WOLF CONSERVATION AND MANAGEMENT

IN IDAHO

PROGRESS REPORT 2008

Prepared By:

Jim Holyan.....Nez Perce Tribe
Jason Husseman.....Idaho Department of Fish and Game
Michael Lucid.....Idaho Department of Fish and Game
Dave Spicer……Idaho Department of Fish and Game
Brent Thomas.....Idaho Department of Fish and Game

Compiled and Edited By:

Steve Nadeau, Staff Biologist, Large Carnivore Manager,
Idaho Department of Fish and Game

Curt Mack, Wolf Recovery Project Leader, Nez Perce Tribe

February 2009

Suggested Citation: Nadeau, M. S., C. Mack, J. Holyan, J. Husseman, M. Lucid, D. Spicer, B. Thomas. 2009. Wolf conservation and management in Idaho; progress report 2008. Idaho Department of Fish and Game, 600 South Walnut, Boise, Idaho; Nez Perce Tribe, P.O. Box 365, Lapwai, Idaho. 106 pp.

EXECUTIVE SUMMARY

In January 2005, the U.S. Fish and Wildlife Service (USFWS) published and adopted new regulations (10(j) Rule) governing wolf management within the Nonessential Experimental Population Areas of Idaho south of Interstate Highway 90 (Endangered and Threatened Wildlife and Plants; Regulation for Nonessential Experimental Populations of the Western Distinct Population Segment (DPS) of the Gray Wolf [50 CFR Part 17.84]). The new 10(j) Rule allowed states with USFWS-approved wolf management plans to petition the Secretary of Interior for certain wolf management authorities as an interim measure to delisting. In January 2006, the Secretary of Interior and the Governor of Idaho signed a Memorandum of Agreement (MOA) which transferred most wolf management responsibilities to the State of Idaho. The Idaho Department of Fish and Game (IDFG) is the primary state agency responsible for carrying out wolf management activities in Idaho. In April 2005, the Governor of Idaho and the Nez Perce Tribe (NPT) signed a MOA that outlined responsibilities between the State of Idaho and the NPT in regards to wolf conservation and management.

The USFWS published a proposed delisting rule in February 2007 and final delisting rule in February 2008, and wolves were officially delisted 30 days later in March 2008. The U.S. Federal District Court in Missoula, Montana, issued a preliminary injunction on Friday, July 18, 2008, that immediately reinstated temporary Endangered Species Act protections for gray wolves in the northern Rocky Mountain DPS pending final resolution of the case. This included all of Montana, Idaho, and Wyoming, the eastern one-third of Washington and Oregon, and parts of north-central Utah. On September 22, 2008 the United States filed a motion to vacate the delisting rule, return the gray wolf to the list of endangered and threatened species, and remand the matter to the USFWS. On October 14, the District Judge filed an order granting the United States' motion to remand the delisting rule back to the USFWS, and dismissed the case.

On October 24, 2008 the USFWS announced it would reopen the public comment period on its proposal to delist the gray wolf in the northern Rocky Mountains. Through a notice in the Federal Register published on October 28, 2008, USFWS asked the public to provide comments and any additional information on the February 2007 proposal to delist wolves. The USFWS analyzed the comments and rewrote the delisting rule including additional administrative record, data, analysis, and further explanation to address the federal courts concerns. The rule was sent to the Federal Register (FR) in January but not posted. The Obama administration put a hold on all rules and regulations sent to the FR that had not become final under the Bush administration pending review by the new administration. At the time of this writing, no decision had been made.

This annual progress report is a cooperative effort between the IDFG and the NPT, with contributions from U. S. Department of Agriculture Wildlife Services (WS) summarizing wolf activity and related management in Idaho during 2008. The IDFG developed, and the Commission passed the Idaho Wolf Population Management Plan that outlines how wolves will be managed through regulated hunting (IDFG 2008). Objectives identify higher harvest in areas with higher conflicts with livestock and/or ungulates. The 2008-2012 population objective is to maintain 500-700 wolves in the state.

During 2008, biologists documented 88 resident wolf packs in Idaho that were alive at the end of the year. A minimum of 428 wolves was observed, and the minimum population was estimated at 846 wolves (Appendix A). In addition, there were 16 documented border packs counted for Montana and Wyoming that established territories overlapping the Idaho state boundary and likely spent some time in Idaho. Of the 60 packs known to have reproduced, 39 packs qualified as breeding pairs by the end of the year. These 60 reproductive packs produced a minimum 192 pups.

In Idaho, wolf packs ranged from the Canadian border south to Interstate Highway 84, and from the Washington and Oregon borders east to the Montana and Wyoming borders. Dispersing wolves were occasionally reported in previously unoccupied areas, and the increase in our minimum population estimate appears to be a result of range expansion, primarily in the Panhandle, and an increase in average pack size used for calculating the population. Sixteen previously unknown packs were documented for the first time during 2008, but there was a net increase of only 5 documented packs in the state. New packs and wolves attempted to recolonize within the Southern Mountains DAU but became involved in livestock conflicts and were subsequently removed. Four hundred and ninety-six wolf observations were reported on IDFG's online website report form during 2008.

One hundred and fifty-three (153) wolves were confirmed to have died in Idaho during 2008. Of known mortalities, agency control and legal landowner take in response to wolf-livestock depredation accounted for 108 deaths, other human causes (including illegal take) 23 deaths, 18 unknown causes, and 4 wolves died of natural causes.

During the 2008 calendar year, 96 cattle, 218 sheep, 12 dogs, and 1 horse foal were classified by WS as confirmed wolf kills; 32 cattle, 46 sheep, and 1 dog were considered probable kills by wolves.

ACKNOWLEDGEMENTS

Wolf management in Idaho is a cooperative effort between the State of Idaho, NPT, WS, and the USFWS. Thanks to the Governor's Office of Species Conservation directors Nate Fisher, and program advisors Jeff Allen and successor Dustin Miller for assistance, and oversight. The NPT's Executive Committee and Wildlife Program Director Keith Lawrence provided support and input. Mark Collinge, George Graves, Todd Grimm, Rick Williamson, and other WS field personnel helped resolve wolf depredations on livestock. USFWS personnel Ed Bangs, Jeff Foss, Gary Burton, Robert Romero, Scott Kabasa, Scott Winkler, and Dirk Hoy provided support and assistance in wolf management responsibilities. IDFG personnel Cal Groen, Virgil Moore, Jim Unsworth, Jeff Gould, and Brad Compton provided support and input and numerous strategy sessions. We would like to thank IDFG Regional Supervisors for assuming most of the responsibility of making decision of control actions in response to wolf depredations.

We would like to thank IDFG personnel Jim Hayden, Martha Wackenhut, Bryan Aber, Daryl Meints, Shane Roberts, and Joseph Bridges for assuming additional regional responsibilities. Carter Niemeyer worked for IDFG as a seasonal wolf biologist. Laura Robinson worked for IDFG as a seasonal wildlife technician. IDFG research employees Nate Borg, Mark Hurley, Jeff Lonneker, Cody McKee, Julie Mulholland, George Pauley, Craig White, Mark Hurley, and Pete Zager provided collaborative assistance both in the field and the office. Cindi Hillemeyer, Roger Olsen and Justin Stevenson hired by the Defenders of Wildlife worked cooperatively with IDFG on a nonlethal project. Thanks to Mike Keckler, Sue Nass, Ed Mitchell, Niels Nokkentved, Eric Stansbury, and Linn French from the IDFG communications bureau; and Jon Heggen, IDFG enforcement bureau chief, for oversight of field enforcement operations. IDFG personnel Tiffany Baker, Crystal Christensen, Michelle Commons-Kemner, Jim Derig, Dr. Mark Drew, Clay Hickey, Mark Hill, Jake Powell, Mike Scott, Josh Stanley, Bret Stansberry, and Connie Thelander provided additional field and administrative assistance. We would also like to thank Selway Lodge for help in the wilderness, and Blaine County Commission for assistance on a nonlethal project.

Clarence Binninger, NPT Wolf Recovery Program veterinarian, continues to assist with wolf capture efforts. We appreciate the field assistance of biologists Isaac Babcock and Tyler Hollow, Kari Holder, and volunteers Bjornen Babcock, Laura Robinson, and Katrina Chandler. Thanks are also extended to Mary Allen (retired); Katrina Chandler, NPT Wolf Recovery Project; Dave Renwald, Bureau of Indian Affairs; Jim and Holly Akenson, University of Idaho Taylor Ranch; Montana Fish, Wildlife and Parks wolf staff; Dr. Mike Mitchell, David Ausband and their field crews (Ryan Kalinowski, Morgan Anderson, Melinda Conners, Jeff Joyce, Neil Carter, Sean Howard, Brynn Nelson, Shannon Longoria, Adam Fahnestock, Barbara Fannin, Teresa Loya, Douglas Miles, Adrian Roadman, Lacy Robinson, Adia Sovie, and Ryan Wilbur), University of Montana Cooperative Wildlife Research Unit; Defenders of Wildlife.

We especially recognize the following for their the continuation of an excellent wolf monitoring program aviation safety record: Mike Dorris, Arnold Aviation; Rod Nielson and John Ugland, McCall Aviation; Jon Blakely and Jonas Doherty, AV Center; Sam Kocherhans and Joe Dory, WS; John Romero, Owyhee Air; Joe Rimensberger, Osprey Aviation; and Doug Gadwa, Joe Myers, and Neil Stone and Brandon Startin, Inter-State Aviation. Cover photo was shot by Jason Husseman, IDFG.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

TABLE OF CONTENTS (Continued)

INTRODUCTION

In January 2005, the U.S. Fish and Wildlife Service (USFWS) published and adopted new regulations (2005 10(j) Rule) governing wolf management within the Nonessential Experimental Population Areas of Idaho south of Interstate Highway 90 (Figure 1). In January 2006, the Secretary of Interior and the Governor of Idaho signed a Memorandum of Agreement (MOA), which transferred most wolf management responsibilities to the State of Idaho. The Idaho Department of Fish and Game (IDFG) is the primary state agency responsible for carrying out wolf management activities in Idaho. In April 2005, the Governor of Idaho and the Nez Perce Tribe (NPT) signed an MOA that outlined responsibilities between the State of Idaho and the NPT in regards to wolf conservation and management. The 10j rule was again revised in 2008, and allowed increased flexibility for livestock producers and pet owners on public land in states with approved wolf management plans. For more detailed information on the history and management of wolves in Idaho, please visit: http://fishandgame.idaho.gov/cms/wildlife/wolves/.

In February 2008, the USFWS published a proposed rule to delist wolves in the northern Rocky Mountains, and wolves were officially delisted 30 days later. The U.S. Federal District Court in Missoula, Montana, issued a preliminary injunction on Friday, July 18, 2008, that immediately reinstated temporary Endangered Species Act protections for gray wolves in the northern Rocky Mountain Distinct Population Segment pending final resolution of the case. This included all of Montana, Idaho, and Wyoming, the eastern one-third of Washington and Oregon, and parts of north-central Utah. On September 22, 2008 the United States filed a motion to vacate the delisting rule, return the gray wolf to the list of endangered and threatened species, and remand the matter to the Fish and Wildlife Service. On October 14, Judge Molloy filed an order granting the United States' motion to remand the delisting rule back to the Fish and Wildlife Service. He also dismissed the case.

On October 24, 2008 the U.S. Fish and Wildlife Service announced it reopened the public comment period on its proposal to delist the gray wolf in the northern Rocky Mountains. Through a notice in the Federal Register published on October 28, 2008, USFWS asked the public to provide comments and any additional information on the February 2007 proposal to delist wolves. The USFWS analyzed the comments and rewrote the delisting rule including additional administrative record, data, analysis, and further explanation to address the federal courts concerns. The rule was sent to the Federal Register (FR) in January but not posted. The Obama administration put a hold on all rules and regulations sent to the FR that had not yet become final [under the Bush administration] pending review by the new administration. At the time of this writing, no decision had been made. The 2005 10(j) rule (as amended 2008) is in effect in Idaho and Montana, and the original 1994 Final Rule is in effect in Wyoming until they develop a plan that is acceptable to the USFWS or wolves are delisted (Figure 2).

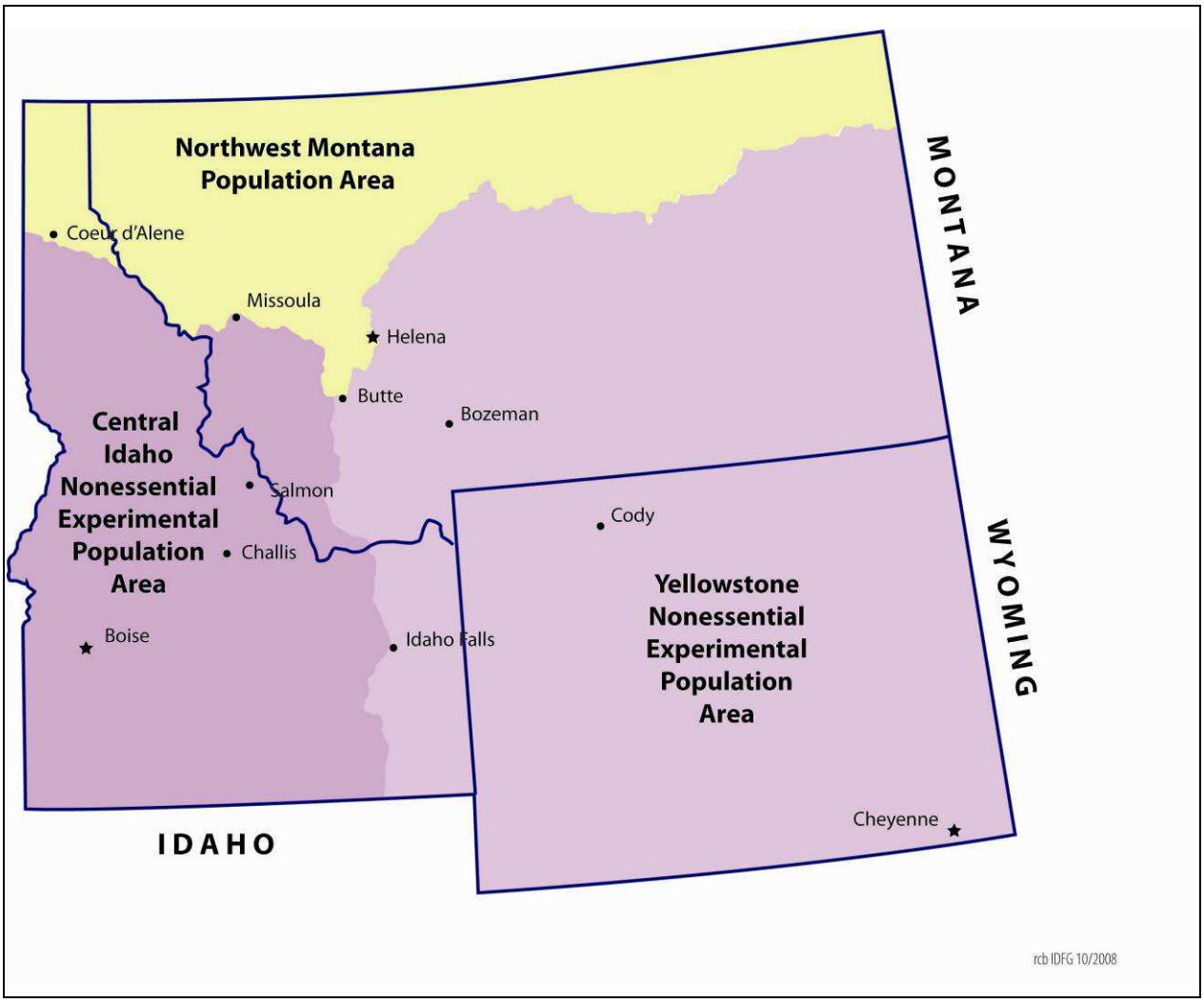


Figure 1. Recovery areas established by the U.S. Fish and Wildlife Service to restore gray wolf populations in the northern Rocky Mountains of Idaho, Montana, and Wyoming.
Wolves are naturally recovering in the Northwest Montana Population Area, while wolves were reintroduced into the Central Idaho and Greater Yellowstone Nonessential Experimental Population Areas.

In preparation for delisting, IDFG prepared and the IDFG Commission authorized the Idaho Wolf Population Management Plan (Wolf Plan) which aims to stabilize the wolf population between 2005 and 2007 (500-700 wolves) levels and is designed to manage conflicts between wolves and human interests (IDFG 2008). It also provides for wolf harvest opportunities and non-consumptive enjoyment of wolves. This annual report will now reflect the structure and guidelines of the new Wolf Plan and is therefore different than previous years. It is organized by Wolf Management Data Analysis Units (Figure 3).

This report fulfills annual USFWS requirements to summarize and report wolf status and management activities in Idaho.

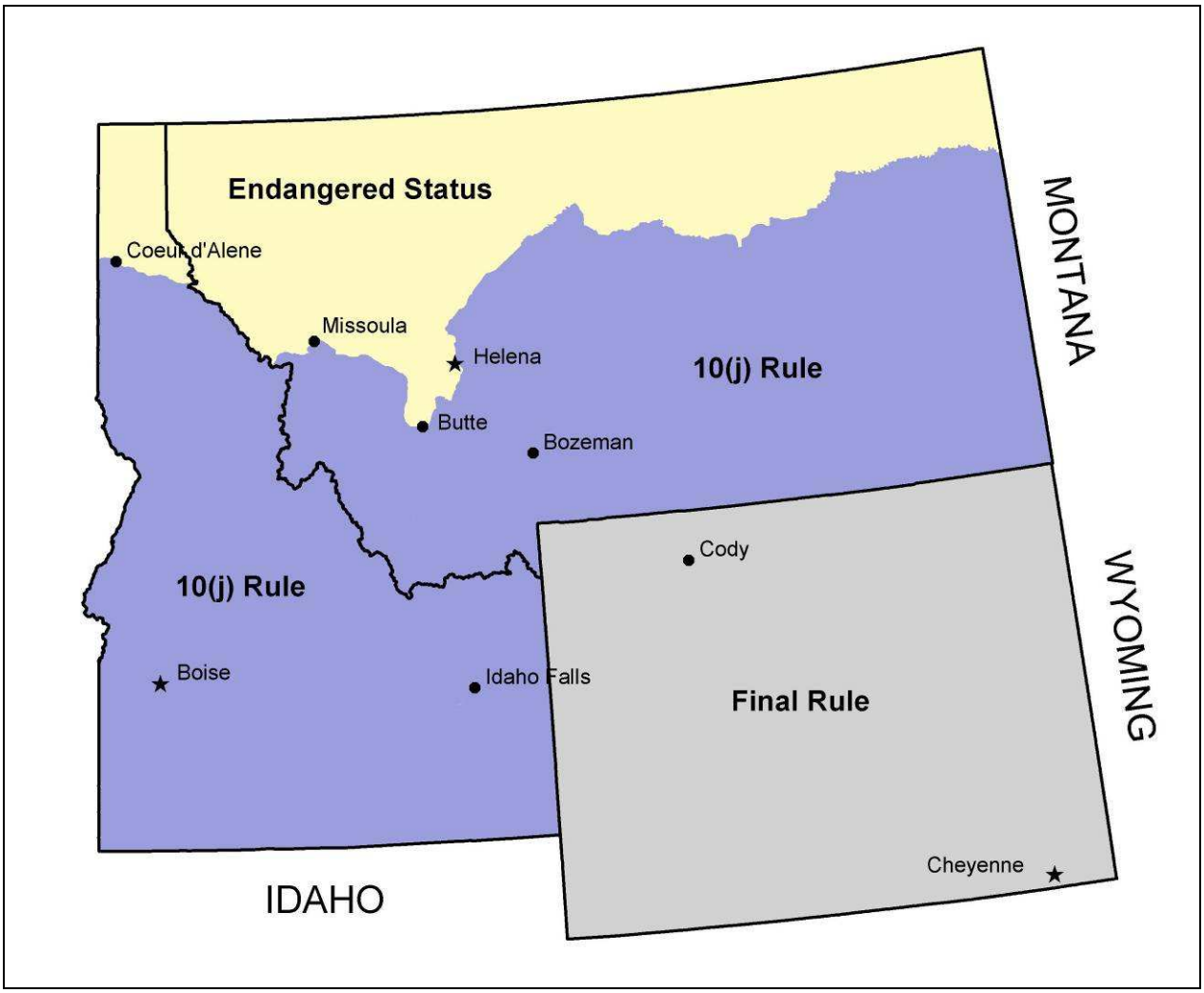


Figure 2. Management areas established by the U.S. Fish and Wildlife Service under the 2008 10(j) Rule to restore gray wolf populations in the northern Rocky Mountains of Idaho, Montana, and Wyoming.

Wolves are managed by states as designated agents under the 2005 (as amended in 2008) 10(j) rule in Idaho and Montana, and under the 1994 Final Rule by the USFWS and National Park Service in Wyoming. Management in the Endangered Status Area in northern Montana and Idaho is conducted by the USFWS with authorities as designated agent for Montana, and cooperation with Idaho.

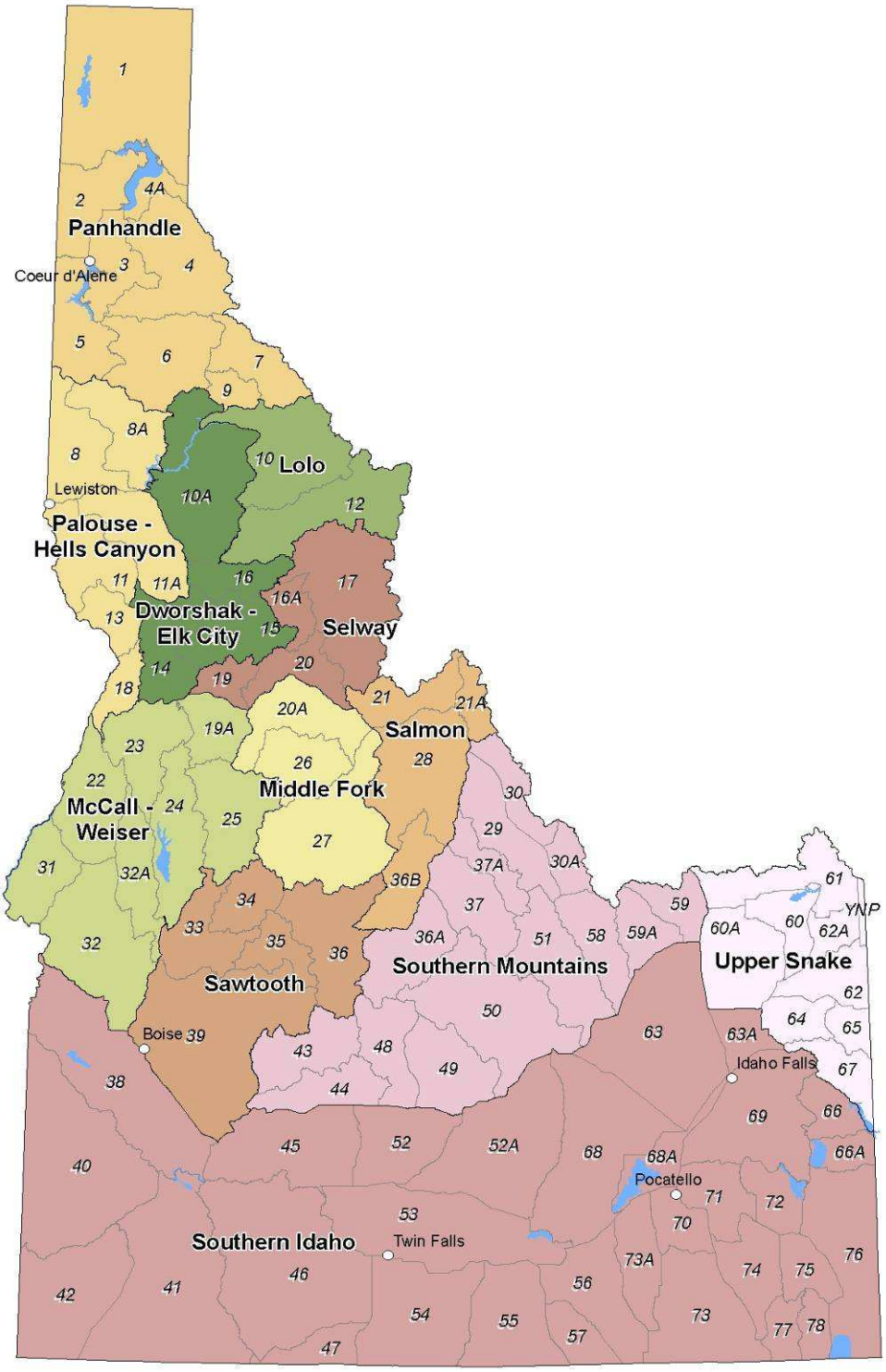


Figure 3. Wolf Data Analysis Units (DAUs).

DAUs were delineated by combining one or more elk zones with similarity in wolf population, prey base, and current or potential conflicts with livestock and/ or ungulates. DAUs were designed to implement monitoring and management under the State Wolf Population Management Plan (2008).

STATEWIDE SUMMARY

This report summarizes the status of wolves and wolf management within the borders of the State of Idaho, including portions of all 3 northern Rocky Mountain recovery areas; endangered wolves in the Northwest Montana recovery area (NWMT) north of I-90, and nonessential experimental wolves within Idaho portions of the Central Idaho (CID) and Greater Yellowstone (GYA) Nonessential Experimental Population areas south of I-90.

Idaho has a diverse landscape which results in multiple levels of potential human conflict with large carnivores such as wolves. Central Idaho, includes 3 contiguous Wilderness Areas; the Selway-Bitterroot, Frank Church River-of-No-Return, and Gospel Hump. These wilderness areas encompass almost 4 million acres (1.6 million ha), which represent the largest block of federally-designated Wilderness in the lower 48 states. Southern Idaho includes the vast Snake River Plain, which is predominately private agricultural land and also contains most of Idaho's urban centers. Three major mountain chains and 2 large river systems help to blend these very different landscapes together with landscapes which tend to be heavily roaded forested or desert public, and some private, land which are managed for multiple uses. A moisture gradient also influences the habitats of both wolves and their prey, with wetter maritime climates in the north supporting western red cedar (*Thuja plicata*)-western hemlock (*Tsuga heterophylla*) vegetation types, grading into continental climates of Douglas-fir (*Pseudotsuga menziesii*) and Ponderosa pine (*Pinus ponderosa*) to the south. Elevations vary from 1,500 feet (457 m) to just over 12,000 feet (3,657 m). Annual precipitation varies from less than 8 inches (20 centimeters) at lower elevations to almost 100 inches (254 centimeters) at upper elevations.

