Idaho Wolf Population Management Plan

2008-2012

Idaho Department of Fish and Game
600 South Walnut Street
Boise, Idaho

October 2007

DRAFT DRAFT DRAFT

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

TABLE OF CONTENTS (Continued)

1. INTRODUCTION

Purpose

The Idaho Wolf Conservation and Management Plan (State Plan) was finalized in March 2002 by the Idaho Legislative Wolf Oversight Committee (2002) and amended by the 56th Idaho Legislature. The State Plan identifies broad guidelines for gray wolf (*Canis lupus*) management after the species is removed from Endangered Species Act (ESA) protections. These guidelines listed Idaho Department of Fish and Game (IDFG) as the state's primary wolf manager, responsible for developing population management and monitoring programs. Delisting of wolves within the Northern Rocky Mountains has been an ongoing process since 2002, and recently reached a nexus when the U.S. Fish and Wildlife Service (USFWS) published a proposed delisting rule 8 February 2007 (USFWS 2007*a*). In response, IDFG developed a detailed plan for post-delisting wolf monitoring and population management. This plan is an integral component under the State Plan and incorporates species management principles identified in IDFG's strategic plan (The Compass). Management regulations will conform to guidelines of this plan.

Public Involvement in Plan Development

A public stakeholder working group was formed to ensure that a variety of public interests and issues were included in the planning process and management direction was acceptable to stakeholder groups. The working group consisted of representatives from the Idaho Sportsman's Caucus Alliance Council, Sportsmen for Fish and Wildlife-Idaho, Idaho Conservation League, Defenders of Wildlife, Idaho Cattle Association, Idaho Woolgrowers Association, and Idaho Outfitters and Guides Association.

In July 2007, a survey was mailed to 1,000 hunters, 1,000 members of the general public, and 1,000 members of the livestock industry. The survey provides baseline data regarding attitudes about wolves, interest in consumptive and non-consumptive recreation (including willingness to pay), and level of support for various management options (Section 8, Appendix A). The public was invited to attend open houses throughout the state to review the draft Idaho Wolf Population Management Plan (IDFG Plan). At least 1 open house was held in each IDFG administrative region during November and December 2007; x,xxx citizens attended to provide input on the plan. The draft plan was also made available on the IDFG web site, which generated approximately x,xxx comments. Lastly, the public was encouraged to attend Commission meetings to voice their opinions, as well as provide written comment.

Public input and information dissemination will continue during implementation of the plan through public meetings and open houses used to gather input on big game proposals, the wolf webpage on IDFG's website, and statewide media outlets.

Relevant Planning Documents

- Idaho wolf conservation and management plan (Idaho Wolf Legislative Oversight Committee 2002)
- White-tailed deer, mule deer, and elk management plan (IDFG 1999)

- White-tailed deer management plan 2004-2015 (IDFG 2004)
- Black bear management plan 1999-2010 (IDFG 1998)
- Mountain lion management plan 2002-2010 (Rachael and Nadeau 2002)
- Policy for avian and mammalian predation management (IDFG 2000)
- Idaho comprehensive wildlife conservation strategy (IDFG 2005*a*)
- Memorandum of Agreement between State of Idaho and Nez Perce Tribe concerning coordination of wolf conservation and related activities in Idaho (State of Idaho and Nez Perce Tribe 2005)
- The Compass, Idaho Department of Fish and Game strategic plan (IDFG 2005*b*)
- Memorandum of Understanding between Idaho Department of Fish and Game and Idaho State Animal Damage Control Board (IDFG and Idaho State Animal Damage Control Board 2005)

Goals and Objectives

Several objectives identified in the IDFG strategic plan are incorporated in this IDFG Plan (Tables 4.1 and 5.1).

State Plan goals listed below were integral to development of the IDFG Plan and will be reflected in plan implementation.

1. Manage for a self-sustaining, viable wolf population that provides for a diversity of values and uses.
2. Manage wolves as part of the native resident wildlife resource.
3. Ensure that resident wolf populations are able to interchange with wolves from adjacent states/provinces as part of a larger metapopulation.
4. Allow wolves to persist where they do not cause excessive conflicts with humans or human activities.
5. Maintain >15 breeding pairs. [Note: The State Plan identified the minimum goal as 15 packs; however, IDFG and the Governor's office have clarified that management should be based on more biologically meaningful breeding pairs.]
6. Manage wolf populations so that wolf numbers will not adversely affect big game populations or the economic viability of those who depend on big game animals.
7. Minimize wolf/human conflicts and adverse impacts where they occur.
8. Establish a strong and balanced public education program.

Background

In 1973, the gray wolf was listed under the ESA and protected as an endangered species in the continental United States. The first USFWS wolf recovery plan was developed in 1987 (USFWS 1987) after wolves naturally colonized portions of northwest Montana. The 1987 plan and a subsequent Environmental Impact Statement (EIS, USFWS 1994) called for natural recovery in northwestern Montana (NWMT) and reintroductions of wolves in 2 Nonessential Experimental Population Areas: the Greater Yellowstone Area (GYA), predominantly in Wyoming; and central Idaho (CID). Reintroduced wolves were classified as nonessential experimental populations, providing more latitude in wolf management and conflict resolution under section

10(j) of the ESA (Figure 1.1). In 1995 and 1996, 66 wolves were captured in Alberta and British Columbia, Canada, and released in Yellowstone National Park (YNP; n = 31) and central Idaho (n = 35).

Idaho contains portions of all 3 northern Rocky Mountain recovery areas (Figure 1.1). Wolves south of Interstate 90 (I-90) are classified and managed as nonessential experimental populations, whereas wolves north of I-90 are classified and managed under a fully endangered ESA classification.

Because of Idaho legislative direction in 1995, the USFWS entered into a cooperative agreement with the Nez Perce Tribe (NPT) to recover and manage wolves in the CID recovery area. Wildlife Services (WS) assisted the USFWS by investigating depredations and implementing wolf control actions in response to wolf-livestock conflicts.

In 2002, the Idaho Legislature accepted and passed the Idaho Wolf Conservation and Management Plan (http://fishandgame.idaho.gov/cms/wildlife/wolves/state/wolf_plan.pdf). In April 2003, the Legislature authorized IDFG to assist the Governor's Office of Species Conservation in implementing the State Plan and participate in wolf management with the USFWS and the NPT. In 2003 and 2004, wolves were monitored and managed under cooperative agreements and work plans between cooperating governments and agencies.

In December 2002, the northern Rocky Mountain wolf population attained the population recovery goal of 30 breeding pairs of wolves well distributed throughout the 3 states of Idaho, Montana, and Wyoming for 3 consecutive years (USFWS 2003). Under federal law, initiation of a delisting process could occur when the northern Rocky Mountain wolf population met recovery goals and each state developed USFWS-approved wolf management plans and enacted legislation and regulations to ensure long-term conservation of wolves. By 2003, most federal delisting requirements had been met. Idaho and Montana had USFWS-approved wolf management plans and adequate state laws in place by the time population recovery goals were met in 2002. Wyoming's wolf management plan, however, was not approved by the USFWS. The lack of federal approval and subsequent legal action has caused a delay in the delisting process. In response to this delay, the USFWS revised section 10(j) of the ESA rules governing management of nonessential experimental populations in Idaho and Montana in February 2005 (Figure 1.2). The revised 10(j) rule was an interim measure to provide Idaho and Montana with more local wolf management authority until Wyoming's situation could be resolved and wolves could be delisted.

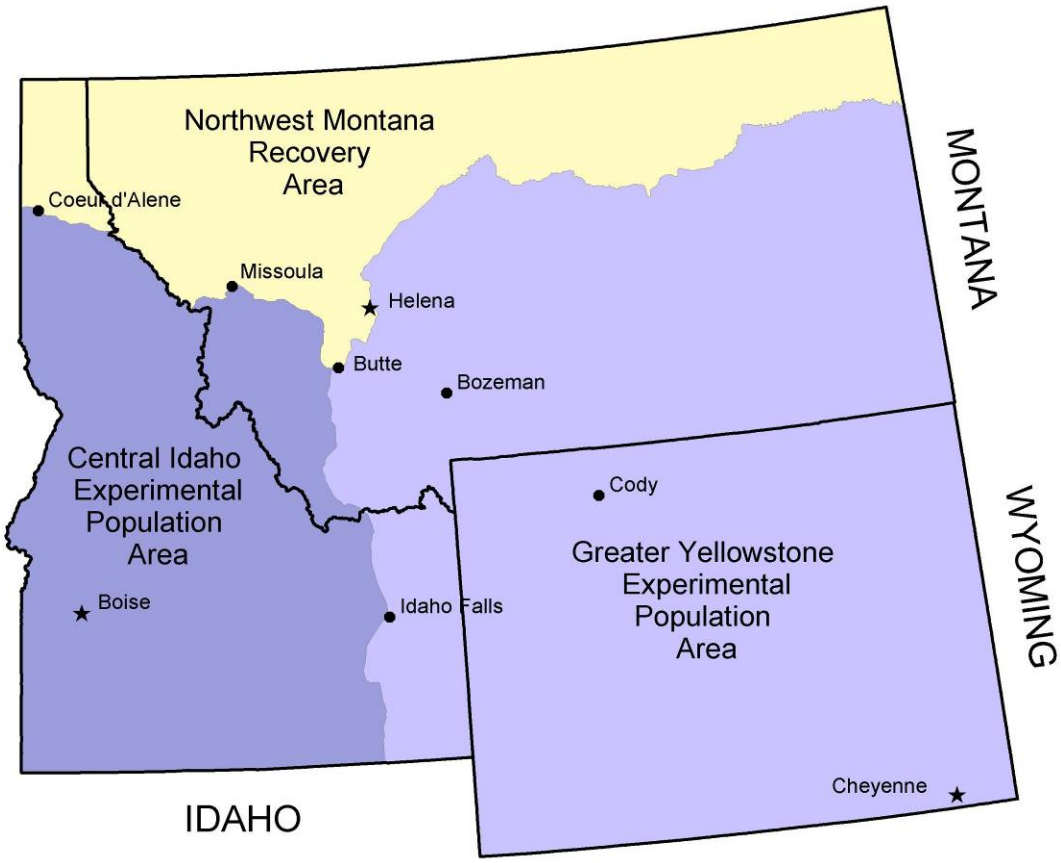


Figure 1.1. Recovery areas established by the USFWS to restore gray wolf populations in the northern Rocky Mountains of Idaho, Montana, and Wyoming.

In January 2006, the Secretary of Interior and the Governor of Idaho signed a Memorandum of Agreement (MOA) that transferred most management authorities previously held by the USFWS to Idaho. The State of Idaho currently oversees daily management of wolves in Idaho and coordinates among agencies to fulfill obligations under the revised 10(j) rule, ESA, and State Plan.

On 8 February 2007, the USFWS published a proposal to remove gray wolves in Idaho, and other parts of the northern Rocky Mountains, from protections of the ESA. When wolves are delisted, full management authority will revert to IDFG. Under Idaho administrative rule, wolves are classified as a big game animal. As such, rules for population management and regulated harvest can be developed by the Department and promulgated by the Commission.

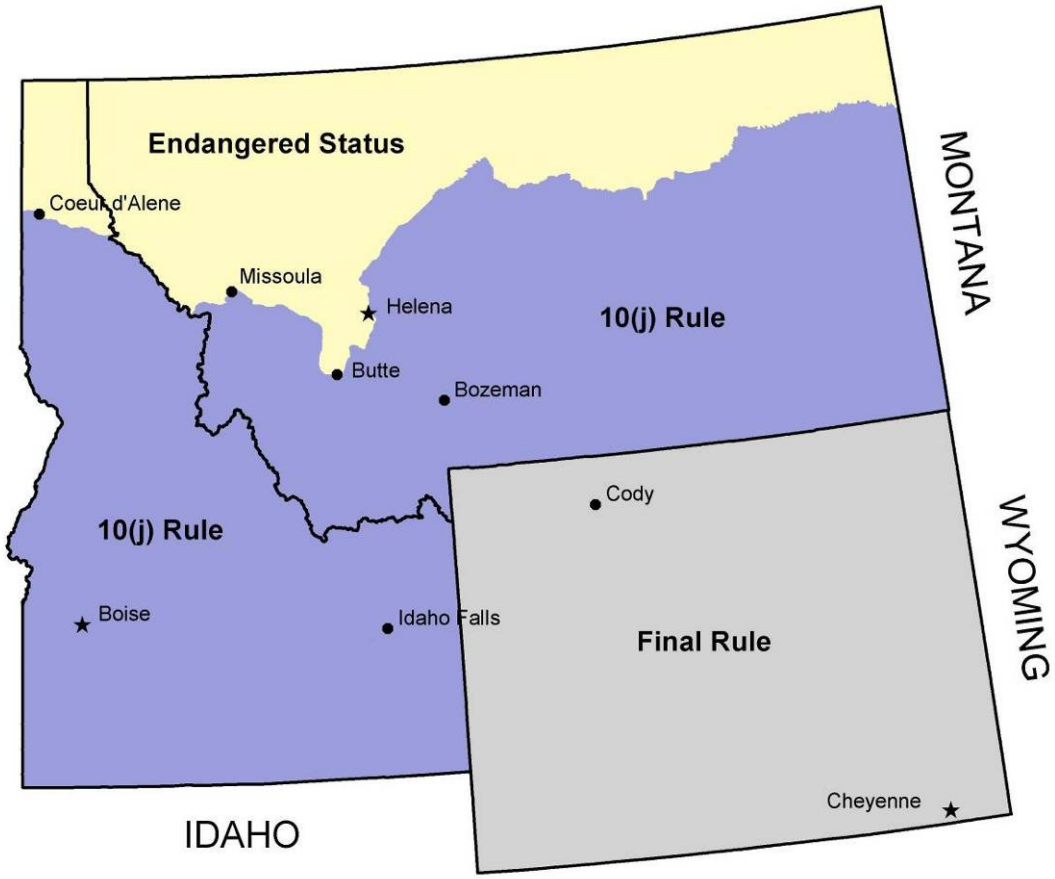


Figure 1.2. Management areas established in February 2005 by the USFWS Service to restore gray wolf populations in the northern Rocky Mountains of Idaho, Montana, and Wyoming.

2. RESULTS FROM PREVIOUS PLANNING PERIOD

Wolf Population Status

The Idaho wolf population has continued to expand in size and distribution since initial reintroductions in 1995 (Figures 2.1 and 2.2), reaching recovery goals at the end of 2002 (Table 2.1). By the end of 2006, program personnel documented ≥415 wolves and ≥72 wolf packs in Idaho. Population estimation techniques based on the number of documented packs and individuals within the packs, and correction for lone wolves, yielded a minimum population estimate of 673 wolves in Idaho for 2006 (Nadeau et al. 2007).

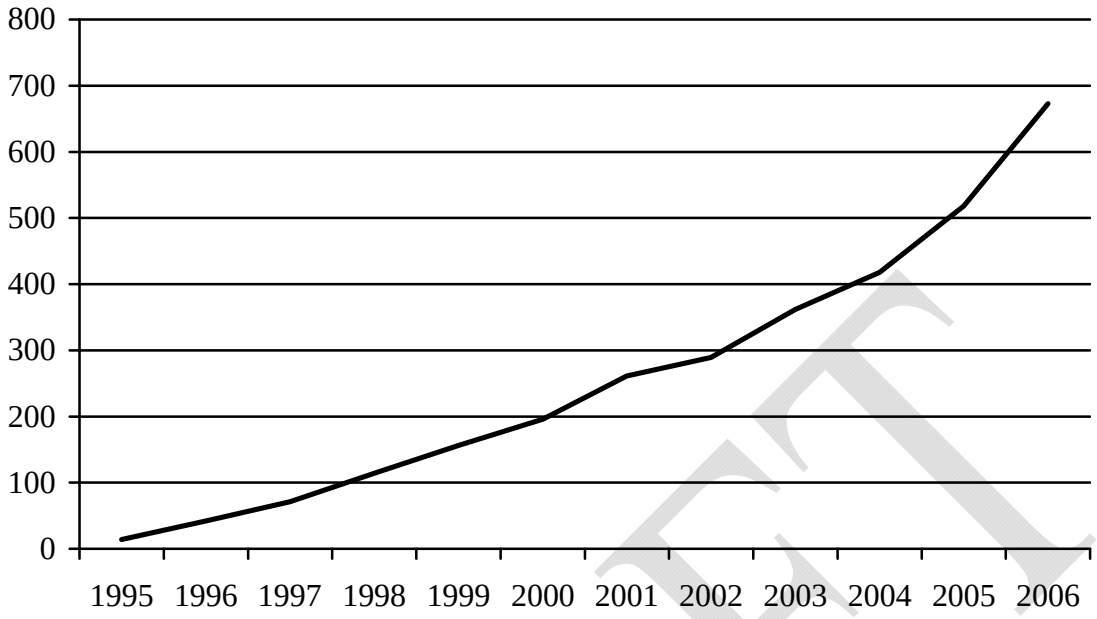


Figure 2.1. Estimated number of wolves, Idaho, 1995-2006. Estimates were retroactively updated as new information became available.

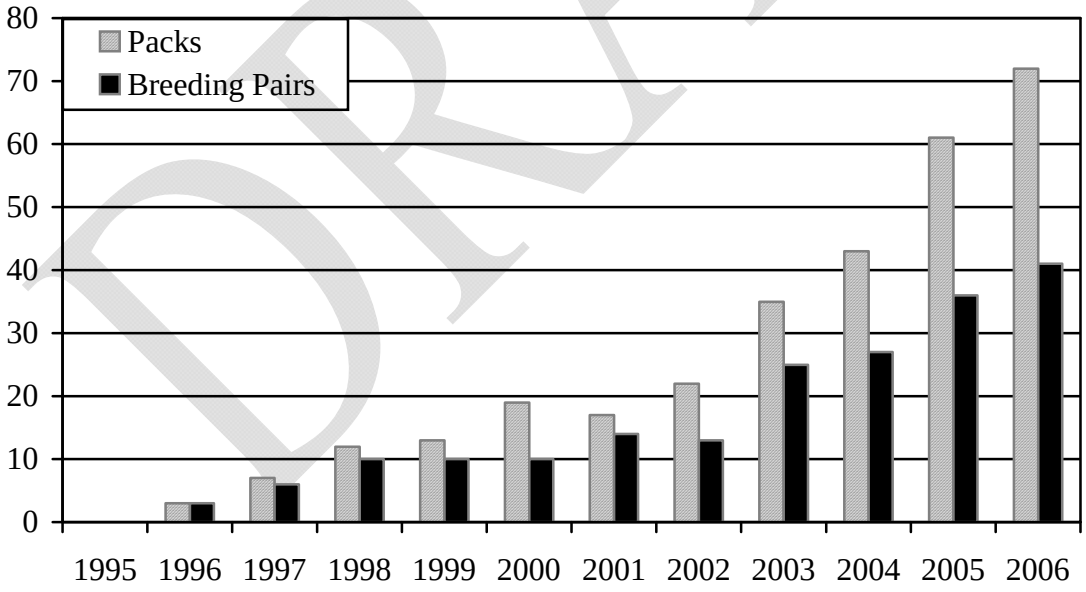


Figure 2.2. Number of documented wolf packs and breeding pairs, Idaho, 1995-2006. Estimates were retroactively updated as new information became available.

Table 2.1 Accomplishments from the 1995-2006 planning period.

Management direction	Statewide objective	Results	Recommendations of State Plan
Ensure the long-term survival of native fish, wildlife, and plants.	Under federal recovery goals: 30 breeding pairs and 300 wolves well distributed among 3 states/recovery areas for 3 consecutive years; 10 breeding pairs and 100 wolves in each state for 3 consecutive years.	Recovery goals reached in 2002. In 2006, 86 breeding pairs and 1,300 wolves among the 3 recovery areas; 42 breeding pairs and 673 wolves in Idaho.	Maintain >15 breeding pairs in Idaho. If <15 breeding pairs, IDFG will review management policy to determine if changes are needed. Allow wolves to persist where they do not cause conflicts. Develop population management and monitoring programs consistent with maintenance of a self-sustaining population.

Distribution, Reproduction, and Population Growth

Wolves are widely distributed in Idaho from the Canadian border south to the Snake River plain (Figure 2.3). Most wolf pack territories in Idaho occur wholly or predominantly on U.S. Forest Service (USFS) or other public lands.

Of 72 documented packs in 2006 (Table 2.2), ≥53 produced litters (≥185 pups) and 41 qualified as breeding pairs (2 adults producing ≥2 pups that survive until 31 December of that year). Wolf pup counts were conservative estimates because not all pups in monitored packs were observed, and some documented packs were not visited. Minimum documented litter size ranged from 1 to 9. Average litter size where counts were believed complete (n = 32) was 4.5. Seven new breeding pairs were documented and the reproductive status of 23 documented packs was either not verified or believed to be non-reproductive during 2006. Population growth rate in 2005 and 2006 was approximately 22%.

Mortality

Of 68 documented wolf mortalities in 2006, 59 were caused by humans, 2 were attributed to natural causes, and 7 were due to unknown causes (Table 2.2). Of 59 mortalities attributed to humans, 39 were killed by WS because of livestock depredations, 8 were illegally taken, 6 were from other human causes, and 6 were legally taken by landowners protecting livestock. These figures underestimate true mortality because only a small proportion of wolves are radiocollared. There were no means to estimate pup mortality prior to observations at dens or rendezvous sites. Lethal removal by WS to address livestock depredations has generally increased since reintroduction, from 1 in 1996 to a high of 39 in 2006 (Figure 2.4). Under the revised 10(j) rule, livestock operators were given the option to kill wolves harassing livestock (previously, lethal removal was only allowed when wolves were observed actually attacking livestock). Seven wolves have been killed under provisions of the revised 10(j) rule since 2005.

Health Status

In most cases, treatment of diseases and parasites in free-ranging wolves is not practical. The initial wolves captured for release in YNP and CID were vaccinated for canine distemper and parvovirus and treated for internal parasites. These actions may have reduced the potential for these diseases during re-introduction, but objective assessment of any effect was not possible. For wolves trapped and handled to date in Idaho, no standard treatment or vaccination program has been implemented.

