Idaho Wolf Population Management Plan

2008-2012

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

As adopted March 6, 2008

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Acknowledgements

This document is the first Wolf Population Management Plan the Department has completed. It would not have been completed without help and significant contributions from many people.

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Wolves in Idaho and the West are very controversial and we received comments from hundreds of people regarding the plan and wolf management in general. We appreciate each and every one for their passion on this issue, and we can only hope that our efforts toward quality management address most of their issues over time. Though we know we will not please everyone, this plan constitutes our best effort to establish a state wolf population management plan that will ensure the continued existence of a viable wolf population within Idaho.

1. INTRODUCTION

Purpose and Scope

Delisting of wolves within the Northern Rocky Mountains (NRM) has been an ongoing process since 2002, and recently reached a nexus when the USFWS published a proposed delisting rule 8 February 2007 (USFWS 2007*a*) and a final delisting rule 27 February 2008. The rule will take effect 30 days following publication in the Federal Register. The purpose of this Wolf Population Management Plan (Idaho Department of Fish and Game [IDFG] Plan) is to provide a management framework for state management of the gray wolf (*Canis lupus*) population for the 5-year period following delisting. Consistent with the delisting rule, the state goal is to ensure the long-term viability of the gray wolf population. The metric for the term of this plan will be to sustain the wolf population at 2005 to 2007 levels (518-732). Research and scientific adaptive management will play an integral role in learning about wolf population management and helping guide management efforts into the future.

The wolf plan is patterned after other IDFG big game species plans. Under Department policy, all IDFG management plans must follow guidelines set forth in the IDFG strategic plan called the "Compass."

In March 2002 the Idaho Legislative Wolf Oversight Committee (2002) developed the Idaho Wolf Conservation and Management Plan (2002 State Plan), which is an overarching document that was finalized and amended by the 56th Idaho Legislature. The 2002 State Plan identifies broad guidelines for wolf management after the species is removed from Endangered Species Act (ESA) protections. These guidelines listed IDFG as the state's primary wolf manager, responsible for developing population management and monitoring programs. The 2002 State Plan was accepted by the U. S. Fish and Wildlife Service (USFWS) as adequate to assure long-term survival of wolves following delisting. The IDFG Plan was developed to define terms and strategies and identify how objectives and goals of the 2002 State Plan would be accomplished at the field level. The IDFG Plan incorporates the IDFG strategic plan (Compass) and 2002 State Plan broad guidelines and sideboards. The flowchart below (Figure 1.1) defines the relationship. In addition to this plan, the Idaho Fish and Game Commission (IFGC) must approve big game rules that outline specific quotas, seasons, and methods of take for wolf harvest. Rules will be finalized at the May 2008 IFGC meeting and published in July for the fall 2008 hunting season. Harvest for each succeeding year will be finalized during the annual big game rules IFGC meeting in March.

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. 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 (IOGA).

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 (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, 10 in all; 452 citizens attended to listen to presentations and provide input on the plan. The public comment period that ended 31 December 2007 drew 1,287 comments from groups and individuals which were analyzed for content and opinion (Hinson and Green 2008). The majority of comments, 691, were submitted via the response form set up on the IDFG website. In addition, the Department received 89 letters, 33 e-mails, 2 telephone calls, and 25 forms that were submitted following open houses. There were also 447 faxes of virtually identical content. Lastly, the public was encouraged to attend Commission meetings to voice their opinions, as well as provide written comment. Public input from all these sources was used to develop the final version of the Wolf Population Management Plan.

Relevant Planning Documents

- Idaho wolf conservation and management plan (Idaho Wolf Legislative Oversight Committee 2002)
- The Compass, Idaho Department of Fish and Game strategic plan (IDFG 2005*b*)
- 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)
- 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)
- Policy for avian and mammalian predation management (IDFG 2000)
- 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)
- Idaho comprehensive wildlife conservation strategy (IDFG 2005*a*)

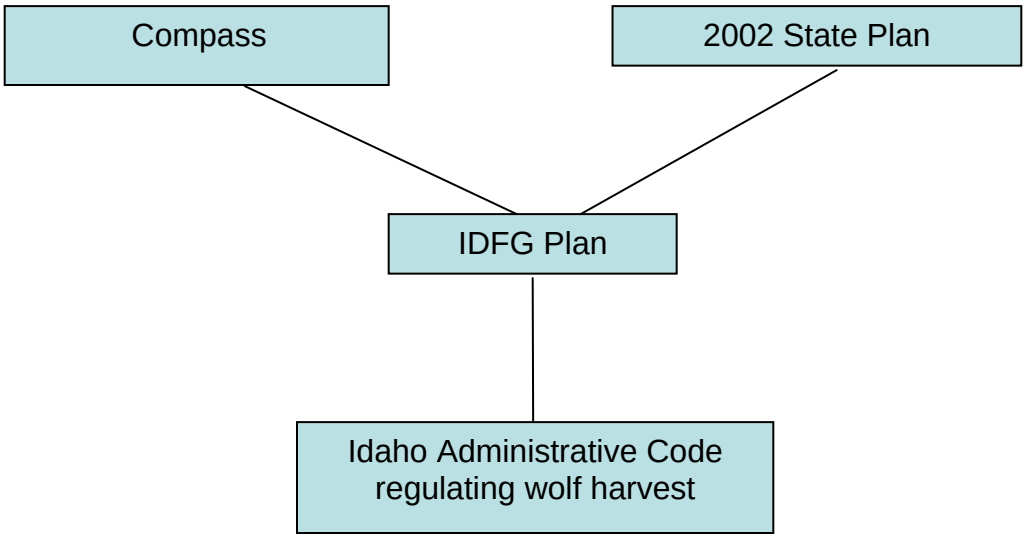

Figure 1.1. Primary planning documents and their relationship.

Goals and Objectives

Under Department policy, several objectives identified in the IDFG strategic plan the "Compass" are incorporated in this IDFG Plan (Tables 4.1 and 5.1). The IDFG Plan objectives are guided by these overarching objectives laid out in the 2002 State Plan:

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. Provide for resident wolf populations 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 2002 State Plan used packs and breeding pairs interchangeably and did not define a pack. The delisting rule requires maintenance of ≥10 breeding pairs, and that all 3 states maintain ≥15 breeding pairs. Therefore, the recovery goals for delisting and state minimum objectives are based on breeding pairs, not packs.]
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 1.2). 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 1.2). 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.

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 2002 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 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 1.3). The revised 10(j) rule was an interim measure to provide Idaho and Montana with more local wolf management authority pending resolution of Wyoming's situation.

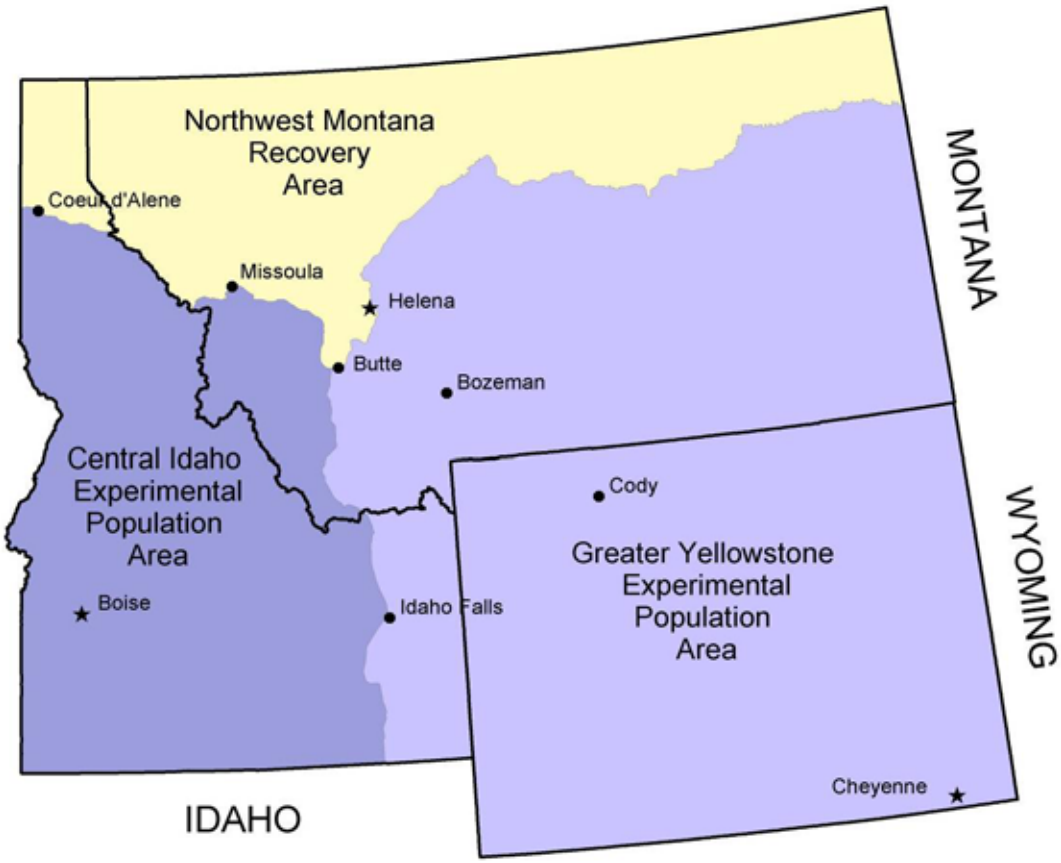

Figure 1.2. Recovery areas established by the USFWS to restore gray wolf populations in the northern Rocky Mountains of Idaho, Montana, and Wyoming.

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 2002 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. The final delisting rule was published in the Federal Register 27 February 2008. When wolves are delisted, full management authority will revert to IDFG. Under Idaho Administrative Code, 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.