Wolf Population Status

The Idaho wolf population has continued to expand in both numbers and distribution since initial reintroductions in 1995 (Figures 4, 5 and 6). By the end of 2008, 88 documented wolf packs remained extant in Idaho, 5 more than were reported in 2007. A minimum of 428 wolves was observed or monitored by wolf Program personnel. The minimum population estimate was 846 (Appendix A).

Distribution, Reproduction, and Population Growth

Wolves were well distributed in the state from the Canadian border, south to the Snake River Plain, and from the Washington-Oregon Border east to the Montana-Wyoming border (Figure 6). Of the 88 documented packs extant at the end of 2008, territories of most were predominantly on U.S. Forest Service (USFS) public lands. However, this year more than others, population expansion seemed to occur in 2 primary areas: the Panhandle, where 6 new packs were documented, and the Southern Mountains DAU, where new wolf packs were verified after confirmed livestock depredations and had to be removed. Four of the 6 new wolf packs in the Panhandle had multiple adults, and therefore were presumed to have been extant for at least the previous year. Effort to document wolves in the Panhandle increased in 2008.

Of 88 documented packs, a minimum of 60 produced litters and 39 qualified as breeding pairs (Table 1). A minimum of 192 wolf pups was documented in 2008. Documented litter sizes ranged from 1-8 pups. Average minimum litter size for those packs where counts were believed

complete (n = 25) was 4.4 pups per litter. Wolf pup counts were conservative estimates because not all pups were observed from packs that were monitored, some documented packs were not visited and remoteness precluded obtaining pup counts for several packs in Wilderness and other areas with difficult access. Likewise, our reported number of breeding pairs is a minimum estimate as we were unable to determine reproductive status of some packs. The reproductive status of 49 documented packs was either not verified or believed to be non-reproductive during 2008.

Based on the presence of multiple (>2) adults, 4 packs newly documented in 2008 were believed to be extant during the previous year and were retroactively added to the number of documented packs for 2007. Based on this retroactively corrected pack count, the estimated wolf population increased 10% between 2007 (n = 768) and 2008 (n = 846) (Figure 4). Most newly documented packs were counted in the Panhandle DAU. Last year the average pack size was 7.7, this year it was 8.3, influencing population estimates (Appendix A). The social carrying capacity for wolves will likely be below the biological carrying capacity as wolves are managed in concert with other wildlife values, livestock concerns, and management objectives. Ultimately the citizens of Idaho, not habitat, will determine the number of wolves that will persist in the state. Due to high conflict levels with livestock during 2008, 108 wolves were removed by agencies or producers to manage problems. That was more than double the 50 wolves controlled for the same reasons in 2007. Increases in wolf-livestock conflicts were in part related to increased wolf activity in conflict areas, primarily private lands where agricultural and other human uses are incompatible with long-term wolf survival.

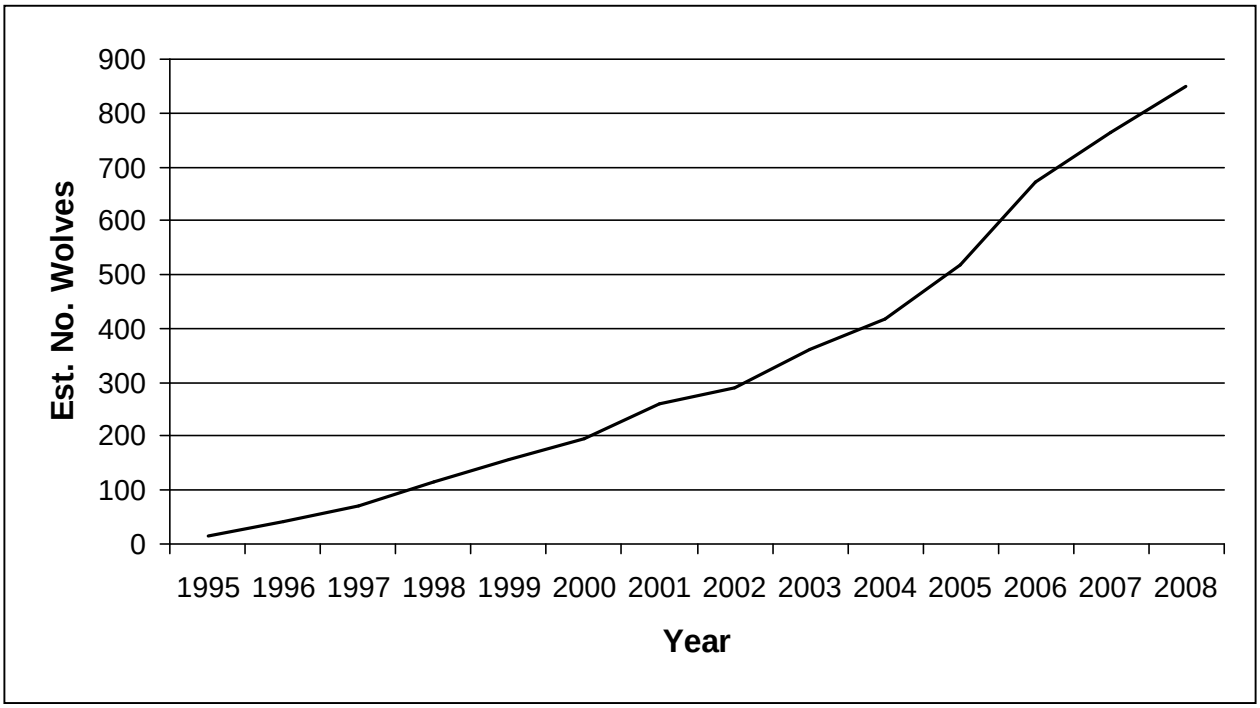


Figure 4. Estimated minimum number of wolves in Idaho, 1995-2008.
Annual numbers were based on best information available and were retroactively updated as new information became available.

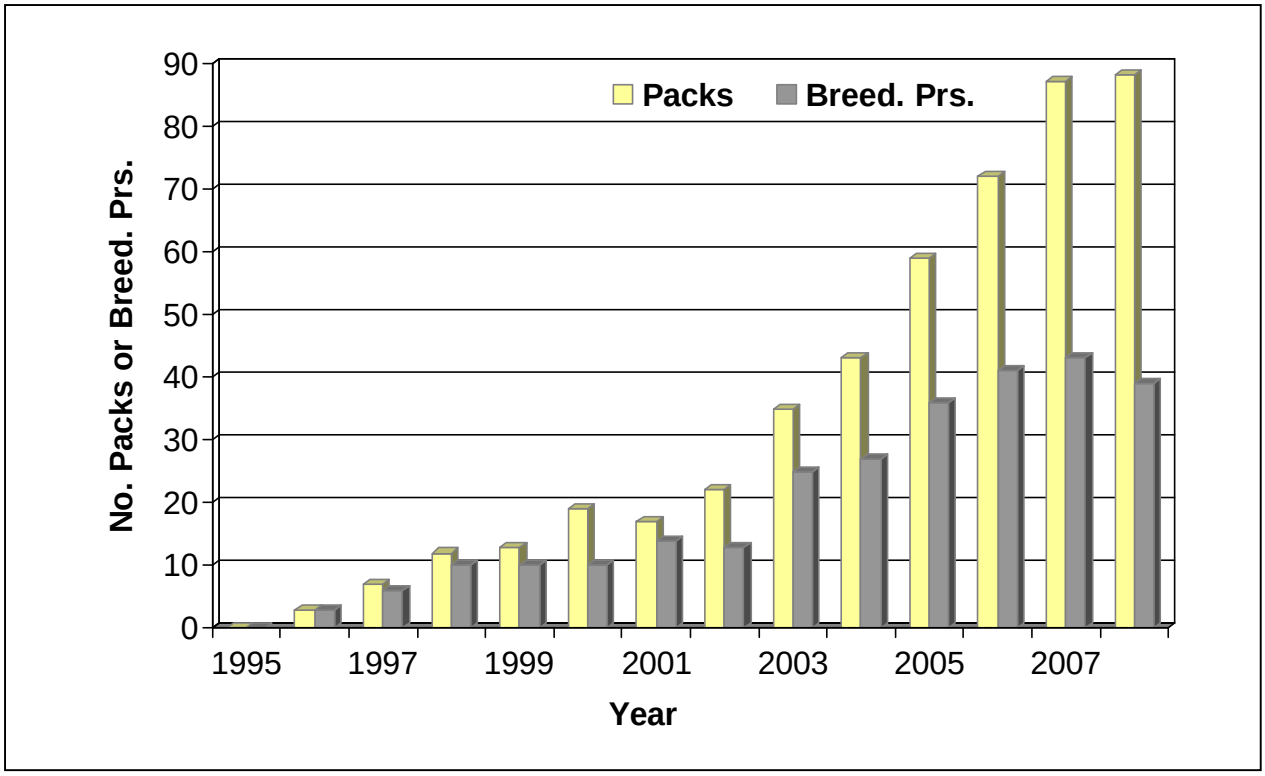


Figure 5. Number of documented wolf packs and breeding pairs in Idaho, 1995-2008.
Annual numbers were based on best information available and were retroactively updated as new information became available.

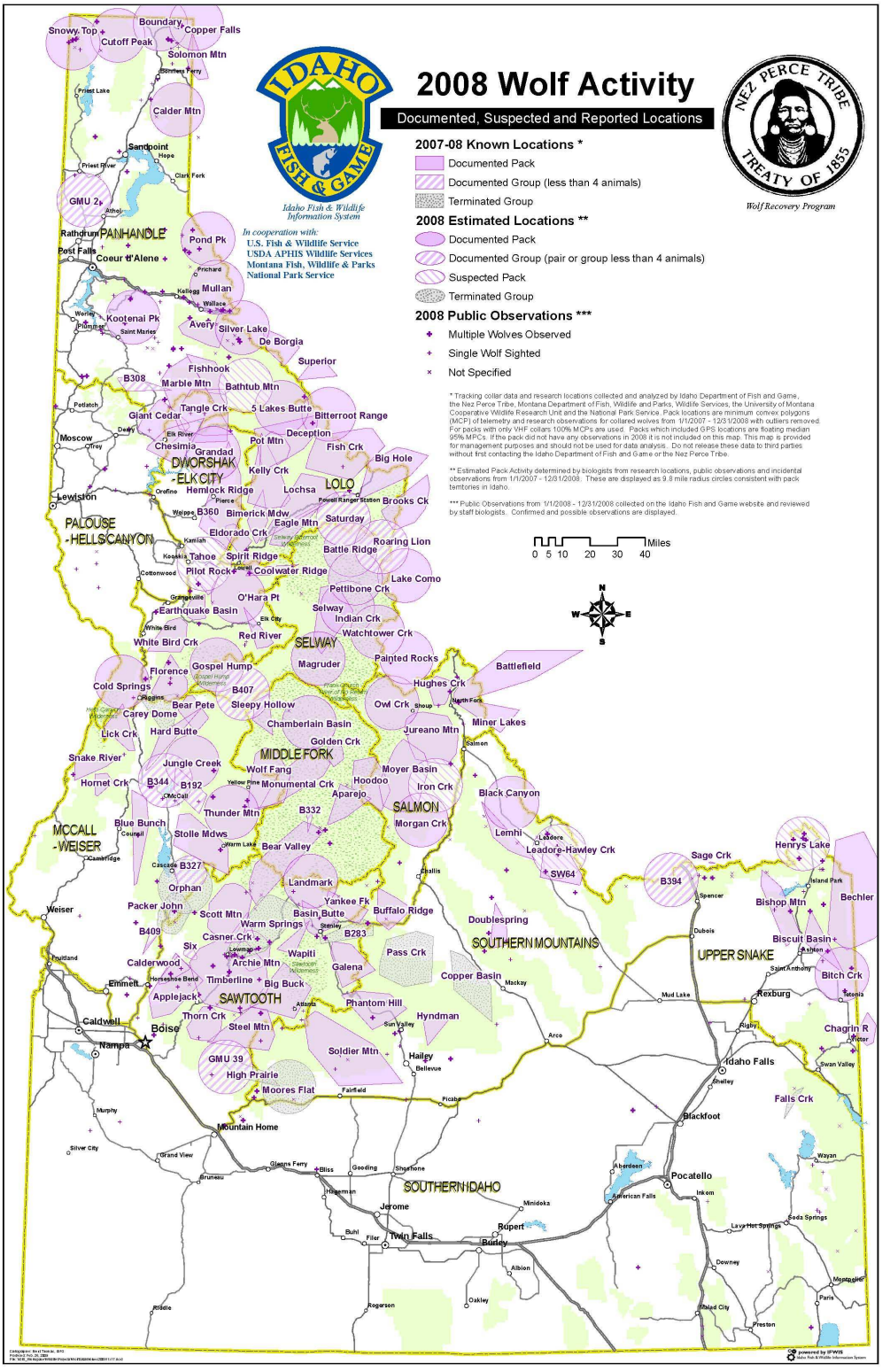


Figure 6. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in Idaho, 2008.

Table 1. Number of wolves observed, documented packs, and other documented wolf groups; reproductive status; mortality; dispersal; monitoring status; and wolf-caused livestock depredations within Idaho Department of Fish and Game Wolf management DAUs, 2008.

	Management DAU												
	Panhandle	Palouse-Hells Canyon	Dworshak-Elk City	Lolo	Selway	McCall-Weiser	Middle Fork	Sawtooth	Southern Idaho	Upper Snake	Southern Mtns	Salmon	Total
Minimum number wolves detected[a]	41	7	48	70	7	48	33	108	0	17	30	19	428
Documented packs													
No. packs documented during year[b]	13	2	11	10	6	12	7	16	1	3	9	7	97
No. packs removed[b]	0	0	0	0	0	3	0	2	1	0	3	0	9
No. packs end of year	13	2	11	10	6	9	7	14	0	3	6	7	88
Other documented groups[c]													
No. other groups documented during year[c]	3	0	4	1	3	4	1	3	1	1	4	5	30
No. other groups removed[c]	0	0	1	0	0	1	0	0	1	0	2	4	9
No. other groups end of year	3	0	3	1	3	3	1	3	0	1	2	1	21
Reproductive status													
Minimum no. pups produced (morts)	16(2)	2	19	29	0	30(1)	10	44(6)	2(2)	6	14(3)	20(1)	192(15)
No. reproductive packs	8	1	5	8	0	7	5	13	1	2	6	4	60
No. breeding pairs[d]	2	1	4	6	0	5	2	11	0	2	2	4	39
Documented mortalities													
Natural	1	1	0	0	0	0	1	1	0	0	0	0	4
Control[e]	1	1	3	0	0	22	0	23	8	4	33	13	108
Other human-caused[f]	0	0	1	2	0	6	1	4	0	1	4	4	23
Unknown	3	0	4	3	1	1	2	1	0	1	1	1	18
Known dispersal	2	1	1	0	0	0	0	2	0	0	0	2	8
Monitoring status													
Active radiocollars	4	1	9	9	2	10	6	28	0	3	6	1	79
No. wolf captures[g]	1	1	1	6	0	3	2	30	1	5	6	4	60
No. wolves missing[h]	1	0	6	3	0	0	1	3	0	0	1	2	17
Confirmed (probable) wolf-caused													

Table 1. Continued.

	Management DAU												
	Panhandle	Palouse-Hells Canyon	Dworshak-Elk City	Lolo	Selway	McCall-Weiser	Middle Fork	Sawtooth	Southern Idaho	Upper Snake	Southern Mtns	Salmon	Total
livestock losses													
Cattle	0	1	2(3)	0	0	18(8)	0	17(5)	4(3)	3(1)	40(10)	11(2)	96(32)
Sheep	0	0	0	0	0	55(13)	0	88(8)	24	16	35(21)	0(4)	218(46)
Dogs, horses*	0(1)	0	1	6	0	2	0	2	1*	1	0		13(1)

[a] Number of wolves observed by wolf program personnel in 2008. Sum of this row does not equate to number of wolves estimated to be present in the population.
[b] Does not include documented packs removed due to lack of verified evidence for the preceding 2 years. Includes documented 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 2 adult wolves 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 wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.
[h] Radiocollared wolves that became missing in 2008.

Mortality

One hundred and fifty-three documented wolf mortalities were recorded in 2008 (Table 1). Of those, 131 were human caused, 18 were unknown, and 4 were natural. Of 131 confirmed human-caused mortalities, 94 wolves were controlled for livestock depredations by WS, 14 were legally taken by producers while attacking or harassing their stock or dogs or under Shoot- On- Sight permits, 13 were illegally taken, and 10 were from other human causes. More wolves (n = 94) were lethally controlled by WS in Idaho in 2008 than in any previous year. Eighty-nine percent of this mortality stemmed from removals in 26 packs. These figures are likely underestimates of the true amount of overall mortality occurring within the wolf population, as documenting mortalities of uncollared wolves that are not controlled by agencies is difficult. Only 4 wolf deaths due to natural causes were recorded, another indication that mortality was underestimated, as more individuals likely succumbed to non human-related factors. Lastly, there were no means to estimate deaths of pups that occurred prior to our visits.

Based on radiocollared wolves, mortality as a percentage of collars was estimated as follows: Of the 140 radiocollared wolves, 40 (29%) were confirmed or suspected to have died. Of those 3 (7.5%) died of natural causes, 10 (25%) from unknown causes, and 27 (67.5%) from human causes. Of the 27 human-caused mortality, 13 (48%) were from control actions by WS; 5 (18.5%) were legal takes under a shoot-on-sight permit, under state livestock protection law (36-1107), or under 10j livestock protection clause; 8 (30%) from illegal take, 1 (3.5 %) was capture related (Figure 7).

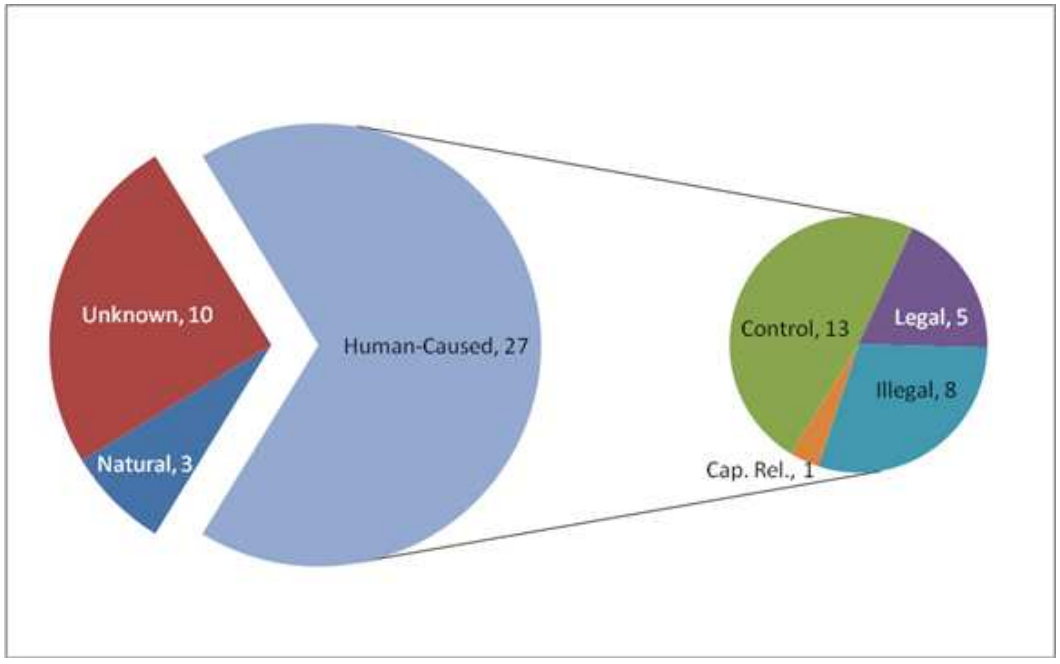


Figure 7. Cause specific mortality of 40 radiocollared wolves that died from various causes during 2008. (Note: Numbers are different than Table 1 because not all documented dead wolves had radio collars.)

Using these proportions, we estimated the total number of wolves dying during 2008 from various causes including agency control and legal take (n=108 wolves; 11% of population), illegal take (n=102 wolves; 10% of population), natural and unknowns causes (n=104 wolves; 10% of population), and other human causes (n=58 wolves; 6% of population) to be 372 wolves for an overall population mortality rate of 37%.

Livestock and Dog Mortalities

During 2008, WS conducted 202 depredation investigations involving reported wolf-killed livestock and dogs. Of those, 142 (70%) involved confirmed wolf depredations, 37 (18%) involved probable wolf depredations, 14 (7%) were possible/unknown wolf depredations, and 9 (4%) were due to causes other than wolves. During the calendar year, WS reported 128 cattle, 264 sheep, and 13 dogs, and 1 horse foal that were classified as confirmed or probable wolf kills (Table 1). Non-lethal techniques were used where appropriate to reduce wolf-livestock conflicts. Of the confirmed and probable conflicts, about a third of the packs were involved in 3 or more conflicts and were considered by WS to be chronic depredation packs. Statewide patterns of wolf depredations indicate highest livestock conflicts in 4 of the 12 DAUs; McCall-Weiser, Sawtooth, Southern Mountains and Salmon (Figures 8 and 9).

Law Enforcement

During 2008, USFWS Special Agents, IDFG Conservation Officers and other staff cooperatively investigated and reported 60 incidents of known or suspected wolf mortalities. Of the 60 incidents investigated, 16 involved legal takes, 9 were illegally killed, 8 were legally killed, 1 died of natural causes, 5 from other human causes, and the cause of death for 9 was unknown. For the remaining 6 incidents, either a carcass could not be found or the report or incident was not wolf-related. A number of investigations were still pending or undisclosed for investigative purposes and not reported in this text.

Research

Agencies continued to coordinate and support scientific research assisting in long-term wolf conservation and management.

<u>Statewide Elk and Mule Deer Ecology Study</u>

During 2008, the IDFG continued its effort to measure the effects of wolf predation and habitat on elk and mule deer populations across Idaho. Goals were met to radiocollar and monitor adult and 6-month-old mule deer and elk. Action is on-going to meet research objectives which include 1) determine survival, cause-specific mortality, pregnancy rates, and body condition for radiocollared animals; 2) monitor wolf distribution and abundance within project areas; 3) develop habitat condition and trend maps for Idaho; and 4) manipulate predator populations in project areas and monitor ungulate population responses. Focus is shifting from more than 10 extensive study areas to 2 intensive areas where detailed information regarding wolf and ungulate interactions via GPS telemetry is being gathered. These data will help to better understand the predator/ prey dynamic in contrasting landscapes. This research is providing contemporary data regarding survival, important mortality factors, and productivity of elk and

deer populations for determining appropriate harvest levels. Further, this research will help identify and evaluate specific predator and habitat management actions necessary to achieve ungulate population objectives.

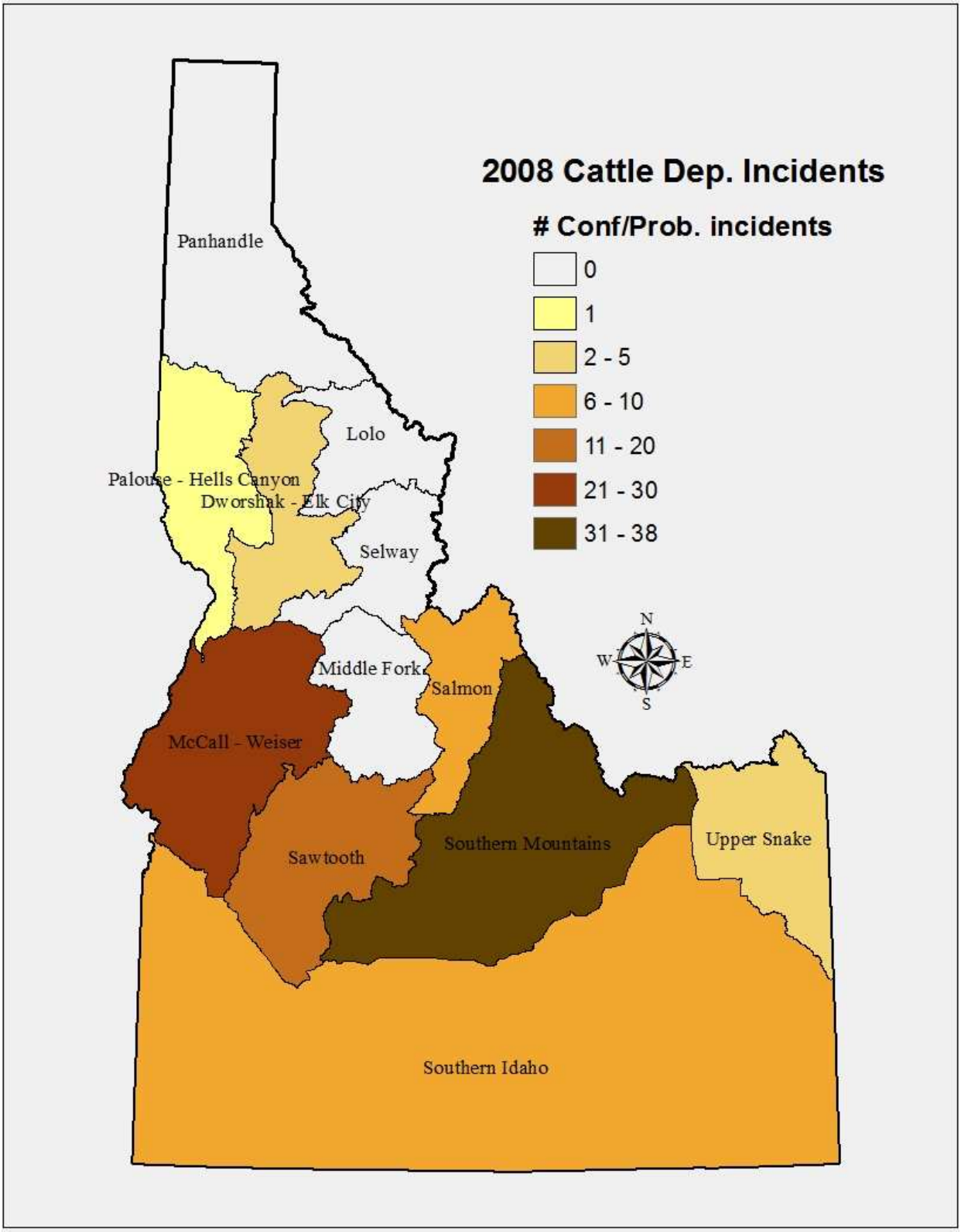


Figure 8. Cattle depredation incidents that were either confirmed or probable wolf, by DAU during 2008.