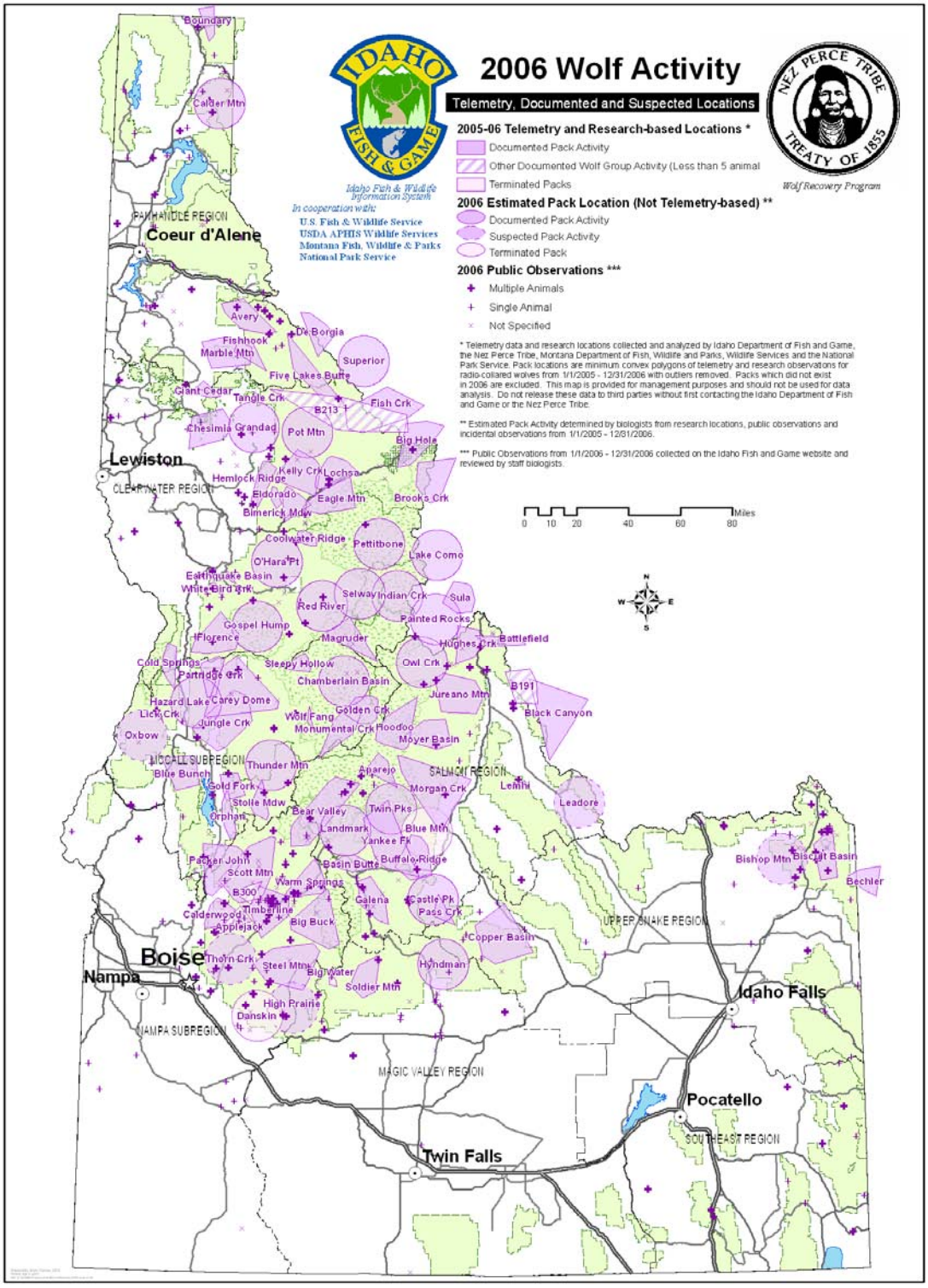


Figure 2.3. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports, Idaho, 2006.

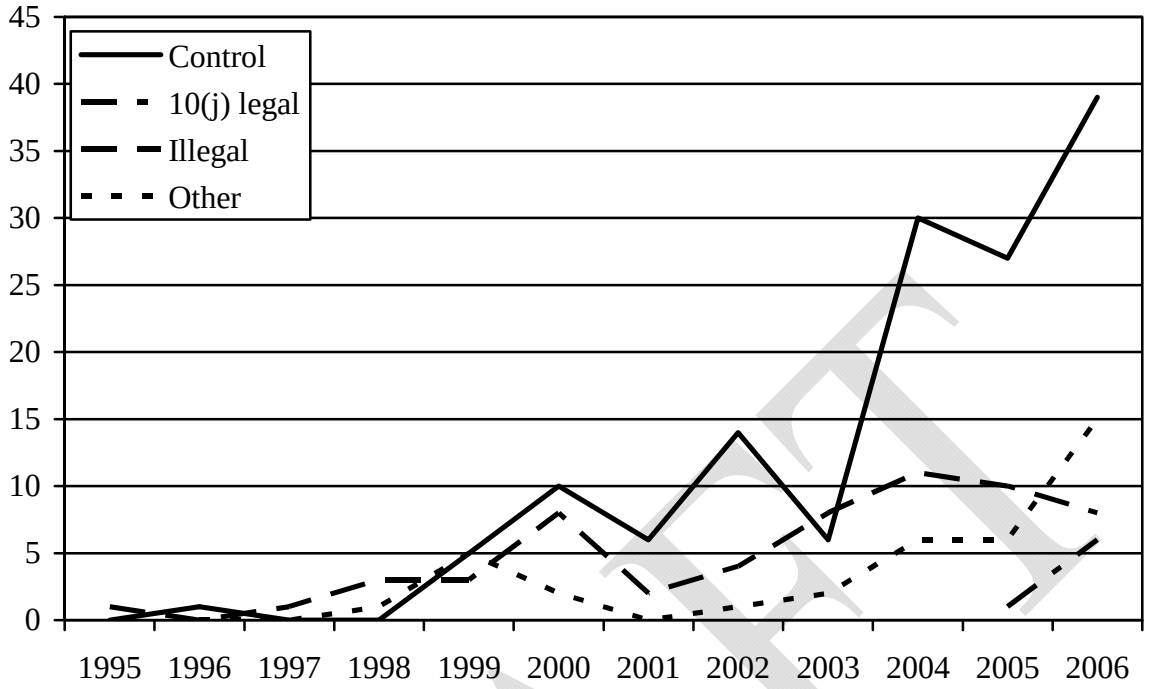


Figure 2.4. Documented wolf mortality, Idaho, 1995-2006. Control is lethal removal in response to livestock conflicts; 10(j) legal is lethal removal by livestock operators; illegal is illegal take; and other includes natural mortality, vehicle collisions, and unknown causes.

Table 2.2. Wolf population and monitoring information, and livestock depredations, Idaho, 2006.

	Management region								
	Panhandle	Clearwater	McCall	Southwest	Magic Valley	Southeast	Upper Snake	Salmon	Total
Min. no. wolves detected[a]	35	125	73	61	9	0	14	98	415
No. documented packs	7	23	15	9	3	0	2	17	76
Packs lethally removed	0	0	1	1	1	0	0	1	4
Packs at end of year	7	23	14	8	2	0	2	16	72
No. other documented groups[b]	0	4	1	2	0	0	3	2	12
Groups lost	0	1	0	0	0	0	2	1	4
Groups at end of year	0	3	1	2	0	0	1	1	8
Known dispersal	1	2	1	3	1	0	1	4	13
Reproductive status									
Min. number pups produced	14	56	35	24	7	0	9	40	185
No. reproductive packs	5	15	10	8	2	0	2	11	53
No. breeding pairs[c]	4	12	9	5	1	0	1	9	41
Documented mortalities									
Natural	0	1	0	0	0	0	0	1	2
Control[d]	0	0	12	13	3	0	6	11	45
Other human-caused[e]	1	3	2	1	2	0	2	3	14
Unknown	1	2	0	0	0	0	0	4	7
Monitoring status									
Active radiocollars	8	28	11	13	2	0	5	17	84
Number wolves captured[f]	8	11	10	9	0	0	5	12	55
Number wolves missing[g]	0	1	3	5	0	0	0	0	9
Confirmed and probable wolf-caused livestock losses									
Cattle	0	4	7	5	0	0	8	17	41
Sheep	0	0	145	57	15	0	14	6	237
Dogs	0	3	0	1	0	0	0	0	4

[a] No. of wolves detected by wolf program personnel through observations of wolves or wolf sign and believed alive at end of 2006.

[b] Other documented wolf groups include suspected packs and known and suspected mated pairs; verified groups of wolves that do not meet the definition of a documented pack.

Table 2.2. Continued.

[c] Breeding pairs are the measure of Federal and State wolf recovery and management goals. A breeding pair is defined as "an adult male and an adult female wolf that have produced at least 2 pups that survive until 31 December of the year of their birth…".

[d] Includes agency lethal removal and legal take by landowners.

[e] Includes all other human-related deaths.

[f] Includes all wolves captured during 2006 for radiocollaring purposes (excludes captures for lethal control). Most, but not all, were radiocollared.

[g] Radiocollared wolves that could not be located in 2006.

3. ISSUES

Understanding of biology, impacts, and benefits of wolves has increased since reintroduction. The original recovery EIS analyzed potential impacts and benefits of 100 wolves in Idaho, a biologically-recovered population that was reached in 1998 (Figure 2.1). Currently, IDFG estimates there are ≥673 wolves, nearly 7 times the number analyzed for potential impacts and benefits in the EIS. The current population level is of particular concern for sportsmen who rely on surplus deer (*Odocoileus* spp.) and elk (*Cervus elaphus*) for hunting, and livestock producers who use public and adjacent private land for livestock grazing. On the other hand, many members of the public find wolves esthetically pleasing and believe they are an important keystone predator necessary for an ecologically intact natural system.

Conflicts with Domestic Livestock

Management of wolf depredation on livestock has been a significant segment of overall wolf management since reintroduction. Depredation attributable to wolves steadily increased after reintroduction, reaching a high of 199 sheep and 29 cattle during federal fiscal year 2006 (Figure 3.1). Non-lethal and proactive techniques were used to reduce wolf-livestock conflicts when and where appropriate.

Livestock husbandry costs increase as producers increase vigilance and hire personnel to reduce potential for losses. Some losses may be associated with livestock being harassed or injured by wolves even if they are not mortally wounded, and some losses are incurred but never discovered (Oakleaf et al. 2002). Under the State Plan, IDFG has an obligation to producers to keep livestock conflicts with wolves and other large carnivores to a minimum.

Impacts on Big Game Populations

Wolf impacts on wild ungulate populations are variable in space, time, and magnitude. In the Lolo Elk Zone, wolf predation impacts on elk have been documented over the last few years. Based on cause-specific mortality of radiocollared elk in the Lolo Zone, under existing conditions, wolf predation on cow elk is a significant factor in that population's inability to stabilize or increase, particularly in Big Game Unit 12 (IDFG 2006). Similarly, wolf predation may be causing reductions in harvestable surplus in other areas, even if elk populations are not declining. Wolves are likely impacting behavior and habitat use of elk during hunting seasons, thus possibly reducing success rates for some hunters. Behavioral changes documented by researchers in the greater Yellowstone ecosystem included elk spending more time in forested areas, on steeper slopes, and at higher elevations than prior to wolf reintroductions (Creel and Winnie 2004, Mao et al. 2005). The Department will continue to closely monitor impacts of wolves on ungulates as this aspect of wolf recovery is very important to big game managers and hunters. Under the State Plan, IDFG has an obligation to assure that wolves in increasing numbers do not adversely affect big game populations.

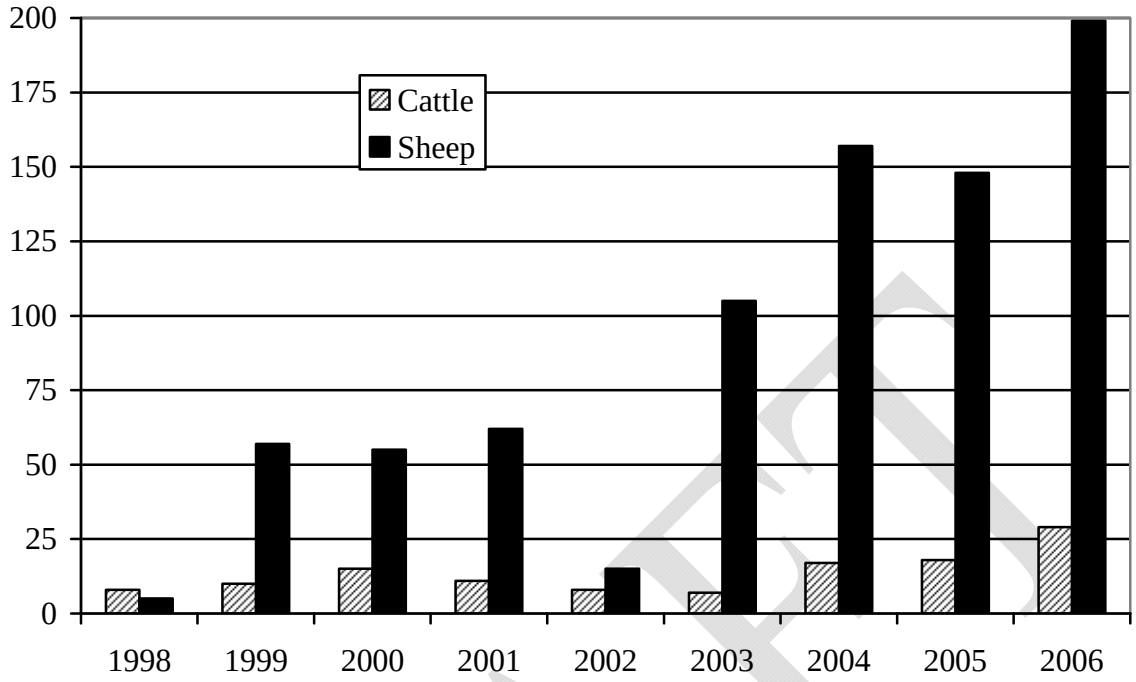


Figure 3.1. Confirmed livestock losses due to wolves, as compiled by U.S.D.A. Wildlife Services, by federal fiscal year, Idaho, 1998-2006.

Ecological Effects of Wolf Predation

There is evidence in Yellowstone that, since wolf recovery, the elk population and elk use of riparian willow (*Salix* spp.) habitat have declined. Reduced elk use allowed recovery of some willow habitats, thereby producing a cascade effect benefiting a wide range of animal species (Ripple and Beschta 2004). Elk carcasses resulting from wolf predation are being used by an entire suite of scavengers and other carnivores, potentially increasing fitness of species such as grizzly bears (*Ursus arctos*), red and grey foxes (*Vulpes vulpes* and *Urocyon cinereoargenteus*), common ravens (*Corvus corax*), and bald and golden eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*) (Smith et al. 2003).

Predation studies have repeatedly shown that selection by wolves favors substandard or disadvantaged individuals (young, old, or physically impaired; Mech et al. 2001, Husseman 2002, Smith et al. 2003). Strong selection for disadvantaged prey may result in a mitigating effect on overall wolf impacts to prey populations due to the compensatory mortality component of wolf predation, or when wolves selectively prey on older, non-productive individuals that no longer contribute to population maintenance or growth.

Economic Impacts of Wolves

A visitor survey conducted in YNP comparing pre-wolf visitation and post-wolf visitation during 2005 indicated that the direct spending impact of wolf presence in the GYA amounted to about

$35.5 million annually (Duffield et al. 2006). Consequently, some increase in economic benefits would be recognized in the gateway communities of YNP. Several outfitters operate wolf viewing trips into YNP. In Idaho, there is currently little opportunity for reliable wolf viewing, therefore viewing has yet to provide significant economic benefit for the state. Some outfitters have offered wolf viewing opportunities, but they indicate it was not a lucrative portion of their business. Also, according to outfitters, wolves changing elk behavior have impacted specific outfitter operations negatively since reintroductions (G. Simmonds, personal communications).

It is currently unknown what economic impacts have occurred to IDFG because of lost revenues from deer or elk tag sales. Nonresident quotas for deer and elk tags sell out annually, and resident sales are stable. However, some hunters have indicated that they would not return to their hunting areas because of real or perceived impacts of wolves. This change in hunter activity is difficult to assess.

Non-consumptive Use of Wolves

Many people participate in wildlife viewing. In 2006, 746,000 people watched wildlife in Idaho and spent $273 million while doing so (USFWS 2007*b*). Further, 39% of Idaho residents participated in wildlife viewing, whereas 20% angled and 11% hunted. Although potential participation in wolf viewing is unknown, respondents to a random survey indicated that 42% of non hunters would travel to see a wolf and 20% of the non hunters on average would pay $123 to an outfitter to see a wolf (median $100). Twenty percent of the random survey of hunters would travel to see a wolf, and on average would pay $115 to an outfitter to see one ($100 median) (Appendix A).

As with other wildlife species, viewing and other non-consumptive uses of wolves are an important aspect of species management. Where plausible, wolf viewing opportunities should be facilitated in areas of little or no wolf harvest to optimize viewing potential, reduce conflict between user groups, and provide an appropriate balance between consumptive and non-consumptive management alternatives.

Illegal Harvest of Wolves

Since reintroduction, 59 wolf carcasses recovered have been documented as unlawfully taken in Idaho. Based on estimates calculated using radiocollared wolves, illegal take has accounted for approximately 7% of annual wolf mortality in Idaho since reintroduction. Idaho conservation officers either assisted USFWS or were primary investigators for most wolf cases since 2005. Unlawful take of wolves is a misdemeanor violation under Section 9 of the ESA and federal courts have levied a variety of civil and criminal penalties for unlawful take.

Wolves are classified as a big game animal under Idaho Administrative Code (IDAPA 13.01.06). Under state law, a violation of wolf harvest regulations or illegal take of a wolf would be a violation of Idaho Code 36-1101(a) and could result in a misdemeanor fine of $25-$1,000. Multiple violations may be considered flagrant and/or felonious and result in higher fines and penalties.

Regulated Harvest

The State Plan calls for managing wolves similar to other big game animals such as black bears (*Ursus americanus*) and mountain lions (*Puma concolor*). Existing rules and laws provide an adequate regulatory framework to manage wolves through hunting. Regulated harvest will likely provide the most efficacious tool for management of wolf populations. Harvest opportunity can be altered through harvest quotas, season length and timing, bag limits, method of take, and other regulatory tools. Hunting and trapping opportunities could be reduced or terminated if wolf populations dropped to ≤20 breeding pairs statewide in order to provide adequate buffer to allow annual harvest opportunity as well as flexibility to manage conflicts (Table 3.1).

Table 3.1 Management strategies for varying numbers of breeding pairs.

<10 breeding pairs	10-14 breeding pairs	15-20 breeding pairs	>20 breeding pairs
USFWS emergency relisting	IDFG reviews management policy to determine if changes are needed	IDFG evaluates harvest strategies and need for more conservative harvest	Annual harvest opportunity
Depredations will be addressed with non-lethal control	Control of problem wolves increasingly restrictive	Control of problem wolves incremental and increasingly restrictive	Control of problem wolves allowed under normal circumstances
Monitoring of each pack using radiocollars to verify reproduction and survival	Monitoring intensifies to ensure each pack contains some radio-collared wolves to monitor reproduction and survival	Monitoring intensifies to assure ≥15 packs contain some radio-collared wolves to monitor reproduction and survival	Use multiple monitoring techniques to document a minimum BP and population estimate

Tribal Harvest

An agreement between the Governor of Idaho and the NPT Executive Committee completed in 2005 will govern tribal harvest on the Nez Perce Reservation and within the open and unclaimed lands within the treaty territory as identified under treaty rights (MOU, Appendix B map). The agreement identifies a sliding scale harvest that will allow the NPT a Fair Share Allocation whenever a harvestable surplus of wolves occurs as follows:

Harvestable Surplus	Allocation Formula
50 or less	50% State:50% NPT
51-75	55% State:45% NPT; not <25 wolves for NPT
76-100	60% State:40% NPT; not <34 wolves for NPT
Greater than 100	65% State:35% NPT; not <40 wolves for NPT

Each party will establish wolf harvest regulations and enforce them. Both parties will monitor harvest of wolves by their respective constituents and report harvest annually to each other. The

NPT will establish and promulgate wolf harvest regulations through Tribal Code and develop a regulatory process to manage harvest by enrolled Nez Perce tribal members. Tribal regulations will be established prior to allowing hunting by tribal members. The agreement between the State and NPT established a policy group that will review Tribal and State plans for wolf harvest management, and this group will recommend annual allocation levels. No similar agreements have been made with other Native American tribes in Idaho.

Diseases and Parasites

Wolves in Idaho are known to have exposure to a variety of diseases, including those caused by viruses (e.g., canine distemper, canine parvovirus, and canine infectious hepatitis), bacteria, and both internal (e.g., intestinal worms of various species, echinococcosis) and external (e.g., lice and ticks) parasites. A complete list of the diseases that wolves in Idaho could encounter would closely mirror the diseases present in domestic dogs in the state. Those animals that interact with domestic dogs are likely to have higher exposure rates than wolves in remote areas. Wolf populations have the opportunity to develop individual and pack level immunity to some of the common pathogens over time, some of which may be conferred to offspring through maternal antibodies (Gillespie and Timoney 1981). Although diseases can be significant sources of mortality for wolves, they are generally not considered to be limiting at the population level. Despite evidence of ubiquitous exposure, wolves in Idaho demonstrate high recruitment, suggesting long-term stability of the population. Negative effects associated with diseases are unlikely unless the population reaches high density (Kreeger 2003). If, at any time, the wolf population level falls below acceptable limits, emergency rules will be implemented by the Director to curtail harvest and lethal control (Idaho Code 36-106(Sec. 6A).

