of the broader public who should therefore contribute to the costs. Discussion in support of private programs tended to focus on the desirability of a funding mechanism where only those who want predators have to pay and on concerns about the inefficiency of governmental bureaucracy with respect to such programs. Overall, the interviews

indicate respondents generally support compensation because they see it as spreading the costs of living with these predators. Funding mechanisms through the federal government and private organizations are seen as appropriate sources because they spread those costs to those people who are either responsible for increasing predator populations (such as wolves and grizzly bears) in the area (federal government) or those who want these predators around (private organizations).

The discussion on appropriate funding sources is consistent with the results regarding reasons people support compensation – that compensation spreads the costs of predator conservation around to a broader segment of society. And, overall, funding via sources directly linked to livestock owners (tax per head of livestock, private insurance) were seen as inappropriate by a much larger percentage than those finding such funding appropriate, even among the general public sample. However, the results also indicate that the question of how to fund predator compensation programs would likely be a difficult issue to resolve given the diversity of perspectives. Excluding private donations, no one public funding mechanism was endorsed by a majority of the respondents. However, it is worth noting that a majority of respondents across the three states (69.0% of livestock owner sample and 72.3% of the general public sample) endorsed at least one of the four broader societal funding mechanisms (federal tax, tax on tourists, hunting fees, state tax). In other words, while there was disagreement among respondents about the most appropriate means by which to generate funding, over two-thirds of the respondents did indicate that they would find a broader “societal funding mechanism” appropriate (as opposed to finding only private donations or funding via the livestock owners themselves as the only appropriate basis).

Though private donations were considered an appropriate source of funding by the majority of respondents, it is not without problems. First, a majority of respondents are already skeptical that there will not be enough money to compensate for losses once predator populations are established. And even more significantly, there currently is widespread skepticism about the motivations of privately run programs (84% of the livestock owner and 59% of the general public respondents agreed with this statement that compensation programs by environmental groups are “publicity stunts that do not address the real issue”). However, on the surface, this finding also seems to contradict the finding from the interviews that compensation was frequently valued by livestock owners because it indicated other segments of society recognize the costs imposed on livestock owners by predator conservation and associated restrictions. This apparent contradiction likely stems from miscommunication about motives, lack of trust, and not fully understanding how stakeholders conceive of compensation and its role of in predator conservation. This study's results offer insight into how to address the latter issue. It may well be that livestock owners (and members of the general public) who support compensation as means of distributing costs more fairly for reasons of societal equity become skeptical if they perceive that private compensation programs are advocated as a means of changing values and attitudes toward wildlife. Among an already suspicious group, the latter goal could be perceived as a misguided agenda rather than an effort to address the real problem. Understanding why people support compensation could help alleviate this sort of tension.

Although the results indicate that there is widespread support and endorsement for compensation, the results also indicate that there is widespread concern for issues - such

as predator impacts on deer and elk populations; human safety concerns; simply not wanting predators around; and private property rights - that compensation does not address. Essentially, compensation has qualified endorsement, one in which many of the livestock owners believe that compensation helps, but it should not be seen as an adequate solution by itself. Among many of the livestock owners, compensation was valued as a means of distributing the costs of predation more fairly rather than as a solution to the problem of predation. This suggests why there was widespread support for other management options, in particular lethal control methods such as giving livestock owners the right to kill problematic predators and hunting by the public. Such a qualified endorsement reflects the depth to which livestock owners think about compensation. They are weighing the role that compensation plays in dealing with issues surrounding living with predators. It may help deal with some of the issues, but by itself does not adequately address all the social issues involved. This does not necessarily mean that compensation would not be desirable to these respondents; it also does not mean that finding compensation desirable negates the need for other management options.

Verification is potentially one of the most contentious issues involved in predator compensation programs. A large proportion of livestock owners recognize that (and are concerned that) a compensation program may be taken advantage of; thus they see the need for a verification process. Although the respondents discussed problems or barriers that, in their view, make the verification process "too strict," several also identified opportunities to increase the acceptability of verification. It may be easy to focus on the complaints that livestock owners have voiced about the verification process and to

dismiss them as nothing more than complaining from a group that will never be happy with any strategy for predator conservation. To do so, however, would sell the results short. Even though livestock owners have complaints, the more valuable insight is that there also seems to be the possibility for dialog between livestock owners and wildlife officials over potentially contentious issues, such as the verification process.

Collectively, the results illustrate that livestock owners recognize the complexity of verification, and the types of issues that need to be addressed from the livestock owners' perspective. While most livestock owners see a need for verification, there is diversity in their views regarding how to necessarily accomplish that. This research does not provide a clear answer on how to proceed with verification, but it does suggest that livestock owners recognize the complexity of the situation, are willing to acknowledge the need for some type of verification process, have a diversity of opinions, and are receptive to engaging in a dialog about this dimension of a compensation program.