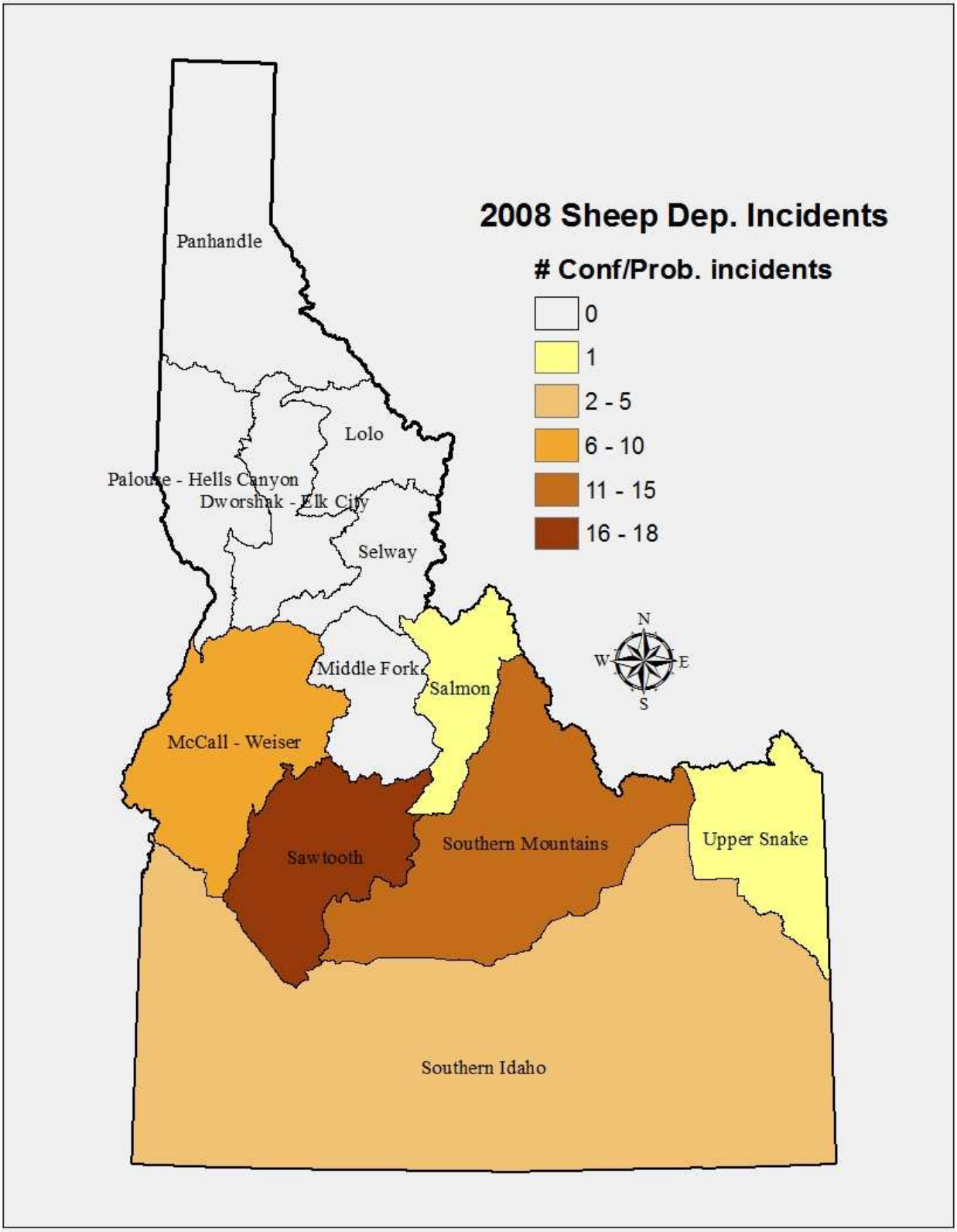


Figure 9. Sheep depredation incidents that were either confirmed or probable wolf, by DAU during 2008.

Developing Monitoring Protocols for the Long-term Conservation and Management of Gray Wolves in Idaho

Throughout reintroduction and recovery, wolves in the NRM have been monitored intensively through capturing, radio-collaring, and aerial surveys, supported almost entirely with USFWS funding. Federal funding for intensive monitoring will be eliminated following delisting, and agencies will have to rely on scarce resources to obtain the information needed to document wolf numbers. Recognizing the need for less invasive, but effective monitoring techniques, the Nez Perce Tribe obtained a Tribal Wildlife Grant to research alternative ways to monitor the wolf population that do not necessarily rely on radiocollaring wolves. Collaborating with the Montana Cooperative Wildlife Research Unit and IDFG, research began in earnest in 2006.

We have devised, and are in the process of testing, a proposed population monitoring program based on patch occupancy modeling, a statistical technique that can integrate observations from multiple sampling methods into population-level inferences on broad spatial scales. We demonstrate that a patch occupancy model can provide reasonably accurate estimates of abundance of wolf packs using only on-line public sightings. To populate a patch occupancy model and develop a statewide population monitoring framework useful for Idaho, we are evaluating a variety of survey methods that have varied levels of inference and have demonstrated strong relationships to wolf abundance and distribution. We are developing these methods to 1) enable the reliable detection of reproductively active wolf packs, 2) be more cost-effective than traditional radiotelemetry, and 3) to implement less invasive monitoring techniques. The suite of methods we are developing and testing are hunter surveys, rendezvous site surveys, howlboxes, and rub pads.

We surveyed 2,000 hunters annually and found that hunters are largely accurate when reporting wolf observations because there was a strong correlation between the number of wolves detected by hunters and the density of wolves in each of 4 study areas. To develop survey methods that can provide more detailed data on wolves in a given area than hunter surveys, we developed a habitat model that predicted the locations of wolf rendezvous sites. In 2007 and 2008, we conducted surveys at approximately 475 predicted rendezvous sites annually resulting in the detection of 12 of 17 accessible litters of pups and all 25 study packs. Genetic samples collected during rendezvous site surveys provided accurate population estimates via DNA analyses. The howlbox, an automated wolf detection tool, can detect wolves remotely, distinguish adults from pups, and obtain minimum pack size counts using spectrograms. Finally, we were able to consistently elicit roll responses from wolves onto barbed rub pads. Nearly 390 rub pad trap nights resulted in 39 roll events, and ongoing DNA extractions indicate rub pads can obtain hair samples non-invasively from wolves. The data gathered from each of these survey methods can provide the detection/non-detection data needed to populate a patch occupancy model; further, some of the methods can provide highly detailed data on wolves in areas providing biologists with unprecedented tools for understanding wolves occupying areas of high management interest. Because some of our survey methods can provide estimates of pack size, they can be coupled with the Mitchell et al. (2008) equations to estimate the number of Breeding Pairs in the state and help meet federal requirements during the 5-year post delisting phase of wolf recovery.

During 2009-2011 we will continue to test the validity of our survey methods and refine and improve them where necessary. We will also estimate the number of individual wolves and

Breeding Pairs from the patch occupancy model and perform simulations of patch occupancy models that employ varying levels of each survey method to determine which combination provides the highest level of accuracy and precision for use in future wolf conservation and management. Lastly, we will explore the use of spatially-explicit colonization and extinction probabilities generated by the patch occupancy model to asses their usefulness and reliability at predicting both the abundance and distribution of wolves. As wolves move from an endangered species to a big-game species, agencies in the NRM can use a patch occupancy framework to couple harvest results and annual monitoring efforts and enable continuous feedback and improvement of harvest predictions and population conservation strategies. Our goal at the end of 2011 is to have a less expensive population monitoring framework that has been soundly tested, is rooted in wolf ecology and can provide population estimates with an associated measure of precision that managers can use with confidence.

Outreach

Program personnel presented 44 information and education programs to a minimum of 2,149 people. Audiences included school students, agency personnel, livestock associations, community groups, sportsmen and outfitters, and legislators. In addition to organized presentations, program personnel talked to numerous members of the public via telephone, email, and in person. Also, news articles were often released by IDFG summarizing noteworthy items about wolves on a regular basis. Program personnel talked with reporters from across Idaho and the nation regularly. Wolves continued to be an interesting topic for the public and television, radio, and print media contacted the program leaders often to obtain wolf information and agency perspective. Additionally, IDFG hosted open houses around the state to comment on the wolf hunting regulations. Thus, thousands more people were contacted regularly by program personnel about wolves through radio, television, and print media.

The IDFG online wolf reporting system provided an opportunity for the public and professionals to record wolf observations in Idaho. During 2008, 496 wolf observations were reported on the web site. The online reporting system is a tool which assisted biologists in identifying areas of possible wolf activity and allowed the public a means to communicate wolf concerns to the appropriate agency.

Panhandle Region

Wolves found north of I-90 in this region are part of the NWMT Recovery Area and are classified as endangered. Wolves south of I-90 along the southern boundary of this region are within the CID Experimental Population Area and are classified as nonessential experimental animals. The Panhandle DAU is the only DAU in this region and is composed of multiple Game Management Units (GMUs).

Panhandle DAU (GMUs 1, 2, 3, 4, 4A, 5, 6, 7, and 9)

Abstract

The Panhandle DAU was home to 5 documented resident packs, 12 border packs,1 suspected pack and 2 other wolf groups (Figure 10; Table 2). Eight of 12 documented border packs were

recorded as Idaho border packs and likely spend some time in Montana or Canada. Four border packs were tallied for Montana and likely spend some time in the Panhandle DAU. Eight of 13 documented packs tallied for Idaho produced litters, but only 2 qualified as breeding pairs. Estimates of wolf numbers, pup production, and breeding pairs were minimums as manpower and field season timing were insufficient to adequately survey all known wolf packs in the Panhandle DAU. No documented or probable wolf-caused livestock losses occurred in this DAU.

Background

The Panhandle DAU encompasses GMUs 1, 2, 3, 4, 4A, 5, 6, 7 and 9, and includes the entire Idaho Fish and Game Panhandle administrative region. The climate is strongly influenced by Pacific maritime patterns that produce heavy late fall and winter precipitation and moderate temperatures. Spring sees prolonged periods of rain and summer months are warm and dry.

The Panhandle DAU is predominantly timbered, consisting of public forests managed by a variety of agencies, and large areas of private corporate timber holdings. Timber harvest is the prevailing land use and large tracts of roadless designation or remote access are scattered throughout the area. White-tailed deer, elk, mule deer and moose occur at varying densities throughout the DAU. Livestock grazing is minimal on public properties but exists in most areas of year-long human inhabitance.

The monitoring level of this DAU is considered low with only 2 of the 14 resident packs and one of the other documented groups having active radiocollars.

Management Direction

As outlined in the Wolf Plan, wolf-livestock and wolf-ungulate conflicts are currently low in the Panhandle DAU but there is a potential for moderate levels of conflicts as wolf populations increase. Management direction for wolves in this DAU is to stabilize the population.

Documented Resident Packs

Avery
There were no radiocollars associated with this pack in 2008. Biologists verified wolf activity, including the presence of pups, at two different rendezvous sites in July and August. Public observations of up to 10 wolves were reported. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this pack was estimated at 3 based on the presence of adult and pup tracks, reproduction was verified but the pack was not counted as a breeding pair for 2008.

Fishhook
There were 2 radiocollars associated with this pack in 2008 (female B217 and male B294). Biologists conducted ground surveys in August and determined the presence of multiple wolves and pups. During an aerial survey in September biologists observed 7 wolves, including 4 pups. This pack was not implicated in any livestock depredations. There were no wolf mortalities

documented for this pack. The minimum number of wolves for this pack was 7, reproduction was verified and the pack was counted as a breeding pair for 2008.

Kootenai Peak

This pack was previously classified as a "suspected pack" for 2007. Based on additional information collected in 2008, this pack status was retroactively changed to a documented pack for 2007. There were no radiocollars associated with this pack in 2008. This pack was not implicated in any livestock depredations, and there were no wolf mortalities documented for this pack. The minimum number of wolves for this group was not verified, though tracks of a minimum of 5 wolves was seen, reproduction was not verified and the group was not counted as a breeding pair for 2008.

Marble Mountain

There were 2 radiocollars associated with this pack at the beginning of 2008 (female B314 and male B216). The carcass of B216, the suspected breeding male, was recovered in March and appeared to have died from natural causes, although the actual cause remains unknown. During an aerial survey in June biologists observed 1 adult wolf and a minimum of 2 pups. In November the carcass of a wolf pup was collected following a report from a local sportsman. Investigation of the carcass revealed puncture wounds and lacerations of the head and neck consistent with bite pattern of the same or another carnivore species; official cause of death is pending. This pack was not implicated in any livestock depredations. The minimum number of wolves for this group was estimated at 3, reproduction was verified, and the group was not counted as a breeding pair for 2008.

Tangle Creek

There were no radiocollars associated with this pack in 2008. The 2007 radiocollared members of this pack, males B310 and B311, were located outside of the pack's normal home range during 2007. B311 died in October, 2007, and B310 has been located south of Dworshak Reservoir since November 2007. The only information available relative to the Tangle Creek pack came from biologists conducting bear research who documented howling and took a photo of a single adult wolf in the pack's traditional home range. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this group was not verified, reproduction was not verified and the group was not counted as a breeding pair for 2008.

Documented Border Packs

Boundary (ID)

There were no radiocollars associated with this pack in 2008. This pack was a documented border pack tallied by Idaho, and likely spends some time in Canada. In December 2007, agency personnel found the remains of a domestic calf (cause of death undetermined) that had been consumed by wolves and noted tracks indicating the presence of 5 wolves in the vicinity. Public observations of up to 9 wolves were reported. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this pack was not determined, reproduction was not verified, and the pack was not counted as a breeding pair for 2008.

Calder Mountain (ID)
There were no radiocollars associated with this pack in 2008. This pack was a documented border pack tallied by Idaho and likely spends some time in Montana. Biologist documented the presence of wolves in June and August. Public observations of up to 5 wolves were reported. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this pack was not verified, reproduction was not verified and the pack was not counted as a breeding pair for 2008.

Copper Falls (ID)
This pack was newly documented in 2008. There were no radiocollars associated with this pack in 2008. This pack was a documented border pack tallied by Idaho and likely spends some time in Montana and Canada. Biologist documented the presence of wolves in August. Public observations of up to 7 wolves were reported and separate photos of an adult wolf and a pup were submitted to IDFG in July and August. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this pack was estimated at 3 based on the presence of adult and pup tracks, reproduction was verified but the pack was not counted as a breeding pair for 2008.

Cutoff Peak (ID)
This pack was newly documented in 2008. There were no radiocollars associated with this pack in 2008. This pack was a documented border pack tallied by Idaho and likely spends some time in Canada. Agency personnel established the minimum pack size of 9 wolves, including 4 pups. Analysis of further information warranted a retroactive classification of documented pack for 2007. Trapping efforts were unsuccessful, in part due to the requirements of trapping wolves in grizzly bear country. This pack was discovered in the vicinity of cattle on a U.S. Forest Service grazing allotment although the pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. This pack was counted as a breeding pair for 2008.

De Borgia (MT)
This documented border pack was tallied by Montana in 2008. See the respective State's annual report for information on this pack.

Mullan (ID)
This pack was newly documented in 2008. There were no radiocollars associated with this pack in 2008. This pack was a documented border pack tallied by Idaho and likely spends some time in Montana. The pack was discovered as a result of wolves fighting with domestic dogs at a private residence in May. The landowner reported 5 wolves fighting with his dogs, and shot one wolf to protect his animals. Additionally, there was 1wolf mortality that occurred in Montana that was likely associated with this pack and not recorded in the Idaho wolf mortality statistics. The minimum number of wolves in this pack was estimated at 3, reproduction was not verified and the pack was not counted as a breeding pair for 2008.

Pond Peak (ID)
This pack was newly documented in 2008. There were no radiocollars associated with this pack in 2008. This pack was a documented border pack tallied by Idaho and likely spends some time

in Montana. Numerous public observations reported up to 8 wolves observed, including pups. An IDFG employee documented howling, including pups. WS verified that a hunting dog was probably killed in this pack's suspected territory in October. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this group was estimated at 3 based on the presence of adult and pup tracks, reproduction was verified but the group was not counted as a breeding pair for 2008.

Silver Lake (ID)
This pack was a documented border pack tallied by Montana in 2007. For 2008 this pack was tallied as an Idaho border pack as they had apparently moved to Idaho and there was no known activity in Montana associated with this pack. There were no radiocollars associated with this pack in 2008. IDFG personnel identified wolf tracks indicating the presence of multiple wolves, including pups, in August. Public observations of up to 7 wolves were reported. Trapping efforts in August were unsuccessful. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this group was estimated at 3 based on the presence of adult and pup tracks, reproduction was verified but the group was not counted as a breeding pair for 2008.

Snowy Top (ID)
This pack was newly documented in 2008. There was 1 radiocollar briefly associated with this pack in 2008. This pack was a documented border pack tallied by Idaho and likely spends some time in Canada and Washington. Numerous observations by the public, IDFG and U.S. Forest Service biologists were reported from May through July indicating the presence of up to 5 wolves, including pups. Analysis of further information warranted a retroactive classification of documented pack for 2007. Trapping efforts in August resulted in the capture and collaring of a female pup that subsequently died in September. At the time the dead pup was recovered tracks were observed (1 adult and 1 pup) indicating that at least 1 pup was still alive at that time. This pack was not implicated in any livestock depredations. The minimum number of wolves for this group was estimated at 3, reproduction was verified but the group was not counted as a breeding pair for 2008.

Solomon Mountain (MT)
The Solomon Mountain pack was discovered by monitoring female B296, a dispersing member of the Boundary pack. This border pack, tallied for Idaho in 2007, was tallied as a Montana border pack in 2008 as most, if not all, locations for this pack occurred in Montana. A wolf believed to be associated with this pack died of natural causes, was recovered in Idaho and was reported in the Idaho mortality statistics. See the respective State's annual report for more information on this pack.

Superior (MT)
This documented border pack was tallied by Montana in 2008. See the respective State's annual report for information on this pack.

Twilight (MT)
This documented border pack was tallied by Montana in 2008. See the respective State's annual report for information on this pack.

Suspected Packs

Bathtub Mountain
There were no radiocollars associated with this pack in 2008. Biologists conducting bear surveys observed multiple wolf tracks in August. This pack was not implicated in any livestock depredations. There were no wolf mortalities documented for this pack. The minimum number of wolves for this suspected pack was not verified.

Other Documented Wolf Groups

B308
This potential breeding pair was newly documented in 2008. There was 1 radiocollar associated with this pair in 2008. Biologists monitored male wolf B308 as it dispersed from the Giant Cedar pack in the Palouse-Hells Canyon DAU and established residence in the Panhandle DAU. Aerial and ground surveys revealed the presence of 2 adult wolves in June and July. Telemetry locations indicated the radiocollared wolf remained in the area throughout the year. This group was not implicated in any livestock depredations, and there were no wolf mortalities documented for this group. The minimum number of wolves for this group was 2 wolves.

GMU 2
This wolf group was newly documented in 2008. There were no radiocollars associated with this group in 2008. Recurring reports from the public of 2 or 3 wolves in 2008 and an observation of 2 adult wolves by an IDFG employee indicate that this wolf group exists in the northern portion of GMU 2. This group was not implicated in any livestock depredations. There were no wolf mortalities documented for this group. The minimum number of wolves for this group was estimated at 2.

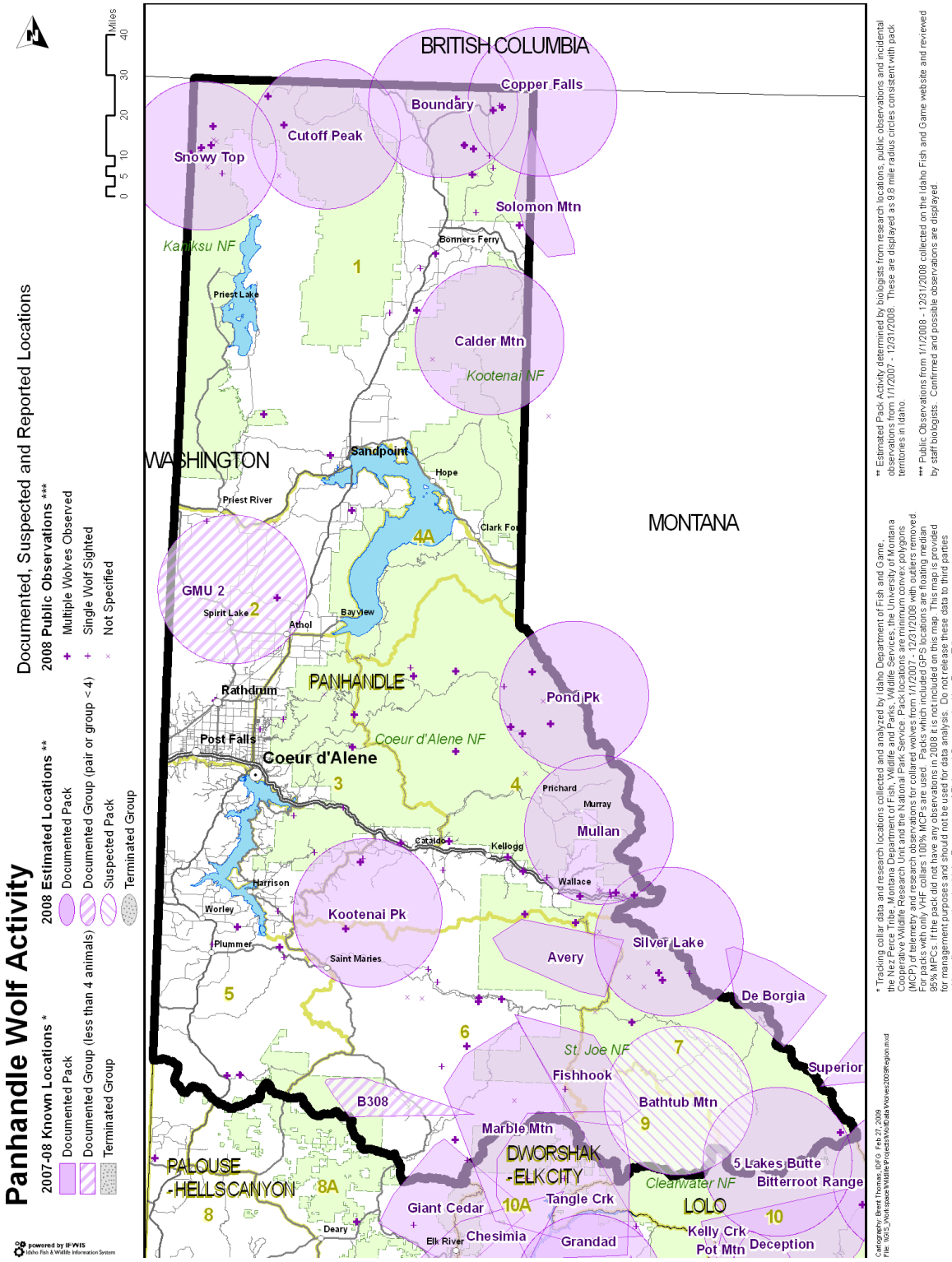


Figure 10. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Panhandle DAU, 2008.

Table 2. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Panhandle Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Avery	3	1	YES	NO	0	0	0	0	0	0	0	1	0	0	0
Boundary (ID)[j]	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Calder Mtn (ID)[j]	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Copper Falls (ID)[j]	3	1	YES	NO	0	0	0	0	0	0	0	0	0	0	0
Cutoff Peak (ID)[j]	9	4	YES	YES	0	0	0	0	0	0	0	0	0	0	0
De Borgia (MT)[j]															
Fishhook	7	4	YES	YES	0	0	0	0	0	2	0	0	0	0	0
Kootenai Peak	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Marble Mountain	3	2(1)	YES	NO	0	0	0	2	1	1	0	0	0	0	0
Mullan (ID)[j]	3	?	NO	NO	0	1	0	0	0	0	0	0	0	0	0
Pond Peak (ID)[j]	3	1	YES	NO	0	0	0	0	0	0	0	0	0	0	0(1)
Silver Lake (ID)[j]	3	1	YES	NO	0	0	0	0	0	0	0	0	0	0	0
Snowy Top (ID)[j]	3	2(1)	YES	NO	0	0	0	1	0	0	1	0	0	0	0
Solomon Mtn (MT)[j]					1										
Superior (MT)[j]															
Tangle Creek	?	?	NO	NO	0	0	0	0	1	0	0	0	0	0	0
Twilight (MT)[j]															
SUBTOTAL	37	16(2)			1	1	0	3	2	3	1	1	0	0	0(1)
SUSPECTED PACKS															
Bathtub Mountain	?				0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
B308	2				0	0	0	0	0	1	0	0	0	0	0
GMU 2	2				0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	4				0	0	0	0	0	1	0	0	0	0	0

Table 2. Continued.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
UNKNOWN															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
DAU TOTAL	41	16(2)			1	1	0	3	2	4	1	1	0	0	0(1)

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

[j] Border pack officially tallied to (STATE); territory known/likely shared with Idaho. Data on these packs can be found in Rocky Mountain Wolf Recovery 2008 Annual Report; data for mortalities and/or depredations by non-Idaho border packs that occurred within Idaho are presented here.

Clearwater Region

The Clearwater Region encompasses 4 DAUs; Palouse-Hells Canyon, Dworshak-Elk City, Lolo, and Selway.

Palouse – Hells Canyon DAU (GMUs 8, 8A, 11, 11A, 13, and 18)

Abstract

The Palouse-Hells Canyon DAU was home to 2 documented packs during 2008 (Figure 11; Table 3). The Giant Cedar pack qualified as a breeding pair. No reproductive information was obtained regarding the Cold Springs pack. Documented mortalities (n = 2) included control (agency removal and legal take; n = 1) and natural (n = 1) causes. Confirmed (n = 1) wolf-caused losses of cattle were attributed to unknown wolves. One wolf was captured by Program personnel that resulted in the placement of a new radiocollar.