4. MANAGEMENT DIRECTION

Foremost, long-term management must reflect State Plan objectives: ≥15 breeding pairs, balanced wolf and prey populations, wolves persist where they do not cause excessive conflicts, minimal conflicts, viable population managed as a native wildlife resource, functional metapopulation processes, and a well-informed public. Secondarily, the IDFG and hunter goal of maintaining harvest opportunity for wolves is an important consideration. Ideally, population objectives should also reflect ability to monitor packs, breeding pairs, and total wolves, as well as harvest and monitoring objectives in neighboring states. Therefore, the long-term objective is to maintain viable wolf populations in the state, achieve short-term harvest goals to reduce conflicts, provide annual harvest opportunity, and provide for non-consumptive benefits. Based on stakeholder input, the most important objective within the management plan should be conflict resolution, whereas actual population levels will be of secondary importance as long as populations are maintained above minimum levels. The statewide population will not be allowed to fall to a level where management of conflicts has to be restricted (<15 breeding pairs). Furthermore, optimal hunting opportunity and flexibility in conflict resolution can be achieved by maintaining >20 breeding pairs. The suite of objectives addressed above fall within 11 broad objectives identified in IDFG's strategic plan (Table 4.1).

Table 4.1 Management direction for the 2008-2012 Wolf Population Management Plan as driven by *The Compass* objectives.

Compass Objective	**Wolf Management Direction**
Maintain or improve game populations to meet the demand for hunting, fishing, and trapping	Minimize impacts of illegal take on wolves Minimize impact of wolf predation on other big game populations Maintain a wolf population that can sustain annual harvest opportunity
Ensure the long-term survival of native fish, wildlife, and plants	Maintain a self-sustaining, well-distributed, viable wolf population so that wolves fulfill their ecological role without impacting viability and sustainable harvest of other big game populations
Increase the capacity of habitat to support fish and wildlife	Manage motorized vehicle hunting access and activity that reduces carrying capacity for wildlife Promote contiguous habitat along corridors and adjacent to YNP and surrounding states
Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans	Manage wolf population size and distribution so as to minimize exposure of humans, livestock, and wildlife to wolf-borne diseases and parasites Monitor wolf health status
Maintain a diversity of fishing, hunting, and trapping opportunities	Provide a variety of hunting and trapping opportunities for wolves Provide opportunity for hunters to control problem wolves through depredation hunts Maintain opportunity for hound hunters pursuing bears and lions
Increase opportunities for wildlife viewing and appreciation	Identify wolf-viewing opportunities
Increase the variety and distribution of access to private land for fish and wildlife recreation	Maintain existing level of access to private lands for hunting wolves
Maintain broad public support for fish and wildlife recreation and management	Increase public awareness of wolves as a big game animal and management for sustained harvest Reduce incidence of domestic livestock depredation by wolves Increase public acceptance of wolves as big game animals
Improve citizen involvement in the decision-making process	Promote involvement in stakeholder groups, open houses, public surveys and website comments, and harvest season-setting meetings
Increase knowledge and public understanding of Idaho's fish and wildlife	Promote educational opportunities regarding wolf biology and management as well as laws and policies affecting wolves
Improve information management and business systems	Incorporate wolf licensing, harvest monitoring, and data management into existing agency systems
Improve funding to meet legal mandates and public expectations	Identify funding sources to implement the Wolf Conservation and Management and Population Management Plans

5. STATEWIDE OBJECTIVES

Table 5.1 Objectives, strategies, and metrics for statewide wolf management direction.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
Maintain or improve game populations to meet the demand for hunting, fishing, and trapping			
Minimize impacts of illegal take on wolves	Assist management objectives through effective enforcement	• Enhanced enforcement presence during peak use (in conjunction with deer, elk, and wolf seasons) targeting areas frequented by wolves • Use action plans to address specific enforcement needs as they arise	• Number of patrol hours/hunter contact increase • Number of citations and written warnings issued increase • Number of illegal kills decreased • Conduct 1 annual special operation to reduce illegal wolf kills and improve reporting
Minimize impacts of wolf predation on other big game populations	Maintain ungulate populations at or above objectives	• Focus monitoring in areas where ungulates are below objectives • Continue research to identify impacts of wolves on ungulate populations • Implement predation management policy when ungulate populations are not meeting objectives	• Ungulate population estimates and annual harvest rates meet objectives • Number of wolves per DAU and statewide • Number of wolves harvested by DAU • Number of wolves harvested relative to quotas
Maintain a wolf population that can sustain annual harvest opportunity	Satisfy population objectives of the state plan Harvest wolves at levels commensurate with short- and long-term population objectives	• Monitor wolf population status annually • Determine initial demand for wolf hunting opportunity through public surveys and public meetings • Monitor wolf harvest and assess catch/unit effort • Adjust harvest opportunity through	• Number of wolves per DAU and statewide meet objectives • Number of wolves harvested by DAU meet objectives • Number of wolves harvested relative to quotas must be within 20% • Number of tags sold annually

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
		season length and timing, harvest quotas, bag limits, and other regulatory tools	
Ensure the long-term survival of native fish, wildlife and plants			
Maintain a self-sustaining, well-distributed, viable wolf population so that wolves fulfill their ecological role without impacting viability and sustainable harvest of other big game populations	Wolf population that fills the predator niche without limiting statewide ungulate population objectives	• Monitor wolf population status annually • Allow wolves to persist where they do not cause excessive conflicts with humans or human activities • Focus monitoring in areas where ungulates are below objectives • Manage for adequate wolf harvest in areas where ungulate populations are not meeting objectives	• Number of wolves per DAU and statewide meet objectives • Number of conflicts with humans or human activities reduced to ≤2003 levels • Ungulate population estimates and annual harvest rates • Number of wolves harvested relative to quotas
Increase the capacity of habitat to support fish and wildlife			
Manage motorized vehicle hunting access and activity that reduces carrying capacity for wildlife	A level of access that does not negatively affect the quality of wildlife habitat	• Provide technical assistance to land management agencies regarding quality winter ranges, noxious weeds, and motorized access	• Number of miles of motorized access (road and trail) during hunting season limits • Number of requests for input • Number of comments provided to land managers
Promote contiguous habitat along corridors and adjacent to YNP and surrounding states	Secure, high-quality habitat in wildlife corridors and adjacent to YNP and other states	• Provide comment to land managers on opportunities to secure/protect wildlife corridors • Provide technical assistance to land management agencies to improve wildlife habitat	• Number of important linkage areas in need of protection • Number of requests for input • Number of comments provided to land managers

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock and humans			
Manage wolf population size and distribution so as to minimize exposure of humans, livestock, and wildlife to wolf-borne diseases and parasites Monitor wolf health status	Maintain wolf populations at or below biological carrying capacity Maintain healthy wolf population and identify potential disease or parasite risks	• Manage populations to minimize risk of transmitting diseases and parasites to wildlife, domestic animals, and humans • Monitor wolves for diseases and parasites • Educate the public about risks of disease transmission	• Number of wolves per DAU and statewide • Number of wolves harvested relative to quotas • Number of samples collected and necropsies performed on wolves • Educational brochure on wolf diseases/parasites and potential for human exposure
Maintain a diversity of fishing, hunting, and trapping opportunities			
Provide a variety of hunting and trapping opportunities for wolves Provide opportunity for hunters to control problem wolves through depredation hunts Maintain opportunity for hound hunters pursuing bears and lions	Provide annual hunting and/or trapping opportunity Control wolf population numbers in areas of high conflict with maximum opportunity for harvest Provide hound hunting opportunities for bears and lions where minimal encounters with wolves can be expected	• Provide a variety of hunting and trapping opportunities including general hunts with harvest quotas, controlled hunts, depredations hunts, and restricted methods hunts • Provide training opportunities for wolf hunting and trapping techniques • Inform hound hunters where wolf activity exists • Provide information on how to avoid conflicts between wolves and hunting dogs	• Number of wolves harvested in conflict areas reduces livestock conflicts to ≤2003 levels • Number of wolf hunting seminars (1 per region) • Number of maps of known wolf pack territories produced and updated annually • Number of hound/wolf interactions/conflicts reduced to ≤2003 levels

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
Increase opportunities for wildlife viewing and appreciation			
Identify wolf viewing opportunities/areas	Satisfy the demand for wolf viewing and other non-consumptive recreational activities Provide non-consumptive viewing opportunity in areas with no or low harvest	• Publish wolf viewing areas in wildlife viewing publications • Highlight non-consumptive recreational opportunities via media outlets • Monitor visitation rates at wolf viewing areas • Consensus from stakeholders • Provide full compensation for livestock losses and outfitter business losses • Emphasize wolf education opportunities (possibly including field experiences) • Ensure outfitters and livestock operators can maintain economic viability	• Number of visits to public lands for wildlife viewing • Number of trips by outfitters for wolf viewing increases • Number of livestock losses stable/low and compensated • Ungulate hunters numbers remain stable with stable success rates, or changes not wolf-related • Annual trips provided by and for scientists and teachers sanctioned by IDFG • Identify 1-2 reliable wolf viewing areas annually
Increase the variety and distribution of access to private land for fish and wildlife recreations			
Maintain existing level of access to private lands for hunting wolves	Hunter and trapper opportunity to harvest wolves on private lands, particularly animals that cause conflicts with livestock	• Work with private landowners and livestock producers to increase hunter and trapper access to assist in wolf control • Encourage landowners with wolf conflicts to participate in "*Access Yes!*"	• Number of wolves harvested on private lands • Number of acres in "*Access Yes!*" which allow wolf harvest opportunities

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
Maintain broad public support for fish and wildlife recreation and management			
Increase public acceptance of wolves as a big game animal and management for sustained harvest Reduce incidence of domestic livestock depredation by wolves	A knowledgeable public that views wolves as a natural member of the wildlife community Acceptance of a tolerable population of wolves by livestock producers Resident and nonresident hunters value wolves similar to other big game species	• Provide educational materials and opportunities for general public to obtain balanced information regarding wolves • Provide educational materials and opportunities for general public to understand IDFG wolf management • Implement incremental lethal control of wolves after first offense • Work with private landowners and livestock producers to increase hunter and trapper access • Encourage livestock producers to use proactive measures • Manage for adequate harvest of wolves in areas of high livestock conflict • Encourage the public to participate in the annual season-setting process	• Wolf displays for use at regional and county fairs • Region wolf education kits for use at public presentations • Number of confirmed wolf depredations annually • Annual report of estimated wolf population and harvestable surplus by DAU • Periodic public survey to measure change in attitudes and opinions
Increase knowledge and public understanding of Idaho's fish and wildlife			
Promote educational opportunities regarding wolf biology and management as well as laws and policies affecting wolves	A well-informed public that understands the ecological role of wolves and IDFG management responsibilities	• Public open houses to discuss wolf population status and harvest management • Maintain an up-to-date webpage • Maintain current information and materials at regional offices to provide presentations within local communities	• One annual open house in each region • Number of public presentations by RCEs and biologists • Number of news releases or other media products (similar to those for other big game species)

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
		• Provide information through a variety of media and formats	• Develop a hunter education materials specific to wolves
Provide equipment and facilities for excellent customer service and management effectiveness			
Incorporate wolf licensing, harvest monitoring, and data management into existing agency systems	Licensing and harvest reporting systems that will be easy to use for the public	• Incorporate wolf licensing in existing license system • Provide a user-friendly system for harvest quota management • Automated phone reporting system • Automated phone/internet quota monitoring system • Monitor quota compliance, mandatory reporting • Incorporate wolf harvest in Big Game Mortality Report database	• 100% reporting rate within 10 days of harvest • 100% reporting rate on all radiocollared wolves harvested
Improve funding to meet legal mandates and public expectations			
Identify funding sources to implement the Wolf Conservation and Management and Population Management Plans	Secure sufficient funds on an annual basis (~$720,000) to continue to provide existing levels of service (monitoring, livestock compensation, ungulate research, I & E, etc.) to satisfy federal and state requirements	• Identify levels for tag fees that would maintain the wolf management program • Find additional funding sources to maintain wolf management program • Maintain annual requests through USFWS and OSC to maintain funding and wolf depredation compensation • Seek legislative approval to use state funds • Provide public with opportunity to contribute to “wolf compensation fund”	• Number of proposals submitted for grants from private or non-profit organizations • Amount of money raised by auctioning 10 wolf tags (first year) • Amount of money raised by sale of wolf pelts at annual “fur sale” • Amount raised by sale of wolf tags • Meet needs for “wolf compensation fund” by soliciting private funds

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies	Metric
			• Identify 1-2 new fundraising events, donations, sponsors, etc. annually
Improve citizen involvement in the decision-making process			
Promote public involvement in wolf management	Department understanding of public attitudes and preferences for wolf management	• Conduct public open houses to discuss wolf population status and harvest management • Maintain an up-to-date webpage for public input • Conduct surveys to gauge public opinion on management issues • Encourage public involvement at commission meetings and during season-setting process	• One annual open house per region • Number of attendees at season-setting meetings • Number of comments received • Number of surveys and respondents adequate (≥65% return of 1,000 mail-ins)

6. DATA ANALYSIS UNITS (DAUS)

The State Plan allowed for development of "wolf hunting zones" if IDFG deemed them appropriate. The state is divided into 7 regions and 1 subregion, and 99 Big Game Management Units (BGMUs). Depending on species, BGMUs are grouped into larger Data Analysis Units (DAUs) or Zones that reflect habitat conditions, populations, land management, and other management considerations. Large carnivore populations in the state are managed using DAUs and population objectives revolving around high, moderate, and low harvest regimes that generally reflect inversely-related objectives of low, moderate, and high population levels, respectively. Often, low harvest and stable carnivore populations are a result of difficult terrain, low hunter numbers and success, and large blocks of wilderness that act as default reservoirs or core areas. Populations in these core areas generally act as a "source" for adjacent areas where harvest levels are higher. Conversely, areas of the state that provide high value for livestock grazing and other human activities that can create conflict with large carnivores (and thus high levels of carnivore removal) are likely to act as population "sinks." These source and sink population dynamics can be managed through a DAU framework to address a variety of management issues while maintaining appropriate population levels, addressing conflict issues, and providing consumptive and non-consumptive recreation values.

Wolf harvest can be managed at the DAU, BGMU or even subunit (a unit may be subdivided into smaller portions for certain objectives) level as necessary to achieve monitoring and management goals and objectives. It is possible to have a low or high harvest objective for a BGMU and a moderate harvest goal for that DAU in which that BGMU is a part. For instance, if the objective were to maintain a stable population in a DAU, managers would have a moderate harvest goal. Within that DAU, managers could have a BGMU or subunit with low or no harvest to achieve a better wolf viewing opportunity or maintain a radio collared breeding pair in a subunit for maintenance of ESA monitoring requirements; and allow a high harvest BGMU in another part of the DAU to reduce livestock or ungulate conflicts. DAUs are designed for grouping and analyzing data and to achieve broad goals, but not necessarily to restrict management options and objectives to that level.

Because wolves in Idaho prey primarily on elk and secondarily on deer, it is appropriate to use Elk Zones and group them into DAUs for wolf management objectives (Figure 6.1, Table 6.1). Wolf DAUs were developed based on current wolf densities and distribution, elk zones and prey base, and livestock conflict areas.

The contiguous area under wilderness designation in central Idaho will be a "core" area because of the remote nature, difficult access, and low hunting pressure. Thus, wilderness wolf populations will act as "source" populations for surrounding areas and wolf populations will likely remain stable under a wide range of hunting opportunities.

National Forests outside wilderness include most of our current wolf population and many conflict situations. Wolves in these areas can be managed for a variety of benefits through low or high harvest as appropriate. Some DAUs with chronic livestock conflicts seem to be preferred by wolves and some level of wolf activity is to be expected in these areas on a regular basis. Wolf populations in these areas will be allowed to persist if they do not cause conflicts, but will otherwise be subject to relatively high harvest pressure and/or agency removal efforts. Although

proactive and non-lethal methods for reducing conflicts will always be part of wolf management in Idaho, management in these conflict areas will likely include lethal removal and compensation to producers for livestock losses.

Few wolves have moved into private agricultural areas or desert habitat far from established wolf populations, but those few have been involved in conflicts with livestock or other human interests, resulting in high wolf mortality. The DAUs dominated by private agricultural land in marginal wolf habitat will likely have liberal hunting seasons, high levels of lethal removal, and little or no wolf pack activity. Although regulated harvest will be used to address some conflicts and population levels, where appropriate, normal conflict resolution activities including agency control and various non-lethal techniques will likely be necessary to effectively manage wolves.

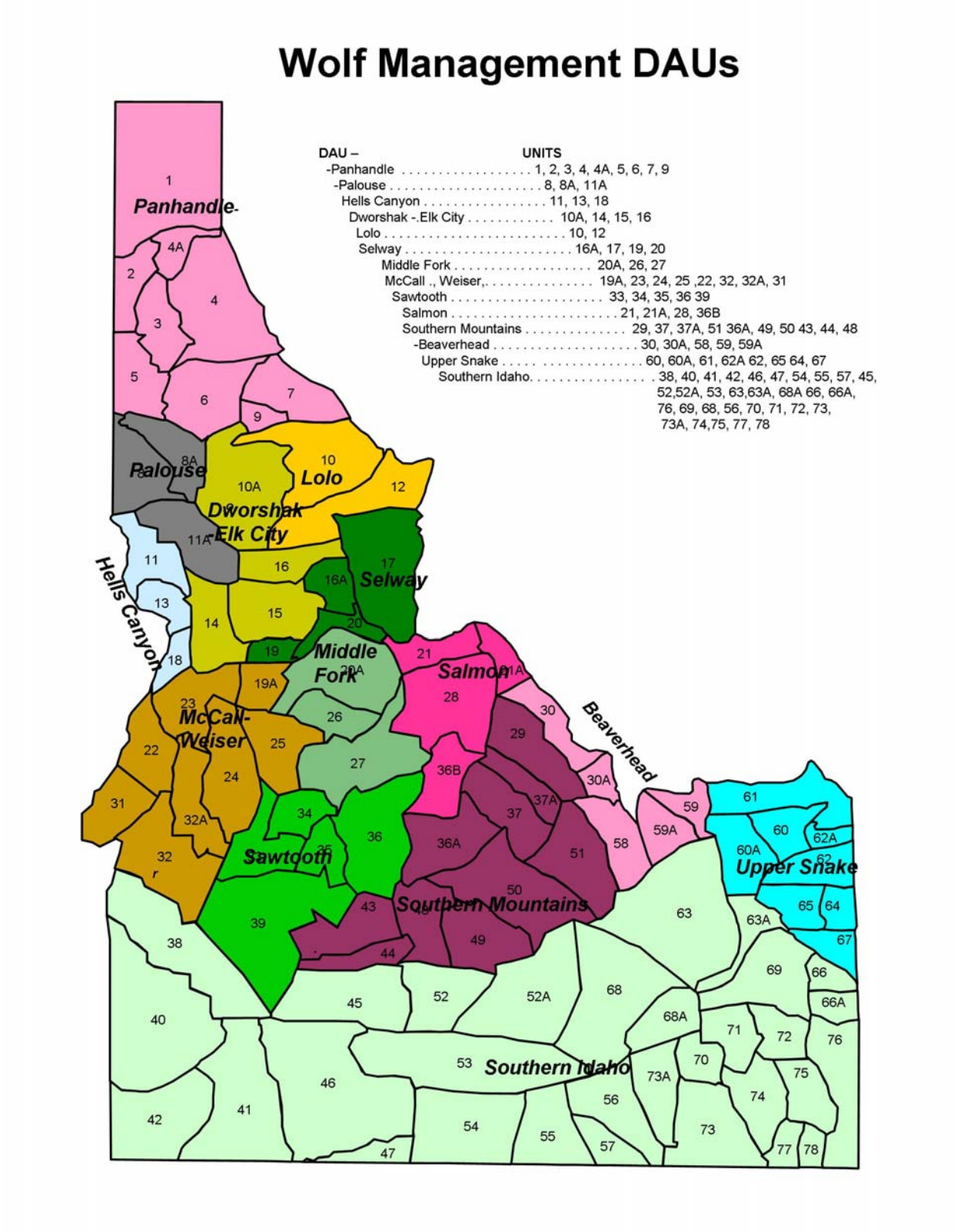


Figure 6.1. Proposed wolf Data Analysis Units, Idaho.

Table 6.1. Adaptive wolf harvest strategy matrix.

	Harvest strategy		
Current population/conflict status	Decrease population[a]	Stable population	Increase population
Few wolves/low conflict potential		Conflict management only	Non-lethal conflict management first
Low density/no conflict	General harvest with quota	General harvest with quota	Controlled hunt or no hunting, non-lethal conflict management first
Moderate density/no conflict	General harvest with quota	General harvest with quota	General harvest with quota
High density/no conflict	General harvest and/or trapping with quota	General harvest and/or trapping with quota	General harvest with quota
Few wolves/high conflict potential		General harvest, WS control	Conflict management only
Low density/high conflict	General harvest and/or trapping with quota, WS control	General harvest and/or trapping with quota, WS control	Not promoted
Moderate density/high conflict	General harvest and/or trapping with quota, depredation hunts with quota, WS control	General harvest and/or trapping with quota, depredation hunts with quota, WS control	Not promoted
High density/high conflict	General harvest and/or trapping, depredation hunts, WS control	General harvest and/or trapping, depredation hunts, WS control, all with quotas	Not promoted
Season length	30 Aug-31 Mar; vary according to conflict levels; based on future harvest data	30 Aug-31 Mar outside limits; possible split seasons to accommodate different user groups; based on future harvest data	30 Aug-31 Mar outside limits; set seasons to allow opportunity but reduce harvest; based on future harvest data

[a] Decrease: >40-75% total annual mortality; stable: 30-40% total annual mortality; increase: 0-30% total annual mortality.