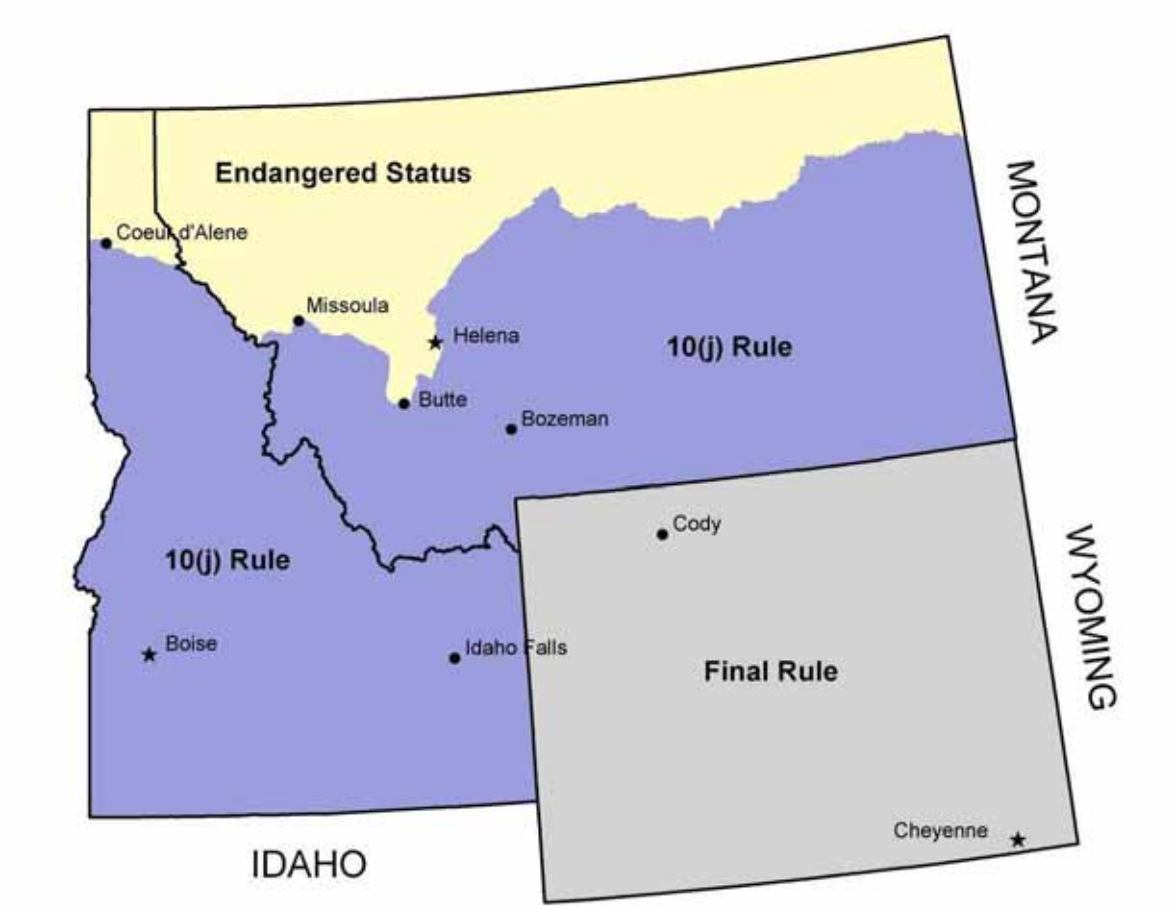

Figure 1.3. Management areas established in February 2005 by the USFWS to restore gray wolf populations in the northern Rocky Mountains of Idaho, Montana, and Wyoming.

2. RESULTS FROM RECOVERY 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 2007, program personnel documented ≥489 wolves and ≥83 wolf packs in Idaho. The population estimation technique, based on the number of documented packs and individuals within the packs, and correction for lone wolves, yielded a minimum population estimate of 732 wolves in Idaho for 2007 (Nadeau et al. 2008).

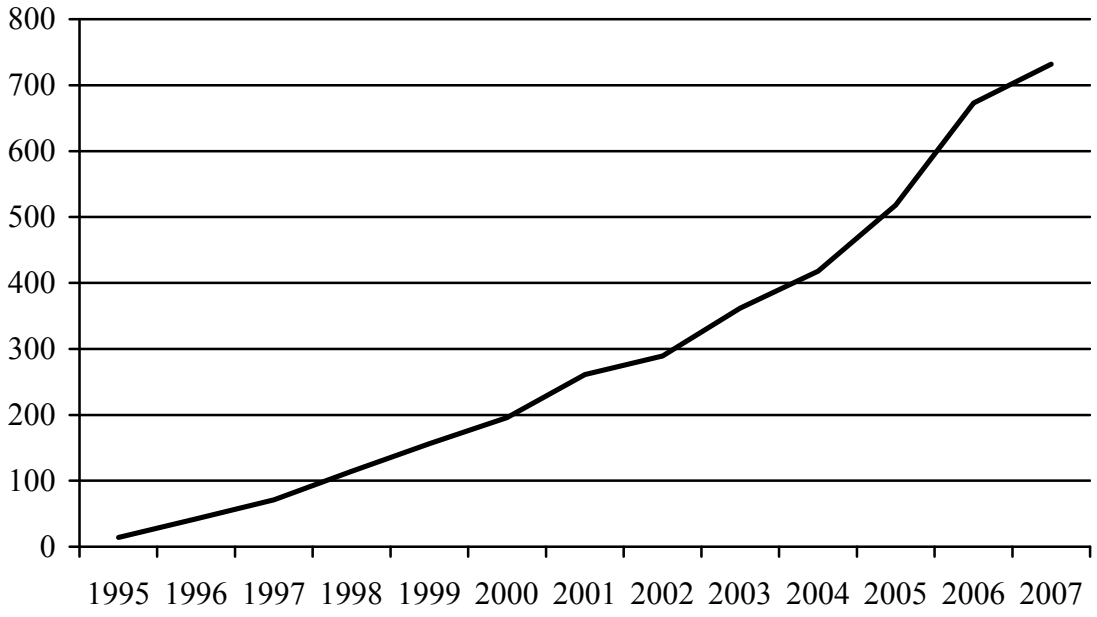

Figure 2.1. Estimated number of wolves, Idaho, 1995-2007. Estimates were retroactively updated as new information became available.

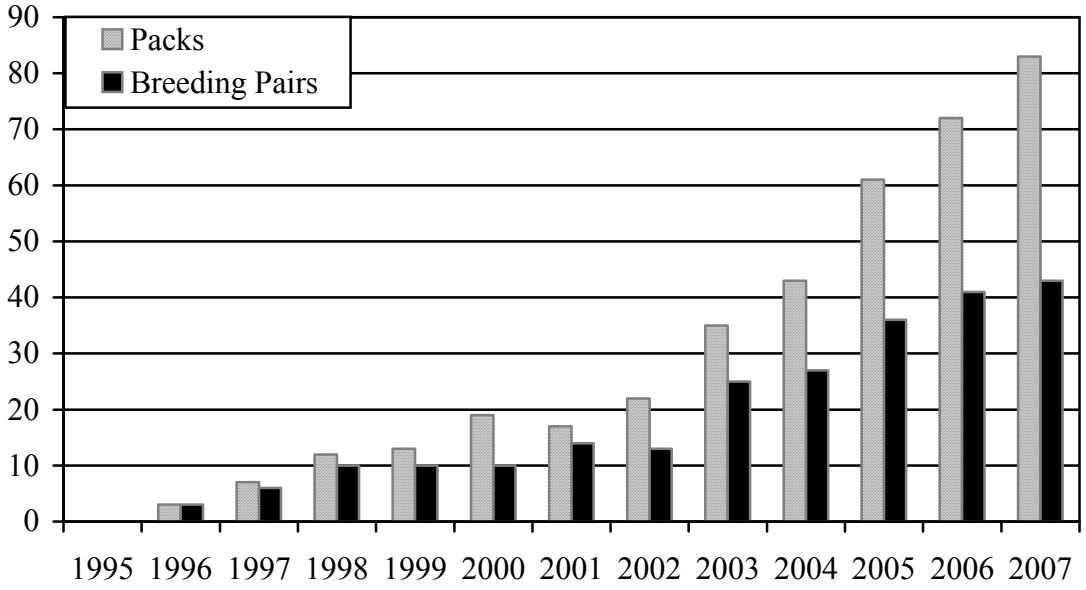

Figure 2.2. Number of documented wolf packs and breeding pairs, Idaho, 1995-2007. Estimates were retroactively updated as new information became available.

Table 2.1. Accomplishments from the 1995-2007 recovery period.

Management direction	Statewide objective	Results	Recommendations of 2002 State Plan
Recover wolf populations 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. Adequate regulatory mechanisms "2002 State Plans/laws" in place.	Recovery goals reached in 2002. 2002 State Plan outlining management passed in 2002, accepted by FWS 2003. In 2007, 43 breeding pairs and 732 wolves in Idaho.	Maintain >15 breeding pairs in Idaho. If <15 breeding pairs, IDFG will review management policy to determine if changes are needed. If < 15 breeding pair for 3 consecutive years, FWS conduct status review for relisting. Allow wolves to persist where they do not cause excessive conflicts. Develop population management and monitoring programs consistent with maintenance of a self-sustaining, viable 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 83 documented packs in 2007 (Table 2.2), 59 produced litters (200 pups) and 43 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 8. Average litter size where counts were believed complete (n = 35) was 4.1. Ten new breeding pairs were documented and the reproductive status of 24 documented packs was either not verified or believed to be non-reproductive during 2007. The population increased 10% from the previous year's estimate.

Movement of wolves and connectivity between states and provinces continues to be well documented. At least 15 documented packs use the border between Montana and Idaho and reside part-year in each state, and 2-3 other packs move among Wyoming, YNP, and Idaho. Radiocollared wolves from the Boundary pack move freely among Canada, Idaho, and northwestern Montana. A Global Positioning System-collared wolf moved from just south of Banff National Park, Alberta to west of Dworshak Reservoir in the Clearwater Region where it now appears to be a permanent resident. A radiocollared wolf moved from just east of Boise to the Cody, Wyoming area in 2007. Also, a radiocollared wolf from near Boise was located in the Eagle Cap Wilderness in northeastern Oregon in January of 2008. Wolves are very mobile and are now expanding their range outside of what has been considered optimal habitat and beginning to show up more regularly on private land with livestock grazing. Central Idaho wolf populations may be nearing saturated conditions where territoriality and pack density limit room

for additional breeding pairs so that population growth can only be accommodated through range expansion. Dispersers that survive eventually find a mate and become breeders.

Mortality

Of 77 documented wolf mortalities in 2007, 67 were caused by humans, 2 were attributed to natural causes, and 8 were due to unknown causes (Table 2.2). Of 67 confirmed human-caused mortalities, 43 wolves were killed by WS in response to livestock depredations, 9 were illegally taken, 8 were from other human causes, and 7 were legally taken (shot by landowner while harassing or attacking 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 43 in 2007 (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). Fourteen wolves have been killed under provisions of the revised 10(j) rule since 2005.