Background

That portion of the Palouse-Hells Canyon DAU encompassed by GMUs 8, 8A, and 11A contain portions of the highly productive Palouse and Camas prairies. Dry-land agriculture began in this area in the 1880s and, until the 1930s, large areas of native grassland existed. Currently, virtually all nonforested land is tilled, and only small, isolated patches of perennial vegetation remain but are regularly burned or treated with herbicides. Timber harvest in the corporate timber, private timber, state land, and federal land areas of GMU 8A increased dramatically through the 1980s and 1990s, creating vast acreages of early successional ungulate habitat (IDFG 2007). Wolves are not expected to be able to establish packs in nonforested habitat in this region due to high potential for human conflict.

Habitat within this DAU encompassed by GMUs 11, 13, and 18 varies widely from steep, dry, river-canyon grasslands having low annual precipitation to higher elevation forests with greater precipitation. This area contains large tracts of both private and publicly-owned land: GMU 11 is mostly private land except for Craig Mountain Wildlife Management Area along the Snake and Salmon Rivers. Craig Mountain, a prominent feature in GMU 11, has been extensively logged. GMU 13 has been mostly under private ownership since settlement and is managed mostly for agriculture and livestock. GMU 18 is one-third private ownership located at lower elevations along the Salmon River. Road density is moderate, and access is restricted in many areas. The majority of the Hells Canyon Wilderness Area, which was designated in 1975, is in GMU 18 (IDFG 2007).

Management Direction

As outlined in the Wolf Plan, wolf numbers in the Palouse-Hells Canyon DAU are slated to be stabilized at 2007 levels. The potential for livestock conflicts is high, therefore populations would likely remain low due to continued agency control of problem wolves..

Documented Resident Packs

Cold Springs
Despite a report of a wolf pup seen by an Idaho County Deputy, multiple investigations of areas previously used, and throughout the defined home range, by this pack failed to detect evidence of wolves. The status of this pack was unknown and it was not considered a breeding pair for 2008.

Giant Cedar
Male wolf B308 dispersed from the Giant Cedar pack in November 2007, leaving female B256 as the lone remaining radiocollared pack member. Examination of an historic home site led a biologist to a litter of at least 2-3 pups. B256's signal was detected on mortality mode in early July; a field necropsy determined that she was likely killed by a mountain lion. After B256's death a capture operation was initiated to place new radiocollars on pack members. Two pups were captured, one of which, female B401, was successfully instrumented. The Giant Cedar pack was a breeding pair in 2008 and had a minimum of 7 wolves.

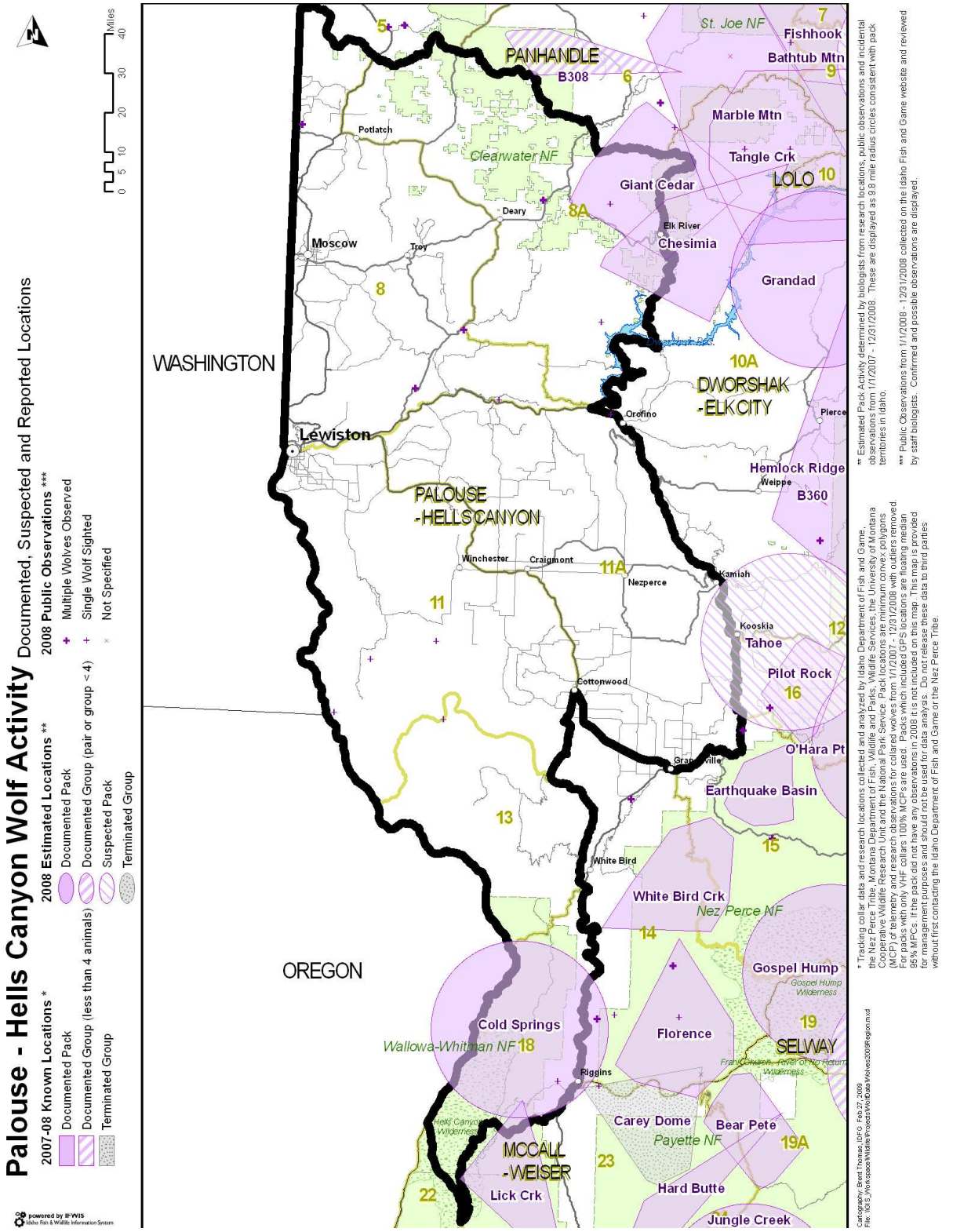


Figure 11. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Palouse – Hells Canyon DAU, 2008.

Table 3. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Palouse-Hells Canyon Data Analysis Unit, 2008.

		Reproductive status			Documented mortalities					Monitoring status			Confirmed & (probable) wolf-caused livestock losses		
Wolf group[a]	Min. no. wolves detected[b]	Min. no. pups prod. (died)[c]	Reported as reprod. pack	Reported as breeding pair[d]	Natural	Control[e]	Other human[f]	Unknwn[g]	Known dispersal	Active radio collars	No. wolf captures[h]	No. wolves missing[i]	Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Cold Springs	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Giant Cedar	7	2	YES	YES	1	0	0	0	1	1	1	0	0	0	0
SUBTOTAL	7	2			1	0	0	0	1	1	1	0	0	0	0
SUSPECTED PACKS															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
SUBTOTAL					0	0	0	0	0	0	0	0	0	0	0
UNKNOWN															
GMU 11A	?				0	1	0	0	0	0	0	0	1	0	0
SUBTOTAL	0				0	1	0	0	0	0	0	0	1	0	0
DAU TOTAL	7	2			1	1	0	0	1	1	1	0	1	0	0

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

Dworshak-Elk City DAU (GMUs 10A, 14, 15, and 16)

Abstract

The Dworshak-Elk City DAU is composed of IDFG GMUs 10A, 14, 15, and 16 and was home to 11 documented resident packs during 2008 (Figure 12; Table 4). Four of 5 reproductive packs qualified as breeding pairs. The Hemlock Ridge pack was determined to be non-reproductive and the reproductive status of 5 packs was unknown. Documented mortalities (n = 8) included unknown (n = 4), control (agency removal and legal take; n = 3), and other human (illegal take, vehicle collision, etc.; n = 1) causes. Confirmed (n = 2) and probable (n = 3) wolf-caused losses of cattle were attributed to the White Bird Creek pack and unknown wolves. No domestic sheep losses were recorded. One dog was confirmed killed by the Pilot Rock pack. One wolf was captured by Program personnel that resulted in the placement of a new radiocollar.

Background

That portion of the DAU encompassed by GMU 10A is three-fourths timberland and one-fourth open or agricultural lands, is bisected by canyons leading to the Clearwater River. During the 1980s and 1990s, timber harvest occurred on almost all available state and private land as demand for timber and management of these lands intensified. That portion of the DAU encompassed by GMUs 14, 15, and 16, is predominantly in public ownership with privately-owned portions at lower elevations along the Clearwater and Salmon Rivers. A small segment of this DAU is federally designated Wilderness. Productive conifer forests with intermixed grasslands characterize the majority of this area. Many forested areas have become overgrown with lodgepole pine and fir due to fire suppression during the past 40 years (IDFG 2007).

Major river drainages included in, or bordering upon, this DAU include the Salmon, South Fork Clearwater, Middle Fork Clearwater, main stem Clearwater, North Fork Clearwater/Dworshak Reservoir, lower portion of the Selway, Crooked, American, Red, and Lolo Creek.

Management Direction

According to the Wolf Plan, the Dworshak-Elk City DAU has moderate levels of wolf-livestock and wolf-ungulate conflicts due to interspersed private and public land. The management direction for this DAU is to initially decrease the population and then stabilize it at lower numbers. Management goals include reducing wolf conflicts on private land and balancing predator and prey abundance within this DAU.

Documented Resident Packs

Chesimia

The telemetry signal of the sole radiocollared wolf, female B222, in this pack was detected on mortality mode during the June monitoring flight. Investigation of the site did not reveal cause of death. The livestock operator in this pack's territory believed there was evidence of reproduction, but extensive efforts by Program personnel to verify the presence of pups were unsuccessful. An extended capture effort was undertaken based on persistent wolf sign detected, however no

wolves were caught. Based on tracks observed minimum estimated pack size was 3 wolves. The Chesimia pack was not considered a breeding pair for 2008.

Coolwater Ridge
Two subadult males, B344 and B346, were captured and radiocollared in 2007, but only 1 aerial location was obtained on B346 before contact was lost. B344 was monitored until February 2008, at which time it also went missing. Without the aid of radiocollared wolves, efforts to determine reproductive status were unsuccessful. B344 dispersed from the pack, as it was subsequently located north of McCall, ID. The Coolwater Ridge pack was not reported as a breeding pair in 2008 and there was no official pack size estimate.

Earthquake Basin
Wolves B274 and B275 were present with the pack through winter 2007/2008, however B275 was not located after March 2008. Investigation of a historic rendezvous site yielded a minimum pup count of 4. In addition, 3 gray and 1 black adult-sized wolves were seen, while B274 was present but not observed. Based upon field observations, this pack was estimated to contain a minimum of 9 wolves. The Earthquake Basin pack was considered a breeding pair for 2008.

Eldorado
Radio-tracking of possible breeding female B301 led a biologist to a rendezvous site where 4 gray pups were observed. Male B281 remained with the pack as well. An aerial observation provided the year-end count of 8 wolves. The Eldorado Creek pack was considered a breeding pair for 2008.

Florence
An aerial observation of 9 gray wolves, including males B200 and B201, was obtained in March 2008. This was the first known instance of this pack on the south side of the Salmon River outside of their previously defined home range. During a May monitoring flight B201's signal was detected on mortality mode at the same location where the pack was seen in March. Examination of the site revealed that B201 and a second wolf had died there (tallied for McCall-Weiser DAU). An investigation of these mortalities was opened by USFWS Law Enforcement agents. These carcasses were located within approximately 0.5 miles (0.8 km) of where B309's carcass (see Carey Dome pack in McCall-Weiser DAU) was discovered in February. Florence pack member B200 has not been located since March. Visits to historic den and rendezvous sites failed to detect wolf presence, so pack size and reproductive status were unknown. The Florence pack was not considered a breeding pair for 2008.

Grandad
A report received from mid-September 2007 indicated a possible location of a rendezvous site and 2 gray wolves were purportedly observed there. This site was examined in 2008 and evidence of pup presence elevated this group's status from a suspected to documented pack. Based on wolf sign, at least 1 pup was produced, but the Grandad pack did not qualify as a breeding pair for 2008 and pack size was a minimum of 3.

Hemlock Ridge
In January 2008, B207, B210, B329, and B330, were being monitored in this pack. However, after January only B330 was detected in this pack's home range while the others were unaccounted for. All previously known home sites were visited, but no evidence of reproduction was found, although wolf sign indicated that at least 4 wolves still resided in the area. A capture effort in mid-August resulted in the radiocollaring of male B397. Ground monitoring of B397 failed to lead to evidence of a litter. B210's radio signal was eventually detected and monitored in adjacent pack territories for a brief period during summer before going missing again. The Hemlock Ridge pack was not considered a 2008 breeding pair.

O'Hara Point
Very little wolf sign was detected in a brief survey along the American River and adjacent roads surrounding their known home sites. Pack size and reproductive status of the O'Hara Point pack were not known and it was not reported as a breeding pair in 2008.

Pilot Rock
Adult female wolf B342 was radiocollared by WS personnel in 2007. B342's aerial locations for January through August 2008 were north of previous locations and overlapped those of the suspected Tahoe pack, making pack affiliation of this wolf difficult to ascertain. Inspection of known home sites was conducted in mid-September, but no evidence of wolf occupancy was located at those sites, and B342's telemetry signal was not detected. While conducting field work in the area, a Program biologist spoke with U.S. Forest Service personnel stationed there and viewed video footage of at least 6 gray pups, as well as 2 adult-sized wolves. The Pilot Rock pack was confirmed to have killed 1 hunting dog. Minimum pack size was estimated to be 8 wolves based on the video. This pack qualified as a breeding pair for 2008.

Red River
Sole radiocollared pack member B318 was not located during 2008 and was considered a missing wolf by the end of the year. The absence of radiocollared wolves in this pack during 2008 made monitoring difficult. Investigation of the likely 2007 den site suggested, based upon amount of wolf sign observed, that the pack had re-used this site in 2008, but had already vacated it. Further ground tracking efforts failed to locate evidence of reproduction. In late July, 3 adult wolves were heard howling in the vicinity of the Red River Wildlife Management Area, confirming the continued presence of the pack. A subadult wolf was legally killed in this pack's territory. The Red River pack was not considered a breeding pair for 2008.

White Bird Creek
Radiocollared male B285 was searched for in the vicinity of his May aerial locations in the hope that he would lead biologists to a rendezvous site. His signal was never detected in this area, but biologists did locate a litter of 4 pups, as well as observe 3 adult-sized wolves. Due to 2 confirmed cattle losses, 2 wolves were lethally controlled within this pack's territory that were assigned as White Bird Creek pack members, including a black individual (no black wolves were previously documented in this pack). A hunter discovered a radiocollared wolf dead on the eastern edge of this pack's home range in November, which was eventually identified as wolf NW243, a disperser from the Ashley Lake pack in northwestern Montana. The White Bird Creek pack was reported as a breeding pair in 2008.

Suspected Packs

Tahoe
Female B320 was captured in May 2007 during a control action implemented by WS. B320 was aerially monitored until August 2007, at which time her signal was detected on mortality mode. For much of 2008, B342 (captured as a member of the neighboring Pilot Rock pack) was aerially located in areas almost completely overlapping those previously occupied by B320. Private land inhibited efforts to ground monitor B342, so no data was collected pertaining to number of wolves present or reproductive status. It was not known whether B342 left the Pilot Rock pack and joined the wolves of the Tahoe group, the Pilot Rock pack expanded its territory to encompass the Tahoe group's, or some other scenario.

Other Documented Wolf Groups

B310
Originally a member of the Tangle Creek pack, male wolf B310 dispersed in winter 2007/2008 and has localized south of Dworshak Reservoir.

B360
This wolf was captured as an adult member of the Marble Mountain pack in September 2007. It remained with that pack until January 2008, at which time contact with it was temporarily lost. B360 was located again in April near the northern portion of Dworshak Reservoir's Little North Fork Clearwater River arm. It crossed the reservoir and remained in the vicinity on the south side at least through mid-June when it again went missing. The wolf was found again in September approximately 33 miles (53 km) south of its previous location. During October monitoring flights, B360 was observed with a second gray wolf and was believed to have formed a potential breeding pair for 2009.

NW243
This wolf's carcass was discovered by a hunter in November on the eastern fringe of the White Bird Creek pack's territory; the mortality site was approximately 175 miles (282 km) from the last known location in the Ashley Lake pack territory (Northwest Montana Recovery Area) in September 2007. Cause of death was unknown at the time of discovery.

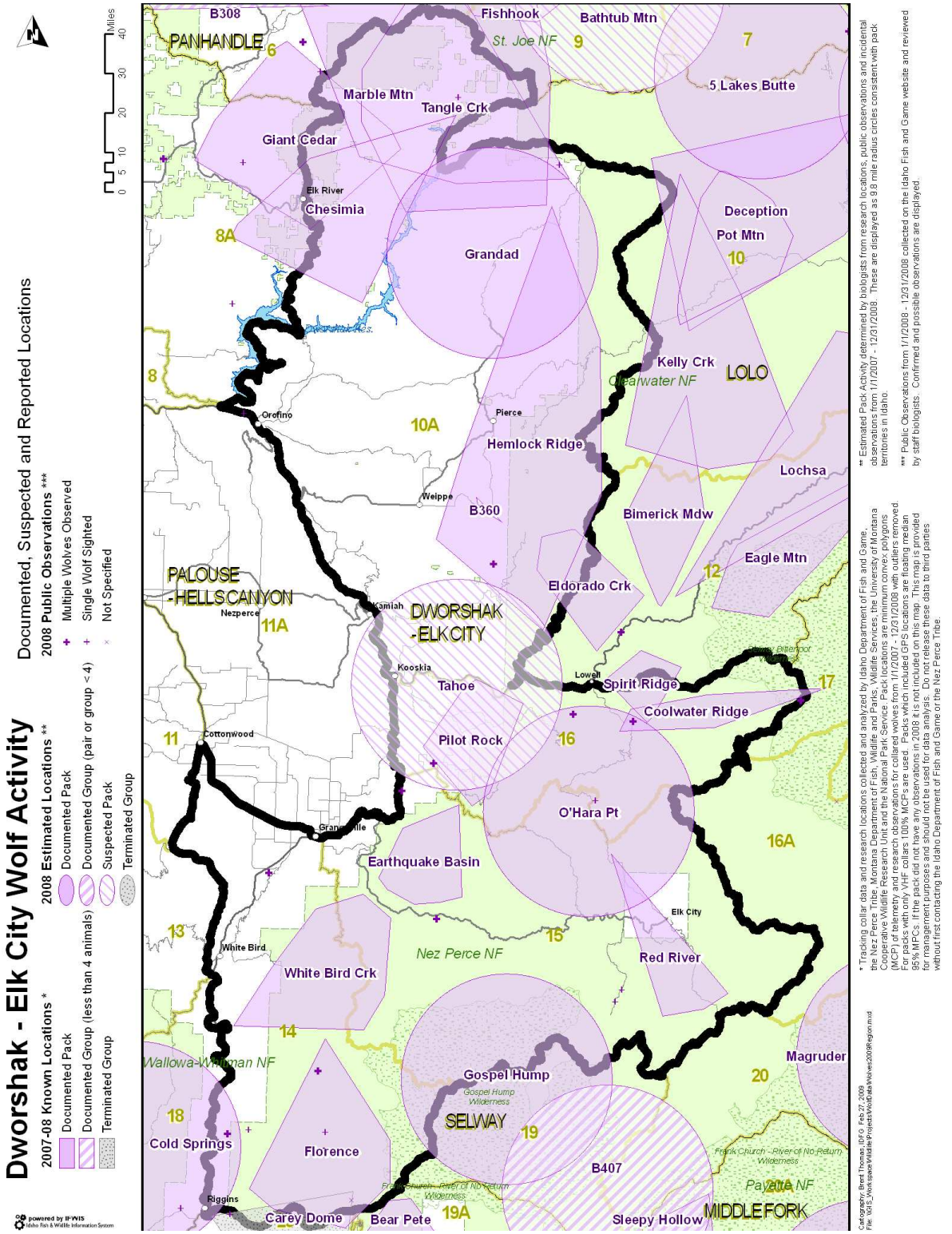


Figure 12. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Dworshak – Elk City DAU, 2008.

Table 4. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Dworshak-Elk City Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reported as: reprod. pack	Reported as: breeding pair[d]	Documented mortalities: Natural	Control[e]	Other human[f]	Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	No. wolf captures[h]	No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Chesimia	3	?	NO	NO	0	0	0	1	0	0	0	0	0	0	0
Coolwater Ridge	?	?	NO	NO	0	0	0	0	1	0	0	0	0	0	0
Earthquake Basin	9	4	YES	YES	0	0	0	0	0	1	0	1	0	0	0
Eldorado Creek	8	4	YES	YES	0	0	0	0	0	2	0	0	0	0	0
Florence	?	?	NO	NO	0	0	0	0	0	0	0	1	0	0	0
Grandad	3	1	YES	NO	0	0	0	0	0	0	0	0	0	0	0
Hemlock Ridge	4	0	NO	NO	0	0	0	0	0	2	1	3	0	0	0
O'Hara Point	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Pilot Rock	8	6	YES	YES	0	0	0	0	0	1	0	0	0	0	1
Red River	3	?	NO	NO	0	1	0	0	0	0	0	1	0	0	0
White Bird Creek	7	4	YES	YES	0	2	0	0	0	1	0	0	2	0	0
SUBTOTAL	45	19			0	3	0	1	1	7	1	6	2	0	1
SUSPECTED PACKS															
Tahoe	?				0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
Border DAU (Giant Cedar)							1								
Border DAU (Spirit Ridge)								1	0						
B310	1				0	0	0	0	0	1	0	0	0	0	0
B360	2				0	0	0	0	0	1	0	0	0	0	0
~~NW243~~	0				0	0	0	1	0	0	0	0	0	0	0
SUBTOTAL	3				0	0	1	2	0	2	0	0	0	0	0
UNKNOWN															

Table 4. Continued.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reported as: reprod. pack	Reported as: breeding pair[d]	Documented mortalities: Natural	Control[e]	Other human[f]	Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	No. wolf captures[h]	No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
GMU 10A					0	0	0	1	0	0	0	0	0(1)	0	0
GMU 14					0	0	0	0	0	0	0	0	0(2)	0	0
SUBTOTAL					0	0	0	1	0	0	0	0	0 (3)	0	0
DAU TOTAL	48	19			0	3	1	4	1	9	1	6	2(3)	0	1

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

Lolo DAU (GMUs 10 and 12)

Abstract

The Lolo DAU consists of IDFG GMUs 10 and 12. During 2008 it was home to 10 documented packs tallied for Idaho and 2 border packs tallied for Montana (Figure 13; Table 5). Six of 8 reproductive packs qualified as breeding pairs; the reproductive status of 2 packs was unknown. Documented mortalities (n = 5) included other human (illegal take, vehicle collision, etc.; n = 2) and unknown (n = 3) causes. There were no confirmed or probable wolf-caused losses to domestic cattle or livestock. Confirmed (n = 6) wolf-caused losses of domestic dogs were attributed to unknown wolves northwest of Lowell, ID. Six wolves were captured by Program personnel that resulted in the placement of 5 new radiocollars.

Background

Lands within this DAU are almost entirely publicly-owned and administered by the U.S. Forest Service. The southern portion of the DAU is within the Selway-Bitterroot Wilderness Area. Historically, ungulate habitat productivity was high in this DAU. However, habitat productivity has decreased following decades of intensive fire suppression. Approximately one-third of the DAU has good access for motorized vehicles with medium road densities. The remaining portion has low road densities with good trails. Until the 1930s, wildfires were the primary habitat disturbance mechanism in this DAU. Between 1900 and 1934, approximately 70% of the Lochsa River drainage was burned by wildfires. Between 1926 and 1990, over 1,900 km of roads were built in this area to access marketable timber. State Highway 12 along the Lochsa River was completed in 1962 and became the primary travel corridor. In 1964, most of the southern portion of GMU 12 was designated as part of the Selway-Bitterroot Wilderness (IDFG 2007).

Management Direction

As outlined in the Wolf Plan, current wolf-ungulate conflict levels are high and wolf-livestock conflict levels are low (no livestock grazing) within this DAU. Wolf management direction for the Lolo DAU calls for initially reducing and then maintaining wolf numbers at stable but lower levels, primarily to alleviate identified conflicts with ungulate populations.

Documented Resident Packs

Bimerick Meadow

Monitoring radiocollared females B289 and B398 (newly captured in 2008) led to the location of a rendezvous site where a single gray pup was observed in late August. This pack was not a breeding pair in 2008 due to documentation of only 1 pup.

Deception

Probable breeding female B213's signal was detected on mortality mode during a monitoring flight in December 2007; the radiocollar was believed to be beneath the ice of the North Fork Clearwater River. The carcass was recovered in mid-August; no cause of death could be ascertained. B352, radiocollared as a 4-month-old pup in 2007, was found dead of illegal cause in February 2008. The sole remaining radiocollared wolf, probable breeding male B354, did not

localize his movements during the denning season, nor throughout the summer, which suggested the pack did not produce a litter of pups; it was unlikely that there was a breeding-age female in the pack after B213's death. Field efforts failed to locate evidence of reproduction. This pack was not reported as a breeding pair for 2008.

Eagle Mountain
An outfitter inadvertently discovered this pack's den site in the Selway-Bitterroot Wilderness where 1 pup was observed. By the time a capture effort was initiated after receiving this report, the pack had abandoned the site. Trapping was attempted due to continued wolf activity, and two wolves were briefly captured but managed to pull free from the traps. Without the aid of radiocollared wolves in this pack, further efforts to count pups were not undertaken. Founding pack member male B136's radiocollar has likely expired, and female B295 has not been located since late 2007. This pack was reproductive, but was not considered a breeding pair for 2008.

Five Lakes Butte
An interview with the outfitter/guides that operate near this pack's traditional home site provided information that there was no wolf activity occurring there in 2008 (similar to 2007), so no further effort was made on this pack. This pack was not considered a breeding pair.