As is the case with other big game animals, wolf population objectives within DAUs can fluctuate over time. For instance, if an elk population is declining and below objective and wolf predation rates are a cause for the decline or is preventing recovery, then high levels of wolf harvest may be prescribed to reduce the wolf population. In such a situation, a predation management plan would be developed per IDFG policy (Appendix C). Increased harvest levels to reduce wolf populations would be temporary in nature to allow the elk population to reach recovery levels and objectives. Therefore, the objective for the first 3-5 years might include high harvest (decreasing wolf populations), followed by moderate harvest to promote a stable population.

Harvest Strategies

An established wolf population on average should stabilize with 30-40% total annual mortality, or a human-caused mortality rate of 20-25% (Mech and Boitani 2003:184). The wolf population in Idaho increased 20% per year in recent years despite annual estimated mortality of approximately 20% (Nadeau et al. 2006). Harvest strategies for differing objectives will need to incorporate population growth rate, other sources of mortality, and area-specific circumstances.

Harvest strategies for wolf management could include general hunts, quotas, and controlled hunts. Season length and timing will be based on harvest objectives and include consideration of incidental harvest during deer and elk seasons (when the largest number of hunters are afield), pelt condition, and breeding ecology (denning and pup-rearing season). In DAUs where wolf numbers are high and the objective is to reduce the population, a general season could run concurrent with mountain lion seasons (30 Aug to 31 Mar) with a harvest quota, if needed. Similarly, in areas where wolf populations have been low, but where conflicts are potentially quite high, long general seasons may be the preferred management regime. In DAUs where wolves are common and cause chronic livestock conflicts, harvest strategies will be aggressive to achieve lower populations and reduce conflicts.

Harvest alone may not eliminate conflicts, but livestock depredations should decrease if harvest is focused on conflict areas or packs involved in depredations. Regardless, the relationship between wolf removal rates and depredation incidents will be monitored over time. Only if population objectives cannot be met with general season and unlimited tags will the season length be increased beyond 31 March (wolf denning season begins in early April). When the objective is to maintain or stabilize the population, seasons may coincide with deer or elk seasons in October and November with a quota or controlled hunt limit designed to achieve total mortality of 20-40% of the population. If the objective is to increase a population, total mortality would be set below 30% of the population to allow for annual growth. In cases where conflict potential and significant non-consumptive value may overlap, managers may employ smaller controlled hunts or depredation hunts to target problem wolves or wolf pack territories while avoiding harvest of wolves that do not cause conflict or provide non-consumptive values (Table 6.2).

Table 6.2. Current conflicts, short- and long-term objectives, and population status for wolves. Objectives will be reviewed annually.

Wolf DAU (BGMUs)	Current conflict levels: Ungulate	Current conflict levels: Livestock	Potential for livestock conflicts	Current population trend	Short-term harvest strategy (1-5 yr)	Breeding pair objective	Documented breeding pairs	Documented pack status	Min. no. of wolves objective
Statewide				Increasing	Decrease/ stabilize	>15	41	≥72	>104
Panhandle (1-7, 9)	Low	Low	Moderate	Increasing	Stabilize	2-10	4	7	8
Palouse (8, 8A, 11A)	Low	Moderate	High	Stable	Stabilize	0-2	1	1	4
Hells Canyon (11, 13, 18)	Low	Moderate	Moderate	Stable	Stabilize	1-2	0	1	4
Lolo (10, 12)	High	Low	Low	Stable	Decrease/ stabilize	1-3	5	7	8
Dworshak-Elk City (10A, 14-16)	Moderate	Moderate	Moderate	Stable-increasing	Decrease/ stabilize	2-5	6	9	12
Selway (16A, 17, 19, 20)	High	Low	Low	Stable	Decrease/ stabilize	1-3	0	5	8
Middle Fork (20A, 26, 27)	Moderate	Low	Low	Stable	Stabilize	1-4	6	9	8
Salmon (21, 21A, 28, 36B)	Moderate	High	High	Stable	Decrease/ stabilize	2-4	5	6	8
McCall-Weiser (19A, 22-25, 31-32A)	Low	High	High	Stable-increasing (sink)	Decrease/ stabilize	1-4	4	9	12
Beaverhead (30, 30A, 58-59A)	Low	Moderate	High	Increasing	Stabilize	0-1	0	0	4
Sawtooth (33-36, 39)	Moderate	Moderate	Moderate-High	Stable-increasing	Stabilize	3-5	7	11	16
Southern Mountains (29, 36A, 37, 37A, 43, 44, 48-51)	Low	High	High	Stable (sink)	Stabilize/ decrease	0-4	2	6	8
Upper Snake (60-62A, 64, 65, 67,)	Low	Moderate	Moderate	Stable	Stabilize	1-3	1	3	4
South Idaho (38, 40-42, 45-47, 52-57, 63, 63A, 66, 66A, 68-78)	Low	Low	Moderate-High	Increasing	Stabilize	0-4	0	0	0

Table 6.2. Continued.

Current ungulate conflicts: low = healthy ungulate populations, biologically acceptable impacts; moderate = higher wolf populations, struggling elk populations, may be related; high = elk populations in decline, low recruitment and/or female survival, high wolf predation rates, not meeting objectives. **Current livestock conflicts**: low = infrequent livestock conflicts despite presence of wolves, mostly public land; moderate = some livestock problems annually, but manageable, mix of private and public land; high = livestock problems typically occur as soon as livestock put out on public land, or wolves regularly attack livestock on private land; wolves not likely to coexist conflict free due to high level of private land and/or livestock use. **Potential livestock conflict levels**: low = infrequent livestock conflicts despite presence of wolves, mostly public land; moderate = some livestock problems expected but manageable, mix of private/public; high = livestock problems likely or frequent, mostly private land, not likely for wolves to live conflict free. **Short-term DAU Harvest Strategy**: Low harvest = increase population; Moderate harvest = stabilize population; High harvest = decrease population, scenarios reflective of Table 6.1. **Breeding pair objectives**: a breeding pair is a $\geq$2 adults and 2 pups that survive until 31 December, the objective shows the range possible for the DAU; **Documented Breeding Pair Number**: a breeding pair is a $\geq$2 adults and 2 pups that survive until 31 December. Not all packs are breeding pairs. Status was determined December 31 2006. **Documented pack status**: packs are breeding pairs, reproductive groups, groups of $\geq$4 that previously were reproductive. **Min. no. of wolves objective**: min. no. based on $\geq$4 per pack or breeding pair.

The first few years of wolf harvest will provide a large amount of information. Managers will scrutinize harvest data and be prepared to adjust harvest strategies accordingly.

Long- and Short-term Harvest Objectives

Several management issues must be considered when establishing quotas and population goals for long-term as well as short-term objectives:

1. Providing metapopulation linkage through adequate protection of border packs.
2. Regular monitoring of wolf health to ensure disease and/or parasites does not contribute to excessive mortality.
3. Status of wolf populations in adjacent states (e.g., if adjacent states approach minimum population limits, adjust Idaho harvest of border pack animals so that overall recovery area goals are not threatened).
4. Impacts of Idaho harvest adjacent to Yellowstone NP and associated social values.
5. Agency ability to monitor breeding pairs at the end of December (with regard to meeting monitoring requirements during the 5-year post-delisting period).
6. Unforeseen events that may impact wolf populations.
7. Change and/or status of public opinion.

If, at any time, the wolf population level falls below acceptable limits, emergency rules will be implemented by the Director to curtail harvest and lethal control (Idaho Code 36-106(Sec. 6A). Harvest management will be modified as necessary to incorporate information, data, and knowledge obtained after initial harvest strategies are implemented.

Wolf Viewing Areas

Wildlife viewing areas are popular among the public, and wildlife viewing is a growing pastime among Americans (USFWS 2007*b*). Viewing of big game animals such as deer and elk is common and especially popular when they are easily viewed from roads. Quality viewing is possible despite an annual hunting season. Similarly, such viewing opportunities will be available for wolves throughout the state despite annual hunting. However, as is the case with other large predators, viewing opportunities will be naturally low and seasonal because these species occur at relatively low density and are secretive and highly mobile. Wolf viewing opportunities and areas will be described in future editions of IDFG's Wildlife Viewing Guide.

Some stakeholders and members of the public have requested specific viewing opportunities for wolves that are subject to no, or only light, hunting pressure. Although preliminary analysis of the current survey of Idaho residents indicates relatively high acceptance of regulated harvest, some believe establishment of such viewing areas will increase acceptance of proposed harvest strategies. Wolf viewing areas where little or no harvest will be allowed would need to meet several criteria:

1. Primarily public land, or private land where landowners agree to low or no wolf harvest;
2. No or heavily controlled livestock grazing, or agreements with landowners and producers that allow viewing and acknowledge a high risk of wolf predation;
3. Any livestock conflicts will be addressed through an incremental approach of proactive non-lethal management, lethal removal, and compensation for livestock losses;

4. Provisions exist to protect domestic dogs from wolf attacks;
5. Provisions exist for harvest or lethal removal of wolves if conflicts with ungulates or livestock become excessive;
6. Outfitters in the area agree to the strategy and are eligible for financial compensation (through non-government organizations) to offset differential losses (between hunting opportunity and wolf viewing revenue); and
7. Viewing areas will not be considered permanent and may be moved around the state as needed to address biological and social issues.

If sited and marketed appropriately, wolf viewing areas may provide new opportunities for business and tourism. The Department will work with various stakeholder groups to identify potential units or portions of units where specific wolf viewing opportunities may be feasible.

Livestock Depredation Control

Wolf control following delisting will be directed by the MOU between the Animal Damage Control Board, WS, and IDFG. Hunting activities will likely reduce conflicts between wolves and livestock, but will not replace the need for agency control activities in some cases similar to management while listed. Conflict resolution procedures will follow protocols that have been in place for several years and take into account population objectives within the DAU and landowner/producer concerns. During established seasons, efforts will be made to enlist hunters to remove problem wolves. Outside of established seasons, depredation hunts will be used when and where feasible to remove wolves involved in depredations. Intensity and timing of removal will be determined by wolf population status in a DAU. For example, in DAUs where the objective is to decrease populations, removal will be more aggressive (i.e., pack removal), whereas removal may be incremental in DAUs where the objective is to increase or stabilize the population. Regardless of population objective, IDFG and WS will continue to address conflicts in a timely fashion and with methods appropriate to the specific circumstances.

As with other wildlife species as specified in state law (36-1107 (b)), lethal removal of wolves to protect private property will be allowed under specific circumstances, including self-defense. As is the case with other species, a permit to lethally remove problem wolves may be required in some cases.

Removal to Increase Ungulates

Reducing wolf populations to increase ungulate numbers is a very controversial topic. A recent proposal by IDFG to reduce wolf numbers in the Lolo Elk Zone generated >40,000 public comments. A similar proposal to reduce wolf populations through aerial gunning to increase moose and caribou in parts of Alaska resulted in a tourism boycott by some groups.

The primary tool for wolf population management will be regulated harvest through standard seasons. In the event that regulated harvest is not adequate to reach a balance between wolves and prey, a more aggressive approach, guided by a predation management plan may be necessary. Any wolf predation management proposal would include biological criteria appropriate to the circumstances. Criteria would include prey population status and trend

relative to objectives, as well as specific measures of prey productivity such as calf:cow ratios and adult cow survival. If agency removal is required to achieve wolf population reduction, any control action would adhere to National Academy of Science (1997) recommendations: 1) based on sound science, 2) cost effective, and 3) broadly acceptable to the public. Thus, any control activity of this nature will require extensive preparation and public participation.

Population and Harvest Monitoring

The USFWS developed a post-delisting monitoring plan and delisting rule that requires Idaho, Montana, and Wyoming to maintain ≥30 breeding pairs and ≥300 wolves well distributed among the 3 states, including ≥10 breeding pairs and ≥100 wolves per state. During the first 5 years after delisting, federal law requires intensive monitoring to ensure the wolf population in Idaho (and the entire recovery area) is maintained at levels identified in the State Plan. If any of these numerical requirements are not met, the USFWS would initiate an emergency relisting process. Thus, IDFG and the NPT will continue monitoring to quantify the number of packs, breeding pairs, and total wolves in order to provide the USFWS annual estimates. During this time, harvest and monitoring strategies will be closely examined under an adaptive management framework.

Importantly, a pack and a breeding pair are not synonymous (Table 3, Appendix D). A pack is defined by the USFWS as simply 2 wolves traveling together, but a breeding pair is narrowly defined as "2 adults that produce a minimum of 2 pups that survive until December 31." Therefore, not all packs may qualify as a breeding pair. The breeding pair definition places a significant burden on managers because it requires intensive monitoring and a high degree of certainty in assigning breeding pair status. If pup counts have not been conducted or if survival data is limited, it is difficult to determine if a pack qualifies as a breeding pair. It is only possible for a pack with 4 or more members to be classified as a breeding pair. Therefore, IDFG and the NPT define a pack as 4 wolves traveling together. Ascertaining breeding pairs may become more problematic if harvest seasons are open through 31 December or later. The number of packs monitored through radio telemetry must be sufficient to demonstrate that ≥15 breeding pairs are maintained at the end of the year. Consequently, it may be necessary to restrict hunting on some radiocollared packs to verify minimum breeding pair status.

Recent development of a surrogate method for determining breeding pair status based on pack size (M. S. Mitchell, U.S. Geological Survey, 2008; Table 6.3; Appendix D) may reduce the level of monitoring intensity required to verify minimum breeding pair status. In essence, a historical record now exists that provides a correlation between pack size and the probability of that pack meeting the definition of a breeding pair. As pack size increases, the probability that the pack meets breeding pair status increases. For example, the probability that a pack consisting of 10 wolves constitutes a breeding pair is 0.95. Therefore, the model will allow managers to develop probabilistic estimates of breeding pairs on a statewide basis. Because pack size is more easily obtained than actual pup survival data, monitoring levels needed to ensure minimum breeding pair goals may be reduced.

Table 6.3. Probability ($\hat{P}$) of a wolf pack of size *i* containing a successful breeding pair (1 adult male, 1 adult female, and ≥2 pups), Idaho, 1996-2005 (adapted from M. S. Mitchell, 2008).

	Pack size										
	4	5	6	7	8	9	10	11	12	13	≥14
Breeding pair probability	0.65	0.73	0.80	0.85	0.89	0.93	0.95	0.96	0.97	0.98	0.99

Conversely, in order to accurately quantify harvestable surplus of wolves, monitoring must be adequate to determine the number of packs and wolves at the DAU level. Therefore, IDFG will continue to place a high priority on verifying wolf pack activity and estimating wolf populations. Currently, wolf population estimates in Idaho are generated by using extensive information derived from radiocollared individuals. The data are used to estimate reproduction, mortality, pack size, pack territories, habits, and other variables with a high degree of accuracy. This information, combined with public observation records and intensive field efforts, is used to verify new pack activity and develop a statewide population estimate (Nadeau et al. 2007, Appendix A). Regulated harvest will likely increase mortality rates of radiocollared individuals, thereby increase the cost and effort required to monitor wolves using radiocollar technology alone. Consequently, the NPT, University of Montana, and IDFG are cooperating in development of alternative methods to monitor wolves in Idaho that do not require placing radiocollars on the majority of packs. We will continue to radiocollar wolves as much as possible and as funding allows, but such efforts will likely be lower than current levels.

Currently, hunters are required to present the hide and skull of some species (e.g., black bear, mountain lion) to an IDFG representative within 10 days of harvest. Bear and lion pelts are marked with a metal tag and a tooth is extracted for age determination. Hunters are required to provide license and tag documents and information about the harvest (date, location, hunting method, etc.) which are recorded on a Big Game Mortality Report. Data from the reports are then entered into a statewide database. The same protocols will apply to wolves harvested by hunters. Similar to hunting for other big game animals, advance purchase of hunting licenses and wolf tags prior to harvest will be required. The fact that wolf tags will be issued as a separate tag will allow IDFG to conduct surveys of wolf hunters to determine satisfaction levels, motivation, and other information pertinent to hunt management.

Disease and Parasite Management

Wolf health will be monitored through continued necropsies of dead wolves and analysis of biological samples collected from captured live wolves. Necropsies provide information on condition, age, reproductive status, food habits, and cause of death, as well as the geographic distribution and prevalence of diseases and parasites. Analysis of biological samples such as blood, feces, and skin scrapings provide similar information on diseases and parasites. The IDFG Wildlife Health Laboratory will be the central location for these analyses in Idaho. Collaboration with other researchers interested in studying wolf diseases and parasites will occur when feasible.

At this time, diseases and parasites do not pose a significant threat to the Idaho wolf population. Active management of diseases and parasites in the wolf population in Idaho is not currently warranted or recommended. However, if health monitoring of wolves indicates that diseases and parasites pose a significant threat to the population, managers will evaluate options for more active management. If, at any time, the wolf population level falls below acceptable limits, emergency rules will be implemented by the Director to curtail harvest and lethal control (Idaho Code 36-106(Sec. 6A).

Adaptive Management

Wolf management through regulated harvest will be a continual learning process. As such, we will be required to adapt management activities based on harvest records, population monitoring data, research driven management actions, and public input. Wolf population management will be adaptive to changing biological and social conditions.

7. PUBLIC SURVEY

During summer 2007, a written survey (Appendix A) asking a variety of management questions regarding wolves in Idaho was sent to 3,000 stakeholders in 3 groups. These included:

1. One thousand randomly selected Idaho citizens ("Random" group; age 18+ years, names randomly selected by Survey Sampling International, La Quinta, CA, www.surveysampling.com). These people were randomly selected according to population distribution in Idaho; therefore, a higher proportion was urban and a lower proportion rural than in the Hunter group.

2. One thousand randomly selected Idaho hunters ("Hunter" group; age 18+ years, from IDFG database of hunters who reported hunting deer or elk in 2006). These were stratified evenly among 7 IDFG administrative regions (n = 125 in each of 7 regions, and 125 among all other states, total = 1,000). Therefore this group has a more rural representation, distributed across the state, than does the Random group.

3. One thousand livestock growers ("Livestock" group; 70% cattle and 30% sheep producers; names randomly selected by the Idaho Department of Agriculture/ National Agricultural Statistics Service [cow-calf operations and cattle ranches, but not feedlots or dairies]). These were distributed proportionately to where these operations occur in Idaho.

The Hunter and Livestock groups were polled as separate groups to ensure that the viewpoints of these influential groups were adequately represented in management decisions. Also, these 2 groups are very important in the future management of wolves in Idaho.

A series of questions probed the respondent's feelings about having wolf populations in Idaho, their perceived benefits and costs, and the acceptability of various management strategies, including regulated hunting for wolves.

Most of the questions were of the form "Do you agree or disagree with (Statement X)?" (coded as 1=strongly disagree, 2=disagree, 3=neutral or no opinion, 4=agree, 5=strongly agree, 8=left blank).

Additional questions requested demographic information such as the respondent's age, gender, income level, education level, outdoor activities they participate in, whether their family had a heritage of hunting, ranching, or farming, and their perception of the degree of urbanization where they grew up and where they currently live (rural/small or large town/small or large city).

We hypothesized these factors could be important in forming the basis for the person's attitudes about wolves, wildlife management, hunting, and ranching. Ultimately, these factors will be used to help characterize people's views, especially factors that influence a person's attitudes toward wolf populations in Idaho and regulated hunting for wolves. An additional series of questions was asked only of the group of hunters, specifically about their attitudes toward and interest in participating in a potential wolf hunting season, to guide IDFG in designing such a season.

Hunters and randomly selected Idaho citizens received the survey questionnaire in the mail (initial mailing 16 Jul 2007). If we did not receive a response, a second copy of the survey was sent 3 weeks later. Non-respondents were sent a reminder postcard an additional 3 weeks later. Because the group of livestock producers received the survey later, mailed directly by the National Agricultural Statistical Service on our behalf, (initial mailing 16 Aug 2007), there was no opportunity to mail a second survey form to those who had not responded. Preliminary response rates were relatively high for all 3 groups (hunters = 65%, random = 42%, livestock producers = 37%).

Unfortunately, a possible bias in the sampling regime for randomly selected Idahoans was discovered after the survey was mailed. The list of names was purchased from a nationally reputable survey company, and the names were selected randomly from a list of Idaho citizens. However, the list of persons could best be described as "heads of household" in Idaho, similar to names in a telephone book, with a preponderance of older males who have land-line telephones and stable addresses. Citizens with cell phones as their only telephone are unlisted and cannot be contacted on phone surveys, so were not included on the purchased list.

In addition, it is possible that some Random surveys were completed by a family member other than the addressee (e.g., by another family member who was more interested in wolf issues). We would expect that persons more interested in wolf issues would respond more frequently, and earlier. [Note: When the survey return period ends, an adjustment factor will be developed based on the proportion that each age and sex group comprises in the U.S. Census in Idaho, allowing a reasonable estimation of the number of people in Idaho with various attitudes and beliefs.]

As an interim measure to allow a preliminary analysis, random citizens were divided into those who described themselves as hunters, and those who did not hunt (Q.4.1A ["Random/Hunters" vs. "Random/Not Hunters" groups]). This simple segregation showed a strong difference between these 2 groups.

Respondents in the Random/Not Hunters group included more females, and tended to be younger, have completed higher levels of education, have lived a shorter time in Idaho, and be more likely to live in a more populated area, than the Random/Hunters group. They were more likely to describe themselves as environmentalists, naturalists, or anti-hunting, and more likely to belong to an environmental or animal rights organization. They were less likely to engage in motorized recreation.

Results

Preliminary results are presented in Appendix A. A brief summary of results follows here.

All groups indicated the topic of "wolves in Idaho" was important to them.
Random/Not Hunters – 45% responded "quite" to "extremely important"
Other 3 groups – 78-85% responded "quite" to "extremely important"
(Question 1.1)

On most topics, the Random/Not Hunters sub-group differed substantially from the other 3 groups (Hunters and Livestock groups, and Random/Hunters sub-group). The Random/Hunters sub-group responded very similarly to the Hunters group.

Three thousand questionnaires were sent to 3 groups of Idaho stakeholders. The Random group was later divided into 2 sub-groups.