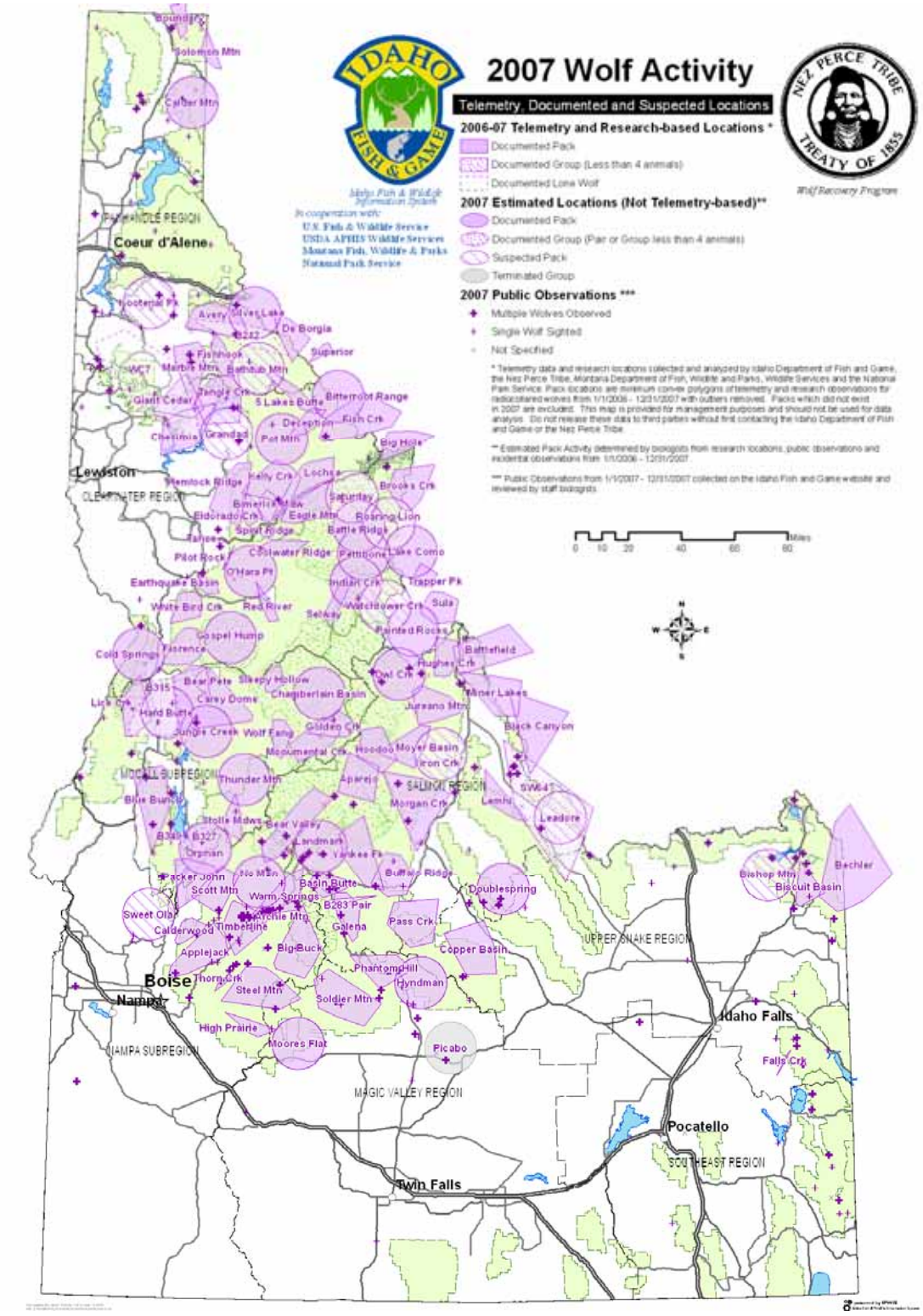

Figure 2.3. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports, Idaho, 2007.

Table 2.2. Wolf population and monitoring information, and livestock depredations, Idaho, 2007.

	Management Region								
	Panhandle	Clearwater	McCall	Nampa	Magic Valley	Southeast	Upper Snake	Salmon	Total
Minimum number wolves detected[a]	37	148	84	85	9	0	10	116	489
Documented packs									
No. packs beginning of year[b]	8	26	14	13	4	0	3	15	83
No. packs removed[b]	0	0	0	0	0	0	0	0	0
No. packs end of year	8	26	14	13	4	0	3	15	83
Other documented groups[c]									
No. other groups beginning of year[b]	3	5	4	1	1	0	1	6	21
No. other groups removed[b]	0	0	0	0	1	0	0	0	1
No. other groups end of year	3	5	4	1	0	0	1	6	20
Reproductive status									
Minimum no. pups produced	5	72	40	32	9(5)	0	3	39(1)	200(6)
No. reproductive packs	4	19	8	13	2	0	2	11	59
No. breeding pairs[d]	1	17	7	8	1	0	1	8	43
Documented mortalities									
Natural	0	2	0	0	0	0	0	0	2
Control[e]	0	3	10	5	12	0	8	12	50
Other human-caused[f]	3	4	2	1	0	0	1	6	17
Unknown	2	4	1	0	0	0	1	0	8
Known dispersal	2	0	0	2	0	0	0	1	
Monitoring status									
Active radiocollars	8	30	14	13	3	0	3	16	
No. wolf captures[g]	2	16	6	10	3	0	2	11	
No. wolves missing[h]	1	2	0	2	1	0	0	5	
Confirmed (probable) wolf-caused livestock losses									
Cattle	0	1(2)	8(2)	3	9(4)	0	14(5)	18(7)	53(20)
Sheep	0	0	60(3)	56(5)	41(7)	0	2	11	170(15)
Dogs	0	0	4(3)	(2)	3	0	1(1)	0	8(6)

[a] Number of wolves observed by wolf program personnel in 2007. Sum of this column is less than the estimated number of wolves in the population.
[b] Does not include packs removed due to lack of verified evidence for the preceding 2 years. Includes border packs tallied for Idaho.
[c] 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.
[d] Breeding pairs are the measure of Federal and State wolf recovery and management goals. A breeding pair is defined as "an adult male and a female wolf that have produced at least 2 pups that survive until December 31 of the year of their birth…".
[e] Includes agency lethal control and legal take by landowners.
[f] Includes all other human-related deaths.
[g] Includes all wolves captured during 2007. Most, but not all, were radiocollared.
[h] Radiocollared wolves that became missing in 2007.

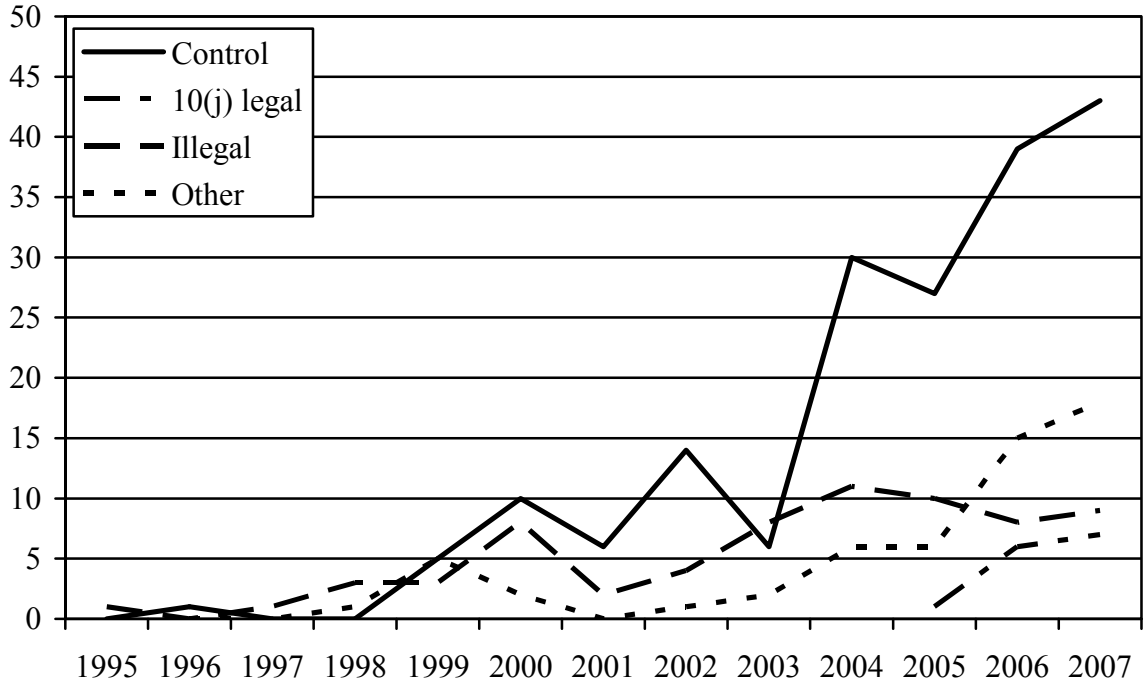

Figure 2.4. Documented wolf mortality, Idaho, 1995-2007. Control is lethal removal in response to livestock conflicts; 10(j) legal is lethal removal by livestock operators; illegal is illegal take; and other includes natural mortality, vehicle collisions, and unknown causes.

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). At the end of 2007, IDFG and the Tribe estimated there were ≥732 wolves, more than 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. Confirmed depredation attributable to wolves steadily increased after reintroduction, reaching highs of 170 sheep in 2006 and 53 cattle in 2007 (Figure 3.1). Nonlethal 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 2002 State Plan, IDFG has an obligation to producers to keep livestock conflicts with wolves to a minimum, similar to management programs for other large carnivores.

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 Game Management 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 2005, 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 2002 State Plan, IDFG has an obligation to assure that wolves in increasing numbers do not adversely affect big game populations. Predation pressures on elk and deer are natural sources of mortality that are accounted for in natural systems, and not problematic at some level. Predation has unknown benefits through selection processes as well as influence on populations that may be either beneficial or detrimental to the population, depending on time, location, environmental and habitat conditions, and point of view.