Kelly Creek
Four pups and 4 adult-sized wolves, including B237, were accounted for at a new rendezvous site for this pack in September. During the October monitoring flight, B237's signal was detected on mortality mode; her remains were collected and USFWS Law Enforcement opened an investigation. Based upon field observations, pack size was estimated at a minimum of 7 wolves. The longstanding Kelly Creek pack, no longer with a radiocollared member, was reported as a breeding pair in 2008.

Lochsa
Female wolf B345, the sole radiocollared member of this pack, led a biologist to a rendezvous site where 5-6 pups were located. Two adult-sized wolves were also observed there. An aerial observation of at least 15 wolves provided the official pack size estimate. The Lochsa pack was considered a breeding pair for 2008.

Pot Mountain
Capture efforts conducted in this area throughout spring and summer resulted in the placement of 2 GPS radiocollars; one on female B382 and another on male B393. A third wolf was caught, but died from capture-related cause. Minimal ground tracking efforts were undertaken and no documentation of reproduction was obtained. Minimum pack size was estimated at 11 based on aerial observation (including multiple pups) and this pack was reported as a 2008 breeding pair.

Spirit Ridge
Subadult female B339's signal was detected on mortality mode in January. A site investigation was attempted, but snow conditions were such that the mortality site could not be reached. The mortality beacon was finally found in July at the pack's rendezvous site; it was believed wolves had carried the radiocollar there from where it had originally been detected. Eight pups were observed; the largest litter recorded in Idaho in 2008. Two wolves were radiocollared, adult male

B387 and subadult female B388. B388 was found dead 1 month after capture; cause of death could not be ascertained due to carcass decomposition. The Spirit Ridge pack qualified as a breeding pair for 2008.

Documented Border Packs

Big Hole (ID)
The Big Hole pack was officially counted as an Idaho pack in 2008. Fieldwork was a coordinated effort between the Nez Perce Tribe, Montana Department of Fish, Wildlife and Parks (MTFWP), and University of Montana personnel. Male B348 made an extraterritorial foray from the pack. It was located with radiocollared pack mate B347 within the home range in January, but was found approximately 48 miles (77 km) northwestward in March. By June B348 had returned to the Big Hole pack's territory, where it remained into September before contact was lost again. Two pups were observed, though based upon howling a minimum of 3 pups was estimated. This pack qualified as a breeding pair for Idaho in 2008. Two wolves that died in Montana (including one pup and B151) were attributed to this pack but not tallied in the Idaho report.

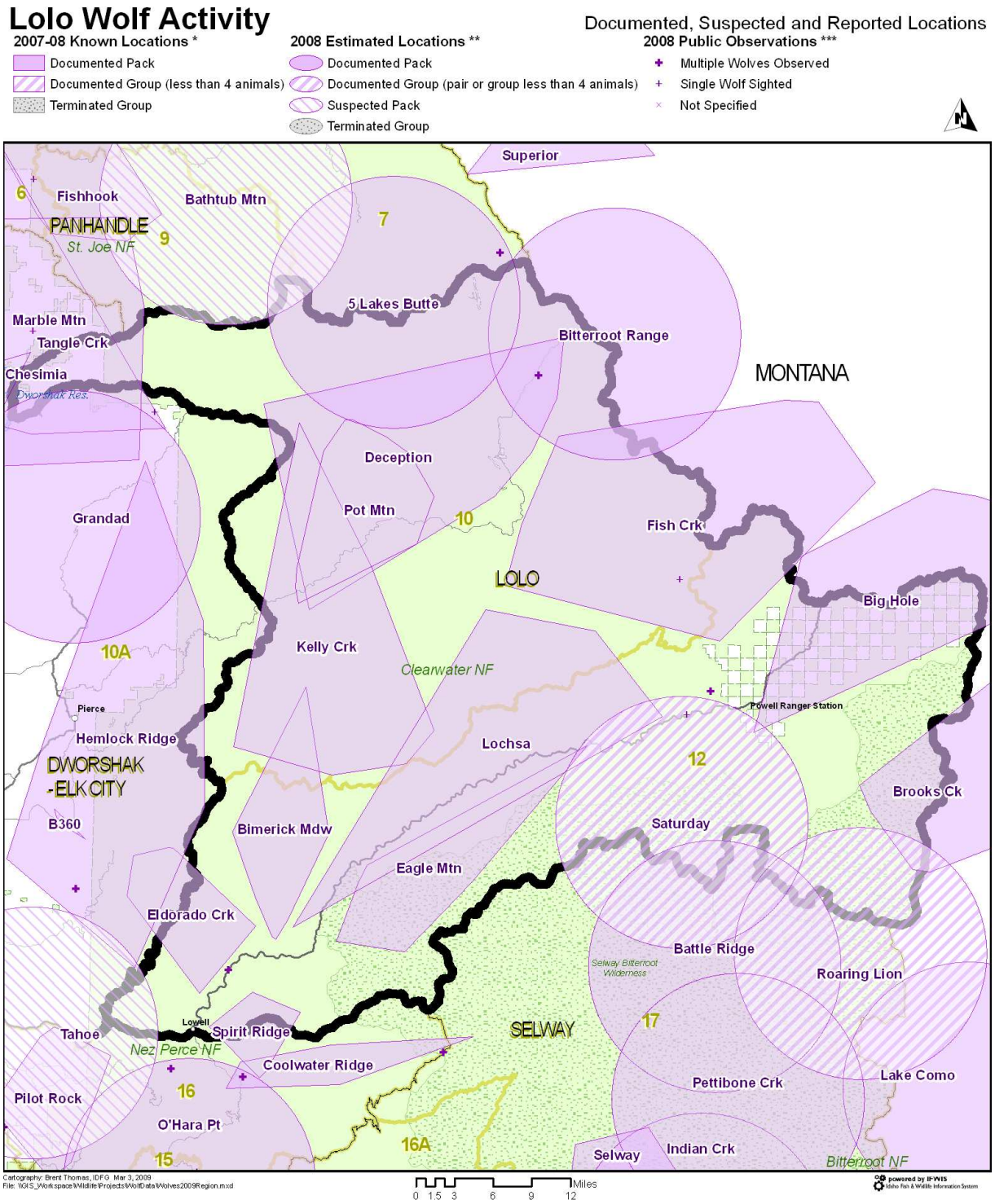
Bitterroot Range (MT)
This documented border pack was tallied for Montana in 2008. See the respective State's annual report for information on this pack.

Brooks Creek (MT)
This documented border pack was tallied for Montana in 2008. See the respective State's annual report for information on this pack.

Fish Creek (ID)
The Fish Creek pack denned in Idaho for the third consecutive year in 2008. Ground-tracking of radiocollared wolves B235 (suspected breeding female) and B236 (adult male) in the Kelly Creek drainage in late July, where aerial locations during denning season suggested a rendezvous site would be found, failed to detect either of those wolves or provide evidence of pups. In early September a biologist located a rendezvous site approximately 6 miles (10 km) from where the initial attempt was made. At this site 5 pups were observed, along with both radiocollared wolves and 8 uncollared adult-sized wolves. B236's signal was detected on mortality mode in December; the site has yet to be investigated. This border pack was considered an Idaho breeding pair for 2008.

Other Documented Wolf Groups

Saturday
Biologists verified at least 2 wolves in this group based on track evidence in 2007. No field effort was undertaken in 2008.



* Tracking collar data and research locations collected and analyzed by Idaho Department of Fish and Game, the Nez Perce Tribe, Montana Department of Fish, Wildlife and Parks, Wildlife Services, the University of Montana Cooperative Wildlife Research Unit and the National Park Service. Pack locations are minimum convex polygons (MCP) of telemetry and research observations for collared wolves from 1/1/2007 - 12/31/2008 with outliers removed. For packs with only VHF collars 100% MCPs are used. Packs which included GPS locations are floating median 95% MPCs. If the pack did not have any observations in 2008 it is not included on this map. This map is provided for management purposes and should not be used for data analysis. Do not release these data to third parties without first contacting the Idaho Department of Fish and Game or the Nez Perce Tribe.

** Estimated Pack Activity determined by biologists from research locations, public observations and incidental observations from 1/1/2007 - 12/31/2008. These are displayed as 9.8 mile radius circles consistent with pack territories in Idaho.

*** Public Observations from 1/1/2008 - 12/31/2008 collected on the Idaho Fish and Game website and reviewed by staff biologists. Confirmed and possible observations are displayed.

Figure 13. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Lolo DAU, 2008.

Table 5. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Lolo Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Big Hole (ID)[j]	6	3	YES	YES	0	0	0	0	0	1	0	1	0	0	0
Bimerick Meadow	3	1	YES	NO	0	0	0	0	0	2	1	0	0	0	0
Bitterroot Range (MT)[j]															
Brooks Creek (MT)[j]															
Deception	1	?	NO	NO	0	0	1	0	0	1	0	0	0	0	0
Eagle Mountain	3	1	YES	NO	0	0	0	0	0	0	0	2	0	0	0
Fish Creek (ID)[j]	15	5	YES	YES	0	0	0	0	0	1	0	0	0	0	0
Five Lakes Butte	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Kelly Creek	7	4	YES	YES	0	0	0	1	0	0	0	0	0	0	0
Lochsa	15	5	YES	YES	0	0	0	0	0	1	0	0	0	0	0
Pot Mountain	11	2	YES	YES	0	0	1	0	0	2	3	0	0	0	0
Spirit Ridge	9	8	YES	YES	0	0	0	2	0	1	2	0	0	0	0
SUBTOTAL	70	29			0	0	2	3	0	9	6	3	0	0	0
SUSPECTED PACKS															
SUBTOTAL	0	0			0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
Saturday	?												0	0	0
SUBTOTAL	0	0			0	0	0	0	0	0	0	0	0	0	0
UNKNOWN															
	?				0	0	0	0	0	0	0	0	0	0	6
SUBTOTAL	0	0			0	0	0	0	0	0	0	0	0	0	6
DAU TOTAL	70	29			0	0	2	3	0	9	6	3	0	0	6

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence

Table 5. Continued.

was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

[j] Border pack officially tallied to (STATE); territory known/likely shared with Idaho. Data on these packs can be found in Rocky Mountain Wolf Recovery 2008 Annual Report; data for mortalities and/or depredations by non-Idaho border packs that occurred within Idaho are presented here.

Selway DAU (GMUs 16A, 17, 19 and 20)

Abstract

The Selway DAU is composed of IDFG GMUs 16A, 17, 19, and 20; and was home to 6 documented packs during 2008; 3 border packs tallied for Montana reside adjacent to this DAU (Figure 14; Table 6). The reproductive status was not known for any of the resident ID packs. One mortality of unknown cause was documented. This predominantly Wilderness DAU does not contain any domestic cattle and sheep consequently no livestock losses were reported. Minimal wolf capture efforts were undertaken in this DAU during 2008.

Background

Habitat varies throughout the DAU from high-precipitation, forested areas along the lower reaches of the Selway River to dry, steep, south-facing ponderosa pine and grassland habitat along the Salmon River. Many areas along the Salmon River have a good mix of successional stages due to frequent fires within the wilderness. Fire suppression within portions of the Selway River drainage has led to decreasing forage production for big game. Road densities are low. Noxious weeds, especially spotted knapweed, have encroached upon many low-elevation areas. Due to the rugged and remote nature of this zone, human impacts have been very limited. In 1964, almost all of GMU 17 and a small portion of GMU 16A were included in the Selway-Bitterroot Wilderness. Most of GMU 19 became part of the Gospel Hump Wilderness in 1978, and in 1980, part of GMU 20 was included in the Frank Church River-of-No-Return Wilderness (IDFG 2007).

Management Direction

According to the Wolf Plan, current levels of wolf-ungulate conflicts are high and wolf-livestock conflicts are low (no livestock grazing). Therefore wolf numbers in the Selway DAU are slated to be reduced and then maintained at stable but lower levels, primarily to reduce impacts on ungulate populations, which are not meeting management objectives.

Documented Resident Packs

Battle Ridge
No field effort was conducted on this pack in 2008. This pack was not reported as a breeding pair for 2008.

Gospel Hump
No radiocollared wolves remained in the pack, making monitoring difficult. No reports were received of wolf activity in this pack's home range and there was no field effort made to locate the pack during 2007 and 2008. A wolf (B407) captured and radiocollared in the Sleepy Hollow pack's territory (south side of the Salmon River) was subsequently aerially located in the eastern portion of the Gospel Hump pack's previously defined home range. The Gospel Hump pack was not reported as a breeding pair in 2008.

Indian Creek
This pack did not count as a breeding pair for 2008 as there was no field effort conducted.

Magruder
This pack, which has not had a radiocollared member since 2005, was dropped from the list of documented packs at the end of 2007 due to lack of verified activity. In July 2008, a biologist heard 3-4 wolves howling from the general vicinity of where a wolf from this pack was trapped in 2004. This group was reinstated as a documented pack, but no information was obtained regarding reproductive status. This pack was not considered a breeding pair.

Pettibone Creek
A biologist detected at least 2 wolves, based on tracks, in mid summer, but without radiocollared wolves, further effort to document pack size and reproductive status was unsuccessful. A trapping effort was unsuccessful. This pack was not counted as a breeding pair for 2008.

Selway
B355's signal was detected on mortality mode during the May monitoring flight; its remains were investigated but cause of death was not ascertained. The remaining radiocollared wolf, B356, was located during much of 2008 in the Selway River corridor. Investigation of a traditional rendezvous site failed to detect evidence of pack occupancy or the presence of pups, and coupled with B356's locations it was believed that if the pack produced a litter it was probably along a remote stretch of the Selway River. The Selway pack was not reported as a breeding pair in 2008 and there was no estimate of pack size.

Documented Border Packs

Lake Como (MT)
This documented border pack was tallied for Montana in 2008. See the respective State's annual report for information on this pack.

Trapper Peak (MT)
This documented border pack was tallied for Montana in 2008. See the respective State's annual report for information on this pack.

Watchtower Creek (MT)
This documented border pack was tallied for Montana in 2008. See the respective State's annual report for information on this pack.

Other Documented Wolf Groups

Roaring Lion
No field effort was undertaken in 2008. This group likely spends some time in Montana as well.

B266
This wolf was captured in 2006 as a member of the Timberline pack, but was last located in that pack's home range in April 2007. A mortality signal was obtained during the August monitoring flight in the central portion of the Selway-Bitterroot Wilderness. U.S. Fish and Wildlife Service

Law Enforcement agents attempted to investigate the site, but were unable to reach it, so the fate of this wolf was officially recorded as a suspected mortality.

B407

Male B407 was radiocollared while a capture effort was underway for the Sleepy Hollow pack (Middle Fork DAU). Within 5 days it was aerially located on the north side of the Salmon River and has continued to be located in the Selway DAU. B407 was observed with another gray wolf and was presumed to be part of a potential breeding pair for 2009.

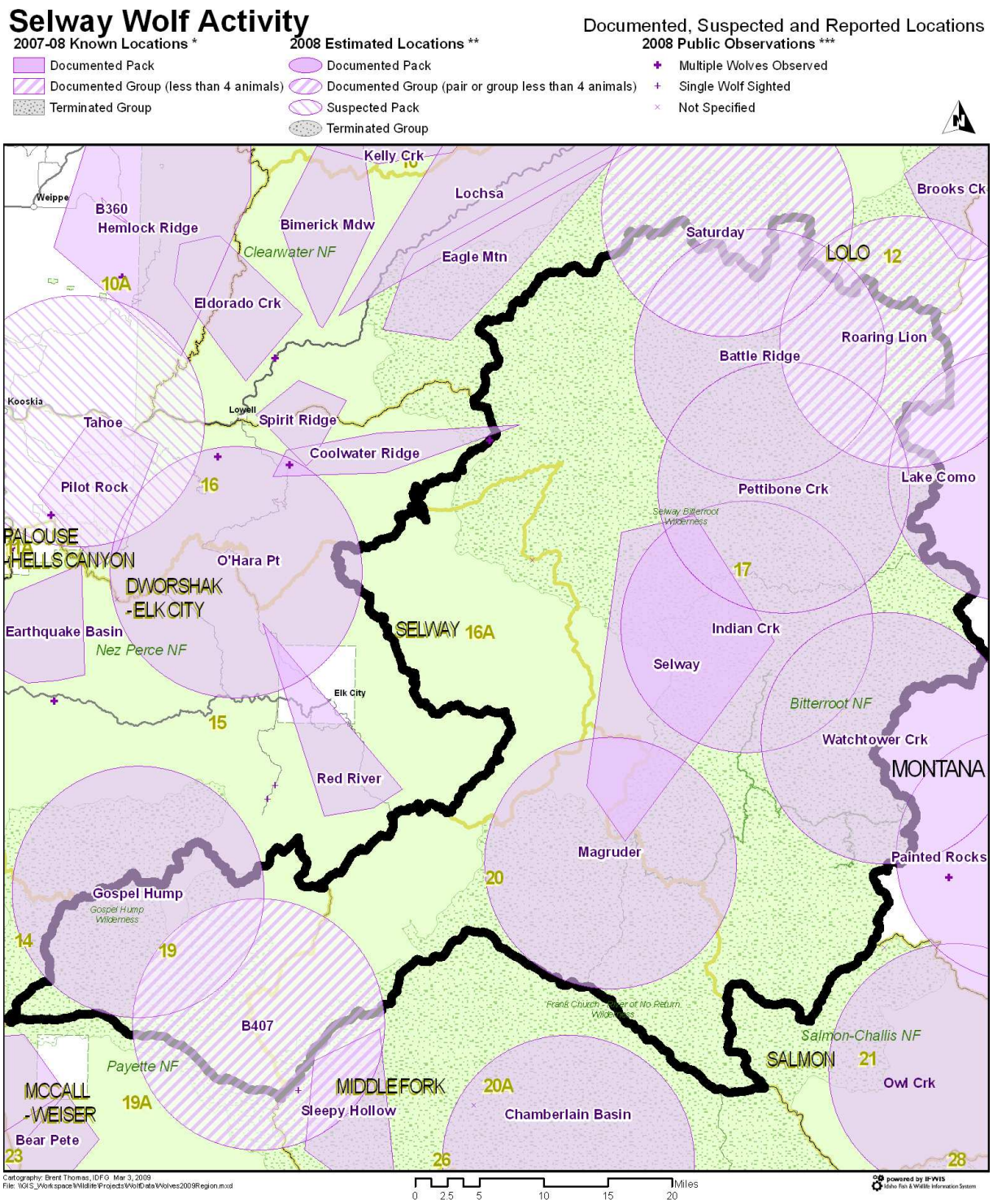


Figure 14. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Selway DAU, 2008.

Table 6. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Selway Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Battle Ridge	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Gospel Hump	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Indian Creek	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Lake Como (MT)[j]															
Magruder	3	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Pettibone Creek	2	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Selway	?	?	NO	NO	0	0	0	1	0	1	0	0	0	0	0
Trapper Peak (MT)[j]															
Watchtower Creek (MT)[j]															
SUBTOTAL	5	0	0	0	0	0	0	1	0	1	0	0	0	0	0
SUSPECTED PACKS															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
Roaring Lion (ID)[j]	?				0	0	0	0	0	0	0	0	0	0	0
B266	?				0	0	0	0	0	0	0	0	0	0	0
B407	2				0	0	0	0	0	1	0	0	0	0	0
SUBTOTAL	2				0	0	0	0	0	1	0	0	0	0	0
UNKNOWN															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
DAU TOTAL	7	0			0	0	0	1	0	2	0	0	0	0	0

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence

Table 6. Continued.

was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

[j] Border pack officially tallied to (STATE); territory known/likely shared with Idaho. Data on these packs can be found in Rocky Mountain Wolf Recovery 2008 Annual Report; data for mortalities and/or depredations by non-Idaho border packs that occurred within Idaho are presented here.

SOUTHWEST REGION – McCall

The McCall Subregion contains parts of 2 DAUs, the McCall-Weiser, and Middle Fork DAUs.

McCall – Weiser DAU (GMUs 19A, 22, 23, 24, 25, 31, 32, and 32A)

Abstract

The McCall-Weiser DAU encompasses an area including GMUs 19A, 22, 23, 24, 25, 31, 32, and 32A. This DAU was home to 12 documented packs during 2008, with three (Carey Dome, Orphan, Packer John) no longer extant by year's end (Figure 15; Table 7). Five of 7 reproductive packs qualified as breeding pairs; the Packer John pack produced a litter of 6 pups but was removed for repeated livestock depredations, and the Hornet Creek pack was disqualified because there was likely only 1 adult present by the end of the year. The reproductive status of 3 packs was undetermined. Documented mortalities (n = 29) included control (agency removal and legal take; n = 22), other human (illegal take, vehicle collision, etc.; n = 6), and unknown (n = 1) causes. Confirmed (n = 18) and probable (n = 8) wolf-caused losses of cattle were attributed to the Blue Bunch, Hornet Creek, Packer John, and Stolle Meadows packs and wolves believed affiliated with wolves B327 and B409. Confirmed (n = 55) and probable (n = 13) wolf-caused losses of domestic sheep were attributed to the Bear Pete, Blue Bunch, Hard Butte, Jungle Creek, Lick Creek, and Packer John packs. Confirmed (n = 2) wolf-caused losses of domestic dogs were attributed to the Hard Butte and Packer John packs. Three wolves were captured by Program personnel that resulted in the placement of 3 new radiocollars.

Background

Over 70% of the land area in GMUs 19A, 23, 24, and 25 is in public ownership and management. The Little Salmon River and North Fork Payette River valley bottoms comprise most of the private ownership. Private land in these GMUs is predominantly agricultural or rural subdivision in nature. Timber harvest and livestock grazing are prevalent. Several large fires have burned here in the last decade. Road densities are estimated at less than 0.25 miles per square mile in GMUs 19A and 25. Road densities in GMUs 23 and 24 are estimated at greater than 2.5 miles per square mile. Active timber harvest programs are anticipated to dramatically increase these road densities in the near future (IDFG 2007)

About 60% of GMUs 22 and 32A and 20% of GMU 32 is in public ownership and management. Private land predominates the western portion of GMU 32 and the Weiser River Valley of GMUs 22 and 32A. Timber harvest and livestock grazing are prevalent. Most forested habitat is in the early to mid-successional stage. Andrus Wildlife Management Area in the southwest portion of GMU 22 is managed for elk and mule deer winter range and encompasses about 8,000 acres. Active timber harvest programs are anticipated to increase already high road densities in the near future (IDFG 2007).

About 50% of GMU 31 is in public ownership and management. Private land predominates in the southern and eastern portions of the GMU. Higher elevations are timbered whereas lower elevations are primarily shrub-steppe or desert habitat types. Timber harvest,

livestock grazing, and prescribed fires occur here. Active timber harvest programs are anticipated to increase road densities in the near future (IDFG Elk PR report 2007).

Management Direction

The Wolf Plan identifies current wolf-livestock conflict levels as height and wolf-ungulate conflict levels as low. Therefore, wolf numbers in the McCall-Weiser DAU are slated to be reduced and then maintained at stable but lower levels to alleviate conflicts with domestic livestock operations.

Documented Resident Packs

Bear Pete
Breeding wolves B157 and B331 produced their second litter, 4-6 gray pups, in 2008. Three wolves were lethally controlled from this pack for repeated depredations upon domestic sheep (14 confirmed and 2 probable losses) and a fourth wolf was legally shot while in the act of chasing/attacking sheep. Pack size was estimated at a minimum of 8 individuals based upon an aerial observation. This second year pack was reported as a breeding pair for 2008.

Blue Bunch
Probable breeding female B218 remained the sole radiocollared member of this pack. In late 2007, 7 wolves were observed during a monitoring flight, but only three were seen during February and March 2008 flights. The pack produced a litter of 4 pups. This pack was implicated in the loss of 2 cattle and probably killed 1 domestic sheep. Field and aerial observations indicated a minimum pack size of 8 individuals. The Blue Bunch pack was considered a breeding pair for 2008.

Carey Dome
By late autumn 2007 this pack was minimally comprised of breeding female B309 and her 4+ pups. During 2 monitoring flights in January 2008, only 2 wolves were observed. B309's signal was detected on mortality mode in February and an investigation was opened by USFWS Law Enforcement upon retrieval of the carcass. Historic rendezvous sites were surveyed in 2008, but no evidence of pups was obtained. The Carey Dome pack was considered extirpated during 2008.

Hard Butte
This uncollared pack was believed to have expanded its home range eastward, encompassing at least some of the former Carey Dome pack's territory. In March, a wolf was legally killed while harassing cattle on private property. Seventeen confirmed and 1 probable wolf-killed sheep were attributed to this pack, which resulted in lethal control of 2 wolves in late August. The pack also killed 1 livestock guardian dog. Investigations of areas where this pack was heard howling in 2007 discovered evidence of wolf presence, but sign was insufficient to warrant a capture effort. No estimate of pack size or evidence of reproduction was obtained. The Hard Butte pack was not reported as a breeding pair in 2008.

Hornet Creek
Missing female wolf B290's signal was detected by a biologist from Oregon Department of Fish and Wildlife (ODFW) while surveying northeastern OR for missing Idaho wolves; B290's signal was located in ID. This wolf was radiocollared while a member of the Morgan Creek pack in 2006. She dispersed from that pack in late 2006 and her whereabouts were unknown until located by ODFW in 2008. Field efforts yielded a minimum count of 3 pups verifying reproduction and first-year pack status. An adult male wolf, believed to be B290's mate was lethally controlled in July when 1 calf was confirmed to have been killed by this pack. Two aerial observations resulted in the official pack count of 5 wolves. We suspect the additional wolf in these later counts represented a missed pup, and the loss of the male wolf precluded this newly documented pack from breeding pair status for 2008.

Jungle Creek
There were no radiocollared wolves in this pack, which made monitoring difficult. This pack was implicated in depredations on domestic sheep near Josephine Lake in 2007, and wolves, presumably the Jungle Creek pack, were confirmed to have killed 11 sheep at Squaw Meadows approximately 4 miles (6 km) from Josephine Lake in 2008. This pack was not reported as a breeding pair for 2008 and there was no information pertaining to pack size.

Lick Creek
The Lick Creek pack's den area was located in June, where 4-5 pups were observed. Suspected breeding female B288 remained as the sole radiocollared individual. This pack was implicated in confirmed depredations on 3 sheep and probably killed another. Minimum pack size was estimated at 10 wolves based upon an aerial observation. The Lick Creek pack was considered a breeding pair for 2008.