Group	# Sent	# Responses	% Response
Random/Not Hunter	1,000	205	42
Random/Hunter		219	
Hunter	1,000	650	65
Livestock	1,000	370	37

The following is a selection of the questions, which are most relevant to the proposed Harvest Management Plan, and which paint a clear picture of the wishes of the groups sampled. Some questions were repeated with slight variations to explore the full range of responses.

The majority of all groups agreed that destroying wolves was appropriate for reducing conflict with livestock.

Question 2.5.C. Is it acceptable to – Destroy wolves that are causing problems with domestic livestock?

Group	% Unacceptable	% Acceptable
Random/ Not Hunter	17	79
Random/ Hunter	3	96
Hunter	3	96
Livestock	2	97

Question 3.11.C. In Idaho, livestock owners are allowed to legally shoot wolves which are attacking livestock on their own property. This is a good policy.

Group	% Disagree	% Agree
Random/ Not Hunter	11	82
Random/ Hunter	2	96
Hunter	2	98
Livestock	1	99

The majority of all groups agreed that hunting was an appropriate tool for reducing conflict with livestock.

Question 2.3.P. We should use hunting to reduce wolf populations where they are in conflict with livestock.

Group	% Disagree	% Agree
Random/ Not Hunter	28	61
Random/ Hunter	9	87
Hunter	3	95
Livestock	4	93

The majority of all groups agreed that hunting wolves was appropriate.

Question 2.3.T. If Idaho Fish and Game determines there is a harvestable surplus of wolves in an area, do you think hunting should be a part of Idaho's wolf management strategy?

Group	% Disagree	% Agree
Random/ Not Hunter	27	63
Random/ Hunter	6	89
Hunter	3	95
Livestock	6	88

Question 3.10.A. Is it acceptable to – Allow hunters to hunt a harvestable surplus of wolves?

Group	% Unacceptable	% Acceptable
Random/ Not Hunter	33	57
Random/ Hunter	11	87
Hunter	3	95
Livestock	7	90

Three questions were asked about 3 choices of management strategy. All groups agreed (or were fairly evenly divided) that hunting was appropriate for reducing conflicts. The Hunter and Livestock groups preferred to reduce the wolf population even farther.

Question 2.3.S. The best wolf management strategy is to manage wolf populations so that conflicts are reduced through active management, leaving a significant buffer above minimum requirements.

Group	% Disagree	% Agree
Random/ Not Hunter	18	55
Random/ Hunter	38	45
Hunter	44	40
Livestock	44	44

Most respondents were agreeable to delisting wolves and giving authority to IDFG.

Question 3.9.A. Steps should be taken to manage the size of wolf populations.

Group	% Disagree	% Agree
Random/ Not Hunter	16	73
Random/ Hunter	4	92
Hunter	2	97
Livestock	3	96

Question 2.3.U. I support de-listing wolves and giving management authority to the state of Idaho.

Group	% Disagree	% Agree
Random/ Not Hunter	23	63
Random/ Hunter	6	89
Hunter	3	93
Livestock	6	91

Question 2.3.V. It is too early to remove wolves from the Endangered Species List and give management authority to the state.

Group	% Disagree	% Agree
Random/ Not Hunter	49	30
Random/ Hunter	85	10
Hunter	90	5
Livestock	92	6

Most respondents were agreeable to managing wolves similarly to black bears and mountain lions.

Question 2.5.A. Is it acceptable to – Manage wolves in a manner similar to other animals like black bears and mountain lions?

Group	% Unacceptable	% Acceptable
Random/ Not Hunter	15	70
Random/ Hunter	13	79
Hunter	12	83
Livestock	20	72

Question 2.3.W. Wolves are here to stay and it is time to manage them similarly to other big game animals like black bears and mountain lions.

Group	% Disagree	% Agree
Random/ Not Hunter	18	67
Random/ Hunter	17	74
Hunter	19	76
Livestock	28	62

Most respondents agreed that hunters could be used to remove wolves that are killing livestock. Most also preferred wolf removal by government agents. The Random/Not Hunter sub-group found government agents more acceptable.

Question 2.4. If wolves kill livestock in an area, and it is determined that some wolves must be removed, would you prefer that hunters be allowed to harvest the wolves, or would you prefer that government agents kill the wolves, or both?

Group	% Hunters	% Gov't Agents	% Both
Random/ Not Hunter	14	31	54
Random/ Hunter	20	9	71
Hunter	24	4	71
Livestock	11	7	82

The Hunter and Livestock groups agreed that it was acceptable to reduce wolves to produce deer and elk for hunting. The Random/Not Hunter sub-group found this less acceptable.

Question 2.5.B. Is it acceptable to – Reduce the number of wolves to produce more deer and elk for hunting?

Group	% Unacceptable	% Acceptable
Random/ Not Hunter	46	39
Random/ Hunter	9	82
Hunter	6	89
Livestock	6	87

Most respondents agreed that people should be allowed to kill wolves that are threatening their dogs.

Question 2.5.D. Is it acceptable to – Allow people to legally kill wolves that are threatening their dogs?

Group	% Unacceptable	% Acceptable
Random/ Not Hunter	24	66
Random/ Hunter	8	88
Hunter	6	88
Livestock	6	91

The Random/Not Hunter sub-group tended to believe wolves should have been reintroduced into Idaho, and that current populations are about right. The other groups were opposed to reintroduction, and preferred fewer wolves.

Question 2.6.B. I'm glad that wolves were reintroduced into Idaho. Compare to 3.11.D

Group	% Disagree	% Agree
Random/ Not Hunter	30	55
Random/ Hunter	66	23
Hunter	74	14
Livestock	83	13

Question 2.7. Do you feel that the current wolf population in Idaho is too high, about right, or too low?

Group	% Too High	% About Right	% Too Low
Random/ Not Hunter	41	46	13
Random/ Hunter	82	13	5
Hunter	89	10	1
Livestock	92	7	0

The number of people who would support having wolves in Idaho would increase if the population was being managed to reduce conflicts and to allow a hunting season. Compare to 2.6.B

Question 3.11.F. I would support wolves in Idaho more if I knew the population was being managed to control livestock conflicts.

Group	% Disagree	% Agree
Random/ Not Hunter	25	53
Random/ Hunter	28	56
Hunter	28	53
Livestock	25	61

Question 3.11.G. I would support wolves in Idaho more if I knew the population was being managed to create a balance between predators and prey.

Group	% Disagree	% Agree
Random/ Not Hunter	21	59
Random/ Hunter	27	60
Hunter	25	59
Livestock	30	53

Question 3.11.D. My level of support for having wolves in Idaho would increase if there were a hunting season on wolves. Compare to 2.6.B

Group	% Disagree	% Agree
Random/ Not Hunter	42	25
Random/ Hunter	33	45
Hunter	26	51
Livestock	32	40

A substantial number of respondents in the Random/Not Hunter sub-group, and some in other groups, stated they would travel to watch wolves in Idaho. Some stated they would be willing to hire a guide to help them watch wolves, and would pay a guide approximately $100/day to do so.

Question 3.14. Would you travel to see wolves in Idaho?

Group	% Yes	% No
Random/ Not Hunter	42	58
Random/ Hunter	20	80
Hunter	12	88
Livestock	7	93

Question 3.15. Would you hire a guide to help you see wolves in Idaho?

Group	% Yes	% No
Random/ Not Hunter	20	80
Random/ Hunter	7	93
Hunter	2	98
Livestock	2	98

Question 3.16. How much would you pay a guide for a one-day viewing experience in Idaho?

Group	*n*	Mean	Median	Max
Random/ Not Hunter	29	123	100	500
Random/ Hunter	13	115	100	500
Hunter	13	104	50	300
Livestock	8	54	25	300

The following questions were asked only of Idaho Big Game Hunters. A majority stated they would like to hunt for wolves, and some said they would do so every year. A majority said they would purchase a wolf hunting tag.

Question 6. 1. If you could legally harvest a wolf, would you?

Group	% Yes	% No	%Maybe
Hunter	72	11	17

Question 6. 2. If you could legally hunt a wolf every year, would you?

Group	% Yes	% No	%Maybe
Hunter	56	19	25

Question 6.3. If hunting were allowed in 2008, would you buy a wolf tag if the price seemed reasonable to you?

Group	% Yes	% No	% Don't Know	% Depends on Price
Hunter	54	18	12	16

Question 6.4. What is the maximum price you would pay for a wolf hunting tag?

Group	*n*	Mean	Median	Max
Hunter	461	$47	$20	$5,000

Again, Hunters were more likely to support wolf recovery, if the population was being managed.

Question 6.5.A. I support wolf recovery and sustaining a viable wolf population in Idaho. (Compare to 6.5B)

Group	% Disagree	% Neither	% Agree
Hunter	65	13	22

Question 6.5.B. I would support wolf recovery and sustaining a viable wolf population in Idaho, only if the population of wolves were managed at a reasonable level. (Compare to 6.5A)

Group	% Disagree	% Neither	% Agree
Hunter	40	11	48

Auctioning off some of the tags was not preferred by a majority.

Question 6.5.C. Should the Department auction off the first few wolf tags and use the generated funds to manage wolves? (as is now done for bighorn sheep)

Group	% Disagree	% Neither	% Agree
Hunter	51	19	31

Most Hunters agreed with including a wolf tag in the Sportsman's Package.

Question 6.5.D. Would you support including a wolf tag in the Sportsman's Package, if the price were raised accordingly?

Group	% Disagree	% Neither	% Agree
Hunter	22	15	63

Most Hunters preferred to have a General hunting season, or a combination of General and Controlled hunts. A majority preferred to have the hunting season during deer and elk seasons, rather than later in the winter.

Question 6.6. Three possible harvest management scenarios are General Hunt, Controlled Hunt, or a Combination of hunt types and seasons. Which would you prefer?

Group	% General	% Controlled	% Combination
Hunter	44	15	42

Question 6.7. Should the hunt be held during the general deer and elk season (when a hunter might be able to incidentally harvest a wolf while hunting for deer or elk), OR later in winter (when pelts are more likely to be in their prime)?

Group	% During Deer & Elk	% Later in Winter	% Both
Hunter	59	35	6

Hunters were asked if they saw a wolf while hunting in fall 2006 and 33% said yes; of those, 67% indicated they felt they would have been able to successfully shoot that wolf.

Question 6.10. Did you see a live wolf, or wolves, while hunting in the Fall of 2006?

Group	*n*	% Yes	% No
Hunter	608	33	67

Question 6.11. Idaho Fish and Game is trying to estimate the possible success rate for hunting wolves. If you did see a wolf while you were hunting last year, could you have killed it? That is, were you physically within range and you had a clear shot? Please answer for up to 3 game management units (unit hunted, number days hunted).

Group	*n*	% Yes	% No
Hunter	182	67	33

Hunters have concerns about sources of funding after delisting, and indicated that wolf management should be self-supporting.

6.15. Once wolves are de-listed in Idaho and if federal funding is cut off, how should Idaho Fish and Game fund wolf management? (please check only one)

Group	*n*	% Federal $ Only	% Idaho License $ from wolf tags	% General State Tax $	% Combination	% Other
Hunter	650	13	36	4	40	7

Hunters supported using all of the types of harvest methods that were listed.

6.16. Which of these methods of sport hunting for wolves should be legal in Idaho? Check all that apply.

Group	*n*	% Rifle	% Archery	% Muzzle	% Baiting	% Predator Calls	% Trap	% Other
Hunter	650	95	76	80	61	79	64	10

A complete analysis of the survey will be included in Appendix A.

8. FINANCIAL PLAN

To date, the state's wolf program has been funded with congressional appropriations. This federal funding may decline or be eliminated once wolves are delisted. Given the possibility of reduced federal funding, the state and federal governments must determine how to appropriate funds and allocate resources for future wolf monitoring and management.

The current wolf management budget for the State of Idaho is approximately $720,000, currently allocated among 3 areas:

Livestock compensation fund (OSC)	$100,000
Ungulate monitoring/research	$200,000
State management (monitoring, enforcement, information/education, livestock management)	$420,000

In addition, the NPT obtains $380,000 from congressional appropriations to maintain current levels of wolf monitoring and coordination. They would not receive any state funding.

An obvious revenue source is sale of tags for regulated hunting of wolves, though there is some opposition to the use of license and tag fees to fund the program. License fees may help fill funding shortfalls. The statewide random survey of hunters indicated 72% would hunt wolves if allowed, and 56% would hunt every year. The average price these hunters would pay for a wolf tag was $42; the median was $20. The entire wolf management program could be funded by sales of approximately 29,000 tags if resident tag fees were increased to $25. For comparison, IDFG issued approximately 33,000 bear tags and 22,000 mountain lion tags in 2005 (18,000 of which were sold in the sportsman pack). Based on a survey in 2004, only 13,000 of the hunters who purchased a bear tag actively hunted bears (IDFG 2005).

The State Plan allows use of state funds for managing conflicts. However, if federal funding were reduced, monitoring wolf population status, a mandatory activity under the ESA, would likely be reduced to minimum levels needed to demonstrate population viability. Therefore, additional funding sources may also be necessary to attain the current level of monitoring and management to which the public has become accustomed. Alternate funding may be generated through an auction and/or raffle tag program (at least during the first year that harvest is allowed). Further, federal funding for wolf management may be available through cost-share programs (e.g., Pittman-Robertson). Additional funding may be available from sale of wolf pelts or carcasses (via the Department's annual "fur" sale), grants through non-governmental organizations, or other innovative approaches. Federal funds however are expected to be the primary funding source for wolf management in the near future.

The MOU between the State of Idaho and the Nez Perce Tribe states: Continued federal funding through annual appropriations, a dedicated trust fund or other means is of critical importance to the Nez Perce Tribe and State and success of the MOU between entities. The State and Tribe recognize the benefits of working together to secure needed funding and submission of a joint request from Congress. The Tribe and State through the MOU have agreed to funding allocations as follows:

1) If the joint appropriations for the Tribe and State exceed $1.2 million, the amount will be apportioned at 69% state, 31% tribe, but not to be less than $375,000.

2) If the combined appropriations for the Tribe and State are less than $1.2 million, but are equal to or exceed $1 million the Tribal budget will be $375,000.

3) If the combined State and Tribe appropriations are less than $1 million the Tribe and State agree to apportion the funding on the basis of 64% State, 36% Tribe.

9. GLOSSARY OF TERMS

Allowable mortality: All known mortality, including harvest that would result in meeting wolf population objectives for a DAU or BGMU.

Annual surplus: Annual recruitment minus natural mortality; typically 30-40% in Idaho. Thus annual surplus is the number of wolves that must be removed to stabilize a population.

BGMU: Big Game Management Unit. In Idaho there are 99 BGMUs. Big game populations are typically managed at the BGMU level, though they may be grouped into larger DAUs or Zones, or subdivided into smaller sections for harvest of small populations of animals.

Breeding pair: a breeding pair is a ≥2 adults and 2 pups that survive until 31 December;

DAU: A Data Analysis Unit is several Big Game Management Units that are grouped together based on a set of criteria for the species being managed. The State of Idaho has 99 big game management units that are grouped into 14 DAUs for wolves. Large carnivore populations in the state are managed using DAUs and population objectives revolving around high, moderate, and low harvest regimes that generally reflect inversely-related objectives of low, moderate, and high population levels, respectively. A DAU allows managers to group data for analysis purposes.

General Season: season open for harvest without quota or controlled permits

Harvestable surplus: The portion of allowable mortality that can be accommodated by harvest to achieve population objectives after mortality from natural causes and control actions has been deducted.

Livestock conflicts: low = infrequent livestock conflicts despite presence of wolves, mostly public land; moderate = some livestock problems annually, but manageable, mix of private and public land; high = livestock problems typically occur as soon as livestock put out on public land, or wolves regularly attack livestock on private land; wolves not likely to coexist conflict free due to high level of private land and/or livestock use.

Pack: verified group of ≥4 wolves traveling together and are territorial. If a verified pack has been reduced to fewer than 4 (2 or 3) and is still territorial, it is still considered a pack for that year. If pack size has not increased to ≥ 4 or reproduction has not occurred within one year, it is no longer considered a pack. If status of a confirmed pack is unknown and has not been verified by personnel for 2 years, the pack is removed from listing. There will likely always be more packs than breeding pairs because reproduction and survival of pups is not a given.

Population goals: typically set by DAU, BGMU, or Zone for big game. Has not been determined for wolves and may vary among DAUs, BGMUs and between years.

Quota: a harvest quota is a limit of harvest mortality for that species per given DAU or BGMU or Zone. Once the quota is reached, the take season is closed.

Short-term DAU Harvest Strategy: Increase population =low harvest;
Stabilize population= moderate harvest;
Decrease population= High harvest, scenarios reflective of Table 6.1.

Source/sink – a ***source*** population provides an annual surplus and thus emigration to surrounding areas. A ***sink*** is an attractive area for immigration that has high mortality that is greater than production/recruitment. A source population might be considered a reservoir, refugia, or a core habitat that due to habitat and geographic conditions or regulations acts as a source population. A sink area might be a high conflict area.

Ungulate conflicts: low = healthy ungulate populations, biologically acceptable impacts;
moderate = higher wolf populations, struggling elk populations, may be related;
high = elk populations in decline, low recruitment and/or female survival, high wolf predation rates, not meeting objectives.

Wolf Harvest Levels:
Decrease population: >40-75% total annual mortality;
Stable population: 30-40% total annual mortality;
Increase populations: 0-30% total annual mortality.

Zone: A Zone is several Big Game Management Units that are grouped together based on a set of criteria for the species being managed. There are 29 Elk Zones in Idaho.

LITERATURE CITED

Creel, S., and J. A. Winnie. 2005. Responses of elk herd size to fine-scale spatial and temporal variation in the risk of predation by wolves. Animal Behavior 69:1181-1189.

Duffield, J. W., C. J. Neher, and D. A. Patterson. 2006. Integrating landscape-scale economic and ecological models in the Greater Yellowstone Area: application to wolf recovery. Pages 53-58 *in* A. W. Biel, editor, Greater Yellowstone public lands: a century of discovery, hard lessons, and bright prospects. Proceedings of the 8th Biennial Scientific Conference on the Greater Yellowstone Ecosystem. Yellowstone National Park, Wyoming, USA.

Gillespie, J. H. and J. F. Timoney. 1981. The *Paramyxoviridae*: canine distemper. Pages 726-728 *in* Hagan and Bruner, editors. Infectious diseases of domestic animals, with reference to etiology, pathogenicity, immunity, epidemiology, diagnosis and biologic therapy. Cornell University Press, Ithaca, New York, USA.

Husseman, J. 2002. Prey selection patterns of wolves and cougars in east-central Idaho. Thesis, University of Idaho, Moscow, USA.

Idaho Department of Fish and Game. 1998. Black bear management plan 1999-2010: status and objectives of Idaho's black bear resource. Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game. 1999. White-tailed deer, mule deer, and elk management plan. Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game. 2000. Policy for avian and mammalian predation management. Adopted by Idaho Fish and Game Commission, 24 August 2000. Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game. 2004. White-tailed deer management plan 2004-2014. Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game. 2005*a*. Idaho comprehensive wildlife conservation strategy. Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game. 2005*b*. The compass: Idaho Department of Fish and Game strategic plan. Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game. 2005c. Black bear progress report. Project W-170-R-30, Study I, Job 9. Idaho Department of Fish and Game, Boise, USA.

Idaho Department of Fish and Game and Idaho State Animal Damage Control Board. 2005. Memorandum of Understanding between Idaho Department of Fish and Game and Idaho State Animal Damage Control Board. Boise, Idaho, USA.

Idaho Department of Fish and Game. 2006. Effects of wolf predation on north-central Idaho elk populations. Idaho Department of Fish and Game, Boise, USA.

Idaho Wolf Legislative Oversight Committee. 2002. Idaho wolf conservation and management plan as modified by 56th Idaho Legislature, second regular session. <http://fishandgame.idaho.gov/cms/wildlife/wolves/state/wolf_plan.pdf>.

Kreeger, T. J. 2003. The internal wolf: physiology, pathology and pharmacology. Pages 192-217 *in* L. D. Mech and L. Boitani, editors. Wolves: behavior, ecology, and conservation. University of Chicago Press, Chicago, Illinois, USA.

Mao, J. S., M. S. Boyce, D. W. Smith, F. J. Singer, D. J. Vales, J. M. Vore, and E. H. Merrill. 2005. Habitat selection by elk before and after wolf reintroduction in Yellowstone National Park. Journal of Wildlife Management 69:1691-1707.

Mech, L. D., and L. Boitani. 2003. Wolves: behavior, ecology, and conservation. University of Chicago Press, Illinois, USA.

Mech, L. D., D. W. Smith, K. M. Murphy, and D. R. MacNulty. 2001. Winter severity and wolf predation on a formerly wolf-free elk herd. Journal of Wildlife Management 65:998-1003.

Mitchell, M. S., D. A. Ausband, C. A. Sime, E. E. Bangs, J. A. Gude, M. D. Jimenez, C. M. Mack, T. J. Meier, M. S. Nadeau, and D. W. Smith. 2008. In press. Estimation of self-sustaining packs for wolves in the Rocky Mountains. Journal of Wildlife Management (used with permission)

Nadeau, M. S., C. Mack, J. Holyan, J. Husseman, M. Lucid, P. Frame, and B. Thomas. 2007. Wolf conservation and management in Idaho; progress report 2006. Idaho Department of Fish and Game, Boise; and Nez Perce Tribe, Lapwai, Idaho, USA.

National Academy of Science. 1997. Wolves, bears, and their prey in Alaska. Committee on Management of Wolf and Bear Populations in Alaska, Board on Biology, Commission on Life Sciences, National Research Council. National Academy Press, Washington, D.C., USA.

Oakleaf, J. K., C. Mack, and D. Murray. 2002. Effects of wolves on livestock calf survival and movements in central Idaho. Journal of Wildlife Management 67:299-306.

Rachael, J., and S. Nadeau, editors. 2002. Mountain lion management plan 2002-2010. Idaho Department of Fish and Game, Boise, USA.