The following paragraphs in this section are excerpted from the 2002 State Plan. Wolves are effective predators and scavengers that feed primarily on large ungulates throughout their range (Murie 1944, Pimlott 1967, Mech 1970, Van Ballenberghe et al. 1975, Carbyn 1983, Ballard et al. 1987, Gasaway et al. 1992, Boyd et al. 1994). Ungulates comprise nearly all of the winter diet of most wolves. Of ungulates killed during winter by wolves that colonized northwestern Montana since the mid-1980s, 63% were deer (60% white-tailed deer and 3% mule deer), 30% were elk, and 7% were moose (Boyd et al. 1994, Kunkel et al. 1999). Wolves elected white-tailed deer wintering areas and selected deer over elk and moose (Kunkel et al. 1999). An established population of wolves in northwestern Montana and southeastern British Columbia was responsible for the annual mortality of 6% of female white-tailed deer and 3% of female elk (Kunkel 1997, Kunkel and Pletscher 1999).

In Yellowstone, elk made up 89% of the 449 kills made by wolves during winters 1995-1997 (Phillips and Smith 1997, Smith 1998). In 2000, 281 elk (87%), 10 bison (3%), 4 moose (1%), 5 deer (3%), 4 coyotes (1%), 1 wolf, and 17 unknowns (5%) were determined to be killed by wolves during the mid-winter observation period. Composition of elk kills was 34% calves, 34% cows, 19% bulls, and 13% unknown. Bison kills included 3 calves, 1 cow, 1 bull and 4 adults of unknown sex. Remains of voles, ground squirrels, snowshoe hare, coyotes, bears, insects and vegetation were also found in wolf scats (Smith 1998).

Prey selection and frequency of killing by wolves varies greatly depending on many factors including pack size, snow conditions, the diversity, density, and vulnerability of prey, and degree of consumption of the carcasses (Kunkel 1997). Snow depth and wolf density best explained the annual variation in kill rate in northwestern Montana (Kunkel 1997). Based on studies with the most similar species and diversity of prey (Carbyn 1983, Keith 1983, Boyce 1990, Vales and Peek 1990, Mack and Singer 1992), wolves are projected to kill about 16.5 ungulates per wolf per year in Idaho where they are expected to feed primarily on mule deer and elk (USFWS 1994).

During the first 3 years of an intensive predation study in Yellowstone, wolves killed at a rate equivalent to ~ 10.7 kills/wolf/year during early winter (Phillips and Smith 1997, Smith 1998). The rate increased to ~ 23.3 kills/wolf/year by late winter (Phillips and Smith 1997, Smith 1998). Elk made up 90% of the wolf kills examined.

Wolves in Idaho are expected to be less reliant on elk and more reliant on mule deer and white-tailed deer compared to Yellowstone where primary alternative prey options are bison and antelope. However, in the first year of a winter predation study near Salmon, Idaho, deer made up only 10% of the prey killed by the Moyer Basin and Jureano Mountain wolf packs during winter, significantly less than their proportion of abundance (Husseman and Power 1999, Husseman 2002). Wolves selected calf elk in excess of their proportion of abundance in the population (Husseman and Power 1999, Kuck and Rachael 1999).

Carbyn (1987) documented that wolves prey on calf elk in excess of their proportion of abundance in the population. Wolves selected older and younger deer and elk than did hunters in northwestern Montana (Kunkel et al. 1999). Vales and Peek (1995) examined several studies that reported the age structure of deer and elk killed by wolves compared to the estimated age structure of the deer and populations (Table 4). In several studies wolves were documented to take old deer in excess of their proportion of abundance in the population, and wolves tended to take elk calves in excess of their abundance in the population (Table 4; Kunkel et al. 1999). Husseman and Power (1999) similarly reported wolves taking elk calves in excess of their proportion of abundance in the population. Fifty-eight percent of elk killed by wolves near Salmon, Idaho during winter 1999 were calves (Husseman and Power 1999); whereas, calves comprised approximately 17% of the elk population in the area at that time (Kuck and Rachael 1999).

Kill rates of wolves may vary widely by area and from year to year depending upon primary prey species, prey abundance, and weather conditions, among other factors. Most often the effects on prey populations that are attributable to wolf predation are unknown because of the lack of information on population dynamics of the prey populations and the rates of other mortality sources. However, Kunkel and Pletscher (1999) documented that predation by wolves and other predators (i.e., mountain lions, grizzly bears, black bears, coyotes, and humans) on ungulate species in northwestern Montana appeared to be mostly additive to the effect of other mortality factors and that predation appeared to be the primary factor limiting the growth of deer and elk populations.

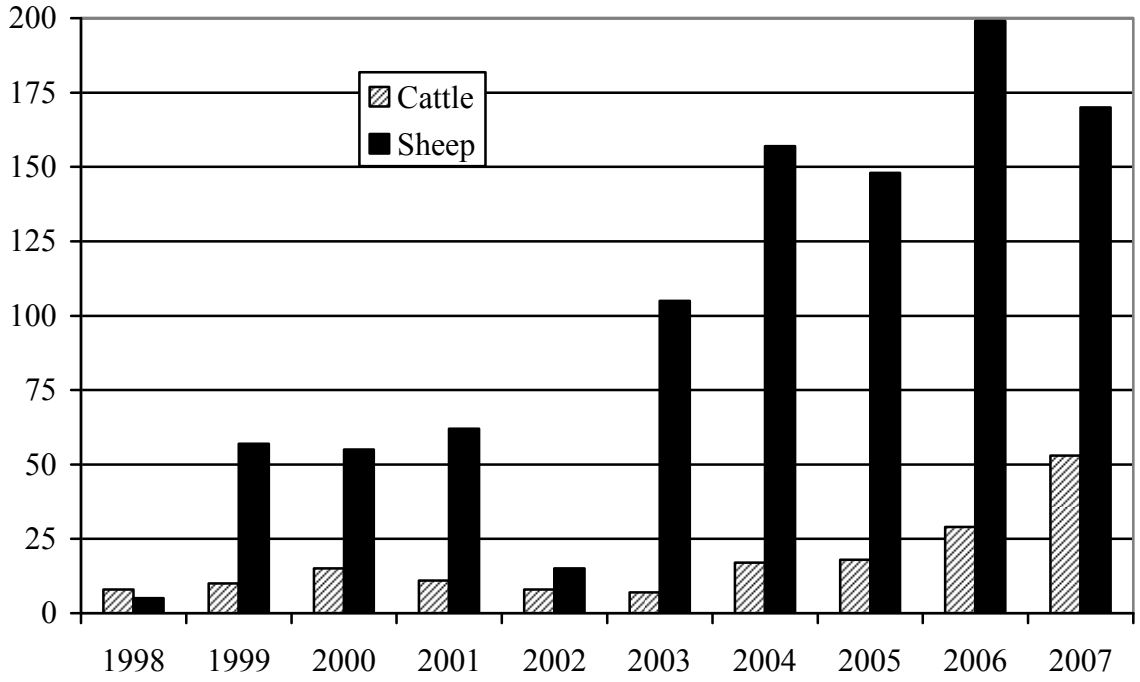

Figure 3.1. Confirmed livestock losses due to wolves, as compiled by U.S. Department of Agriculture Wildlife Services, by federal fiscal year, Idaho, 1998-2007.

Ecological Effects of Wolf Predation

There is evidence in YNP 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 young, old, or physically impaired prey animals (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, wolf 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, changes in elk behavior attributable to wolves have impacted specific outfitter operations negatively (G. Simonds, IOGA, personal communication).

Currently, there appears to be no economic loss to IDFG because of reductions in deer or elk tag sales, as nonresident quotas for both continue to sell out annually, and resident sales are stable. However, trends in some elk populations may dictate reductions in elk hunting opportunity in the near future. Further, 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.

Livestock producers have absorbed most of the financial impacts of wolf recovery through uncompensated predation losses, reduced productivity related to stress on livestock, and increased personnel costs associated with livestock protection and management. Compensation comes in the form of reimbursement by non-government organizations, as well as from state government. The Defenders of Wildlife (DOW), who compensated for verified livestock losses through donations, recently stated they will no longer fund compensation once wolves are delisted. Thus, state costs for compensation for livestock losses will increase following delisting. The Fish and Game Advisory Committee is studying the most cost effective way to incorporate wolves into the IDFG depredation compensation program.

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 non hunters would pay an average of $123 to an outfitter to see a wolf (median = $100) (Appendix A). In the same survey, 20% of hunters said they would travel to see a wolf, and on average would pay $115 to an outfitter to see one (median = $100).

Watchable Wildlife Areas

Wildlife viewing areas are popular among the public and wildlife viewing is a growing pastime among Americans (USFWS 2007*b*). Viewing big game animals such as deer and elk is common and especially popular when they are easily viewed from roads. Quality large ungulate viewing occurs despite annual hunting seasons. Similarly, such viewing opportunities may be available for wolves throughout the state despite annual hunting. However, as is the case with other large predators, viewing opportunities will be naturally infrequent and seasonal because these species occur at relatively low density and are secretive and highly mobile. Developing Watchable Wildlife Areas would require consensus with landowners and other affected interests. Wolf

viewing opportunities and areas will be described in future editions of IDFG's Wildlife Viewing Guide.

Illegal Take of Wolves

From reintroduction until 2007, 68 wolves were unlawfully taken in Idaho. Based on estimates calculated using radiocollared wolves, illegal take 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 including jail time, loss of hunting privileges, and forfeiture of equipment used in the crime.

Impacts of Regulated Harvest or Wolf Removal on Wolf Populations or Pack Structure

Concerns have been expressed about potential impacts of regulated harvest on pack stability and social structure and potential for exacerbating livestock problems rather than reducing them with wolf removal. In Idaho, wolf mortality exceeded 20% during some years due to a combination of legal control to reduce conflicts, illegal take, and natural and other human causes (Nadeau et al. 2007). Managers have monitored wolf packs since reintroduction. Some packs are remarkably stable despite annual removal due to livestock conflicts. For instance, the Jureano Mountain, Moyer Basin, Steel Mountain, and Copper Basin packs, as well as several others, are subject to annual removal of multiple pack members. In 2005 Copper Basin pack was reduced from 10 pack members to 1 subadult and 1 pup, but the wolves remained together and territorial and by breeding season, new wolves joined the pack and pups were born again in the spring. Pack resilience to high mortality is inherent in behavioral adaptation and high reproductive capabilities of wolves (Brainerd et al. 2008). Brainerd et al. (2008) found that 62% of packs in recovering populations retained territories despite breeder loss, and of those who lost territories, one-half became reestablished. Pack stability and alpha replacement was dependent on population size and availability of replacement members in the population more so than alpha removal. Furthermore, pup survival was primarily dependent on size of pack and age of pup rather than alpha survival because multiple pack members feed pups despite loss of an alpha. Pups survived in 84% of packs with breeder loss, which was similar or higher than packs without breeder loss (Mech and Boitani 2003). Brainerd et al. (2008) stated that breeder replacement was highest and fastest in populations greater than 75 wolves.