Peterson and Horton (1995) and Patterson et al. (2003) suggest that for solutions to social conflicts such as predator compensation to be seen as socially acceptable, at the very least, stakeholders must feel that their concerns have been heard, understood, and weighed in the process. Social research such as this study can facilitate the type of understanding of stakeholder concerns necessary to promote perceptions of legitimacy. However, as suggested earlier, research alone cannot resolve these types of social conflicts. Successful resolution also requires stakeholders to engage in a dialog. Both perceptions of legitimacy and willingness to engage in dialog require trust, which currently is generally lacking among livestock owners in regard to their relationships with agency personnel. Although the current status of relationships is important information

to document, the more meaningful insight is whether lack of trust can be overcome or is simply an inevitable outcome of the conflicting values. The results suggest that even though livestock owners typically readily identify reasons for a lack of trust or why a constructive relationship does not exist, they are still open to communication and dialog about predator management issues. The type of analyses done here helps to build an understanding that can help to improve these relationships. The results should help agency personnel better understand how livestock owners conceive of the issues surrounding predator compensation programs as well as how they view their relationships with agency individuals. With this information, agency officials can better decide how to focus their energy, such as allowing for more opportunity for field personnel to go out and talk with livestock owners and landowners even when there are not conflicts. A valuable insight emerging from the results is the notion that many livestock owners, even if they have had conflicts with agency individuals, are still willing to engage in dialog and to work on having constructive relationships with agency personnel.

Ultimately, wildlife conflicts are going to continue to exist because of the vast differing values, attitudes, and philosophical bases that American society holds with regard to wildlife and natural resources. Wildlife management needs to blend both the biological and the social aspects so that managers can understand the context of the issues they face. To reduce conflicts, wildlife managers need to take an interdisciplinary approach that includes various disciplines, interagency cooperation/consultation, and differing constituencies. They need to link biological science and social science with policy formulation. Primm (1996) has made the case that issues of this nature with respect to carnivore conservation require social solutions tailored to the problem rather

than merely regulatory or economic solutions. The dissertation concludes that compensation may be viewed as a useful social strategy, but one with limitations and possible unanticipated adverse consequences if not conceived of and implemented appropriately. Ultimately, whether compensation can contribute to carnivore conservation depends on whether the nature of the community being served is understood and its needs appropriately addressed.

Future Implications and Research

The dissertation has attempted to develop a collective, coherent understanding of how livestock owners and the public characterize the conflicts surrounding predator compensation programs and the role compensation may play in society. This is the type of social research that is becoming increasingly valuable because it attempts to map out conflicts in specific sociopolitical contexts rather than simply inventorying attitudes towards issues. Although the information provided here is valuable, to be useful it now needs to be taken into the political and decision making arena where the dialog around these issues will, one hopes, craft a socially acceptable solution.

One issue that should receive additional thought and research is the debate and conflict surrounding public lands grazing. The dissertation results noted that many of the livestock owners perceive the management of large predators as a tool to get grazing off of public lands. However, more research should be done that better delves into the depths of this issue. In particular, how do perceptions about the 'right' to graze on public lands differ from the legalities involved in public lands grazing? Courts have been clear that public land grazing is a privilege, which may be withdrawn at any time, and not a right (*Diamond Bar Cattle v USA*), but how do livestock owners view this issue? In

addition, there has been a growing movement by some interest groups to eliminate grazing from public lands, but not much is known about the general public's view towards public land grazing. An in-depth understanding of the differing viewpoints toward public lands grazing and the underlying issues and belief systems could increase the possibilities to find a socially acceptable solution to this conflict.

This dissertation has provided insights into how people characterize and conceive of predator compensation programs and the conflicts surrounding them. Additional research can be done to broaden the understanding of specific issues relevant to conflicts surrounding predator conservation. In particular, one area of interest to be further examined would be the views of the Native American communities in Idaho, Montana, and Wyoming. An in-depth understanding of how individuals in the Native American communities characterize and conceive of issues related to predator conservation and predator compensation programs would be quite valuable, since several reservations are and/or will be involved with management of predators. For example, the Nez Perce Tribe has been involved with wolf reintroduction efforts in Idaho; the Blackfoot Reservation near Glacier National Park and the Wind River Reservation in Wyoming have had to deal with livestock losses due to predators and are also responsible for management of predators on their lands. Underlying belief systems and the sociopolitical context involved with the Native American communities could produce results that vary from what this study found; this would help to broaden the understanding of the views and values involved in these wildlife conflicts.

Another avenue for important research includes closer examination into the use of hunting and control methods as tools used in predator conservation efforts. The results

here indicate the widespread endorsement of these management options by both livestock owners and the general public. However, use of these methods in predator management creates conflict with specific interest groups, e.g., the public outcry over the elimination of the Whitehawk wolf pack in Idaho for chronic livestock depredation; the push from Defenders of Wildlife to eliminate aerial wolf hunting in Alaska; and the public uproar over killing potentially habituated mountain lions in a well used Arizona canyon. Such conflict underlines the need to better understand the context of these management options, especially among the interest groups that may find them unacceptable solutions. In order for hunting and other lethal control methods to be seen as socially acceptable solutions, understanding how people, especially people that find them contentious issues, characterize and conceive of these issues will be necessary. However, while this understanding does not guarantee that a socially acceptable solution, it will afford the opportunity for such a solution and will provide wildlife managers a better sense of how people characterize and value the underlying issues and conflicts surrounding such management options.

Appendix
Livestock Owner Survey

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