Ripple, W. J., and P. L. Beschta. 2004. Wolves, elk, willows and trophic cascade in the upper Gallatin Range of southwestern Montana, USA. Forest Ecology and Management 200:161-181.

Smith, D. W., R. O. Peterson, and D. B. Houston. 2003. Yellowstone after wolves. BioScience 53(4):330-340.

State of Idaho and Nez Perce Tribe. 2005. Memorandum of Agreement between State of Idaho and Nez Perce Tribe concerning coordination of wolf conservation and related activities in Idaho. Boise, Idaho, USA.

U.S. Fish and Wildlife Service. 1987. Northern Rocky Mountain Wolf Recovery Plan. U.S. Fish and Wildlife Service, Denver, Colorado, USA.

U.S. Fish and Wildlife Service. 1994. The reintroduction of gray wolves to Yellowstone National Park and central Idaho: Final Environmental Impact Statement. U.S. Fish and Wildlife Service, Denver, Colorado, USA.

U.S. Fish and Wildlife Service. 2003. Endangered and threatened wildlife and plants; final rule to reclassify and remove the Gray Wolf From the List of Endangered and Threatened Wildlife in portions of the conterminous United States; establishment of 2 special regulations for Threatened Gray Wolves; Final and Proposed Rules. U.S. Department of Interior, Fish and Wildlife Service, 50 CFR: Part 17, Volume 68, Number 62:15804-15875.

U.S. Fish and Wildlife Service. 2007*a*. Endangered and threatened wildlife and plants: Designating the Northern Rocky Gray wolf population as a distinct population segment and removing the distinct population segment from the List of Threatened and Endangered Wildlife; proposed rule. U.S. Department of Interior, Fish and Wildlife Service, 50 CFR: Part 17, Volume 72, Number 26:6106-6139.

U.S. Fish and Wildlife Service. 2007*b*. 2006 National survey of fishing, hunting, and wildlife-associated recreation. State Overview. Preliminary findings. U.S. Fish and Wildlife Service, Washington D.C., USA.

APPENDIX A

Public Survey

IDAHO DEPARTMENT OF FISH AND GAME
600 South Walnut/P.O. Box 25
Boise, Idaho 83707

C.L. "Butch" Otter / Governor
Cal Groen / Director

July 2007

ID #:

Dear Big Game Hunter:

SURVEY OF PUBLIC PERCEPTIONS ABOUT WOLVES IN IDAHO

Wolf management in Idaho is controversial. We are doing this survey to assess public opinions about gray wolves in Idaho. You have been randomly selected from a group of Idaho residents. Your opinion is very important to us.

The Idaho Department of Fish and Game would like to know your opinions in order to manage wolves in the best possible way. The information obtained will be considered in developing a new wolf management plan for Idaho and will be shared with the Idaho Fish and Game Commission and other decision makers.

Your answers will be kept **strictly confidential.** They will not be distributed in any way that can be linked to you as an individual.

Please mail back the questionnaire in the enclosed, postage-paid envelope by **July 27, 2007.**
If you don't want to participate in the survey, please mail it back unanswered so we can take you off our mailing list.

Thank you very much for expressing your opinions and helping us make critical decisions about wolf management. We appreciate your time to fill out this survey. It will help us better manage wolves to the satisfaction of all Idaho residents. Please contact us if you have additional comments or questions at (208) 334-2920 or 600 S. Walnut/P.O. Box 25, Boise ID 83707.

If you would like to receive a printed summary of the survey results, please check here _____ .
The results will also be on our web site in September 2007.
http://fishandgame.idaho.gov

Sincerely

Steve Nadeau
Large Carnivore Manager

Bruce Ackerman
Staff Biologist

Continued

Section 1. Basic Information	Random	Hunters	Livestock
Number of Surveys Mailed	#	#	#
# MAILED	1000	1000	1000
# RESPONDED	424	650	370
%RESPONDED	42	65	37
Would you like to receive a printed summary of the survey results?	46	80	45
%YES	11	12	12

Section 1: Basic information on wolves.
The following questions are designed to assess your attitudes about wolves in Idaho. All questions refer to Gray Wolves (*Canis lupus)*, the only species in Idaho.

1.1. How personally important to you is the topic of "wolves in Idaho"?

Not at All Important	Slightly Important		Moderately Important	Quite Important		Extremely Important
1	2	3	4	5	6	7

1.1. How personally important to you is the topic of "wolves in Idaho"?	Total	1= Not at all Important	2= Slightly Important	3= Slightly Important	4= Moderately Important	5= Quite Important	6= Quite Important	7= Extremely Important
	#	%	%	%	%	%	%	%
Random/NotHunter	205	5	9	11	30	16	17	12
Random/Hunter	219	1	3	3	15	19	25	34
Hunter	650	1	2	2	11	16	23	45
Livestock	370	2	1	3	9	11	27	47

1.2. Where have you received most of your information about wolves in Idaho **and** how would you like to receive information about wolves in Idaho?

Please place a check mark by all of the options which apply to you.

	How I have received information in the past	How I would like to receive information in the future
No information	_____	_____
Newspaper, magazines	_____	_____
TV	_____	_____
Radio	_____	_____
Internet	_____	_____
Public Meetings	_____	_____
Brochures	_____	_____
School	_____	_____
Hunting organizations	_____	_____
Environmental organizations	_____	_____
Social/recreational organizations	_____	_____
Farming/ranching organizations	_____	_____
Professional organizations	_____	_____
Federal/state agencies	_____	_____
Family or friends	_____	_____
Personal experience	_____	_____
Other (please describe)	_____	

[TO BE INSERTED]

SECTION 2: Wolves were exterminated from Idaho in the early 1900's. They have been listed on the federal Endangered Species List since 1973, and in 1995-96 the federal government released 35 wolves into central Idaho to re-establish wolves. Currently, there are about 673 wolves around the state. The federal recovery plan requires a minimum of 100 wolves in Idaho. The federal government is trying to remove wolves from the Endangered Species List and give management authority to the state of Idaho. Some people feel that it is a good time to de-list the wolf, yet others are concerned that the wolves won't have enough protection if they are de-listed. Still others think that wolves never should have been brought back to Idaho.

2.3. We would like to gather information about your feelings and attitudes towards wolves. Please indicate your opinion of each the following statements, using the following scale:

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
A. It is important to me that wolves exist in Idaho.	❑	❑	❑	❑	❑
B. It is important to me that wolf populations are healthy and self-sustaining in the U.S.	❑	❑	❑	❑	❑
C. Wolves should be taken off the Endangered Species List in Idaho.	❑	❑	❑	❑	❑
D. Wolves play an important role in Idaho's ecosystems.	❑	❑	❑	❑	❑
E. Wolves keep the deer and elk herds healthy by removing old and weak animals.	❑	❑	❑	❑	❑

2.3. Do you agree or disagree that:	GROUP	Total Responses	Mean Score	% SD	% D	% N	% A	% SA
2.3.A. It is important to me that wolves exist in Idaho.	Random/NotHunter	205	3.48	12	14	15	34	26
	Random/Hunter	219	2.39	36	27	9	20	9
	Hunter	650	2.11	45	25	10	16	5
	Livestock	370	1.82	56	24	5	11	4
2.3.B. It is important to me that wolf populations are healthy and self-sustaining in the U.S.	Random/NotHunter	205	3.68	8	8	18	38	27
	Random/Hunter	219	2.63	28	22	17	24	9
	Hunter	650	2.36	36	23	14	21	5
	Livestock	370	2.03	47	26	10	13	4
2.3.C. Wolves should be taken off the Endangered Species List in Idaho.	Random/NotHunter	205	3.40	11	14	21	31	23
	Random/Hunter	219	4.26	6	4	5	29	56
	Hunter	650	4.56	3	2	3	21	71
	Livestock	370	4.45	5	2	5	20	68
2.3.D. Wolves play an important role in Idaho's ecosystems.	Random/NotHunter	205	3.55	7	15	18	37	23
	Random/Hunter	219	2.48	27	31	12	24	5
	Hunter	650	2.23	38	27	14	16	5
	Livestock	370	2.04	44	29	9	13	5
2.3.E. Wolves keep the deer and elk herds healthy by removing old and weak animals.	Random/NotHunter	205	3.60	6	14	11	51	18

Continued

	Random/Hunter	219	2.43	32	30	8	25	6
	Hunter	650	2.00	47	28	7	13	5
	Livestock	370	2.01	46	31	6	13	5

2.3. Continued

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
F. Humans can co-exist with wolves in Idaho.	❑	❑	❑	❑	❑
G. Wolves are dangerous to humans.	❑	❑	❑	❑	❑

2.3. Do you agree or disagree that:	GROUP	Total Responses	Mean Score	% SD	% D	% N	% A	% SA
2.3.F. Humans can co-exist with wolves in Idaho.	Random/NotHunter	205	3.58	9	15	10	44	23
	Random/Hunter	219	2.91	19	21	17	34	8
	Hunter	650	2.52	31	23	13	29	4
	Livestock	370	2.26	35	30	13	18	4
2.3.G. Wolves are dangerous to humans.	Random/NotHunter	205	2.86	13	32	19	25	10
	Random/Hunter	219	3.29	7	20	22	37	13
	Hunter	650	3.46	6	19	19	32	23
	Livestock	370	3.71	4	14	16	39	27
2.3.H. Wolves kill too many deer and elk in Idaho.	Random/NotHunter	205	2.73	15	36	21	19	10
	Random/Hunter	219	3.94	5	13	10	28	44
	Hunter	650	4.30	4	6	7	22	61
	Livestock	370	4.24	3	6	8	28	54

H. Wolves kill too many deer and elk in Idaho.	❑	❑	❑	❑	❑

Continued

2.3. Continued

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
I. I feel that I am in danger from wolves when I am recreating or hunting in wild areas in Idaho.	❑	❑	❑	❑	❑
J. I feel that I am in danger from wolves near my home in Idaho.	❑	❑	❑	❑	❑
K. I feel that my animals are in danger from wolves when I am recreating or hunting in wild areas in Idaho.	❑	❑	❑	❑	❑
L. I feel that my animals are in danger from wolves near my home in Idaho.	❑	❑	❑	❑	❑

2.3. Do you agree or disagree that:	GROUP	Total Responses	Mean Score	% SD	% D	% N	% A	% SA
2.3.I. I feel that I am in danger from wolves when I am recreating or hunting in wild areas in Idaho.	Random/NotHunter	205	2.41	25	34	24	11	7
	Random/Hunter	219	3.09	12	26	18	29	15
	Hunter	650	3.26	10	22	20	27	20
	Livestock	370	3.43	5	18	26	29	21
2.3.J. I feel that I am in danger from wolves near my home in Idaho.	Random/NotHunter	205	1.95	43	35	11	4	6
	Random/Hunter	219	2.33	24	37	28	6	5
	Hunter	650	2.68	17	33	26	13	11
	Livestock	370	2.94	11	29	28	21	11
2.3.K. I feel that my animals are in danger from wolves when I am recreating or hunting in wild areas in Idaho.	Random/NotHunter	205	2.67	20	31	22	18	9
	Random/Hunter	219	3.55	8	17	13	32	29
	Hunter	650	3.81	4	13	15	32	35
	Livestock	370	3.95	3	9	13	38	37
2.3.L. I feel that my animals are in danger from wolves near my home in Idaho.	Random/NotHunter	205	2.11	41	29	16	7	7
	Random/Hunter	219	2.76	13	31	32	13	10
	Hunter	650	3.05	11	26	27	16	19
	Livestock	370	3.44	6	23	19	24	28

2.3. Continued

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
M. Wolves must sometimes be killed to protect sheep or cattle on public land.	❑	❑	❑	❑	❑
N. Letting wolf populations grow will force some ranchers and/or outfitters to go out of business.	❑	❑	❑	❑	❑
O. Letting wolf populations grow will greatly impact deer and elk hunting in Idaho.	❑	❑	❑	❑	❑

2.3. Do you agree or disagree that:	GROUP	Total Responses	Mean Score	% SD	% D	% N	% A	% SA
2.3.M. Wolves must sometimes be killed to protect sheep or cattle on public land.	Random/NotHunter	205	3.85	9	6	8	48	30
	Random/Hunter	219	4.44	4	1	0	34	60
	Hunter	650	4.57	1	2	1	28	67
	Livestock	370	4.70	2	1	1	17	79
2.3.N. Letting wolf populations grow will force some ranchers and/or outfitters to go out of business.	Random/NotHunter	205	2.99	10	28	23	28	10
	Random/Hunter	219	3.83	7	10	13	33	37
	Hunter	650	4.13	1	9	12	31	47
	Livestock	370	4.40	3	4	6	26	61
2.3.O. Letting wolf populations grow will greatly impact deer and elk hunting in Idaho.	Random/NotHunter	205	3.11	8	28	23	26	15
	Random/Hunter	219	4.30	2	10	3	25	60
	Hunter	650	4.57	1	4	3	20	72
	Livestock	370	4.56	1	3	3	22	70
2.3.P. We should use hunting to reduce wolf populations where they are in conflict with livestock.	Random/NotHunter	205	3.41	12	16	11	42	19
	Random/Hunter	219	4.31	3	6	3	31	57
	Hunter	650	4.60	1	2	3	26	68
	Livestock	370	4.59	2	2	3	22	71

P. We should use hunting to reduce wolf populations where they are in conflict with livestock.	❑	❑	❑	❑	❑

Continued

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
Q. The best wolf management strategy is to reduce wolf populations to the minimum pack numbers necessary to keep them off the Endangered Species List.	❑	❑	❑	❑	❑
R. The best wolf management strategy is to allow wolf populations to grow within natural limits without managed hunter harvest, and without lethal control.	❑	❑	❑	❑	❑
S. The best wolf management strategy is to manage wolf populations so that conflicts are reduced through active management, leaving a significant buffer above minimum requirements.	❑	❑	❑	❑	❑
T. If Idaho Fish and Game determines there is a harvestable surplus of wolves in an area, do you think hunting should be a part of Idaho's wolf management strategy?	❑	❑	❑	❑	❑

2.3. Do you agree or disagree that:	GROUP	Total Responses	Mean Score	% SD	% D	% N	% A	% SA
2.3.Q. The best wolf management strategy is to reduce wolf populations to the minimum pack numbers necessary to keep them off the Endangered Species List.	Random/NotHunter	205	2.97	16	26	15	30	13
	Random/Hunter	219	3.97	3	11	14	31	41
	Hunter	650	4.08	5	9	9	28	49
	Livestock	370	4.35	3	4	7	26	60
2.3.R. The best wolf management strategy is to allow wolf populations to grow within natural limits without managed hunter harvest, and without lethal control.	Random/NotHunter	205	2.63	21	37	11	22	10
	Random/Hunter	219	1.61	63	24	5	7	2
	Hunter	650	1.42	72	21	4	2	2
	Livestock	370	1.46	72	19	3	3	3
2.3.S. The best wolf management strategy is to manage wolf populations so that conflicts are reduced through active management, leaving a significant buffer above minimum requirements.	Random/NotHunter	205	3.41	5	13	26	46	9
	Random/Hunter	219	2.98	19	19	17	35	10
	Hunter	650	2.85	22	22	16	28	12
	Livestock	370	2.93	22	22	12	29	15
2.3.T. If Idaho Fish and Game determines there is a harvestable surplus of wolves in an area, do you think hunting should be a part of Idaho's wolf management strategy?	Random/NotHunter	205	3.39	12	15	10	48	15
	Random/Hunter	219	4.31	3	3	5	37	52
	Hunter	650	4.59	1	2	3	28	67
	Livestock	370	4.34	4	2	6	33	55

2.3. Continued

2.3. Continued

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
U. I support de-listing wolves and giving management authority to the state of Idaho.	❑	❑	❑	❑	❑
V. It is too early to remove wolves from the Endangered Species List and give management authority to the state.	❑	❑	❑	❑	❑
W. Wolves are here to stay and it is time to manage them similarly to other big game animals like black bears and mountain lions.	❑	❑	❑	❑	❑
X. I support de-listing wolves as long as there are appropriate regulations and plans in place that protect them in the Northern Rocky Mountains.	❑	❑	❑	❑	❑
Y. Wolves will not have enough protection if the state of Idaho manages them.	❑	❑	❑	❑	❑

2.3. Do you agree or disagree that:	GROUP	Total Responses	Mean Score	% SD	% D	% N	% A	% SA
2.3.U. I support de-listing wolves and giving managemen authority to the state of Idaho.	Random/NotHunter	205	3.52	11	12	14	38	24
	Random/Hunter	219	4.38	3	3	4	31	58
	Hunter	650	4.59	1	2	3	23	70
	Livestock	370	4.48	3	2	3	25	66
2.3.V. It is too early to remove wolves from the Endangered Species List and give management authority to the state.	Random/NotHunter	205	2.71	22	26	21	19	12
	Random/Hunter	219	1.72	56	29	5	6	3
	Hunter	650	1.46	70	20	5	3	2
	Livestock	370	1.45	72	20	2	1	4
2.3.W. Wolves are here to stay and it is time to manage them similarly to other big game animals like black bears and mountain lions.	Random/NotHunter	205	3.56	6	12	16	54	13
	Random/Hunter	219	3.73	11	6	9	46	28
	Hunter	650	3.87	12	7	5	34	42
	Livestock	370	3.42	18	10	10	36	26
2.3.X. I support de-listing wolves as long as there are appropriate regulations and plans in place that protect the in the Northern Rocky Mountains.	Random/NotHunter	205	3.29	8	17	22	44	9
	Random/Hunter	219	3.09	13	20	23	32	12
	Hunter	650	3.10	16	16	25	31	13
	Livestock	370	2.78	21	20	27	24	8
2.3.Y. Wolves will not have enough protection if the state of Idaho manages them.	Random/NotHunter	205	2.50	22	35	21	13	9
	Random/Hunter	219	1.78	49	35	7	5	3
	Hunter	650	1.64	59	27	8	4	2
	Livestock	370	1.58	63	25	6	3	3

2.4. If wolves kill livestock in an area, and it is determined that some wolves must be removed, would you prefer that hunters be allowed to harvest the wolves, or would you prefer that government agents kill the wolves, or both?

_____ Hunters _____ Government Agents _____ Both

GROUP	Total	% Hunters	% Gov't Agents	% Both
	#	%	%	%
Random/NotHunter	205	14	31	54
Random/Hunter	219	20	9	71
Hunter	650	24	4	71
Livestock	370	11	7	82

2.5. Is it acceptable or unacceptable to…

	Highly Unacceptable (1)	Unacceptable (2)	Neither (3)	Acceptable (4)	Highly Acceptable (5)
A. Manage wolves in a manner similar to other animals like black bears and mountain lions?	❑	❑	❑	❑	❑
B. Reduce the number of wolves to produce more deer and elk for hunting?	❑	❑	❑	❑	❑
C. Destroy wolves that are causing problems with domestic livestock?	❑	❑	❑	❑	❑
D. Allow people to legally kill wolves that are threatening their dogs?	❑	❑	❑	❑	❑

2.5.A. Manage wolves in a manner similar to other animals like black bears and mountain lions?	GROUP	Total	Mean Score	% HU	% U	% N	% A	% HA
	Random/NotHunter	205	3.61	6	9	15	59	12
	Random/Hunter	219	3.95	5	8	7	45	34
	Hunter	650	4.08	6	6	5	39	44
	Livestock	370	3.71	11	8	8	43	29
2.5.B. Reduce the number of wolves to produce more deer and elk for hunting?	Random/NotHunter	205	2.87	17	29	15	27	12
	Random/Hunter	219	4.19	2	7	9	34	48
	Hunter	650	4.44	2	3	6	25	63
	Livestock	370	4.39	3	3	7	27	60
2.5.C. Destroy wolves that are causing problems with domestic livestock?	Random/NotHunter	205	3.91	6	11	4	44	35
	Random/Hunter	219	4.55	1	2	1	33	63
	Hunter	650	4.61	2	1	1	26	70
	Livestock	370	4.74	2	0	1	16	81
2.5.D. Allow people to legally kill wolves that are threatening their dogs?	Random/NotHunter	205	3.58	8	16	9	43	23
	Random/Hunter	219	4.31	1	6	4	36	52
	Hunter	650	4.44	3	3	6	23	65
	Livestock	370	4.53	3	3	3	20	71

Continued

2.6. Do you agree or disagree that…

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
A. I approve of the federal plan that reintroduced wolves to Idaho, Montana, and Wyoming.	❑	❑	❑	❑	❑
B. I'm glad that wolves were reintroduced into Idaho.	❑	❑	❑	❑	❑
C. The Federal government had no right to reintroduce them into Idaho.	❑	❑	❑	❑	❑

2.6. Do you agree or disagree that:	GROUP	Total	Mean Score	% SD	% D	% N	% A	% SA
2.6.A. I approve of the federal plan that reintroduced wolves to Idaho, Montana, and Wyoming.	Random/NotHunter	205	3.19	18	17	13	34	19
	Random/Hunter	219	2.12	49	19	10	16	6
	Hunter	650	1.91	56	18	9	13	4
	Livestock	370	1.61	70	14	4	9	3
2.6.B. I'm glad that wolves were reintroduced into Idaho.	Random/NotHunter	205	3.29	19	11	15	31	24
	Random/Hunter	219	2.16	48	18	11	16	7
	Hunter	650	1.83	59	15	12	11	3
	Livestock	370	1.63	70	12	5	9	3
2.6.C. The Federal government had no right to reintroduce them into Idaho.	Random/NotHunter	205	2.57	29	26	18	12	14
	Random/Hunter	219	3.57	13	12	17	18	39
	Hunter	650	3.88	9	10	14	16	50
	Livestock	370	3.87	14	8	9	13	56

2.7. Do you feel that the current wolf population in Idaho is:

_____ Too high _____ About right _____ Too low

Section 2.		Total	Mean Score	% Too High	% About Right	% Too Low
2.7. Do you feel that the current wolf population in Idaho is:	Random/NotHunter	205	1.72	41	46	13
	Random/Hunter	219	1.23	82	13	5
	Hunter	650	1.12	89	10	1
	Livestock	370	1.08	92	7	0

Continued

2.8. We are interested in how much people value wolves in Idaho. How much would you say that you value a wolf, compared to the following wild animals in Idaho?