Bradley (2004) found that after partial or complete wolf pack removal, depredations usually ceased for the remainder of the given grazing season. However, most packs that were partially removed (68%) depredated again within the year. Rate of recolonization of territories where entire packs were removed (n = 10) was high (70%) and most recolonizations (86%) occurred within a year of removal of the previous pack. Most packs (86%) that recolonized were

implicated in depredations. Packs in which alphas were removed were no less likely to cause depredations again within the year than packs with non-alphas removed. Bradley and Pletscher (2005) found that pastures where depredations occurred were more likely to have elk present, were larger in size, contained more cattle, and were farther from residences than pastures without depredations. Greater vegetation cover, closer proximity to wolf dens, and physical vulnerability of cattle were also likely important factors. Many such situations can be ameliorated by changing timing of grazing or trailing; increasing use of herders, guard dogs, and fladry; or reducing wolf populations in the area prior to livestock activity. Lethal control has been shown to be an effective way to reduce or eliminate conflicts in the short-term, but for the long-term, a variety of management options may prove most beneficial.

Wolf removal in response to wolf depredation on livestock in Idaho has typically been incremental over the last several years. That is, when a livestock conflict occurred, and nonlethal techniques were not feasible, WS was typically authorized to remove 1-2 wolves during the first offense, under the premise that the offending animal(s) would be removed when returning to the carcass. Wolf removal is often focused on the first few wolves seen near the carcass, regardless of pack status. Usually, WS attempts to retain any radiocollared wolves in the pack to continue to provide telemetry information. Wolf removal continues in an incremental progression until the problem is resolved, up to and including the entire pack. We are unaware of any circumstance where incremental wolf removal has increased livestock problems, but depredations may continue despite removal. Experimentation and adaptive management trials will be implemented to test this hypothesis under field conditions, along with aversive conditioning and other behavioral modification trials.

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 diseases that wolves in Idaho could encounter would closely mirror 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, an emergency order will be implemented by the Director to curtail harvest and lethal control (Idaho Code 36-106[Sec. 6A]).

4. MANAGEMENT DIRECTION

The goal of the IDFG plan is to ensure that populations are maintained at 2005-2007 population levels (518-732 wolves) during the 5-year post-delisting period through adaptive management under the guidelines of the 2002 State Plan. Consistent with the delisting rule, the state goal is to ensure the long-term viability of the gray wolf population. In order to ensure the population goal is achieved, the Department will maintain ≥15 breeding pairs (floor threshold). The Department will maintain balanced wolf and prey populations, and ensure genetic transfer among states through maintaining connectivity and functional metapopulation processes. The Department will manage wolves to minimize conflict with humans and domestic animals.

Secondarily, the IDFG and hunter goal of maintaining harvest opportunity for wolves is an important component. 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 will be conflict resolution, when populations meet or exceed the population goal of the plan. Future population goals will reflect knowledge gained each year. However, the statewide population will range between the 2005 and 2007 levels and 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 (Table 4.1). Twenty breeding pairs is not an objective, nor is it a prejudgment about the population level of wolves necessary to avoid conflict. It is only a management trigger that will require additional protections to ensure the population goal is achieved. The range of thresholds from relisting to optimal hunting is defined in Table 4.1. The objectives addressed above fall within 11 broad objectives identified in IDFG's strategic plan (Table 4.2).

Table 4.1. Management direction for varying numbers of breeding pairs.

<10 breeding pairs (FWS threshold)	**10-14 breeding pairs (2002 State Plan threshold)**	**15-20 breeding pairs (IDFG conflict threshold)**	**>20 breeding pairs (IDFG hunting threshold)**
USFWS status review for 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 nonlethal 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 radiocollared wolves to monitor reproduction and survival	Monitoring intensifies to ensure ≥15 packs contain some radiocollared wolves to monitor reproduction and survival	Use multiple monitoring techniques to document a minimum BP and population estimate

Table 4.2. 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 Address impacts 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, assure genetic transfer through connectivity 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 and increase 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 2002 State Plan and IDFG Plan

5. STATEWIDE OBJECTIVES

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

Wolf Management Direction	Objective (Performance Target)	Strategies
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
Address impacts of wolf predation on other big game populations	Maintain ungulate populations at or near 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 necessary (Table 7.1)
Maintain a wolf population that can sustain annual harvest opportunity	Satisfy population objectives of the 2002 State Plan Stabilize populations between 2005 and 2007 levels	• 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 season length and timing, harvest quotas, bag limits, and other regulatory tools
Maintain a self-sustaining, well-distributed, viable wolf population, ensure genetic transfer through connectivity 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 • Ensure connectivity within the NRM • Focus monitoring in areas where ungulates are below objectives • Manage for adequate wolf harvest in areas where ungulate populations are not meeting objectives
Manage motorized vehicle hunting access and activity that reduces carrying	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

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies
capacity for wildlife		
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 and protect wildlife corridors • Provide technical assistance to land management agencies to improve wildlife habitat • Adjust harvest seasons to reduce take during peak dispersal periods
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	See that wolf populations do not exceed 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
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 trapping opportunity when possible 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
Identify wolf viewing opportunities and areas	Provide non-consumptive viewing opportunity	• Publish wolf viewing areas in wildlife viewing publications • Highlight non-consumptive recreational opportunities via media outlets • IDFG and stakeholders discuss consensus for possible pilot projects • Emphasize wolf education opportunities (possibly including

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies
		field experiences)
Maintain and increase 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!*"
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
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 • Provide information through a variety of media and formats

Table 5.1. Continued.

Wolf Management Direction	Objective (Performance Target)	Strategies
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 and internet quota monitoring system • Monitor quota compliance, mandatory reporting • Incorporate wolf harvest in Big Game Mortality Report database
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, outreach, 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 Congress, 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"
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

6. DATA ANALYSIS UNITS (DAUs)

The 2002 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 Game Management Units (GMUs). Depending on species, GMUs are grouped into larger 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. There are 12 Wolf DAUs designated for Idaho.

Wolf harvest can be managed at the DAU, GMU, 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. Variable harvest rates can occur among GMUs within a DAU. For instance, if the objective were to maintain a stable population in a DAU, managers would strive for a moderate harvest goal for the DAU as a whole. However, managers could prescribe low or no harvest in some GMUs or subunits within that DAU to promote wolf viewing opportunity or maintain a radiocollared breeding pair, yet still allow high harvest rates in another GMU within the DAU to reduce livestock or ungulate conflicts. Data Analysis Units are designed for grouping and analyzing data and to achieve broad goals for a population segment, but not necessarily to restrict management options and objectives to a single prescription for the entire DAU.

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 6.2). Wolf DAUs were developed based on current wolf densities and distribution, elk zones and prey base, livestock conflict areas, ecological or administrative similarities, and metapopulation and linkage concerns.

The Selway and Middle Fork DAUs in central Idaho are under wilderness designation and will function as default "core" areas (as they do for black bears [*Ursus americanus*] and mountain lions [*Puma concolor*]) 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 the current known 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 unacceptable conflicts, but will otherwise be subject to relatively high harvest pressure and agency removal efforts. Although proactive and nonlethal methods for reducing conflicts are generally preferred, 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 more 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 nonlethal techniques will likely be necessary to effectively manage wolves.

Population Management

Numbers of wolves, packs, and breeding pairs varies greatly among DAUs. Some DAUs have few or no wolves, some have colonizing populations, and some are apparently saturated and acting as a source of wolves for surrounding areas. Population management will be based on metapopulation status, statewide population status, and DAU and GMU status and conflict levels. Prime wolf habitat in north-central Idaho where livestock conflicts are minimal has likely reached saturation levels (carrying capacity) for wolves. Populations are expanding into less than optimal habitat where conflicts are more common.

Northern Rocky Mountain (NRM) Metapopulation

Wolf DAUs were also designed to allow flexibility and improve management of wolf metapopulation connectivity between Montana and Wyoming. Rather than designating small, discrete DAUs along the Montana and YNP borders, GMUs were placed in larger groupings to provide greater flexibility in conflict and population management while maintaining avenues for connectivity within the metapopulation. Wolves will be allowed to persist along the border in these areas if they remain mostly free of conflict, though some harvest may be allowed. Travel between core populations across state borders and into YNP can be enhanced through restricted harvest and limited control actions during peak dispersal periods and during breeding season. In particular, GMUs 30, 30A, 58, 59, 59A, and 61 will be closely monitored and managed for connectivity. Maintaining adequate packs within DAUs and focusing on border units is expected to assure continued dispersal and genetic exchange among states. Border packs are numerous (13 along Idaho-Montana border) and the 3 NRM recovery states and YNP are committed to continued communication and coordination of border pack management. The USFWS does not require or expect that wolf movement be encouraged to states beyond Wyoming and Montana. However, wolves have displayed long-range movements into adjacent states and such movements are likely to continue. Idaho will coordinate with neighboring states to reach consensus on corridor management and metapopulation connectivity. Connectivity, as it relates to long-term genetic isolation in the Greater Yellowstone Area is addressed through the above management actions and the innate ability of wolves to disperse long distances.