Orphan
With no radiocollared wolves to assist biologists, monitoring was difficult. Male wolf B327 (see Other Documented Wolf Groups), captured in 2007, continued to be located in the Orphan pack's home range. Pack and reproductive statuses of the Orphan pack were unknown at the end of 2008, and have not been determined since 2006, so this pack was removed as a documented pack.

Packer John
A litter of 6 pups was verified at a new den site in 2008. First established in 2004, this pack had gone without a verified sheep depredation until 2007, despite domestic sheep grazing within their home range. During 2008, members of this pack were confirmed to have killed 10 sheep (8 reported in this DAU and 2 in the Sawtooth DAU), 1 cow, and 1 livestock guarding dog, and probably killed another 10 sheep (8 reported in this DAU and 2 in the Sawtooth DAU). The sheep depredations from this pack occurred in 2 separate DAUs. Because of the chronic nature of their depredations, 7 wolves were removed. This pack was not reported as a breeding pair and is considered extirpated.

Snake River
Missing female wolf B315's signal was detected in ID by a biologist from ODFW while surveying for missing Idaho wolves in northeastern Oregon. This wolf was radiocollared during

a control action north of McCall, ID in October 2006. Her signal was not heard from January 2007 until September 2007, at which time she was located in the Lick Creek pack's home range. B315 disappeared again after November 2007 until she was rediscovered by ODFW in March 2008. Ground-tracking efforts led to a rendezvous site and a count of 6 pups. Minimum estimated pack size was 5 wolves from an aerial observation. The newly documented Snake River pack was considered a 2008 breeding pair.

Stolle Meadows
This pack made a major shift in home range following the November 2007 aerial locations of female B249 and male B259. In January 2008, both radiocollared wolves were observed amongst a group of seven on the east flank of Jughandle Mountain (approximately 13 miles [21 km] northwest of their previously defined territory). They did not return to their former home range, producing a litter of at least 3 pups in the territory formerly occupied by the Gold Fork pack. In May, subadult female B380 was fitted with a Global Positioning System (GPS) radiocollar. The presence of livestock, both sheep and cattle, in their new area led to depredations that resulted in 3 confirmed and 2 probable losses of cattle. During control actions 3 wolves were killed, including suspected breeding female B249. In December an adult wolf was illegally killed in this pack's territory. The Stolle Meadows pack was counted as a breeding pair for 2008.

Thunder Mountain
Program efforts to document continued wolf occupancy of this pack's territory were successful when wolf tracks and scats were located in the vicinity of Stibnite Mine and Mule Hill. A capture effort in September was unsuccessful. No evidence of reproduction was obtained, so the Thunder Mountain pack was not reported as a breeding pair for 2008 and there was no estimate of pack size.

Other Documented Wolf Groups

B192
Female B192 was radiocollared as an 11-month-old member of the Soldier Mountain pack in 2004. She remained with that pack until June 2007, after which her signal was not detected. B192 was detected, through genetic tests, from a scat collected in the Bear Valley pack's territory in July 2007. Her signal was re-located, and she was observed with another black wolf, in the Brush Creek drainage north of McCall, ID, in May 2008. She seemed to have settled into a home range east of Payette Lake during the summer, but it was not determined if she was affiliated with a pack. A mortality signal was detected during the September monitoring flight and the carcass subsequently located; cause of death was not determined from field examination.

B327
Male wolf B327 was captured by WS during a control action and fitted with a GPS radiocollar in 2007. Repeated efforts to determine his affiliation with other wolves were unsuccessful, but multiple sightings indicated he was alone. The GPS radiocollar was scheduled to detach in August, but the collar was irretrievable due to premature failure of the radio beacon. B327 was legally shot, within his normal area of use, in December while chasing livestock; he was accompanied by 2 other wolves at that time. Due to the fact that the detachment mechanism also failed, the collar was still on the animal at the time of the shooting; data from the radiocollar

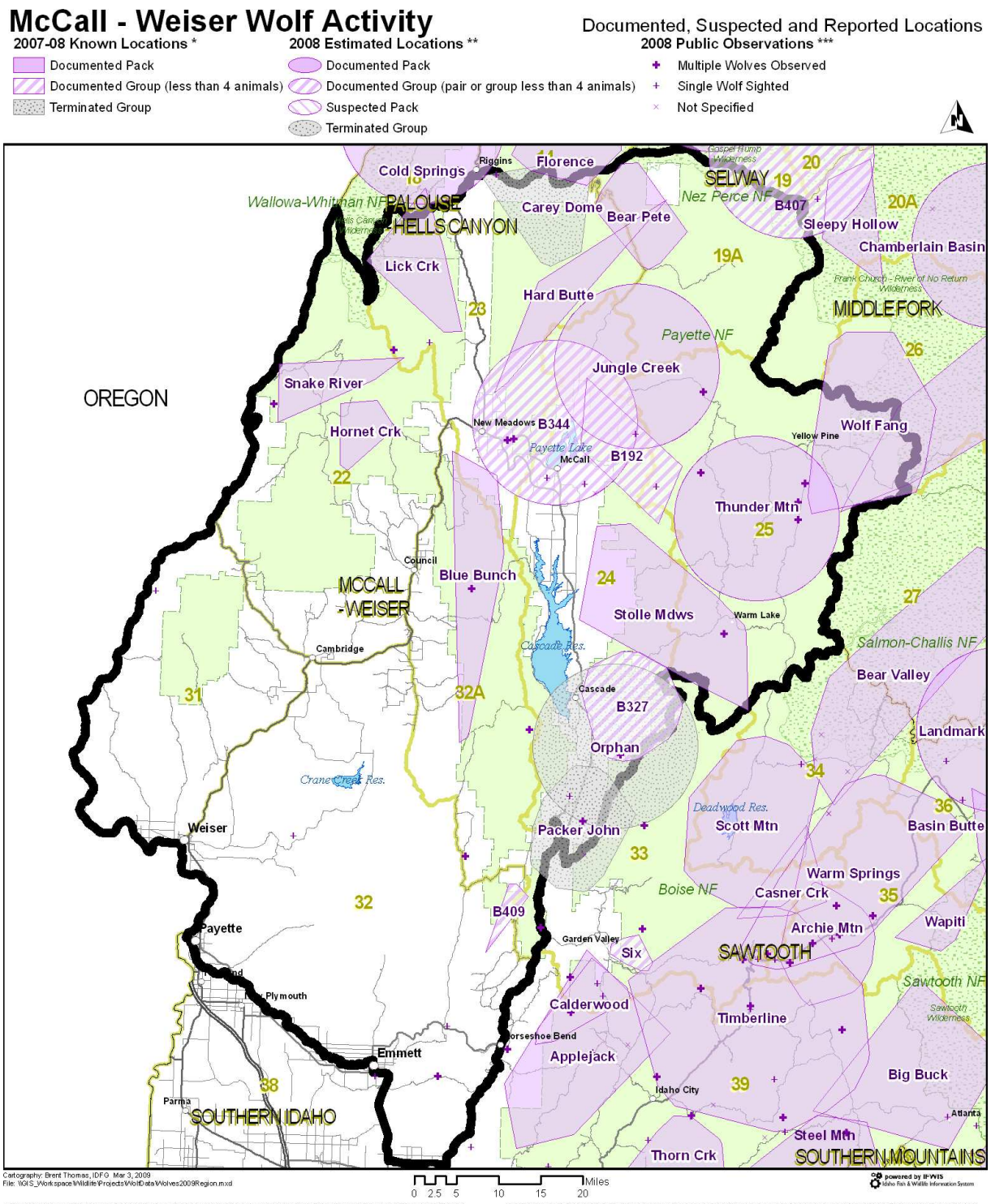
indicated that B327 was at, or in very close proximity, to carcasses of some of the 9 confirmed and 3 probably killed cattle in his home range.

B344

After dispersing from the Coolwater Ridge pack in mid-winter, wolf B344 went undetected until September when she was observed alone near Brundage Mountain near McCall, ID; approximately 84 miles (135 km) from her last location within the Coolwater Ridge pack's home range. Subsequently, B344 has been seen with another wolf and was considered a potential breeding pair for 2009.

B409

Female wolf B409 was captured during a control action in September. This group of wolves (denoted as suspected Sweet Ola pack in 2007) was implicated in 1 confirmed and 2 probable cattle losses during 2008. A subsequent aerial observation indicated that at least 1 other wolf was present.



* Tracking collar data and research locations collected and analyzed by Idaho Department of Fish and Game, the Nez Perce Tribe, Montana Department of Fish, Wildlife and Parks, Wildlife Services, the University of Montana Cooperative Wildlife Research Unit and the National Park Service. Pack locations are minimum convex polygons (MCP) of telemetry and research observations for collared wolves from 1/1/2007 - 12/31/2008 with outliers removed. For packs with only VHF collars 100% MCPs are used. Packs which included GPS locations are floating median 95% MPCs. If the pack did not have any observations in 2008 it is not included on this map. This map is provided for management purposes and should not be used for data analysis. Do not release these data to third parties without first contacting the Idaho Department of Fish and Game or the Nez Perce Tribe.

** Estimated Pack Activity determined by biologists from research locations, public observations and incidental observations from 1/1/2007 - 12/31/2008. These are displayed as 9.8 mile radius circles consistent with pack territories in Idaho.

*** Public Observations from 1/1/2008 - 12/31/2008 collected on the Idaho Fish and Game website and reviewed by staff biologists. Confirmed and possible observations are displayed.

Figure 15. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the McCall-Weiser DAU, 2008.

Table 7. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game McCall-Weiser Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Bear Pete	8	4	YES	YES	0	4	0	0	0	2	0	0	0	14(2)	0
Blue Bunch	8	4	YES	YES	0	0	0	0	0	1	0	0	2	0(1)	0
~~Carey Dome~~	0	0	NO	NO	0	0	1	0	0	0	0	0	0	0	0
Hard Butte	?	?	NO	NO	0	3	0	0	0	0	0	0	0	17(1)	1
Hornet Creek	5	3	YES	NO	0	1	0	0	0	1	0	0	1	0	0
Jungle Creek	?	?	NO	NO	0	0	0	0	0	0	0	0	0	11	0
Lick Creek	10	4	YES	YES	0	0	0	0	0	1	0	0	0	3(1)	0
~~Orphan~~	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
~~Packer John~~	0	6(1)	YES	NO	0	7	0	0	0	0	1	0	1	8(8)	1
Snake River	5	6	YES	YES	0	0	0	0	0	1	0	0	0	0	0
Stolle Meadows	6	3	YES	YES	0	3	1	0	0	2	1	0	3(2)	0	0
Thunder Mountain	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	42	30(1)			0	18	2	0	0	8	2	0	7(2)	53(13)	2
SUSPECTED PACKS															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
Border DAU (Florence)							2								
~~B192~~	0				0	0	0	1	0	0	0	0	0	0	0
B327	2				0	1	0	0	0	0	0	0	9(3)	0	0
B344	2				0	0	0	0	0	1	0	0	0	0	0
B409	2				0	0	0	0	0	1	1	0	1(2)	0	0
SUBTOTAL	6				0	1	2	1	0	2	1	0	10(5)	0	0

Table 7. Continued.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
UNKNOWN															
GMU 19A	?				0	1	0	0	0	0	0	0	0	0	0
GMU 22	?				0	1	0	0	0	0	0	0	1	0	0
GMU 23	?				0	0	1	0	0	0	0	0	0	0	0
GMU 32	?				0	1	1	0	0	0	0	0	0(1)	2	0
SUBTOTAL	0				0	3	2	0	0	0	0	0	1(1)	2	0
DAU TOTAL	48	30(1)			0	22	6	1	0	10	3	0	18(8)	55(13)	2

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

Middle Fork DAU (GMUs 20A, 26, and 27)

Abstract

The Middle Fork DAU includes GMUs 20A, 26, and 27 and was occupied by 7 documented packs during 2008 (Figure 16; Table 8). Two of 5 reproductive packs qualified as breeding pairs; only a single pup was observed with the Landmark, Monumental Creek, and Wolf Fang packs, and no counts were obtained for the Aparejo and Chamberlain Basin packs. The reproductive status of the Chamberlain Basin and Aparejo packs was unknown. Documented mortalities (n = 4) included unknown (n = 2), natural (n = 1), and other human (n = 1) causes. This predominantly Wilderness DAU has minimal livestock use, and thus no livestock losses were reported. Two wolves were captured by Program personnel that resulted in the placement of 2 new radiocollars.

Background

Game Management Units 20A and 26 are predominantly federally designated Wilderness (Frank Church River-of-No-Return), while GMU 27 is primarily publicly-owned land with the Middle Fork Salmon River being the prominent drainage. Large areas of the Wilderness have burned creating a patchwork of various vegetative seral stages.

The monitoring level in this DAU is considered moderate with 5 packs and/or other documented groups having radiocollared wolves.

Management Direction

As outlined in the Wolf Plan, current wolf-ungulate conflict levels are moderate and wolf-livestock conflict levels are low. Therefore, wolf numbers in the Middle Fork DAU are slated to be stabilized at 2005-2007 levels unless conditions change.

Documented Resident Packs

Aparejo
Aerial locations in spring of 2008 indicated this pack denned near where 2 wolves were captured and radiocollared in 2006. However, due to the remoteness of the location, the suspected den area was not surveyed to confirm reproduction. Radio contact was lost for most of the summer and fall, but was re-established in December when wolf B269 was located and observed in a group of 13 wolves. Lack of ground verification of reproduction precluded this pack from counting as a breeding pair.

Chamberlain Basin
There was no field effort conducted in 2008 relative to this pack. The Chamberlain Basin pack was not reported as a 2008 breeding pair and there was no estimate of pack size.

Golden Creek
Suspected breeding female B229 was found dead along the trail on Big Creek in February (mating season) and it was believed that her death probably precluded this pack from producing

a litter. Necropsy results indicated that she had been killed by other wolves, most likely members of the Monumental Creek pack. Despite B229's death, researchers from the University of Idaho's Taylor Ranch field station observed 2 gray pups in this pack's territory. A second wolf's remains were found in Big Creek; cause of death was unknown. Male B319 remained as the sole radiocollared wolf in the group. Pack size was estimated at 5 individuals from an aerial observation in November. The Golden Creek pack was a breeding pair for 2008.

Landmark
The Landmark pack has not been monitored via radiocollared wolves since 2003. However, due to the fidelity this pack exhibits for den/rendezvous sites, their continued presence has been confirmed in the past through ground surveys at these locations. A rendezvous site survey in 2008 provided evidence of the presence of at least one pup; this was insufficient to list this pack as a breeding pair in 2008.

Monumental Creek
A single gray pup was observed on 2 occasions by researchers with University of Idaho's Taylor Ranch field station in the same drainage this pack used for denning in 2007. Female B250 remained within the pack's home range into May before disappearing until September. At that time she was located near Riordan Lake, approximately 12.5 miles (19 km) outside of the pack's previously defined territory. B250's signal was detected on mortality in November and the USFWS Law Enforcement opened an investigation once the carcass was recovered. Wolf B287 has not been located since November 2007. This pack did not qualify as a 2008 breeding pair.

Sleepy Hollow
There have been no radiocollared individuals present in this pack since November 2007, making monitoring difficult. Personnel staffing Sheepeater Lookout, in the Frank Church River-of-No-Return Wilderness, observed multiple adults and 5-7 pups in mid-August. A capture effort was initiated based upon this information. Two wolves, adult male B407 and male pup B408, were radiocollared as a result. Within days of capture, B407 crossed the Salmon River to the north and his membership with the Sleepy Hollow pack was doubtful. Based on capture location it was uncertain whether B408 and associated wolves were members of the Sleepy Hollow or Chamberlain Basin pack, but subsequent aerial locations indicated the former. The Sleepy Hollow pack was considered a breeding pair in 2008 and minimum pack size was 8 wolves.

Wolf Fang
Suspected breeding female B282 did not localize during spring 2008, suggesting that they would be without pups. A field effort in August failed to yield evidence of reproduction. In late September, a biologist fortuitously encountered this pack and observed 1 gray pup in the presence of B282 and at least 2 other adult-sized wolves. Male B372, a dispersing wolf from the Timberline pack, apparently joined the Wolf Fang pack late in the year. This pack was not considered a breeding pair for 2008 due to documentation of just a single pup; minimum pack size was 4 wolves based upon aerial observations.

Other Documented Wolf Groups

B332

This adult male was captured in 2007 as a member of the Bear Valley pack. It was last located with that pack in January 2008. B332 was not located during February through April, but his signal was re-detected in May. He separated from the Bear Valley pack, which returned to its namesake area to rear their pups, and settled into an area along the Marble Creek drainage, a tributary of the Middle Fork Salmon River. B332 has been aerially observed with 2 other wolves and has likely formed a potential breeding pair for 2009.

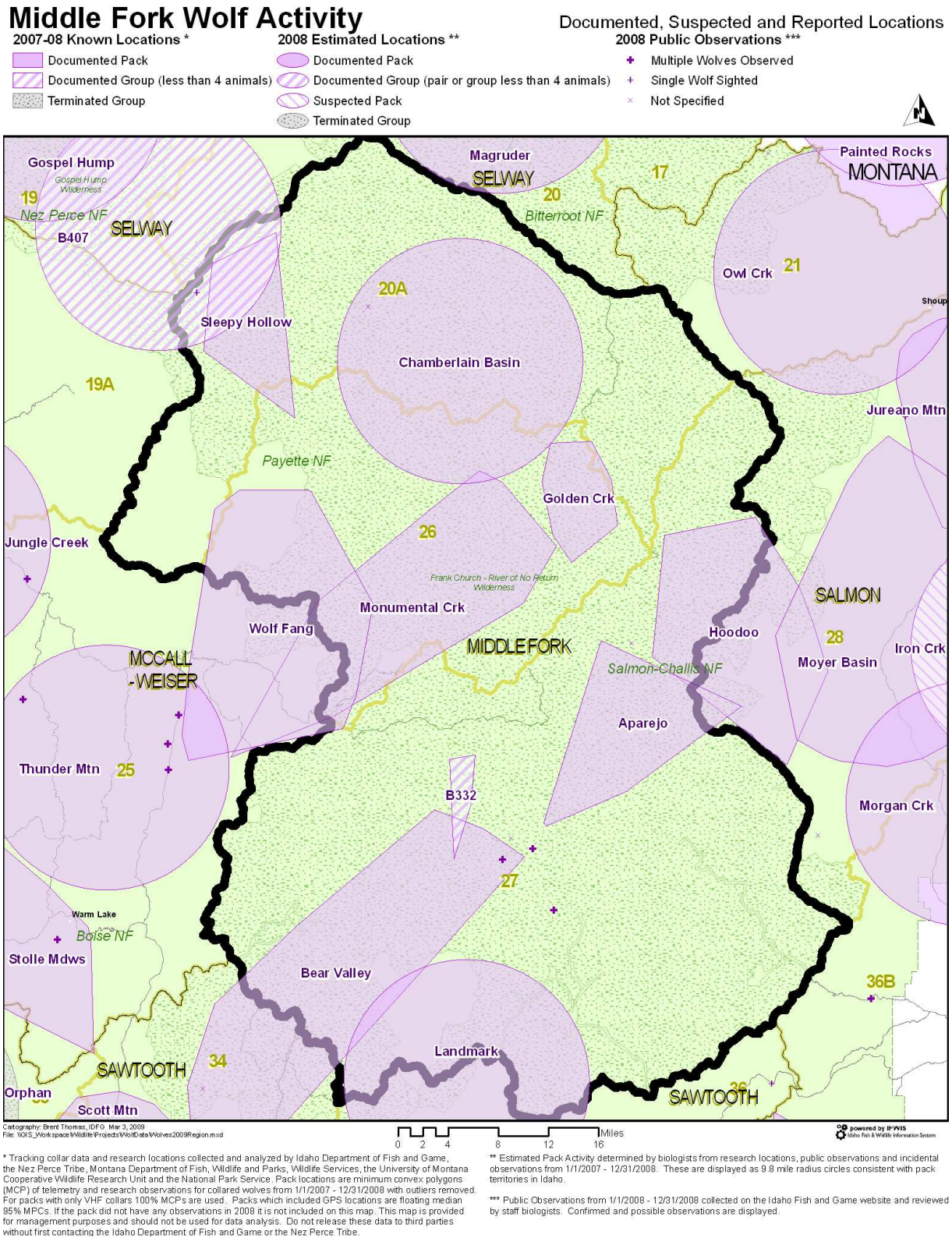


Figure 16. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Middle Fork DAU, 2008.

Table 8. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Middle Fork Data Analysis Unit, 2008.

		Reproductive status			Documented mortalities					Monitoring status			Confirmed & (probable) wolf-caused livestock losses		
Wolf group[a]	Min. no. wolves detected[b]	Min. no. pups prod. (died)[c]	Reported as reprod. pack	Reported as breeding pair[d]	Natural	Control[e]	Other human[f]	Unknwn[g]	Known dispersal	Active radio collars	No. wolf captures[h]	No. wolves missing[i]	Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Aparejo	13	?	NO	NO	0	0	0	0	0	1	0	0	0	0	0
Chamberlain Basin	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Golden Creek	5	2	YES	YES	1	0	0	1	0	1	0	0	0	0	0
Landmark	?	1	YES	NO	0	0	0	0	0	0	0	0	0	0	0
Monumental Creek	?	1	YES	NO	0	0	1	0	0	0	0	1	0	0	0
Sleepy Hollow	8	5	YES	YES	0	0	0	0	0	1	2	0	0	0	0
Wolf Fang	4	1	YES	NO	0	0	0	0	0	2	0	0	0	0	0
SUBTOTAL	30	10			1	0	1	1	0	5	2	1	0	0	0
SUSPECTED PACKS															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
B332	3				0	0	0	0	0	1	0	0	0	0	0
SUBTOTAL	3				0	0	0	0	0	1	0	0	0	0	0
UNKNOWN															
GMU 27	?				0	0	0	1	0	0	0	0	0	0	0
SUBTOTAL	0				0	0	0	1	0	0	0	0	0	0	0
DAU TOTAL	33	10			1	0	1	2	0	6	2	1	0	0	0

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

Table 8. Continued.

[f] Includes all other human-related deaths.
[g] Does not include pups that disappeared before winter.
[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.
[i] Radiocollared wolves that became missing in 2008.

SOUTHWEST REGION – Nampa

The Nampa portion of the Southwest Region contains parts of the Sawtooth and South Idaho DAUs.

Sawtooth DAU (GMUs 33, 34, 35, 36, 39)

Abstract

The Sawtooth DAU includes GMUs 33, 34, 35, 36, and 39. During 2008, the Sawtooth DAU was home to14 documented wolf packs (Figure 17; Table 9). Three other wolf groups were documented. Eleven documented packs were counted as breeding pairs. Twenty-nine mortalities were documented (23 lethal control, 4 other human, 1 natural, and 1 unknown). Confirmed livestock or dog losses were attributed to Applejack, Archie Mountain, Basin Butte, Galena, High Prairie, Moores Flat, Packer John, Steel Mountain, Timberline, and unknown wolves. Twenty-three wolves were removed in total from Applejack, Basin Butte, Galena, High Prairie, Steel Mountain, and unknown wolves. Thirty wolves were captured and radiocollared.

Background

Access to this DAU ranges from heavily roaded urban, forested, and agricultural areas to road-less wilderness areas. The vast majority of this DAU is under the management authority of the Boise and Sawtooth National Forests. However, significant portions of private agricultural land also exist in the Mayfield and Horseshoe Bend areas. The Treasure Valley, Idaho's largest metropolitan area, is also in this DAU. The climate tends to be warm and dry in the summer time and wet and cold in the winter. Lower elevations tend to receive more rain in the winter trending to heavy snow in higher elevations.

Management Direction

As outlined in the Wolf Plan, current ungulate and livestock conflicts with wolves are moderate in this DAU. The current harvest strategy is to stabilize the wolf population in the Sawtooth DAU at the 2005-2007 levels. The wolf population in this DAU did not appear to increase substantially from 2007 to 2008. Thus, appears to be meeting management objectives.

Documented Resident Packs

Applejack
Breeding female B306 was being monitored by radio-telemetry at the onset of 2008. Biologists counted a minimum of 2 pups in this pack. 3 wolves were killed during a control action in response to livestock depredations. This second year pack had a minimum of 4 wolves in November 2008, was reproductive, and was counted as a breeding pair for 2008.

Archie Mountain
Breeding female B341 was being monitored by radio-telemetry at the onset of 2008. During winter 2008, 4 additional wolves (B364-367) were captured by aerial darting and fitted with ARGOS/GPS collars. Biologists counted a minimum of 4 pups in this pack. Pup B410 was

captured and fitted with a VHF collar during a control action in response to a depredation event. An additional wolf, B364, was recaptured and fitted with a new ARGOS/GPS collar as it had slipped its first one. Two other mortalities were documented as a result of other human mortality when 2 pups were hit by a vehicle. B366's collar was found in the spring and was either slipped or the wolf was poached. This second year pack had a minimum of 11 wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Basin Butte
Reproductive surveys indicated the Basin Butte pack denned in the foothills northwest of Stanley, Idaho, with a minimum of 2 pups documented. This pack was implicated in a number of livestock depredations, and as a result, 7 wolves were lethally controlled. Another wolf was shot illegally. Aerial observations indicated at least 13 wolves remained in this pack, and was confirmed as a breeding pair.

Bear Valley
Female B215 and male B332 were being monitored by radio-telemetry at the onset of 2008. B332 dispersed from this pack later in the year. Biologists counted a minimum of 4 pups visually and a fifth pup through DNA analysis. This pack was not implicated in any livestock depredations. This fifth year pack had a minimum of 13 wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Big Buck
Breeding female B255 was being monitored by radio-telemetry at the onset of 2008. In February her collar was detected on mortality mode. A subsequent investigation revealed a member of the public had found and collected her collar. She is suspected to have died. Biologists did not attempt to document reproduction in this pack. Several brief investigations did not reveal wolf sign in the traditional summer area of this pack. This pack was not implicated in any livestock depredations. This third year pack was not documented to have reproduced, and was not counted as a breeding pair for 2008.