I value a wolf:	More than (1)	The same as (2)	Less than (3)
Bighorn Sheep	❑	❑	❑
Moose	❑	❑	❑
Mountain lion	❑	❑	❑
Elk	❑	❑	❑
Deer	❑	❑	❑
Coyote	❑	❑	❑
Eagle	❑	❑	❑
Mt. Blue Bird	❑	❑	❑

2.8. How much would you say that you value a wolf, compared to the following wild animals in Idaho?		Total	Mean Score	% More (1)	% Same (2)	% Less (3)
2.8A. Bighorn Sheep	Random/NotHunter	205	2.43	5	48	47
	Random/Hunter	219	2.80	1	17	82
	Hunter	650	2.87	2	10	89
	Livestock	370	2.91	1	6	93
2.8B. Moose	Random/NotHunter	205	2.45	3	49	48
	Random/Hunter	219	2.81	1	17	82
	Hunter	650	2.87	2	10	88
	Livestock	370	2.93	1	6	93
2.8C. Mountain lion	Random/NotHunter	205	2.29	3	66	31
	Random/Hunter	219	2.55	0	44	55
	Hunter	650	2.61	2	35	63
	Livestock	370	2.70	0	30	70
2.8D. Elk	Random/NotHunter	205	2.41	6	47	47
	Random/Hunter	219	2.80	1	18	81
	Hunter	650	2.88	3	7	91
	Livestock	370	2.92	1	7	93
2.8E. Deer	Random/NotHunter	205	2.41	7	46	47
	Random/Hunter	219	2.79	1	18	80
	Hunter	650	2.87	3	7	90
	Livestock	370	2.90	1	7	91

Continued

Question 2.8. (continued).

2.8. How much would you say that you value a wolf, compared to the following wild animals in Idaho?		Total	Mean Score	% More (1)	% Same (2)	% Less (3)
2.8F. Coyote	Random/NotHunter	205	2.05	12	71	17
	Random/Hunter	219	2.27	15	42	42
	Hunter	650	2.38	12	38	50
	Livestock	370	2.54	5	36	59
2.8G. Eagle	Random/NotHunter	205	2.52	2	45	54
	Random/Hunter	219	2.80	2	16	82
	Hunter	650	2.81	3	13	84
	Livestock	370	2.88	1	10	89
2.8H. Mt. Blue Bird	Random/NotHunter	205	2.42	6	47	48
	Random/Hunter	219	2.67	6	22	73
	Hunter	650	2.70	7	16	77
	Livestock	370	2.84	3	9	87

SECTION 3: As mentioned in Section 2, there currently are about 673 wolves in Idaho. Some people are concerned that elk populations are declining and also that too many sheep and cattle are killed as a result of wolves. These people believe that wolf numbers should be managed, while others feel that wolf populations should be left alone. A variety of tools are available to manage predator populations. These include removal by trained professionals, managed hunting, and trapping.

3.9. Do you agree or disagree that…

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
A. Steps should be taken to manage the size of wolf populations.	❑	❑	❑	❑	❑
B. Wolf populations should NOT be managed by humans.	❑	❑	❑	❑	❑

3.9. Do you agree or disagree that:	GROUP	Total	Mean Score	% SD	% D	% N	% A	% SA
3.9A. Steps should be taken to manage the size of wolf populations.	Random/NotHunter	205	3.75	7	9	11	48	25
	Random/Hunter	219	4.48	1	3	4	30	61
	Hunter	650	4.67	1	1	1	24	73
	Livestock	370	4.69	3	0	1	18	78
3.9B. Wolf populations should NOT be managed by humans.	Random/NotHunter	205	2.29	26	45	11	10	8
	Random/Hunter	219	1.59	62	27	4	3	3
	Hunter	650	1.36	73	23	1	1	2
	Livestock	370	1.28	81	14	1	1	2

Continued

3.10. Is it acceptable or unacceptable to…

	Highly Unacceptable (1)	Unacceptable (2)	Neither (3)	Acceptable (4)	Highly Acceptable (5)
A. Allow hunters to hunt a harvestable surplus of wolves?	❑	❑	❑	❑	❑
B. Use trained professionals to reduce the number of wolves?	❑	❑	❑	❑	❑
C. Use trained professionals to only kill wolves that are causing problems with livestock or human safety?	❑	❑	❑	❑	❑

3.10. Is it acceptable or unacceptable to:	GROUP	Total	Mean Score	% HU	% U	% N	% A	% HA
3.10.A. Allow hunters to hunt a harvestable surplus of wolves?	Random/NotHunter	205	3.28	15	18	10	39	18
	Random/Hunter	219	4.24	5	6	2	35	52
	Hunter	650	4.57	2	1	2	27	68
	Livestock	370	4.43	5	2	4	25	65
3.10.B. Use trained professionals to reduce the number of wolves?	Random/NotHunter	205	3.40	7	14	23	44	11
	Random/Hunter	219	3.73	7	13	10	41	29
	Hunter	650	3.89	5	11	10	36	37
	Livestock	370	4.16	4	6	9	30	51
3.10.C. Use trained professionals to only kill wolves that are causing problems with livestock or human safety?	Random/NotHunter	205	3.49	7	15	13	52	13
	Random/Hunter	219	3.26	11	22	13	39	15
	Hunter	650	3.08	16	23	15	32	15
	Livestock	370	3.05	17	27	10	26	20

Continued

3.11. Do you agree or disagree that…

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
A. If wolves are causing a population of elk or deer to decline below acceptable levels, wolf hunting should be allowed in order to increase deer and elk populations.	❑	❑	❑	❑	❑
B. There are not enough elk to go around, and hunters shouldn't have to compete with wolves for elk to harvest.	❑	❑	❑	❑	❑
C. In Idaho, livestock owners are allowed to legally shoot wolves which are attacking livestock on their own property. This is a good policy.	❑	❑	❑	❑	❑

3.11. Do you agree or disagree that:		Total	Mean Score	% SD	% D	% N	% A	% SA
3.11.A. If wolves are causing a population of elk or deer to decline below acceptable levels, wolf hunting should be allowed in order to increase deer and elk populations.	Random/NotHunter	205	3.47	9	19	11	39	23
	Random/Hunter	219	4.47	1	4	3	31	61
	Hunter	650	4.71	1	1	1	21	76
	Livestock	370	4.59	2	3	2	22	71
3.11.B. There are not enough elk to go around, and hunters shouldn't have to compete with wolves for elk to harvest.	Random/NotHunter	205	2.81	17	31	18	20	14
	Random/Hunter	219	4.02	5	9	11	30	45
	Hunter	650	4.17	3	9	9	24	55
	Livestock	370	4.08	6	6	12	27	49
3.11.C. In Idaho, livestock owners are allowed to legally shoot wolves which are attacking livestock on their own property. This is a good policy.	Random/NotHunter	205	4.07	4	7	7	42	40
	Random/Hunter	219	4.58	1	1	2	31	65
	Hunter	650	4.71	0	1	1	23	75
	Livestock	370	4.82	1	0	1	14	85

Continued

3.11. (continued) Do you agree or disagree that…

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
D. My level of support for having wolves in Idaho would increase if there were a hunting season on wolves.	❑	❑	❑	❑	❑
E. I would support having wolves in Idaho only if hunting were allowed.	❑	❑	❑	❑	❑
F. I would support wolves in Idaho more if I knew the population was being managed to control livestock conflicts.	❑	❑	❑	❑	❑
G. I would support wolves in Idaho more if I knew the population was being managed to create a balance between predators and prey.	❑	❑	❑	❑	❑
H. I enjoy knowing there are wolves in Idaho.	❑	❑	❑	❑	❑
I. I would enjoy seeing a wolf in Idaho.	❑	❑	❑	❑	❑

3.11. Do you agree or disagree that:		Total	Mean Score	% SD	% D	% N	% A	% SA
3.11.D. My level of support for having wolves in Idaho would increase if there were a hunting season on wolves.	Random/NotHunter	205	2.71	20	22	33	17	8
	Random/Hunter	219	3.11	13	20	22	33	12
	Hunter	650	3.29	14	12	22	33	18
	Livestock	370	3.12	14	18	28	23	17
3.11.E. I would support having wolves in Idaho only if hunting were allowed.	Random/NotHunter	205	2.29	29	31	26	10	4
	Random/Hunter	219	2.89	15	25	26	22	11
	Hunter	650	3.16	13	18	25	27	17
	Livestock	370	2.97	17	23	23	20	17
3.11.F. I would support wolves in Idaho more if I knew the population was being managed to control livestock conflicts.	Random/NotHunter	205	3.31	9	16	22	39	13
	Random/Hunter	219	3.27	13	15	16	44	12
	Hunter	650	3.28	14	14	19	37	16
	Livestock	370	3.48	12	14	14	36	25
3.11.G. I would support wolves in Idaho more if I knew the population was being managed to create a balance between predators and prey.	Random/NotHunter	205	3.42	9	12	20	47	12
	Random/Hunter	219	3.35	13	13	13	46	15
	Hunter	650	3.40	14	11	15	39	20
	Livestock	370	3.28	14	16	17	34	19
3.11.H. I enjoy knowing there are wolves in Idaho.	Random/NotHunter	205	3.51	12	9	19	33	26
	Random/Hunter	219	2.48	35	20	16	20	9
	Hunter	650	2.19	46	16	17	16	5
	Livestock	370	1.88	58	15	12	10	5
3.11.I. I would enjoy seeing a wolf in Idaho.	Random/NotHunter	205	3.58	12	9	16	36	27
	Random/Hunter	219	2.59	32	20	15	22	11
	Hunter	650	2.38	42	15	15	21	7

Continued

	Livestock	370	2.03	49	19	15	12	5

3.12. Have you ever seen a wild wolf in Idaho?

_____ Yes _____ No

3.13. If you saw a wolf in the wild, how would it change your outdoor experience?

_____ Make it Better _____ About the same
_____ Make it Worse _____ Depends on Situation

3.14. Would you travel to see wolves in Idaho? Yes _____ No

3.15. Would you hire a guide to help you see wolves in Idaho? _____ Yes _____ No

	GROUP	Total	Mean Score	%Yes (1)	%No (2)		
3.12. Have you ever seen a wild wolf in Idaho?	Random/NotHunter	205	1.68	32	68		
	Random/Hunter	219	1.43	57	43		
	Hunter	650	1.34	66	34		
	Livestock	370	1.36	64	36		
	GROUP	Total	Mean Score	%Make Better (1)	%The same (2)	%Make Worse (3)	% Depends (4)
3.13. If you saw a wolf in the wild, how would it change your outdoor experience?	Random/NotHunter	205	0.82	35	14	6	45
	Random/Hunter	219	1.12	13	13	24	50
	Hunter	650	1.16	12	15	25	48
	Livestock	370	1.40	3	15	35	46
	GROUP	Total	Mean Score	%Yes (1)	%No (2)		
3.14. Would you travel to see wolves in Idaho?	Random/NotHunter	205	1.58	42	58		
	Random/Hunter	219	1.80	20	80		
	Hunter	650	1.88	12	88		
	Livestock	370	1.93	7	93		
3.15. Would you hire a guide to help you see wolves in Idaho?	Random/NotHunter	205	1.80	20	80		
	Random/Hunter	219	1.93	7	93		
	Hunter	650	1.98	2	98		
	Livestock	370	1.98	2	98		

3.16. How much would you pay a guide for a one-day viewing experience in Idaho? $_____

3.16. How much would you pay a guide for a one-day viewing experience in Idaho? (IF ANSWERED YES TO #3.15)	GROUP	Total	MEAN	MEDIAN	MIN	MAX
	Random/NotH	29	123	100	5	500
	Random/Hunter	13	115	100	0	500
	Hunter	13	104	50	0	300

Continued

	Livestock	8	54	25	0	300

*only included if answered yes to Question 3.15.

3.17. What do you feel are the most critical issues about wolves in Idaho? Please list as many as you like.

[TO BE INSERTED]

SECTION 4: Questions about you.
The following demographic information will be used to better understand the answers we receive and help make conclusions about the residents of this state. These data are for statistical purposes only and will not be distributed in any way that can be linked to you as an individual.

Your responses will be completely confidential.

4.1. How would you describe yourself? (Check as many as apply).

_____ Hunter
_____ Angler
_____ River runner (canoe, kayak, raft)
_____ Anti-hunting
_____ Motorized recreation enthusiast (ATVs, 4x4 truck, motorcycle, snowmobiles)
_____ Non-motorized recreation enthusiast (hiking, backpacking, biking, snowshoeing, cross-country skiing)
_____ Rancher
_____ Farmer
_____ Animal Rights advocate
_____ Environmentalist, Naturalist, Birdwatcher
_____ Not particularly interested in wolves, the outdoors, or the environment
_____ Other, please describe. _____

	Random/ NotHunter	Random/ Hunter	Hunters	Livestock
	#	#	#	#
# RESPONDED	205	219	650	370
4.1. How would you describe yourself? (Check as many as apply).	% Yes	% Yes	% Yes	% Yes
A. Hunter	0	100	96	74
B. Angler	28	85	79	57
C. River runner (canoe, kayak, raft)	16	25	20	11
D. Anti-hunting	7	0	0	0
E. Motorized recreation enthusiast (ATVs, 4x4 truck, motorcycle, snowmobiles)	22	61	62	42
F. Non-motorized recreation enthusiast (hiking, backpacking, biking, snowshoeing, cross-country skiing)	45	42	45	34
G. Rancher	4	15	17	72
H. Farmer	9	19	16	58
I. Animal Rights advocate	13	4	3	4
J. Environmentalist, Naturalist, Birdwatcher	26	16	14	14
K. Not particularly interested in wolves, the outdoors, or the environment	7	2	1	2
L. Other, please describe.	16	10	9	13

4.1 *Column percents, do not sum to 100, can vote for more than one.

4.2. What size of community did you **grow up in** (before the age of 18) and what size of community do you **currently live in**? (Please choose just one answer that fits best for each. If you have lived in several locations, select the location where you lived the longest.)

	Grew Up In	Currently Live In
Farm, ranch, or rural area	_____	_____
Small town	_____	_____
Large town	_____	_____
Small city (or its suburbs)	_____	_____
Large city (or its suburbs)	_____	_____

4.2. What size of community did you grow up in (before the age of 18) and what size of community do you currently live in? (Please choose just one answer that fits best for each. If you have lived in several locations, select the location where you lived the longest.)	Total	Mean Score	1= Farm, Ranch, Rural	2= Small town	3= Large town	4= Small city	5= Large city
			%	%	%	%	%
Random/ Past	424	2.34	34	34	8	10	13
Random/ Present	424	2.88	18	30	14	22	16
Random/ NotHunter/ Past	205	2.62	28	32	9	11	19
Random/ NotHunter/ Present	205	3.12	13	27	14	26	20
Random/ Hunter/ Past	219	2.10	40	35	7	10	8
Random/ Hunter/ Present	219	2.67	23	32	13	19	13
Hunter/ Past	650	1.94	46	34	7	8	6
Hunter/ Present	650	2.26	35	32	11	15	7
Livestock/ Past	370	1.41	78	14	2	4	3
Livestock/ Present	370	1.32	82	10	3	3	2

Continued

4.3. In what year were you born?

Born in 19 ____ (please write year)

4.4. How many year(s) have you hunted in Idaho?

_____ Year(s) (please write number, put 0 if none)

4.5. How many year(s) have you lived in Idaho?

_____ Year(s) (please write number, put 0 if none)

4.6. About how many year(s) has **your family lived** in Idaho? (your parents and previous generations, not including your children)

_____ Year(s) (please write number, put 0 if none)

	GROUP	Total	Mean Age	Min Age	Max Age	Median Age
4.3. In what year were you born?	Random/ NotHunter	193	57.1	22	96	56
	Random/ Hunter	219	54.7	20	90	54
	Hunter	630	47.1	16	86	48
	Livestock	362	56.7	13	89	56
	GROUP	Total	Mean Years	Min Years	Max Years	Median Years
4.4. How many years have you hunted in Idaho?	Random/ NotHunter	190	6.4	0	80	0
	Random/ Hunter	216	27.8	0	70	28
	Hunter	626	22.7	0	70	20
	Livestock	370	27.9	0	75	30
4.5. How many years have you lived in Idaho?	Random/ NotHunter	192	32.2	1	89	30
	Random/ Hunter	217	38.2	1	89	38
	Hunter	627	29.0	0	86	28
	Livestock	370	43.6	0	85	46
4.6. How many years has your family lived in Idaho?	Random/ NotHunter	194	48.8	0	200	34
	Random/ Hunter	219	61.3	0	304	55
	Hunter	626	53.6	0	200	48
	Livestock	370	72.4	0	180	85

4.7. Are you:_____ Male _____ Female

4.8. Highest level of education that you have achieved (please check just one)

_____ High school not completed
_____ High school diploma or GED
_____ Some college
_____ Completed 4-year college degree
_____ Some graduate school
_____ Graduate or professional degree completed

4.7. Are you male or female?	GROUP	Total		% Male	% Female				
	Random/ NotHunter	205		63	37				
	Random/ Hunter	219		93	7				
	Hunter	650		88	12				
	Livestock	370		84	16				
4.8. Highest level of education that you have achieved (please check just one)	GROUP	Total	Mean Score	% Not Complete H.S.	% Complete H.S.	% Some College	% Complete College	% Some Grad School	% Complete Grad School
	Random/ NotHunter	205	4.02	3	14	29	15	12	27
	Random/ Hunter	219	3.32	5	25	36	16	5	14
	Hunter	650	3.21	6	26	38	13	5	12
	Livestock	370	3.55	5	21	33	18	3	21

4.9. Does your family have a heritage of ranching or farming?

_____ Yes _____ No

4.10. Does your family have a heritage of hunting?

_____ Yes _____ No

4.11. Are there now wolves living within 50 miles of your home?

_____ Yes _____ No _____ Uncertain

	GROUP	Total	% Yes	% No	
4.9. Does your family have a heritage of ranching or farming? (Yes/No)	Random/ NotHunter	205	55	45	
	Random/ Hunter	219	59	41	
	Hunter	650	58	42	
	Livestock	370	XXXX	XXXX	
		Total	% Yes	% No	
4.10. Does your family have a heritage of hunting? (Yes/No)	Random/ NotHunter	205	58	42	
	Random/ Hunter	219	86	14	
	Hunter	650	93	7	
	Livestock	370	83	17	
	GROUP	Total	% Yes	% No	% Uncertain
4.11. Are there now wolves living within 50 miles of your home? (Yes/No)	Random/ NotHunter	205	25	21	54
	Random/ Hunter	219	60	8	32
	Hunter	650	68	12	20
	Livestock	370	64	7	28

Continued

4.12. We are interested in the kinds of organizations that Idaho residents with various viewpoints choose to belong to. Do you belong to the following kinds of organizations? (Please check all that apply)

_____ Hunting organizations
_____ Ranching/Farming organizations
_____ Environmental organizations
_____ Animal Rights organizations

4.12. We are interested in the kinds of organizations that Idaho residents with various viewpoints choose to belong to. Do you belong to the following kinds of organizations? (Please check all that apply)	GROUP	Total	% Hunting	% Ranch/ Farming	% Environ-mental	% Animal Rights
	Random/ NotHunter	205	2	8	9	3
	Random/ Hunter	219	43	19	7	1
	Hunter	650	50	14	5	1
	Livestock	370	27	63	7	0

4.12 *Column percents, do not sum to 100, can vote for more than one.

Please list the relevant organizations to which you belong.

_____

_____

_____

(Please spell out the names of organizations -- many organizations have similar initials and abbreviations.)

[TO BE INSERTED]

SECTION 5: We would appreciate your answering the following question, to help us better understand our Idaho stakeholders. However, if you feel that this is a private matter, we respect your decision to not answer.

5.1. What is your annual family income, before taxes?

_____ Less than $25,000
_____ $25,000 to $49,000
_____ $50,000 to $99,000
_____ $100,000 to $199,000
_____ More than $200,000

5.2. Would you like to receive email information updates from Idaho Fish and Game about wolves?

_____ Yes _____ No

If "Yes", what is your email address? _____

5.1. What is your annual family income, before taxes?	GROUP	Total	Mean Score	% <$25K	% $25K to 40K	% $50K to 99K	% $100K to 199K	% >$200K
	Random/ NotHunter	205	2.63	13	28	41	15	2
	Random/ Hunter	219	2.84	7	30	40	19	4
	Hunter	650	2.73	8	30	44	15	3
	Livestock	370	2.75	6	34	44	13	3
5.2. Would you like to receive email information updates from Idaho Fish and Game about wolves? (Yes/No)	GROUP	Total		% Yes	% No			
	Random/ NotHunter	205		26	74			
	Random/ Hunter	219		37	63			
	Hunter	650		43	57			
	Livestock	370		34	66			

5.3. Is there anything else you would like to tell us about gray wolves in Idaho? About this survey? We would appreciate any comments.

_____
_____
_____
_____
_____

THIS SECTION FOR BIG GAME HUNTERS IN IDAHO

The Idaho Department of Fish and Game is conducting a pilot survey of big game hunters to gather information about a possible wolf hunting season which could occur in the Fall of 2008. We are seeking your input, so that we can best accommodate Idaho hunters' wishes. Your opinion is important to us, and will help us determine how many hunters would be interested in hunting wolves and what their hunting success might be. Please take a moment to answer the following questions.

H.1. If you could legally harvest a wolf, would you?

_____ Yes _____ No _____ Maybe

H.2. If you could legally hunt a wolf every year, would you?

_____ Yes _____ No _____ Maybe

H.3. If hunting were allowed in 2008, would you buy a wolf tag, if the price seemed reasonable to you?