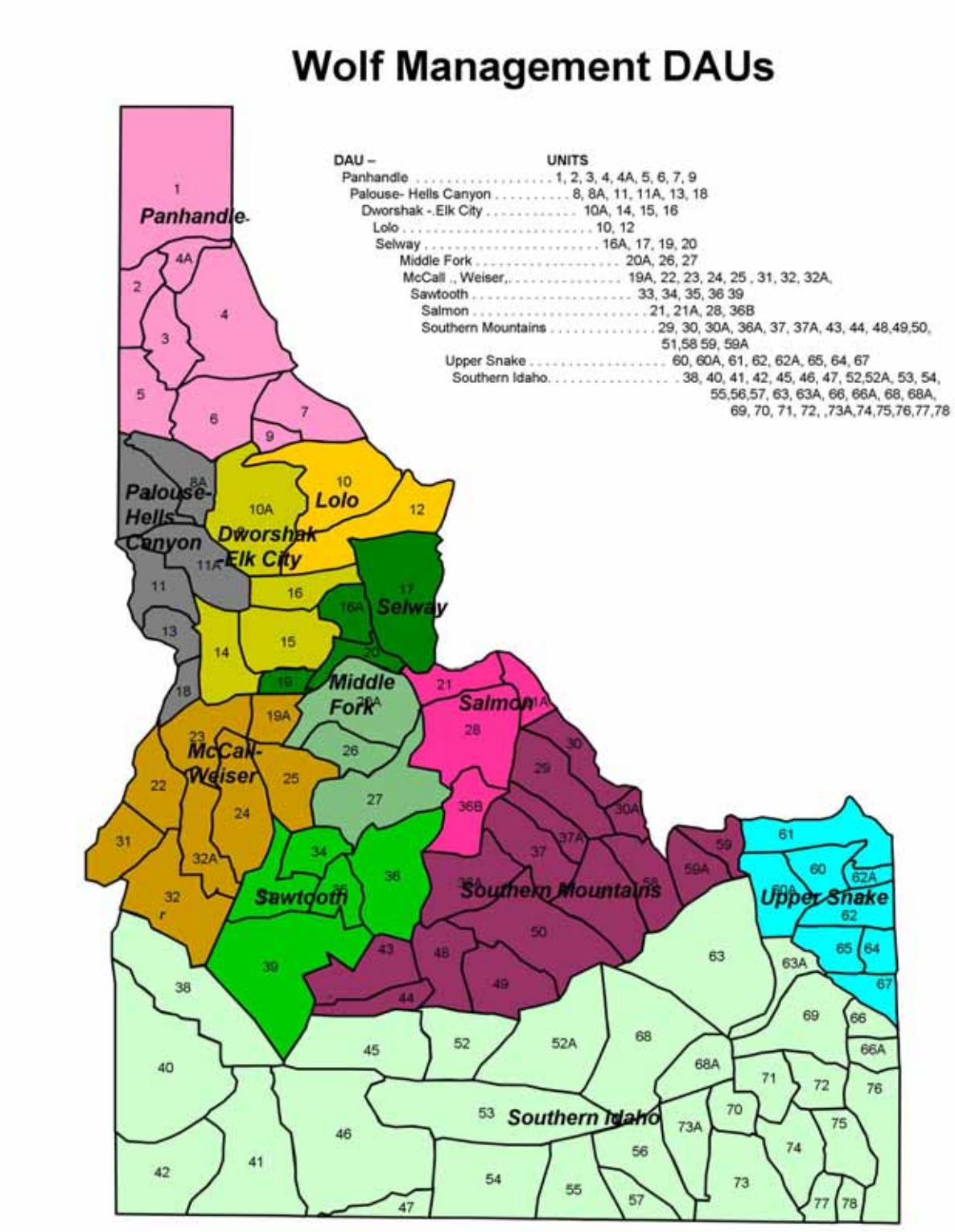

Figure 6.1. Wolf Data Analysis Units, Idaho.

7. POPULATION AND CONFLICT MANAGEMENT

Harvest Strategies

The 2002 State Plan calls for managing wolves similar to other big game animals such as black bears and mountain lions. Existing rules and laws provide an adequate regulatory framework to manage wolves through hunting. Regulated harvest will likely provide the most effective tool for management of wolf populations and providing harvest opportunity. Harvest opportunity can be altered through harvest quotas, season length and timing, bag limits, method of take, and other regulatory tools depending on objectives (Table 7.1). Hunting and trapping opportunities would be reduced or terminated if wolf populations drop to ≤20 breeding pairs statewide in order to provide an adequate buffer to allow annual harvest opportunity as well as flexibility to manage conflicts.

Regulated Harvest

Statewide wolf population objectives can change, but for the first 5 years following delisting, the Department will seek to maintain the population at 2005-2007 levels (approximately 500-700 wolves) through harvest objectives. Quotas and controlled hunts will be used to ensure population objectives are met.

An established wolf population 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. 2007). Harvest strategies for differing objectives will need to incorporate population growth rate, other sources of mortality, and area-specific circumstances.
The statewide population estimate and objective will be compared to determine population surplus. Annual mortality from non-hunting causes will be subtracted from the population surplus to estimate harvestable surplus. Quotas will be allocated by objective and availability across DAUs or GMUs.

As is the case with other big game animals, wolf population objectives within or among DAUs can fluctuate over time. At the DAU or GMU level for instance, if an elk population is declining and below objective and wolf predation rates are a cause for the decline or preventing recovery, then higher levels of wolf harvest may be prescribed to reduce the wolf population. In rare situations of predation that cannot be addressed through regular harvest, a predation management plan would be developed per IDFG policy (Appendix C, Table 7.1 Sec. E). Reducing wolf populations would be temporary in nature to allow the ungulate population to reach recovery levels and objectives.

Table 7.1. Potential management tools for varying levels of harvest.

Level of Harvest	**Management Tools**
Low-moderate (0-40% mortality)	A. General harvest, sustain populations • General seasons • Harvest quotas • Controlled hunts • Tag quotas • Season length (outside framework = Aug 30 – Mar 31) • Usual season = Oct – Nov • Trapping under certain conditions
High (≥40% mortality)	B. General harvest, reduce populations • No quotas, general seasons • Multiple tags • Increased season length • Trapping, snaring • Depredation hunts • Baiting pursuant to current rules for bears • Decreased tag prices • Allow harvest with deer or elk tag • Add to Sportsman's Package • Enhanced outfitter harvest • Increased focus on training and opportunity via sportsmen clinics, etc. NOTE: AERIAL HUNTING NOT ALLOWED AS A SPORT HARVEST TOOL. POISON NOT ALLOWED UNDER ANY CIRCUMSTANCE.
Nonlethal and proactive techniques	C. Livestock depredations • Landowner Sportsmen Coordinators/wolf biologists work with producers • Provide information on known pack den sites/rendezvous sites • Provide radio receivers and frequencies in problem areas • Work with non-governmental organizations to provide funds for dogs, equipment, personnel • Volunteer hazers • Provide information to reduce conflicts
Lethal techniques	D. Livestock depredations (target decrease in population, tools are additive to A. through C.) • Regulated hunting • Increase harvest as in B. above • Depredation hunts • Producers and employees • Can kill in act of molesting or attacking livestock

Table 7.1. Continued.

Level of Harvest	Management Tools
	• Can kill with tag(s) during hunting season without evidence of molestation or attack • Wildlife Services (WS) current legal methods will continue
High (≥40% mortality)	E. Ungulates not meeting objectives despite A-D above already implemented Predation Management Plan per IFGC policy • Public input • Science review of reasons for population not meeting objectives and research/adaptive approach • Economic considerations • Commission approval Tools • Maintain increased harvest with assistance of A-D • Increased harvest using specialists • Trapping and relocating if feasible and statewide threshold near 20 BP • Investigate agency action options w/without WS including: • Trapping/snaring/shooting • WS current legal control methods in non-wilderness areas when population mortality targets cannot be met after all other techniques employed (A-E) • NEPA issues: WS involvement, federal funding • Commission approval NOTE: POISONING OF WOLVES NOT ALLOWED UNDER EPA RULES ASSOCIATED WITH M-44 OR OTHER POISONS, NOT A CURRENT LEGAL TECHNIQUE FOR CONTROL OF WOLVES BY WS, WILL NOT BE AFTER DELISTING

Harvest strategies for wolf hunting opportunities will 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). The first recommended season statewide will be mid-October to late November. If harvest objectives cannot be achieved with shorter seasons and high quotas, a general season may run concurrent with mountain lion seasons (30 Aug to 31 Mar) with a harvest quota. Over time, quotas may be distributed among user groups and throughout various seasons (e.g. archery-only season, winter muzzleloader, trapping) to provide a maximum diversity of user types and opportunities. Similarly, in areas where wolf populations have been low, but where conflicts are potentially quite high, long general seasons may be the preferred management tool. In DAUs where wolves are common and cause chronic livestock conflicts, harvest strategies will be aggressive to achieve lower populations and reduce conflicts. Across most of the state, a general season during October-November with harvest quotas will likely be the norm for maintaining stable populations and providing annual harvest opportunity. 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 (Table 7.2). Table 7.2 identifies short-term harvest strategies for all DAUs. In 6 of 12 DAUs the objective is to initially decrease populations, followed by stabilization at a lower level. These 6 DAUs currently experience moderate to high levels of livestock or ungulate conflicts. Some level of conflict will occur despite harvest, but the statewide goal is to reduce conflicts (not populations) to the 2003 level. The statewide population objective reflects reductions in some DAUs while stabilizing populations in remaining DAUs. Harvest will be focused on GMUs with most conflicts for the first few years. Strategies for allocating harvest will include annual monitoring to determine impacts of increased harvest on conflict reduction or ungulate population performance. In the event conflict levels change in a DAU, this plan provides flexibility to address that change through harvest and agency control action. Recommendations for harvest quotas will be annually reviewed and adjusted accordingly, as is the case for all big game species. Statewide population goals for the 5-year post delisting period would not change beyond the established range of 2005-2007 levels.

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. Additionally, the hunter survey indicated that once populations are managed, support for wolves in the state will increase among hunters (Appendix A). Thus, providing an annual harvest opportunity may improve the perception and acceptance of wolves among many hunters who may currently oppose wolves in Idaho.

Table 7.2. Current conflicts, short- term harvest strategy, and population status for wolves. Area-specific harvest objectives and quotas will be established annually.