Calderwood
Breeding female B141 was being monitored by radio-telemetry at the onset of 2008. During winter 2008, B376 was captured and B141 was re-captured via aerial darting. Both were fitted with VHF radiocollars. Other wolves chewed B376's collar off several months after capture. Biologists counted a minimum of 2 pups in this pack. This fifth year pack had a minimum of 9 wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Casner Creek
This pack was newly documented in 2008 when B400 was captured and fitted with a VHF collar and subsequent ground and aerial monitoring indicated pack status was warranted. Biologists counted a minimum of 4 pups in this pack. This pack was not implicated in any livestock depredations. This pack had a minimum of 7 wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Galena
The Galena pack reproduced and raised a litter of 6 pups in the Sawtooth Valley. Depredations on cattle and sheep during the summer resulted in the lethal control of 2 wolves, and one pup was captured and fitted with a radiocollar. Depredations late in the year led to the removal of 4 additional wolves. Reproduction was documented but this pack did not qualify as a breeding pair for 2008.

High Prairie
Breeding female B170 was being monitored by radio-telemetry at the onset of 2008. Her signal was last detected in February 2008. Biologists did not attempt to document reproduction in this pack because it was essentially removed by pup-rearing time. One wolf was killed during a control action in response to livestock depredations. This second year pack had a minimum of 3 wolves in February 2008, however, with the confirmed death of 1 and missing status of B170, this pack is assumed to no longer be extant and not counted as a documented pack in 2008.

Scott Mountain
No wolves were being monitored by radio-telemetry at the onset of 2008. During winter 2008 suspected breeding male B375 was captured via aerial darting and fitted with a GPS collar. During summer 2008 female B404 and female B406 were captured via ground trapping and fitted with an ARGOS/GPS and VHF collar respectively. Biologists counted a minimum of 3 pups in this pack. This pack was not implicated in any livestock depredations. This eighth year pack had a minimum of 5 wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Steel Mountain
Suspected breeding male R241 and suspected breeding female B189 were being monitored by radio-telemetry at the onset of 2008. As part of a summer 2008 control action, B390 was captured via ground trapping and fitted with a VHF radiocollar. Biologists counted a minimum of 2 pups in this pack. Six wolves (including B390 and 1 pup) were killed during control actions in response to livestock depredations. Four of these mortalities occurred in and were recorded for this DAU, and the other 2 occurred in and were recorded for the neighboring Southern Mountains DAU.. This sixth year pack had a minimum of 7 wolves in December 2008, was reproductive, and was not counted as a breeding pair for 2008.

Thorn Creek
Female B340 was being monitored by radio-telemetry at the onset of 2008. During summer 2008, female B389 was captured via ground trapping and fitted with an ARGOS/GPS collar. In order to collect stored data and replace the battery, this collar was intentionally blown off of the wolf in late fall 2008. Biologists counted a minimum of 2 pups in this pack. This pack was not implicated in any livestock depredations. This third year pack had a minimum of 4 wolves in December 2008; however, a complete count may not have been obtained. It was reproductive and was counted as a breeding pair for 2008.

Timberline
Female B322 was being monitored by radio-telemetry at the onset of 2008. During winter 2008, 5 additional wolves (B364-372) were captured and B322 was re-captured via aerial darting and

fitted with an ARGOS/GPS and a VHF collar respectively. During summer 2008 a female wolf was captured via ground trapping and fitted with a ARGOS/GPS collar. Biologists counted a minimum of 4 pups in this pack. This pack was implicated in a depredation event which had confirmed sheep losses. One wolf, B372, was observed to disperse from this pack. This wolf was observed with 2 other wolves in the McCall-Weiser DAU. This seventh year pack had a minimum of 11 gray wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Wapiti
This pack was newly documented in 2008. B385 was captured via ground trapping and fitted with a VHF collar and subsequent ground and aerial monitoring indicated pack status was warranted. Biologists counted a minimum of 6 pups in this pack. This pack was not implicated in any livestock depredations. This newly documented pack had a minimum of 12 wolves in January 2009, was reproductive, and was counted as a breeding pair for 2008. This pack was retroactively added as a pack for 2007.

Warm Springs
Female B109 was being monitored by radio-telemetry at the onset of 2008. During winter 2008, 3 wolves (B361-363) were captured via aerial darting and fitted with ARGOS/GPS collars. In early spring newly collared female B362 was killed by other wolves. A necropsy revealed multiple fetuses. Multiple efforts were unsuccessful in verifying reproduction despite the presence of the breeding female B109. Suspected breeding male B361 shed his collar in May and male B363 was last located in October. One uncollared wolf was documented to have been illegally killed in this pack. This pack was not counted as a documented pack for 2008 because only 1 wolf was left in December 2008.

Yankee Fork
The only radiocollared wolf in the pack went missing in January 2008. Public reports of wolf activity in the Yankee Fork River drainage in summer led to a trapping effort that resulted in the capture and radiocollaring of an adult male wolf. This wolf was found dead of unknown causes approximately one month later, initiating a second trapping effort that resulted in the placement of a radiocollar on a subadult female. While trapping in the area, Program personnel documented a minimum of two pups based on howling, qualifying this pack as a breeding pair. An adult male wolf, believed to belong to this pack, was illegally shot along Highway 75 near the Yankee Fork River. This mortality was recorded under the Salmon DAU, as the carcass was found just inside this neighboring DAU. Aerial counts indicated a minimum of 4 wolves in this pack.

<u>Other Documented Wolf Groups</u>

B109
This wolf was the breeding female of Warm Springs until they disbanded in late 2008. She roamed widely, but continued to primarily occupy Warm Spring's traditional territory. This group had a minimum of 1 wolf and was not implicated in any livestock depredations,

GMU 39

Agency personnel observed 2 black wolves in an area that was frequently used by High Prairie before they were removed. This group had a minimum of 2 black wolves and was not implicated in any livestock depredations.

Six Pair

This group was newly documented in 2008. Male B373 and female B374 were captured in the winter of 2008 via aerial darting and fitted with a VHF and GPS radiocollar respectively. B374 slipped her GPS collar in early spring and data downloaded from the collar was consistent with denning behavior. However, multiple attempts by biologists to document reproduction were unsuccessful. End of year aerial surveys documented only 2 wolves in this group which provided further evidence they did not successfully reproduce. This group was not implicated in any livestock depredations and had a minimum of 2 wolves in December 2008.

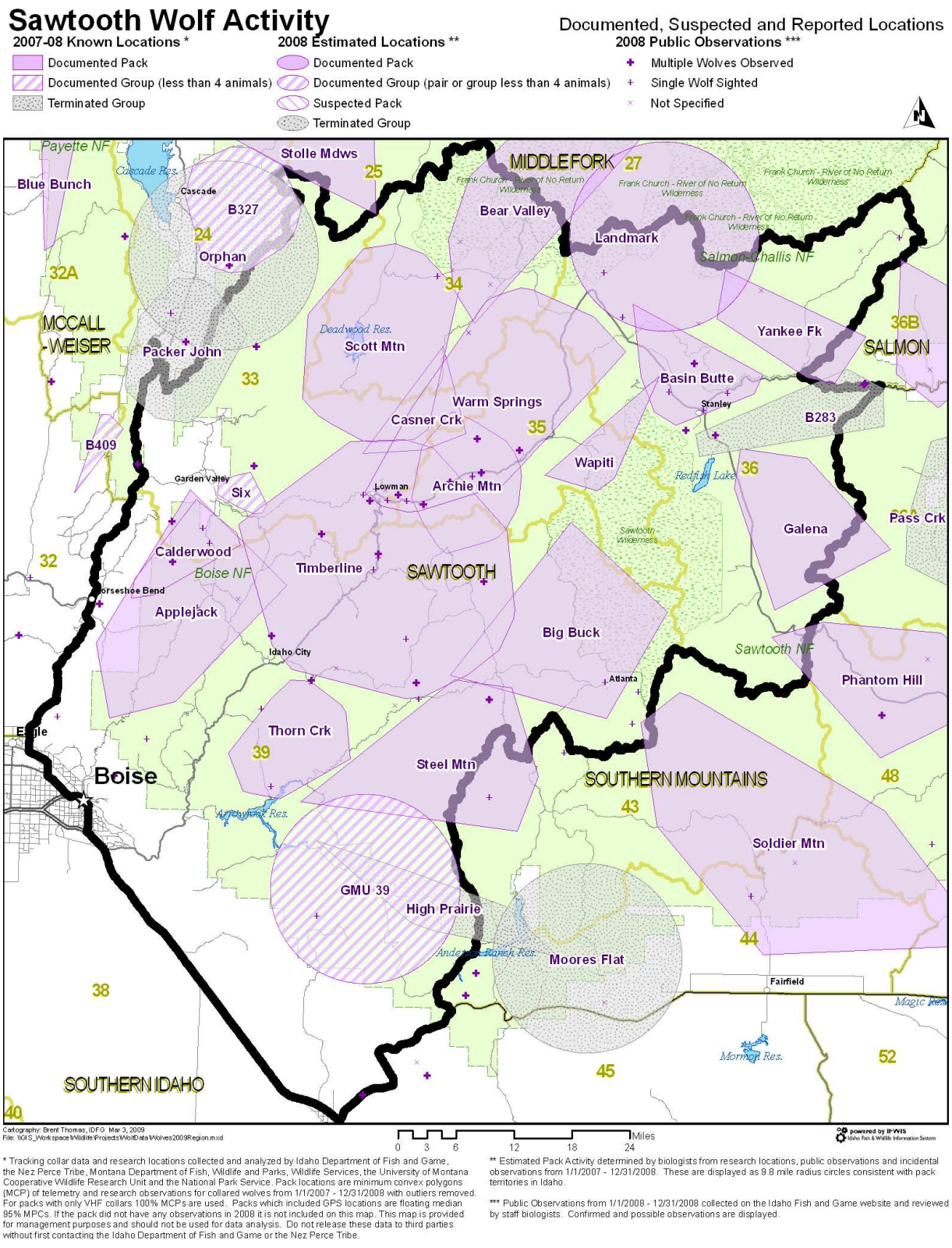


Figure 17. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Sawtooth DAU, 2008.

Table 9. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Sawtooth Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Applejack	4	2	YES	YES	0	3	0	0	0	1	0	0	1(2)	5	1
Archie Mountain	11	4(2)	YES	YES	0	0	2	0	0	4	6	0	0	(1)	1
Basin Butte	13	2	YES	YES	0	7	1	0	0	2	0	0	8(2)	36	0
Bear Valley	13	5	YES	YES	0	0	0	0	1	1	0	0	0	0	0
Big Buck	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Calderwood	9	2	YES	YES	0	0	0	0	0	1	2	0	0	0	0
Casner Creek	7	4	YES	YES	0	0	0	0	0	1	1	0	0	0	0
Galena	3	6(3)	YES	NO	0	6	0	0	0	2	1	0	4(1)	0	0
~~High Prairie~~	0	?	NO	NO	0	1	0	0	0	0	0	1	3	4(1)	0
Scott Mountain	5	3	YES	YES	0	0	0	0	0	3	3	0	0	0	0
Steel Mountain	7	2(1)	YES	NO	0	4	0	0	0	2	1	0	0	3(4)	0
Thorn Creek	4	2	YES	YES	0	0	0	0	0	1	1	0	0	0	0
Timberline	11	4	YES	YES	0	0	0	0	1	6	7	0	0	5	0
Wapiti	12	6	YES	YES	0	0	0	0	0	1	1	0	0	0	0
~~Warm Springs~~	0	0	NO	NO	1	0	1	0	0	0	3	1	0	0	0
Yankee Fork	4	2	YES	YES	0	0	0	1	0	1	2	1	0	0	0
SUBTOTAL	103	44(6)			1	21	4	1	2	26	28	3	16(5)	53(6)	2
SUSPECTED PACKS															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
B109	1				0	0	0	0	0	1	0	0	0	0	0
GMU 39	2	0	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Six pair (B373)	2				0	0	0	0	0	1	2	0	0	0	0
Border DAU (Moores													1		

Table 9. Continued.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reported as: reprod. pack	Reported as: breeding pair[d]	Documented mortalities: Natural	Control[e]	Other human[f]	Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	No. wolf captures[h]	No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
Flat)															
Border DAU (Packer John)														2(2)	
SUBTOTAL	5				0	0	0	0	0	2	2	0	1	0	0
UNKNOWN															
GMU 39					0	2	0	0	0	0	0	0	0	33	0
SUBTOTAL					0	2	0	0	0	0	0	0	0	33	0
DAU TOTAL	108	44(6)			1	23	4	1	2	28	30	3	17(5)	88(8)	2

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

Magic Valley Region

The Magic Valley Region contains portions of the Southern Mountains and Southern Idaho DAUs.

Southern Idaho DAU (GMUs 38, 40, 41, 42, 45, 46, 47, 52, 52A, 53, 54, 55, 56, 57, 63, 63A, 66, 66A, 68, 68A, 69, 70, 71, 72, 73A, 74, 75, 76, 77, and 78)

Abstract

During 2008, the Southern Idaho DAU was occupied by 1 documented wolf pack and 1 documented other wolf group (Figure 18; Table 10). No breeding pairs were documented in this DAU. Eight mortalities were documented (8 lethal control). Confirmed livestock or dog losses were attributed to the B381, Falls Creek, Galena (neighboring DAU pack), and Moores Creek (neighboring DAU pack). The eight controlled wolves were removed from B381, Falls Creek, and Moores Creek. One wolf was captured and radiocollared.

Background

This DAU include the Snake River Plain which is the most cultivated and metropolitan landscape in the state. The DAU does include several mountain ranges spanning from the Owyhee's in the west to the Portneuf's in the east. These ranges might receive dispersing wolves but potential for livestock conflicts would be high. The DAU also contains some protected areas including Craters of the Moon National Monument and the Idaho National Laboratory. The current human altered state of the landscape offers little to support a wolf population. The climate tends to be hot and dry in the summer and cold and wetter in the winter. Temperatures trend from mild in the west to more severe in the east.

Management Direction

The current management strategy for wolves in this DAU is to stabilize the wolf population in the Southern Idaho DAU near current levels. Wolves are occasionally showing up and establishing residence in this DAU. However, conflict with livestock generally facilitates subsequent removal. Thus, management objectives are currently being met.

Documented Resident Packs

Falls Creek
Female B338 was being monitored by radio-telemetry at the onset of 2008. Biologists counted a minimum of 2 pups in this pack. Six wolves, including both pups, were killed during control actions in response to livestock depredations. These 6 wolves constituted the entire pack, thus, this second year pack was no longer extant by December 2008. Although this pack was reproductive, it was not counted as a breeding pair for 2008.

Other Documented Wolf Groups

B381
This wolf was captured during a control action. It was implicated in livestock depredations and later removed. It is believed to have been a lone wolf, was not reproductive, and was not counted as a breeding pair for 2008.

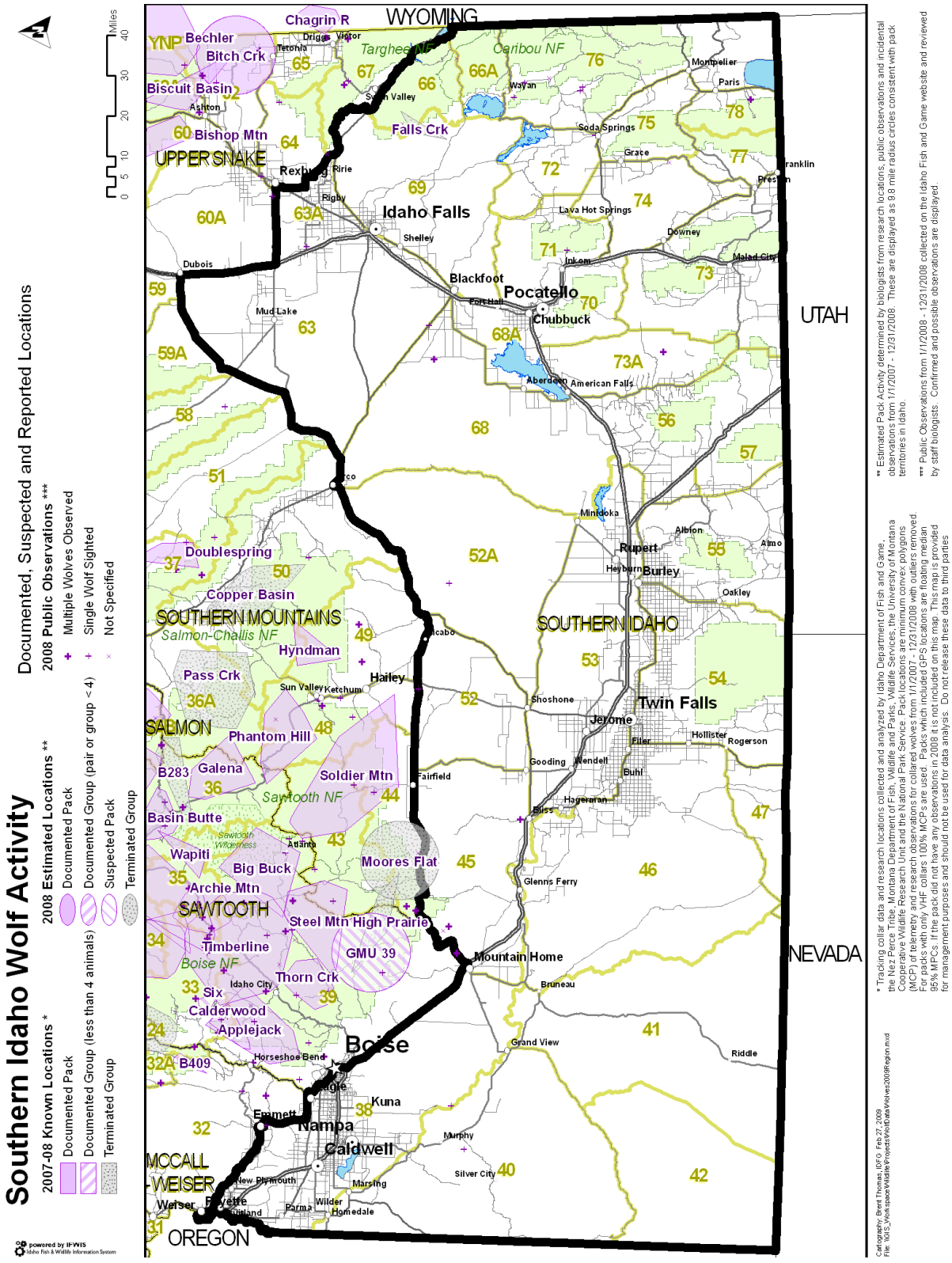


Figure 18. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Southern Idaho DAU, 2008.

Table 10. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Southern Idaho Data Analysis Unit, 2008.

		Reproductive status			Documented mortalities					Monitoring status			Confirmed & (probable) wolf-caused livestock losses		
Wolf group[a]	Min. no. wolves detected[b]	Min. no. pups prod. (died)[c]	Reported as reprod. pack	Reported as breeding pair[d]	Natural	Control[e]	Other human[f]	Unknwn[g]	Known dispersal	Active radio collars	No. wolf captures[h]	No. wolves missing[i]	Cattle	Sheep	Dogs, horses*
DOCUMENTED PACKS															
~~Falls Creek~~	0	2(2)	YES	NO	0	6	0	0	0	0	0	0	2(1)	0	<1>
SUBTOTAL	0	2(2)			0	6	0	0	0	0	0	0	2(1)	0	<1>
SUSPECTED PACKS															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
~~B381~~	0				0	1	0	0	0	0	1	0	0	24	0
Border DAU (Galena)													1(2)		
Border DAU (Moores Flat)						1							1		
SUBTOTAL	0				0	2	0	0	0	0	1	0	2(2)	24	0
UNKNOWN															
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
DAU TOTAL	0	2(2)			0	8	0	0	0	0	1	0	4(3)	24	1*

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

Table 10. Continued.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.
[i] Radiocollared wolves that became missing in 2008.

Southeast Region

Although portions of the Southern Idaho DAU are within the Southwest Region, no packs and only a few lone wolves were documented in this Region (See Southern Idaho DAU).

Upper Snake Region

The Upper Snake Region contains portions of 3 DAUs; Southern Mountains, Upper Snake, and Southern Idaho.

Upper Snake DAU (GMUs 60, 60A, 61, 62, 62A, 64, 65, 67)

Abstract

The Upper Snake DAU was occupied by 3 documented resident packs during 2008 (Figure 19; Table 11). Three border packs attributed to adjacent states (2 for Wyoming and 1 for Montana) were believed to spend some time within the border of Idaho. Two of 3 packs reproduced, both of which qualified as breeding pairs; the reproductive status for the Biscuit Basin pack was not known. Documented mortalities (n = 6) included control (agency removal and legal take; n = 4), other human (illegal take, vehicle collision, etc.; n = 1), and unknown (n = 1) causes. Confirmed (n = 3) and probable (n = 1) wolf-caused losses of cattle were attributed to the Biscuit Basin, Bishop Mountain, and Bitch Creek packs. Confirmed (n = 16) wolf-caused losses of domestic sheep were attributed to the B394 pair. Five wolves were captured by Program personnel that resulted in the placement of 4 new radiocollars.

Background

Topography within the Upper Snake DAU is comprised of 3 elk management units: the Island Park, Teton, and Palisades Zones. The topography consists of gentle to moderately sloping terrain, but does contain portions of several mountain ranges. At relatively high elevation, winters are often severe, with associated deep snow accumulations. The habitat community is comprised of a mixture of forest types (lodgepole, Douglas fir, quaking aspen) associated with adequate moisture, but the DAU also contains some high-desert shrub-steppe habitat indicative of a drier climate. Land ownership consists of a checkerboard of state, federal, and private property, roughly half being under federal/state ownership. Dominant land use activities include timber harvest, livestock grazing and production, and agriculture.

Management Direction

The Wolf Plan identifies current wolf-ungulate conflict levels as low and wolf-livestock conflict levels as moderate within this DAU. Therefore, wolf numbers in the Upper Snake DAU are slated to be stabilized at 2005-2007 levels unless conditions change. Maintaining connectivity between the Yellowstone and Central Idaho Nonessential Experimental Population Areas is also stated management goal.

Documented Resident Packs

Biscuit Basin
This pack's status was unknown for most of 2008 following the disappearance of the suspected breeding female 340F after December 2007 (340F's radiocollar was located and retrieved in September 2008 in the suspected territory of the newly documented Bitch Creek pack, and appeared to have been chewed off by other wolves). After 2 depredation incidents of 1 confirmed and 1 probable cattle kills, a wolf was trapped and radiocollared. Reproduction in this pack was not verified. December monitoring flights indicated a minimum of 7 wolves in this pack.

Bishop Mountain
The Bishop Mountain pack was an uncollared suspected pack in 2007. Pack status was verified in February of 2008, when 2 wolves were darted from a helicopter and radiocollared. One of these radiocollared wolves (SW79) was discovered to be a wolf previously trapped and radiocollared as a member of the Wedge pack of southwest Montana, but had gone undetected since June 2006. In April, SW79 and an uncollared wolf were legally killed during the short period when wolves were delisted. An adult female wolf was trapped and radiocollared in August after this pack was confirmed to have killed a domestic calf. A pup with severe mange was also trapped and released after being eartagged. One adult wolf was lethally controlled. Four pups were verified in this pack, thus the Bishop Mountain pack was counted as a breeding pair. Year-end monitoring flights determined at least 5 wolves comprised this pack.

Bitch Creek
This newly formed pack was discovered in September after 340F's chewed off collar was retrieved in this area. During October, on-the -ground investigation determined this pack to have 5-7 members, including at least two pups. In late October an adult female was found shot on private land in this area (investigation continuing). During early December one adult was lethally removed from this pack by Wildlife services during a collaring attempt. As of January2009 this pack contains three adults and two pups.

Documented Border Packs

Bechler (WY)
See Yellowstone National Park's annual report for information on this pack.

Chagrin River (WY)
See the respective State's annual report for information on this pack.

Sage Creek (MT)
See the respective State's annual report for information on this pack.

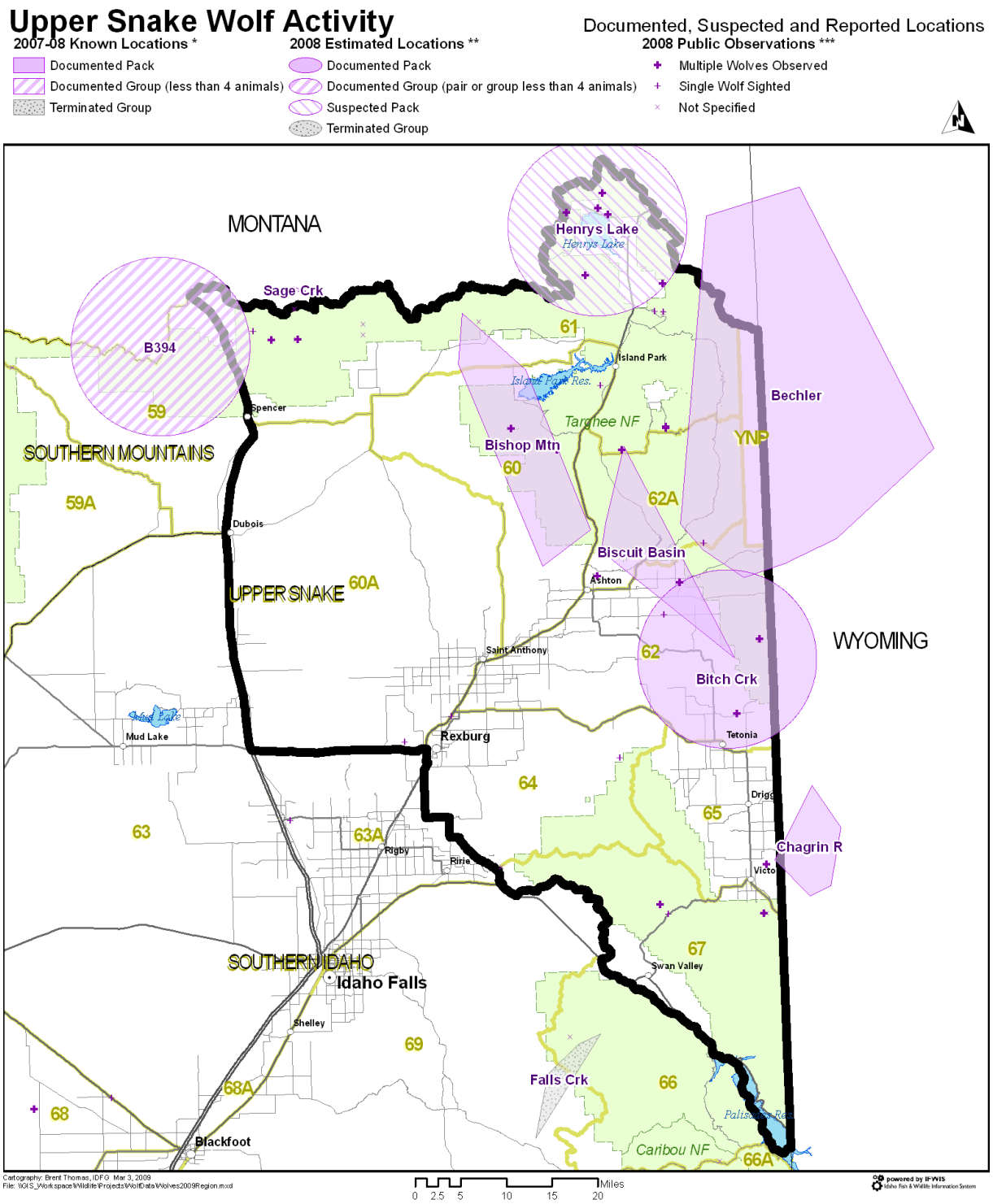
Suspected Packs

Henrys Lake
Reports during 2008 indicated the likely presence of a new pack of 7 wolves in the Henrys Lake area. While tracks of these wolves have been verified by agency personnel, reproductive status

has not. There was one herding/guard dog confirmed killed in November. Additional field effort will be required to determine whether this is a confirmed Idaho resident pack.