_____ Yes
_____ No
_____ I Don't Know
_____ Depends on the price.

	GROUP	Total	Mean Score	% Yes	% No	% Maybe	
6. 1. If you could legally harvest a wolf, would you?	Hunter	650	1.46	72	11	17	
6. 2. If you could legally hunt a wolf every year, would you?	Hunter	650	1.69	56	19	25	
	GROUP	Total	Mean Score	% Yes	% No	% Don't Know	% Depends on Price
6.3. If hunting were allowed in 2008, would you buy a wolf tag, if the price seemed reasonable to you?	Hunter	650	2.29	54	18	12	16

H.4. What is the maximum price you would pay for a wolf hunting tag? _____

	GROUP	Total	MEAN	MIN	MAX	SD	MEDIAN	
6.4. What is the maximum price you would pay for a wolf hunting tag?	Hunter	525	41.0	0	5000	226.5	20	(64 had zero dollars)
	Hunter	461	46.7	0.01	5000	241.2	20	(omit zeroes)

Continued

H.5. Please indicate how much you agree with each of the following statements, using the following scale. Please pick only one choice for each question.

Do you agree or disagree that:	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
A. I support wolf recovery and sustaining a viable wolf population in Idaho.	❑	❑	❑	❑	❑
B. I would support wolf recovery and sustaining a viable wolf population in Idaho, only if the population of wolves were managed at a reasonable level.	❑	❑	❑	❑	❑
C. Should the Department auction off the first few wolf tags and use the generated funds to manage wolves? (as is now done for bighorn sheep)	❑	❑	❑	❑	❑
D. Would you support including a wolf tag in the Sportsman's Package, if the price were raised accordingly?	❑	❑	❑	❑	❑
E. The current number of wolves in Idaho has decreased your chance to harvest an elk.	❑	❑	❑	❑	❑
F. The current number of wolves in Idaho is damaging the elk herds where you hunt in Idaho.	❑	❑	❑	❑	❑

6.5. Do you agree or disagree that:	GROUP	Total	Mean Score	% SD	% D	% N	% A	% SA
6.5.A. I support wolf recovery and sustaining a viable wolf population in Idaho.	Hunters	650	2.18	43	22	13	18	4
6.5.B. I would support wolf recovery and sustaining a viable wolf population in Idaho, only if the population of wolves were managed at a reasonable level.	Hunters	650	2.99	23	17	11	35	13
6.5.C. Should the Department auction off the first few wolf tags and use the generated funds to manage wolves? (as is now done for bighorn sheep)	Hunters	650	2.56	29	22	19	25	6
6.5.D. Would you support including a wolf tag in the Sportsman's Package, if the price were raised accordingly?	Hunters	650	3.52	12	10	15	41	22
6.5.E. The current number of wolves in Idaho has decreased your chance to harvest an elk.	Hunters	650	4.29	2	6	9	26	56
6.5.F. The current number of wolves in Idaho is damaging the elk herds where you hunt in Idaho.	Hunters	650	4.29	3	6	10	23	59

Please read about the following three possible harvest management scenarios and answer the questions below:

General Hunt: Unlimited number of tags, with a harvest quota for the unit or zone.

- Wolf hunting season during the fall general deer and elk seasons only.
- Hunting must stop when the quota is filled – similar to some mountain lion hunting areas.

Controlled Hunt: By unit or zone, with a drawing. Limited number of tags.

- Wolf hunting season during the fall general deer and elk seasons, and possibly longer.

Combination of hunt types and seasons: Allowing for variety of opportunities to achieve harvest objectives by unit or zone.

H.6. Of these choices outlined above, which would you prefer? (Choose one)

_____ General Hunt

_____ Controlled Hunt

_____ Combination of hunt types and seasons

H.7. Should the hunt be held during the general deer and elk season (when a hunter might be able to incidentally harvest a wolf while hunting for deer or elk), OR later in winter (when pelts are more likely to be in their prime)? (Choose one)

_____ During general deer and elk season

_____ Later in the winter

H.8. Did you hunt big game in Idaho in the Fall of 2006? (If no, please go to Question 12.)

_____ Yes _____ No

	GROUP	Total	% General	% Control Hunt	% Combined
6.6. Three possible harvest management scenarios are General Hunt, Controlled Hunt, or a Combination of hunt types and seasons. Which would you prefer?	Hunters	650	44	15	42
	GROUP	Total	% During Deer & Elk	% Later in Winter	% Both
6.7. Should the hunt be held during the general deer and elk season (when a hunter might be able to incidentally harvest a wolf while hunting for deer or elk), OR later in winter (when pelts are more likely to be in their prime)?	Hunters	650	59	35	6
	GROUP	Total	% Yes	% No	
6.8. Did you hunt big game in Idaho in the Fall of 2006? (If no, please go to Question 12.)	Hunters	650	97	3	

Continued

H.9. In what unit(s) did you hunt big game in Idaho in the Fall of 2006?

Unit's#: _____, _____, _____, _____

[NOT SUMMARIZED YET, BY UNIT]

H.10. Did you see a live wolf, or wolves, ***while hunting*** in the Fall of 2006?

_____ Yes _____ No

	GROUP	Total	% Yes	% No
6.10. Did you see a live wolf, or wolves, while hunting in the Fall of 2006?	Hunters	650	33	67

H.11. Idaho Fish and Game is trying to estimate the possible success rate for hunting wolves. If you did see a wolf while you were hunting last year, could you have killed it? That is, were you physically within range and you had a clear shot? Please answer for up to 3 game management units (unit hunted, number days hunted).

___ Unit	___ # Days	___ Yes, a killing shot was possible	___ No, a shot was not possible
___ Unit	___ # Days	___ Yes, a killing shot was possible	___ No, a shot was not possible
___ Unit	___ # Days	___ Yes, a killing shot was possible	___ No, a shot was not possible

	GROUP	Total	% Yes	% No
6.11. Idaho Fish and Game is trying to estimate the possible success rate for hunting wolves. If you did see a wolf while you were hunting last year, could you have killed it? That is, were you physically within range and you had a clear shot? Please answer for up to 3 game management units (unit hunted, number days hunted).	Hunters	270	67	33

H.12. Have you hunted for black bears in the past?

_____ Yes _____ No

H.13. Have you hunted for mountain lions in the past?

_____ Yes _____ No

H.14. Would you be *more or less* supportive of wolf management in Idaho if wolf hunting were allowed in Idaho?

_____ More Supportive _____ Less Supportive _____ No Difference

H.15. Once wolves are de-listed in Idaho and if federal funding is cut off, how should Idaho Fish and Game fund wolf management? (please check only one)

_____ Federal funding only
_____ Idaho license dollars from selling wolf tags
_____ General funds from state taxes
_____ A combination of the above sources
_____ Other sources, please describe:_____

	GROUP	Total	% Yes	% No			
6.12. Have you hunted for black bears in the past?	Hunters	650	51	49			
6.13. Have you hunted for mountain lions in the past?	Hunters	650	27	73			
6.14. Would you be more or less supportive of wolf management in Idaho if wolf hunting were allowed in Idaho?	GROUP	Total	% More Support	% Less Support	% No Different		
	Hunters	650	57	3	40		
6.15. Once wolves are de-listed in Idaho and if federal funding is cut off, how should Idaho Fish and Game fund wolf management? (please check only one)	GROUP	Total	% Federal $ Only	% Idaho License $ from wolf tags	% General State Tax $	% Combi-nation	% Other
	Hunters	650	13	36	4	40	7

H.16. Which of these methods of sport hunting for wolves should be legal in Idaho? Check all that apply.

_____ Rifle hunting
_____ Archery hunting
_____ Muzzleloader hunting
_____ Baiting
_____ Predator calls or howling (not electronic)
_____ Trapping
_____ Other, please describe: _____

H.17. There were an estimated 673 wolves in 72 packs in December 2006 in Idaho. If wolf populations were managed by numbers of wolves rather than conflicts or other objectives, what number do you think would be appropriate to sustain in Idaho?

_____ 100 (the minimum required by law)
_____ 101-200
_____ 201-500
_____ 501-700
_____ 700+
_____ Don't worry about numbers, manage to reduce conflicts
_____ I don't know, let IDFG determine appropriate levels.

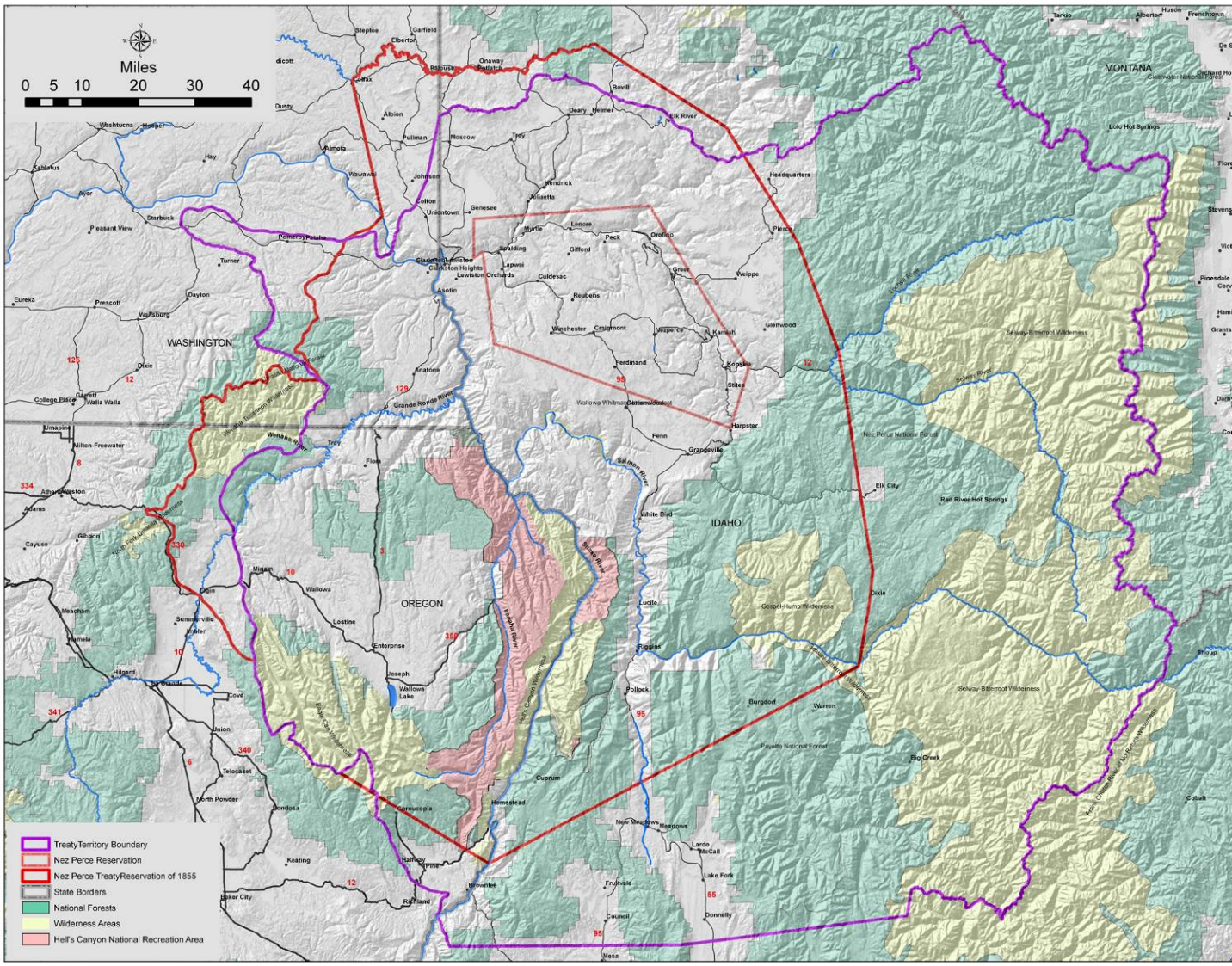
6.16. Which of these methods of sport hunting for wolves should be legal in Idaho? (Check all that apply.)	GROUP	Total	% Rifle	% Archery	% Muzzle	% Baiting	% Non-electric Predator Calls	% Trap	% Other
(Column %, does not sum to 100%)	Hunters	650	95	76	80	61	79	64	10
6.17. There were an estimated 673 wolves in 72 packs in December 2006 in Idaho. If wolf populations were managed by numbers of wolves rather than conflicts or other objectives, what number do you think would be appropriate to sustain in Idaho?	GROUP	Total	% 100	% 101-200	% 201-500	% 501-700	% 700+	% Just Reduce Conflicts	% Let IDFG Decide
	Hunters	650	45	13	7	1	1	15	18

6.16 *Column percents, do not sum to 100, can vote for more than one.

Thank you very much for expressing your opinions and helping us make critical decisions about wolf management.

APPENDIX B

Map of Nez Perce Tribe Territory



APPENDIX C

Policy for Avian and Mammalian Predation Management

I. Purpose

The Idaho Department of Fish and Game (Department) has a responsibility to preserve, protect, perpetuate and manage all wildlife in the state and to provide continued supplies of such wildlife for hunting, fishing and trapping. To fulfill its responsibility, the Department must efficiently and effectively manage populations of predators as well as populations of prey species to meet management objectives. The Department recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. However, the Department also recognizes that predator removal is controversial both publicly and professionally. The purpose of this policy is to provide the Department direction in managing predator populations consistent with meeting management objectives for prey species populations.

This policy does not apply to emergency response situations where the Department must act to protect human health and safety.

II. Definitions

A. "**Predation**" means the act of an individual animal killing another live animal.
B. "**Predator**" means any wild animal species subsisting, wholly or in part, on other living animals captured through its own efforts. Predators are defined in *Idaho Code* as 'big game animals' (black bear and mountain lion), 'migratory birds' (American crow), 'fur-bearing animals' (badger, bobcat, fisher, marten, mink, otter, raccoon, and red fox), and 'predatory wildlife' (coyote, skunk, and weasel). For the purpose of this policy, "predator" will include primarily those avian and terrestrial species subject to Idaho jurisdiction, but may in some cases include species which are protected under the Migratory Bird Treaty Act or the Endangered Species Act. For predatory species protected under these or other federal statutes, the Department may cooperate with the USDA Animal and Plant Health Inspection Service and/or the U.S. Fish and Wildlife Service in addressing predation problems caused by such species.
C. "**Predation management**" means the application of professional wildlife management technology to increase or decrease predator populations. Predator management may include management of habitats to benefit or depress populations, selective harvest of individual animals, or generalized harvest over a geographic area.
D. "**Predator removal**" means the physical removal of an animal, alive or dead, from an area where its presence is undesirable. Physical removal of live animals for release in habitats already occupied by the same species has been shown to create additional problems as individual animals seek living space (i.e., a home range) within already-occupied suitable habitat; for that reason, predator removal will often but not necessarily require lethal methods.
E. **"Prey"** means any animal hunted or killed as food by a predator.

III. Policy

Predator populations, as with all wildlife in Idaho, will be managed to assure their future recreational, ecological, intrinsic, scientific, and educational values, and to limit conflicts with human enterprise and values. Where there is evidence that predation is a significant factor inhibiting the ability of a prey species to attain Department population management objectives and the Department decides to implement predation management actions, the management actions will ordinarily be directed by a predation management plan.

Predator populations will be managed through habitat manipulation and/or predator removal as appropriate. Wildlife managers and administrators implementing predation management options will consider the ecological relationships that will be affected. Management decisions will be consistent with objectives or management plans for predators, animals that constitute or contribute to the predator's prey base, affected habitat, and other biological and social constraints.

Idaho Code provides that predatory wildlife (i.e., coyotes, jackrabbits, skunks, starlings, and weasels) may be taken by any legal means at any time.

On lands managed by the Department, efforts to limit the size of predator populations may include habitat manipulation. The Department may encourage other land management agencies to manipulate habitat under their jurisdiction in a manner to limit the size or effectiveness of predator populations.

The Department, when and where feasible, will rely on sportsmen (licensed hunters and trappers) to take predators classified as game animals and fur-bearing animals, and may alter seasons or harvest rules to meet wildlife management objectives. However, the Department will not support any contests or similar activities involving the taking of predators which may portray hunting in an unethical fashion, devalue the predator, and which may be offensive to the general public. The Department opposes use of bounties as a predator control measure. The Department will not implement a program based, in whole or in part, on utilizing methods involving sterilization or birth control in wild animals.

The Department will cooperate with the Animal and Plant Health Inspection Service (APHIS) Wildlife Services Program to address specific areas and species, particularly on private lands, in a manner consistent with the approved interagency Memorandum of Understanding.

The Director may implement a Predation Management Plan in those circumstances where wildlife management objectives for prey species cannot be accomplished within 2 years by habitat manipulation, sportsman harvest, or interagency action designed to benefit the prey species, and where there is evidence that action affecting predators may aid in meeting management objectives. Essential components of such a Predation Management Plan are defined below.

This policy does not affect existing predator management policies and procedures used to administer livestock depredation issues.

IV. Procedures

Managers recognize the role of predators in an ecological and conservation context. Impacts of the removal of individual predators on the structure of the predator population, as well as the prey population, will be considered. The actions by the Department must be based on the best available scientific information, and will be evaluated in terms of risk management to all affected wildlife species and habitats.

Valid concerns for human health and safety exist. Predator management will consider the need to avoid risk of human injury, loss of life, or potential for disease transmission.

Predator management may occur but is not limited to the following circumstances:

1. In localized areas where prey populations are fragmented or isolated, or where introductions or transplants of potentially vulnerable wildlife species (e.g., bighorn sheep, wild turkeys, sharp-tailed grouse, and others) has occurred or is imminent. Control may be intensive and of sufficient duration to allow transplanted animals and their progeny to become established and to become self-sustaining, or selective with removal efforts directed at specific offending animals.

2. In specific areas where managers are unable to meet management goals and objectives for prey populations due to predation. For example, in areas where survival or recruitment of game animal populations is chronically low and management plan objectives have not been or cannot be met and where there is evidence that predation is a significant factor, predator control may be initiated.

3. On wildlife management areas, especially those which are managed primarily to provide for production of specific species (e.g., waterfowl), provision of critical winter range, and those acquired and managed to provide specific mitigation for wildlife losses elsewhere.

Predation Management Plans will consider options other than just predator removal. Various kinds of habitat manipulation can sometimes negate or minimize the effect of predators, including constructing nesting islands, providing cover plantings, or removal of roosts used by avian predators. Preventative actions are important in reducing conflicts with predators; therefore, the Department will seek ways to reduce the vulnerability of prey species to predation, and will cooperate with federal and state agencies, counties, and others to promote activities on public and private lands that will limit predator impacts. Such activities may include working with landowners and land managers to reduce winter concentrations of prey species (especially where artificially concentrated by food resources), and working with recreation managers to direct or reduce human activities that may increase the vulnerability of prey species to predators.

Predation Management Plans

Predation management plans will be prepared using the following outline:

1. *Definition of the problem.* This definition must include a rationale for the proposed action. Such a rationale may include:

A. a proposed management action (such as the introduction of a small number of animals into suitable but unoccupied habitat) that may be adversely affected by the presence and predictable actions of predators,
B. a finding that approved wildlife management objectives are not being met due in large part to the actions of predators, or
C. evidence that wildlife recruitment or populations has been or will be adversely impacted by the presence of predators.

2. *Risk Assessment.* A discussion of the ramifications of the program, including potential effects on:
   A. predator populations (e.g., will removal of avian roosting trees near a waterfowl production area affect non-targeted species, such as bald eagles? Will removal of specific individual animals result in vacant home ranges that will be especially attractive to transient predators of the same species?),
   B. prey or benefiting species,
   C. sportsmen and wildlife-associated recreational opportunity,
   D. landowners in or near the impacted area, and
   E. groups that will strongly favor or oppose the proposed action.

3. *Program.* A discussion of the specific proposed treatment, including:
   A. clearly-defined boundaries,
   B. the species of predator(s) affected,
   C. the prey or other species to benefit from any proposed action,
   D. the method or techniques identified to address identified concerns, including habitat manipulation where appropriate and the method(s) of predator removal (if removal is a component of the program),
   E. the objective and measure of success used to determine whether that objective has been achieved,
   F. date of initiation of actions,
   G. measurable objectives and monitoring plans to access program effectiveness, and
   H. budget.

All predator management plans will be reviewed by the Chief of the Bureau of Wildlife and Regional Supervisor. Predator management plans must be approved by the Director. Predator management plans will be reviewed and evaluated annually.

V. Revision Date

This policy shall be reviewed on or before June 30, 2005.

APPENDIX D

Wolf Breeding Pair and Pack Size (entire document to be included in final)

INFLUENCE OF PACK SIZE, DEMOGRAPHY, AND HUMAN-CAUSED MORTALITY ON BREEDING PAIRS OF WOLVES IN THE NORTHERN ROCKY MOUNTAINS

RH: Wolf Breeding Pairs and Pack Size

MICHAEL S. MITCHELL[1], U. S. Geological Survey, Montana Cooperative Wildlife Research Unit, 205 Natural Sciences Building, University of Montana, Missoula, MT 59812, USA

DAVID E. AUSBAND, Montana Cooperative Wildlife Research Unit, 205 Natural Sciences Building, University of Montana, Missoula, MT 59812, USA

CAROLYN A. SIME, Montana Fish, Wildlife & Parks, 1420 E. 6th Ave., Helena, MT 59620, USA

EDWARD E. BANGS, U.S. Fish and Wildlife Service, 585 Shepard Way, Helena, MT 59601, USA

MICHAEL JIMENEZ, U.S. Fish and Wildlife Service, Helena, MT 59601, USA

CURT M. MACK, Gray Wolf Recovery Project, Nez Perce Tribe, P.O. Box 1922 McCall, ID 83638, USA

THOMAS J. MEIER, National Park Service, Denali National Park and Preserve, Denali Park, AK 99755

M. STEVE NADEAU, Idaho Department of Fish and Game, 600 S. Walnut, Boise, ID 83707, USA

DOUGLAS W. SMITH, Yellowstone Center for Resources, P.O. Box 168, Yellowstone National Park, WY 82190, USA

[1] After fourth author, order of authors alphabetical.