Wolf DAU (GMUs)	Current conflict levels	Potential for livestock conflicts	Current population trend	Short-term harvest strategy (1-5 yr)	Breeding pair number documented	Current packs documented
Statewide			Increasing	Decrease/ Stabilize	43	≥83
Panhandle (1-7, 9)	Ungulate - low Livestock - low	Moderate	Increasing	Stabilize	1	8
Palouse- Hells Canyon (8, 8A, 11, 11A, 13, 18)	Ungulate - low Livestock - moderate	High	Increasing	Stabilize	1	2
Lolo (10, 12)	Ungulate - high Livestock - low	Low	Stable	Decrease/ Stabilize	7	10
Dworshak-Elk City (10A, 14-16)	Ungulate - moderate Livestock - moderate	Moderate	Stable-increasing	Decrease/ Stabilize	6	9
Selway (16A, 17, 19, 20)	Ungulate - high Livestock - low	Low	Stable	Decrease/ Stabilize	3	5
Middle Fork (20A, 26, 27)	Ungulate - moderate Livestock - low	Low	Stable	Stabilize	4	8
Salmon (21, 21A, 28, 36B)	Ungulate - moderate Livestock - high	High	Stable	Decrease/ Stabilize	4	7
McCall-Weiser (19A, 22-25, 31-32A)	Ungulate - low Livestock - high	High	Stable-increasing	Decrease/ Stabilize	4	10
Sawtooth (33-36, 39)	Ungulate - moderate Livestock - moderate	Moderate-High	Stable-increasing	Stabilize	10	14
Southern Mountains (29-30A, 36A, 37, 37A, 43, 44, 48-51,58-59A)	Ungulate - low Livestock - high	High	Stable	Decrease/ Stabilize	2	8
Upper Snake (60-62A, 64, 65, 67,)	Ungulate - low Livestock- moderate	Moderate	Stable	Stabilize	1	1
South Idaho (38, 40-42, 45-47, 52-57, 63, 63A, 66, 66A, 68-78)	Ungulate - low Livestock - low	Moderate-High	Increasing	Stabilize	0	1

Current ungulate conflicts: Low = healthy ungulate populations, biologically acceptable impacts. Moderate = ungulate populations display below average recruitment or survival because of wolf predation; ungulate hunting opportunity may be reduced. High = ungulate populations in decline because of low recruitment or female survival caused by high wolf predation rates; ungulate population below management objectives (see "unacceptable effects" Sec. 9).
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: Increase population= Low harvest; Stabilize population= Light-Moderate harvest =; Decrease population= Moderate-High harvest, scenarios reflective of Table 7.1. **Current Breeding Pair Number Documented**: a breeding pair is a ≥2 adults and ≥2 pups that survive until 31 December. Not all packs are breeding pairs. Status was determined December 31 2007. **Current packs documented**: packs are breeding pairs, reproductive groups, groups of ≥4 that previously were reproductive. These are packs that have been confirmed by agency personnel.

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). 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. A letter and plan explaining the NPT commitment to these goals and how they will address them will be forthcoming.

Long- and Short-term Population and Harvest Objectives

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

Short-term objectives

1. Establish statewide harvestable surplus with buffer or confidence interval.
    a. 0-30% total mortality = increasing population.
    b. 30-40% total mortality = stable population
    c. >40% total mortality = declining population
2. Develop area-specific (e.g., DAU, GMU) harvest quotas based on current status relative to population objectives, harvestable surplus, and total mortality levels (1. a-c).
3. Confirm mortality limits and harvestable surplus through monitoring of live and harvested wolves, age structure, distribution, conflict levels, population health, connectivity, and other factors that may cause variation in mortality limits.
4. Ensure agency ability to monitor breeding pairs at the end of December (with regard to meeting monitoring requirements during the 5-year post-delisting period).

Long-term objectives

1. Providing metapopulation linkage and population viability through adequate protection of border packs between Montana and Wyoming. Harvest objectives will take into account border pack transboundary movements and connectivity. Metapopulation health and connectivity is a stated objective and will be monitored.

2. Regular monitoring of wolf health to ensure disease or parasites do not contribute to excessive mortality. The Department will continue monitoring wolf health through observation and sample collection from wolf carcasses (e.g., found dead, result of control actions), captured wolves, and harvested wolves (via mandatory check procedure), as well as other surveillance techniques.
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). Status of shared or border packs will be monitored through annual reports, regular communication, and manager meetings.
4. Monitor impacts of Idaho harvest adjacent to YNP and associated social values.

If, at any time, the wolf population level falls below acceptable limits, an emergency order 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.

Livestock Depredation Control

Landowner/Sportsmen Coordinator Program

Following delisting, wolf depredation management decisions will be transitioned from headquarters (wolf program coordinator) to the regions, similar to all other wildlife depredation issues. The depredation program is governed by Idaho Statute and monitored by the Fish and Game Advisory Committee. This committee is developing a program to fund compensation for wolf depredations after delisting.

The Department employs a Landowner/ Sportsmen Coordinator (LSC) biologist in each region. This biologist oversees landowner relations and reviews wildlife complaints and depredations. Typical LSC duties involve handling complaints from landowners and devising nonlethal techniques to reduce impacts from big game. The LSC programs have been effective at reducing impacts from bears on apiaries; reducing impacts from deer and elk on grain and legume fields; and providing fencing materials, noise makers, and a variety of depredation reduction techniques and equipment across the state. Regional LSC staff will work directly with wolf biologists and USFS, Bureau of Land Management, and WS personnel to reduce impacts on producers, livestock, and wolves. Should lethal techniques be required, the Regional Supervisor will coordinate with WS to authorize control or contact hunters to assist in lethal removal.

Wildlife Services and Harvest

Wolf control following delisting will be directed by the MOU between the Animal Damage Control Board, WS, and IDFG (IDFG and Idaho State Animal Damage Control Board 2005). Hunting activities will likely reduce conflicts between wolves and livestock, but will not replace the need for agency control activities. Conflict resolution procedures will follow protocols similar to those that have been in place since 2005 and take into account population objectives within the DAU and landowner and 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 may be

more aggressive than 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.

A successful wolf management and livestock conflict reduction program will include: 1) proactive nonlethal efforts, 2) population reduction in high conflict areas using hunters, 3) removing depredating wolves using professional field agents and hunters, and 4) compensation for losses.

As specified in state law (36-1107 (b)) for other wildlife species, 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

The primary tool for wolf population management will be regulated harvest through standard seasons (Table 7.1). 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 will 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 beyond that achieved through regulated harvest, any control action would adhere to the IDFG Predation Management Policy (Appendix C). Such removal would be included in statewide mortality objectives, so statewide populations would always remain healthy and viable despite localized population reduction under a Predation Management Plan.

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 following delisting, federal law requires intensive monitoring to ensure the wolf population in Idaho is maintained above levels identified in the 2002 State Plan (≥15 breeding pairs). If any of these numerical requirements are not met, the USFWS would initiate a status review to determine if relisting is necessary. Thus, IDFG and the NPT will continue annual monitoring to quantify the number of packs, breeding pairs, and total wolves. 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 7.3, Mitchell et al. 2008). 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 requires more intensive monitoring. If pup counts have not been conducted or if survival data are limited, it is difficult to determine if a pack qualifies as a breeding pair. At a minimum, a pack must include ≥4 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 reduces the number of radiocollared wolves. Therefore, IDFG will retain an adequate sample of radiocollared wolves during the 5-year post delisting period to demonstrate that ≥15 breeding pairs are maintained at the end of the year.

Recent development of a surrogate method for determining breeding pair status based on pack size (Mitchell et al. 2008, Table 7.3) 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 of 10 wolves is 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 easier to obtain than pup survival data, monitoring effort may be reduced.

Table 7.3. 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 Mitchell et al. 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

To determine appropriate harvest levels of wolves, IDFG will continue to verify wolf pack activity and estimate wolf populations. Currently, wolf population estimates in Idaho are generated by using extensive information derived from radiocollared individuals. Biologists also derive estimates of reproduction, mortality, pack size, pack territories, habits, and other variables. 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, 2008; Appendix A). The NPT, University of Montana, and IDFG are cooperating to develop alternative methods to monitor wolves in Idaho that do not require radiocollars on most packs.

Hunters will be required to present the hide and skull of wolves to an IDFG representative within 10 days of harvest. Wolf pelts will be marked with a metal tag and a tooth will be extracted for age determination, similar to procedures for black bears and mountain lions. Hunters will be required to provide license, tag, and harvest information (date, location, hunting method, etc.). In general, hunters will be required to contact IDFG to report harvest from areas with harvest quotas within 24 hours using a toll-free number. Area-specific seasons will be closed when quotas are reached. A license and wolf tag will be required prior to harvest. Existence of tags specific to wolves 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

Department staff and IDFG veterinarians will continue to monitor wolf health through continued necropsies of dead wolves and biological sampling 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. Collaboration with researchers interested in studying wolf diseases and parasites and other aspects of wolf health and biology will occur when feasible.

At this time, diseases and parasites do not pose a significant threat to the Idaho wolf population. 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 and appropriate actions. If, at any time, the wolf population level falls below acceptable limits, an emergency order will be implemented by the Director to curtail harvest and lethal control (Idaho Code 36-106(Sec. 6A).

Adaptive Management

Wolf population management will be adaptive to changing biological and social conditions. Wolf hunting rules will be based on a regulated approach to harvest (Table 7.1 Sec. A). The population goal for this period will be to stabilize the population at 2005 to 2007 levels (518-732). In subsequent seasons, biologists will evaluate previous harvest information, mandatory report data, monitoring information, breeding pair and population status, and public input to revise harvest recommendations. Research and scientific adaptive management will play an integral role in learning about wolf harvest and helping guide management efforts into the future.

8. FINANCIAL PLAN

To date, the state's wolf program has been funded with congressional appropriations. The Department and the NPT will continue to collaborate to obtain adequate federal funding for wolf monitoring and management. However, federal funding may decline or be eliminated after delisting. 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 the following areas: state management, monitoring, enforcement, information and education; livestock management; livestock compensation; and increased ungulate monitoring and research. How funding is allocated among these areas is prioritized based on need and amounts available. Wolf monitoring and management will be primary during the 5 years following delisting.

In addition, the NPT obtains $380,000 from congressional appropriations to maintain current levels of wolf monitoring and coordination. The NPT currently does 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. Current tag price, set by 2006 Idaho legislature, is $9.50. 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 included in the Sportsman's Package license). Based on a survey in 2004, only 13,000 of hunters who purchased a bear tag actively hunted bears (IDFG 2005*c*).

The 2002 State Plan allows use of state funds for managing conflicts. However, if federal funding were reduced, additional funding sources may be necessary to maintain the level of monitoring and management to which the public has become accustomed. Alternate funding may be generated through an auction 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., Federal Aid in Wildlife Restoration Act). 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 NPT 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 collaborating to secure needed funding and submitting a joint request to Congress. The Tribe and State, through the MOU, have agreed to funding allocations as follows:

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

2) If combined appropriations are between $1 million and $1.2 million, the tribal budget will be $375,000.

3) If combined appropriations are <$1 million, apportionment will be 64% State and 36% NPT.

The complete MOU can be found at
http://fishandgame.idaho.gov/cms/wildlife/wolves/state/nez_perce_tribalMOA.pdf

9. GLOSSARY OF TERMS

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

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.

Breeding pair: Two adults that produce a minimum of 2 pups that survive until December 31.

Chronic conflicts: As it relates to livestock, represents a pack that repeatedly causes depredations over the course of years or depredations occurring annually in an area regardless of pack longevity. Pack removal does not stop conflict in successive year.

Data Analysis Unit (DAU) or Zone: Several GMUs grouped together based on a set of criteria for the species being managed. The State of Idaho has 99 GMUs that are grouped into 12 DAUs for wolves and 29 Zones for elk. A DAU allows managers to group data for analysis purposes.

Fladry: Used by Polish wolf hunters to force wolves into range of hunters, fladry consists of a twine with flagging attached every few feet, and is attached to fencing at wolf eye level. Fladry acts as a psychological barrier to wolves, however wolves can habituate to it after a month or more of testing. Fladry can be enhanced with electric fencing to reaffirm fear with electric shock.

Game Management Unit (GMU): Geographic areas designated for management of big game populations and hunters, though they may be grouped into larger DAUs or Zones, or subdivided into smaller sections for harvest of small populations of animals. Idaho is divided into 99 GMUs.

General season: Season open for harvest without limits on hunter numbers.

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 are turned out on public land, or wolves regularly attack livestock on private land; wolves not likely to coexist without conflict due to high level of private land or livestock use.

Pack: Verified group of ≥4 wolves traveling together and displaying territorial behavior. If a verified pack has been reduced to <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 1 year, it is no longer considered a pack. If status of a previously confirmed pack is unknown and has not been verified for 2 years, the pack is no longer included in tabulations of active packs. There will likely always be more packs than breeding pairs because reproduction and survival of pups is variable.

Population goals: The number of animals or social groups to be maintained in a geographic area, typically set at statewide levels and by DAU, GMU, or Zone for big game.

Quota: A harvest quota is a limit of harvest mortality for that species in a specific geographic area. Once a quota is reached, the take season is closed for that area.

Short-term DAU harvest strategy: Increase population = low harvest rate.
Stabilize population = moderate harvest rate. Decrease population = high harvest rate.
Scenarios reflective of Table 7.1.

Source and sink populations: A source population provides an annual surplus and thus emigration to surrounding areas. A sink population experiences mortality in excess of recruitment; often in an attractive area for immigration. Source populations typically occur in areas that, due to habitat and geographic conditions or regulations, act as reservoirs, refugia, or a core habitats. A sink area might be a high conflict area.

Unacceptable conflicts: For big game, an unacceptable conflict is the inability to meet ungulate management objectives where wolf predation is a major cause of mortality limiting population performance. Evidence of such impacts will be determined through research and monitoring information.

Unacceptable effects on ungulate populations: Impact to ungulate population or herd where IDFG has determined that wolves are one of the major causes of the population or herd not meeting established State management goals. Evidence of such impacts will be revealed through research and monitoring data. This definition is similar to the USFWS definition of unacceptable impacts in the 10j rule published in the Federal Register Vol. 73, No. 18, § 17.84 on January 28, 2008.

Ungulate conflicts: Low = healthy ungulate populations, biologically acceptable impacts. Moderate = ungulate populations display below average recruitment or survival because of wolf predation; ungulate hunting opportunity may be reduced. High = ungulate populations in decline because of low recruitment or female survival caused by high wolf predation rates; ungulate population below management objectives (see "unacceptable effects" above).

Wolf harvest objectives: The proportion of an area-specific wolf population to be removed to reach a population or population trajectory goal. Harvest objectives will be determined through monitoring reproduction, disease, and mortality factors; and status relative to population objectives. The general framework for harvest objectives will be based on the following: decrease population: $\geq$40-75% total annual mortality; stable population: 30-40% total annual mortality; increase populations: 0-30% total annual mortality.

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APPENDIX A

Public Survey

During summer 2007, Idaho citizens were randomly surveyed (Appendix A) including:

1. One thousand Idaho citizens ("Random" group; age ≥18, 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 Idaho hunters ("Hunter" group; age ≥18, 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 included more rural representation, distributed across the state, than did 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.

Continued

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 Bruce Ackerman
Large Carnivore Manager Staff Biologist

Continued

Survey Results as of 9/22/07

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/Not Hunter	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

Continued

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)	_____	

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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	205	3.60	6	14	11	51	18
	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

Continued

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

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/Not Hunter	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/Not Hunter	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/Not Hunter	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

	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/Not Hunter	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/Not Hunter	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

Continued

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/Not Hunter	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/Not Hunter	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

Continued

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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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.	❑	❑	❑	❑	❑

	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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 management authority to the state of Idaho.	Random/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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

Continued

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/Not Hunter	205	14	31	54
Random/Hunter	219	20	9	71
Hunter	650	24	4	71
Livestock	370	11	7	82

Continued

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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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

Continued

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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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

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.	❑	❑	❑	❑	❑

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.	❑	❑	❑	❑	❑

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/Not Hunter	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/Not Hunter	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/Not Hunter	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

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/Not Hunter	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/Not Hunter	205	2.29	29	31	26	10	4
	Random/Hunter	219	2.89	15	25	26	22	11

Continued

	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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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
	Livestock	370	2.03	49	19	15	12	5

Continued

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/Not Hunter	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/Not Hunter	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/Not Hunter	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/Not Hunter	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 1-day viewing experience in Idaho? $_____

3.16. How much would you pay a guide for a 1-day viewing experience in Idaho? (IF ANSWERED YES TO #3.15)	GROUP	Total	MEAN	MEDIAN	MIN	MAX
	Random/Not Hunter	29	123	100	5	500
	Random/Hunter	13	115	100	0	500
	Hunter	13	104	50	0	300
	Livestock	8	54	25	0	300

Continued

*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.

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/ Not Hunter	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/ Not Hunter/ Past	205	2.62	28	32	9	11	19
Random/ Not Hunter/ 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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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/ Not Hunter	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.)

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/ Not Hunter	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/ Not Hunter	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

Continued

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#: _____, _____, _____, _____

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.

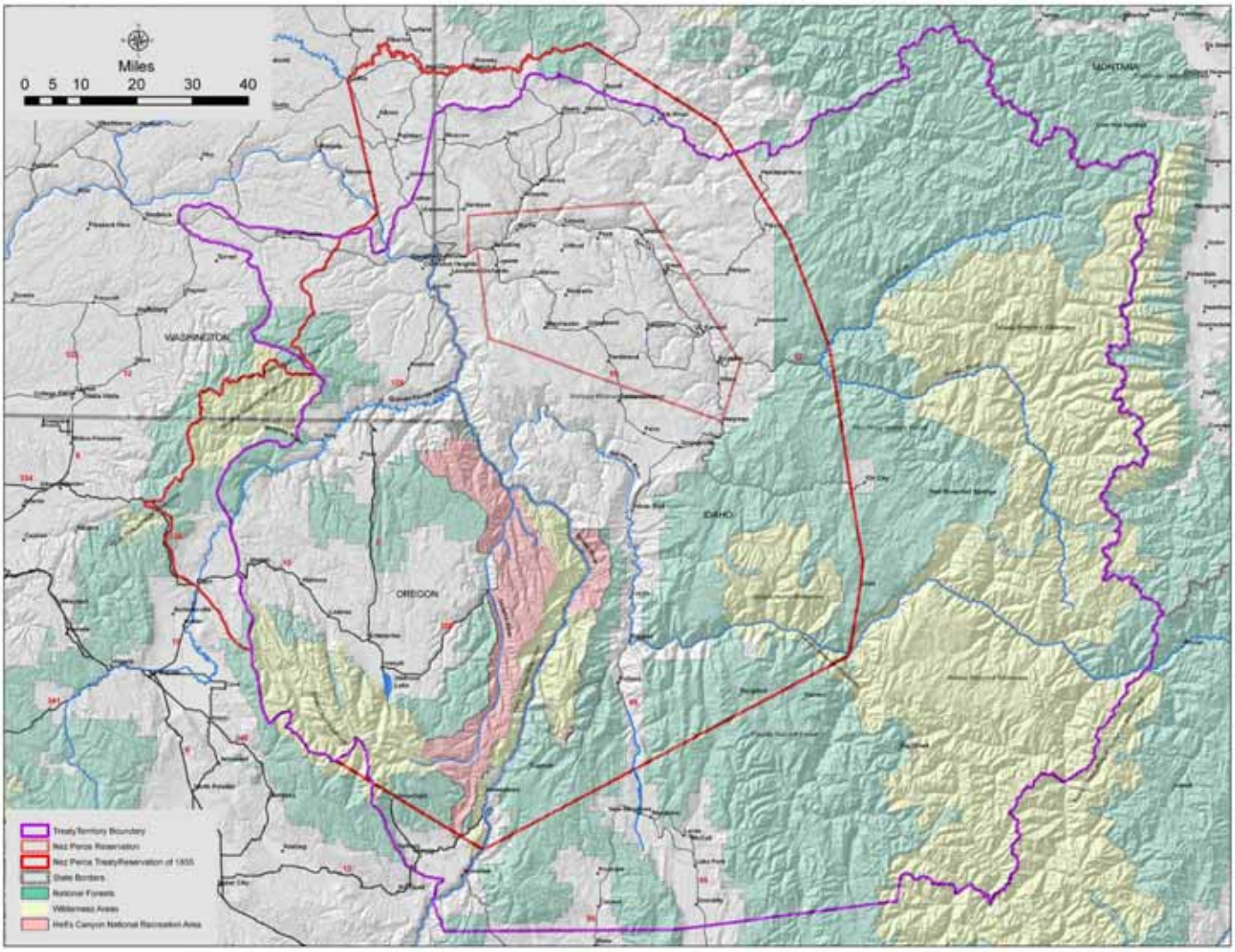
6.16. Which of these methods of sport hunting for wolves should be legal in Idaho? (Check all that apply.)	GROUP	Total	% Rifle	% Archery	% Muzzle	% Baiting	% Non-electric Predator Calls	% Trap	% Other
(Column %, does not sum to 100%)	Hunters	650	95	76	80	61	79	64	10
6.17. There were an estimated 673 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.