Other Documented Wolf Groups

B394
Wolf B394 (gray) was trapped and radiocollared in response to several depredation incidents at the U.S. Sheep Research Station near Humphrey, Idaho, that resulted in 16 confirmed dead sheep. As of January 2009 this wolf is affiliated with an adult black wolf.



* Tracking collar data and research locations collected and analyzed by Idaho Department of Fish and Game, the Nez Perce Tribe, Montana Department of Fish, Wildlife and Parks, Wildlife Services, the University of Montana Cooperative Wildlife Research Unit and the National Park Service. Pack locations are minimum convex polygons (MCP) of telemetry and research observations for collared wolves from 1/1/2007 - 12/31/2008 with outliers removed. For packs with only VHF collars 100% MCPs are used. Packs which included GPS locations are floating median 95% MPCs. If the pack did not have any observations in 2008 it is not included on this map. This map is provided for management purposes and should not be used for data analysis. Do not release these data to third parties without first contacting the Idaho Department of Fish and Game or the Nez Perce Tribe.

** Estimated Pack Activity determined by biologists from research locations, public observations and incidental observations from 1/1/2007 - 12/31/2008. These are displayed as 9.8 mile radius circles consistent with pack territories in Idaho.

*** Public Observations from 1/1/2008 - 12/31/2008 collected on the Idaho Fish and Game website and reviewed by staff biologists. Confirmed and possible observations are displayed.

Figure 19. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Upper Snake DAU, 2008.

Table 11. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Upper Snake Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Bechler (WY)[j]															
Biscuit Basin	7	?	NO	NO	0	0	0	0	0	1	1	0	1(1)	0	0
Bishop Mountain	5	4	YES	YES	0	3	0	0	0	2	4	0	1	0	0
Bitch Creek	5	2	YES	YES	0	1	1	0	0	0	0	0	1	0	0
Chagrin River (WY)[j]															
Sage Creek (MT)[j]															
SUBTOTAL	17	6			0	4	1	0	0	3	5	0	3(1)	0	0
SUSPECTED PACKS															
Henrys Lake	?												0	0	1
SUBTOTAL					0	0	0	0	0	0	0	0	0	0	1
OTHER DOCUMENTED GROUPS															
Border DAU (B394)														16	
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	16	0
UNKNOWN															
GMU 65	?				0	0	0	1	0	0	0	0	0	0	0
SUBTOTAL	0				0	0	0	1	0	0	0	0	0	0	0
DAU TOTAL	17	6			0	4	1	1	0	3	5	0	3(1)	16	1

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

Table 11. Continued.

[g] Does not include pups that disappeared before winter.
[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.
[i] Radiocollared wolves that became missing in 2008.
[j] Border pack officially tallied to (STATE); territory known/likely shared with Idaho. Data on these packs can be found in Rocky Mountain Wolf Recovery 2008 Annual Report; data for mortalities and/or depredations by non-Idaho border packs that occurred within Idaho are presented here.

Salmon Region

The Salmon Region contains portions of the Middle Fork, South Mountains, and Salmon DAUs. The Salmon Region is one of the 3 Regions in the state that has high livestock conflicts, primarily cattle-related. Consequently, livestock depredations and control actions are frequent.

Southern Mountains DAU (29, 30, 30A, 36A, 37, 37A, 43, 44, 48, 49, 50, 51, 58, 59, 59A)

Abstract

The Southern Mountains DAU was occupied by 9 documented packs during 2008 (Figure 20; Table 12). One pack claimed by Idaho was listed as a border pack. Three packs were eliminated due to chronic livestock depredations. Two of the 6 packs remaining at the end of 2008 also qualified as breeding pairs. Documented mortalities (n = 38) included control (agency removal and legal take; n = 33), other human (illegal take, vehicle collision, etc.; n = 4), and unknown (n = 1) causes. Confirmed (n = 40) and probable (n = 10) wolf-caused losses of cattle were attributed to the Black Canyon, Copper Basin, Doublespring, Lemhi, Moores Flat, and Pass Creek packs; additional losses were attributed to lone/paired or unknown wolves. Confirmed (n = 35) and probable (n = 21) wolf-caused losses of domestic sheep were attributed to the Doublespring, Lemhi, Moores Flat, Phantom Hill, High Prairie (neighboring DAU pack), and Steel mountain (neighboring DAU pack) packs, as well as unknown wolves. Six wolves were captured by Program personnel that resulted in the placement of 6 new radiocollars.

Background

The Southern Mountains DAU encompasses a large geographic area from southwest Idaho all the way to the Idaho-Montana border, the Southern Mountains DAU contains a wide diversity of terrain and habitat types. The southwestern portion of this DAU is comprised of a mixture of relatively flat prairie and the rolling, moderately steep Smoky and Soldier Mountain ranges, transitioning to the northeast to steeper, spire-like peaks of the Boulder, White Cloud, Pioneer, and Beaverhead Mountain ranges. These ranges are intersected by several major river drainages, including the South Fork Boise, Big Wood, Big Lost, Little Lost, East Fork Salmon, Salmon, Pahsimeroi, and Lemhi Rivers. Habitat ranges widely and includes grass prairie, Coniferous forest, high desert shrub-steppe, and alpine; this diversity reflects the wide range of variation in annual precipitation across this region. Land ownership is predominantly public (U.S. Forest Service and Bureau of Land Management) within this DAU. Cattle ranching, livestock grazing, and recreation are the dominant uses of the landscape within the Southern Mountains DAU.

Management Direction

The Wolf Plan indicates current wolf-ungulate conflict levels are low and wolf-livestock conflict levels are high within this DAU. Therefore, wolf numbers in the Southern Mountains DAU are slated to be reduced then stabilized at 2005-2007 levels unless conditions change.

Documented Resident Packs

Copper Basin
Due to a history of chronic depredations on livestock, the remaining 3 wolves in this pack were removed in late March after a calf was confirmed killed. As such, the Copper Basin pack was no longer extant by the end of 2008 and was therefore not reported as a end-of-year documented pack for 2008.

Doublespring
The high potential for livestock conflict in the upper Pahsimeroi Valley initiated efforts to trap and radiocollar a wolf in the uncollared Doublespring pack to monitor wolf activity in the area. A subadult wolf was subsequently collared in April near an area where wolves were being observed on a frequent basis. Shortly thereafter, this pack was implicated in a spate of livestock depredations (9 confirmed, 1 probable cattle, 3 confirmed sheep), and due to the high likelihood of continued chronic depredations, it was deemed necessary to remove the pack. Five wolves were initially controlled, followed by the radiocollared female after several flights suggested she was the last remaining wolf. However, depredations continued in the area after control efforts, indicating a wolf or wolves remained. Numerous observations of multiple wolves during the fall hunting season substantiated the presence of remnants of this pack in the area. As such, these wolves were retained as a documented wolf pack. This pack was a reproductive pack but not a breeding pair for 2008.

Hyndman
No wolves were being monitored by radio-telemetry at the onset of 2008. Male B93 had last been located in 2006 as a Buffalo Ridge disperser and was not then considered a member of the Hyndman Pack. In late 2008 a report of a gray collared wolf associating with uncollared black wolves initiated a search for missing wolves in GMU49. B93 was found and later seen with 1 uncollared black. This pack was not implicated in any livestock depredations. This third year pack had a minimum of 2 wolves in December 2008, was not reproductive, and was not counted as a breeding pair for 2008.

Lemhi
Radio contact was lost with the only radiocollared wolf in October 2007, leaving this pack's status unknown for 2008. However, a confirmed sighting of 9 wolves (including 6 pups) was reported in the upper Lemhi River drainage in the area the Lemhi pack was known to occupy. It was assumed this observation was the Lemhi pack, and provided verification this pack was a breeding pair in 2008. Multiple depredations on livestock were attributed to this pack over the course of the year, resulting in the lethal control of 1 wolf.

Moores Flat
No wolves were monitored by radio-telemetry during 2008. Four wolves were killed during an ongoing control action in response to livestock depredations. The wolves killed include B199, previously a member of the Bennett Mountain Pack, which was removed (with the exception if B199) in 2004. B199 had not been monitored in several years due to a non-functioning radiocollar. This second year pack was removed in response to livestock depredations and was not counted as a documented pack at the end of 2008.

Pass Creek
This pack was targeted for helicopter darting to place additional collars after the breeding female's radiocollar was found to have been chewed off, leaving only one radiocollared wolf in the pack. The effort was successful in recollaring the breeding female, and placing a radiocollar on an adult male. The third radiocollared wolf was found dead in May of unknown causes near the pack's den site in a tributary of the East Fork Salmon River. Beginning in May, the Pass Creek pack began chronically depredating on livestock; incremental removal was ineffective at stopping the depredations, and the decision was made to remove the entire pack. A total of six wolves were lethally controlled from May-August, and this pack was removed from the list of documented packs in Idaho.

Phantom Hill
Suspected breeding female B326 and male B333 were monitored by radio-telemetry at the onset of 2008. A minimum of 4 pups was documented in this pack. This pack was confirmed to have killed 1 sheep, fewer than in 2007, the first year this pack was documented. In 2007, this pack was confirmed to have killed 14 sheep and 2 dogs and probably killed 3 additional sheep. This reduction in depredations is likely influenced by proactive nonlethal pilot project initiated by Lava Land and Livestock and implemented by IDFG, Defenders of Wildlife, Sawtooth National Forest, WS, Blaine County, and other owners of affected National Forest sheep grazing allotments. With input from cooperators Defenders of Wildlife hired 3 technicians. These individuals were trained by WS and IDFG and provided telemetry equipment, then given direction to monitor sheep and haze wolves. This effort demonstrated that with proper funding, equipment, training, and effort, proactive management has the potential to be effective at reducing wolf-livestock depredations. This second year pack had a minimum of 9 wolves in December 2008, was reproductive, and was counted as a breeding pair for 2008.

Soldier Mountain
Suspected breeding male B149 was monitored by radio-telemetry at the onset of 2008. He was observed with another wolf during breeding season but was not located after late winter. Biologists documented reproduction when a coyote trapper incidentally captured a female pup (B411) in the fall. Agency personnel traveled to the site and collared the animal. Later the same coyote trapper captured another female wolf (B412), which agency personnel also fitted with a VHF radiocollar. This pack was not implicated in any livestock depredations. This pack had a minimum of 5 wolves in December 2008, was reproductive, and was not counted as a breeding pair for 2008.

<u>Documented Border Packs</u>

Black Canyon (ID)
This pack was listed as a border pack for the state of Montana for 2007. However, wolf activity near the ID/MT border in late winter and early spring suggested this pack was intending to den within Idaho. Livestock depredations occurring from February through April resulted in the removal of 5 wolves, including a lactating female, providing further evidence this pack had in fact denned within Idaho. The Black Canyon pack's status is currently unknown due to a lack of radiocollared wolves, although the continued presence of multiple adults has been verified through sign (tracks and kills). Black Canyon was counted as a documented border pack, but not a breeding pair, for the state of Idaho in 2008.

Suspected Packs

Leadore-Hawley Creek
Sporadic sightings of wolves and wolf sign continued to be reported from this location. Six cattle were confirmed as wolf kills in 2008 in the area thought to be traveled by this suspected pack.

Other Documented Wolf Groups

B277
Originally trapped as a member of the Galena pack, wolf B277 was last located via telemetry in May 2007. This wolf's status was unknown until April of 2008 when his carcass was collected along Highway 75 near the Yankee Fork Work Center, having been struck by a vehicle. It is likely this was the wolf observed paired with wolf B283 on several occasions throughout late 2007 and early 2008.

B394
Wolf B394 was trapped and radiocollared in response to several depredation incidents at the U.S. Sheep Research Station near Humphrey, Idaho, that resulted in 16 confirmed dead sheep (see Upper Snake DAU). Winter aerial counts indicated this wolf is affiliated with an adult black wolf.

SW-64
Dispersed from the Sage Creek pack of Montana, telemetry locations in 2007/2008 indicated SW-64 was spending time in both Idaho and Montana along the divide southeast of Leadore, Idaho. After being implicated in a number of depredations in both Montana and Idaho, this wolf was removed in a control action.

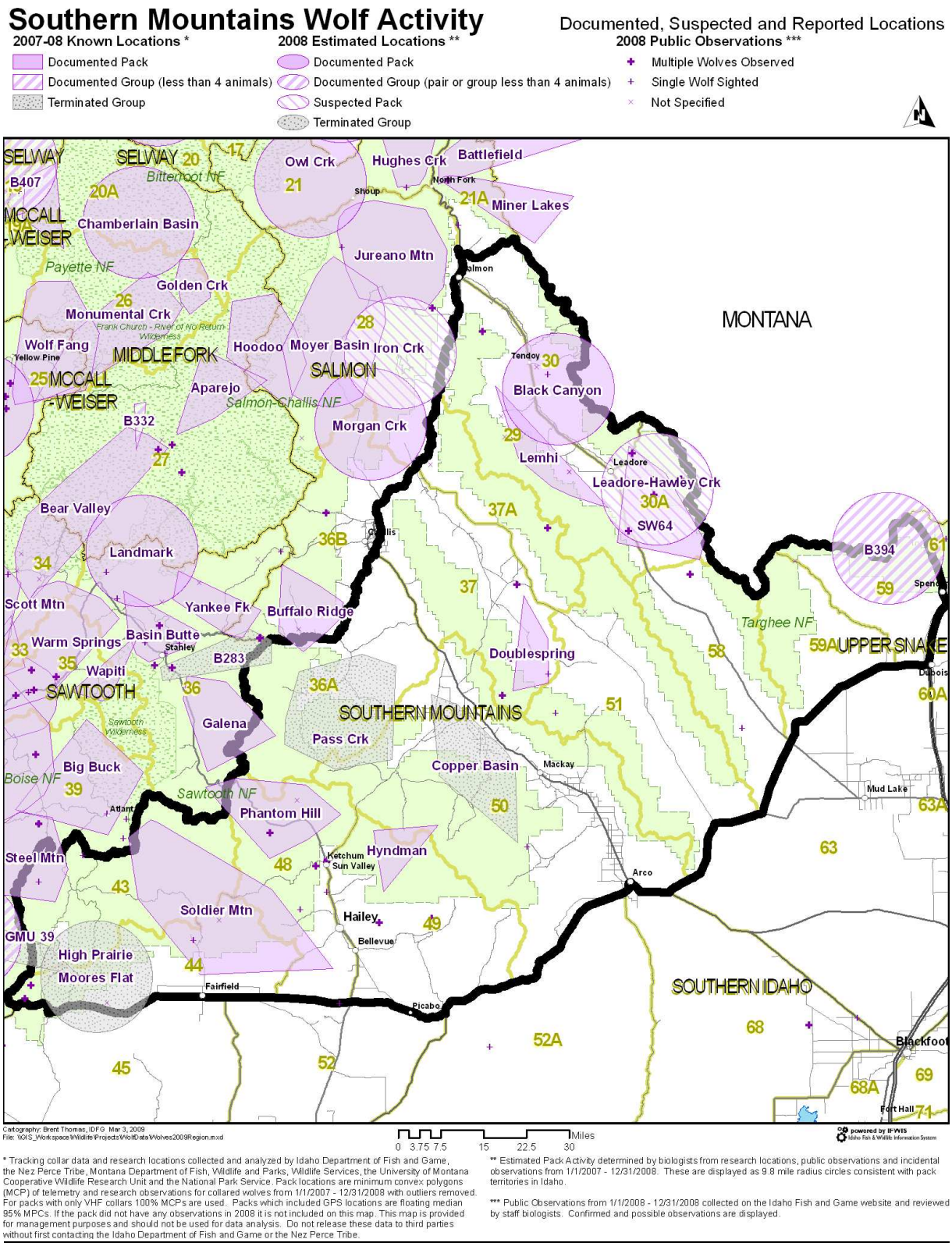


Figure 20. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Southern Mountains DAU, 2008.

Table 12. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Southern Mountains Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Black Canyon (ID)[j]	3	1(1)	Yes	No	0	5	0	0	0	0	0	0	3(1)	0	0
~~Copper Basin~~	0	0	No	No	0	3	0	0	0	0	0	0	1	0	0
Doublespring	?	1(1)	Yes	No	0	6	0	0	0	0	1	0	9(1)	3	0
Hyndman	2	0	No	No	0	0	0	0	0	1	0	0	0	0	0
Lemhi	9	6	Yes	Yes	0	1	0	0	0	0	0	0	4(2)	5	0
~~Moores Flat~~	0	?	No	No	0	4	0	0	0	0	0	0	2(1)	1	0
~~Pass Creek~~	0	1(1)	Yes	No	0	6	0	1	0	0	2	0	7(3)	0	0
Phantom Hill	9	4	Yes	Yes	0	0	1	0	0	2	0	0	0	1	0
Soldier Mountain	5	1	Yes	No	0	0	0	0	0	2	2	1	0	0	0
SUBTOTAL	28	14(3)			0	25	1	1	0	5	5	1	26(8)	10	0
SUSPECTED PACKS															
Leadore-Hawley Crk	?	?	No	No	0	0	0	0	0	0	0	0	6	0	0
SUBTOTAL	0	0			0	0	0	0	0	0	0	0	6	0	0
OTHER DOCUMENTED GROUPS															
~~B277~~	0				0	0	1	0	0	0	0	0	0	0	0
B394	2				0	0	0	0	0	1	1	0	0	0	0
~~SW64~~	0				0	1	0	0	0	0	0	0	3(1)	0	0
Border DAU (Buffalo River)						1									
Border DAU (High Pr.)														0(2)	
Border DAU (Steel Mtn)						2								20(6)	
SUBTOTAL	2				0	4	1	0	0	1	1	0	3(1)	20(8)	0
UNKNOWN															
GMU 37A	?				0	0	1	0	0	0	0	0	0	0	0

Table 12. Continued.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
GMU 49	?				0	2	0	0	0	0	0	0	4(1)	2(13)	0
GMU 50	?				0	1	0	0	0	0	0	0	0	0	0
GMU 51	?				0	0	0	0	0	0	0	0	0	3	0
GMU 59	?				0	0	1	0	0	0	0	0	0	0	0
GMU 59A	?				0	1	0	0	0	0	0	0	1	0	0
SUBTOTAL	0				0	4	2	0	0	0	0	0	5(1)	5(13)	0
DAU TOTAL	30	14(3)			0	33	4	1	0	6	6	1	40(10)	35(21)	0

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

[j] Border pack officially tallied to (STATE); territory known/likely shared with Idaho. Data on these packs can be found in Rocky Mountain Wolf Recovery 2008 Annual Report; data for mortalities and/or depredations by non-Idaho border packs that occurred within Idaho are presented here.

Salmon DAU (GMUs 21, 21A, 28, 36B)

Abstract

The Salmon DAU was occupied by 7 documented packs during 2008 (Figure 21; Table 13). Five packs were listed as border packs, 4 of which were claimed by Montana. All 4 documented reproductive packs qualified as breeding pairs; the reproductive status of the remaining 3 packs was not determined. Documented mortalities (n = 18) included control (agency removal and legal take; n = 13), other human (illegal take, vehicle collision, etc.; n = 4), and unknown (n = 1) causes. Confirmed (n = 11) and probable (n = 2) wolf-caused losses of cattle were attributed to the Buffalo Ridge, Jureano Mountain, and Moyer Basin packs; and unknown wolves. Probable (n = 4) wolf-caused losses of domestic sheep were attributed to the Miner Lakes (MT) border pack. Four wolves were captured by Program personnel that resulted in the placement of 4 new radiocollars.

Background

The Salmon DAU encompasses 4 GMUs (21, 21A, 28, and 36B). The topography within the Salmon DAU is characterized by steep, mountainous slopes interspersed by river valleys. The habitat consists primarily of timbered hillsides with grass understory, although lower elevations would best be described as arid rangeland comprised of sagebrush/bunchgrass vegetation. Land ownership is primarily public, with approximately 95% under U.S. Forest Service, Bureau of Land Management, or State ownership. Cattle ranching, livestock grazing, mining, timber harvest, and recreation are the dominant human uses in this region.

Management Direction

The Wolf Plan indicates current wolf-ungulate conflict levels as moderate and wolf-livestock conflict levels as high in this DAU. Therefore, wolf numbers in the Salmon DAU are slated to be decreased then stabilized at lower levels unless conditions change. With relatively high numbers of seasonal and year-round livestock on both grazing allotments and private pasture, livestock-wolf conflict potential within this DAU is high, as evidenced by the number of annual depredation incidents (see Figures 8 and 9). As such, reducing livestock depredations will continue to be an important objective within this DAU through implementation of 10(j) regulations or through regulated harvest once delisted.

Documented Resident Packs

Buffalo Ridge

After being involved in multiple depredations in December of 2007, this pack was slated for removal when depredations continued through early winter of 2007/2008, and where incremental removal of wolves proved ineffective. The following control actions resulted in the lethal control of 6 wolves (5 in Salmon and 1 in Southern Mountains DAUs). Continued wolf activity within traditional areas used by this pack indicated multiple wolves remained following control (in August, a radiocollared wolf was shot in defense of livestock, and multiple wolves were heard howling, within an area commonly used by this pack; *see* B283). While not considered a

breeding pair, the presence of multiple wolves within this pack territory warranted their retention as a documented pack for 2008.

Hoodoo
Reproductive surveys determined that the Hoodoo pack shifted their den area from along the Middle Fork Salmon River to a tributary of Camas Creek, where 4 pups were confirmed. A capture effort in June was successful in adding two additional radiocollars in this pack; however, one newly collared wolf was legally shot in August under a Shoot On Sight (S.O.S.) permit while dispersing from its pack, and the second was illegally killed in early October. One pup was determined to have been struck and killed by a vehicle in October. A minimum of 11 wolves was counted in the pack during winter counts, and it was listed as a breeding pair for 2008.

Jureano Mountain
Program personnel verified this pack reproduced at least 6 pups at a traditional den site. A capture effort in June resulted in the recapture of wolf B328, caught in the summer of 2007 at the same trap location. Wolf B328 was first fitted with a GPS collar that later failed some time in fall 2007, leaving this pack unmonitored until his recapture in 2008. This wolf was found dead of unknown cause during a November monitoring flight (likely during a dispersal event), again leaving this pack without radiocollared members. Depredations on cattle during the summer prompted WS personnel to lethally remove one wolf. The Jureano Mountain pack was listed as a breeding pair in 2008, but the lack of radiocollared wolves prevented attempts to ascertain a year-end pack count.

Morgan Creek
The Morgan Creek pack was without radiocollared individuals and its status was unknown for all of 2008.

Moyer Basin
The Moyer Basin pack reproduced a litter of 5 pups near a traditional rendezvous site in 2008. A subadult female, trapped and fitted with a GPS radiocollar as a pup in 2007, was darted from the ground in July 2008 and refitted with a VHF radiocollar. While typically localized in the Panther Creek drainage for much of the year, this pack was located several miles south of their known home range in Morgan Creek during December telemetry flights. During this time frame, the pack was implicated in the depredations of multiple cattle. As a result, 4 wolves were lethally controlled. Unfortunately, during the control actions both radiocollared wolves were inadvertently killed. Aerial counts taken during control actions indicated 8 wolves remained in the pack, and was also considered a breeding pair for 2008.

Owl Creek
The Owl Creek pack was without radiocollared individuals and its status was unknown for all of 2008.

<u>Documented Border Packs</u>

Battlefield (MT)
See the respective State's annual report for information on this pack.

Hughes Creek (ID)
Agency personnel verified the presence of 5 pups during reproduction surveys in early summer of 2008. Unfortunately, the only radiocollared wolf's signal went undetected for the remainder of the year, leaving this pack unmonitored for much of 2008. As such, a year-end pack size count was not obtained. The Hughes Creek pack was considered a breeding pair for 2008.

Miner Lakes (MT)
See the respective State's annual report for information on this pack.

Painted Rocks (MT)
See the respective State's annual report for information on this pack.

Sula (MT)
See the respective State's annual report for information on this pack.

Suspected Resident Packs

Iron Creek
No reports of wolves or livestock depredations.

Other Documented Wolf Groups

B160
Wolf B160 was found illegally shot along Highway 75 east of Stanley, Idaho. This animal's radiocollar failed in 2006 as a member of the Morgan Creek pack, and his status was unknown until the carcass was discovered in April of 2008.

B283
Radiolocations from female wolf B283 in winter and spring 2008 indicated she had localized with an unknown mate within the Sawtooth National Recreation Area along the White Cloud Peaks range. In spring, a wolf believed to be the animal paired with B283 was killed by a vehicle. B283 was legally shot in defense of livestock with other wolves near Bayhorse Lakes in August, indicating she may have joined with remnants of the Buffalo Ridge pack (see Buffalo Ridge).

B328
Wolf B328 was found dead of unknown cause in Iron Creek following a November telemetry monitoring flight. Well south of the Jureano Mountain pack's home range, it is likely this wolf was dispersing from its natal pack at the time of its death.

B383
Trapped in June 2008, this wolf was legally killed in August under the authority of a S.O.S. permit, having dispersed from the Hoodoo pack some weeks prior.

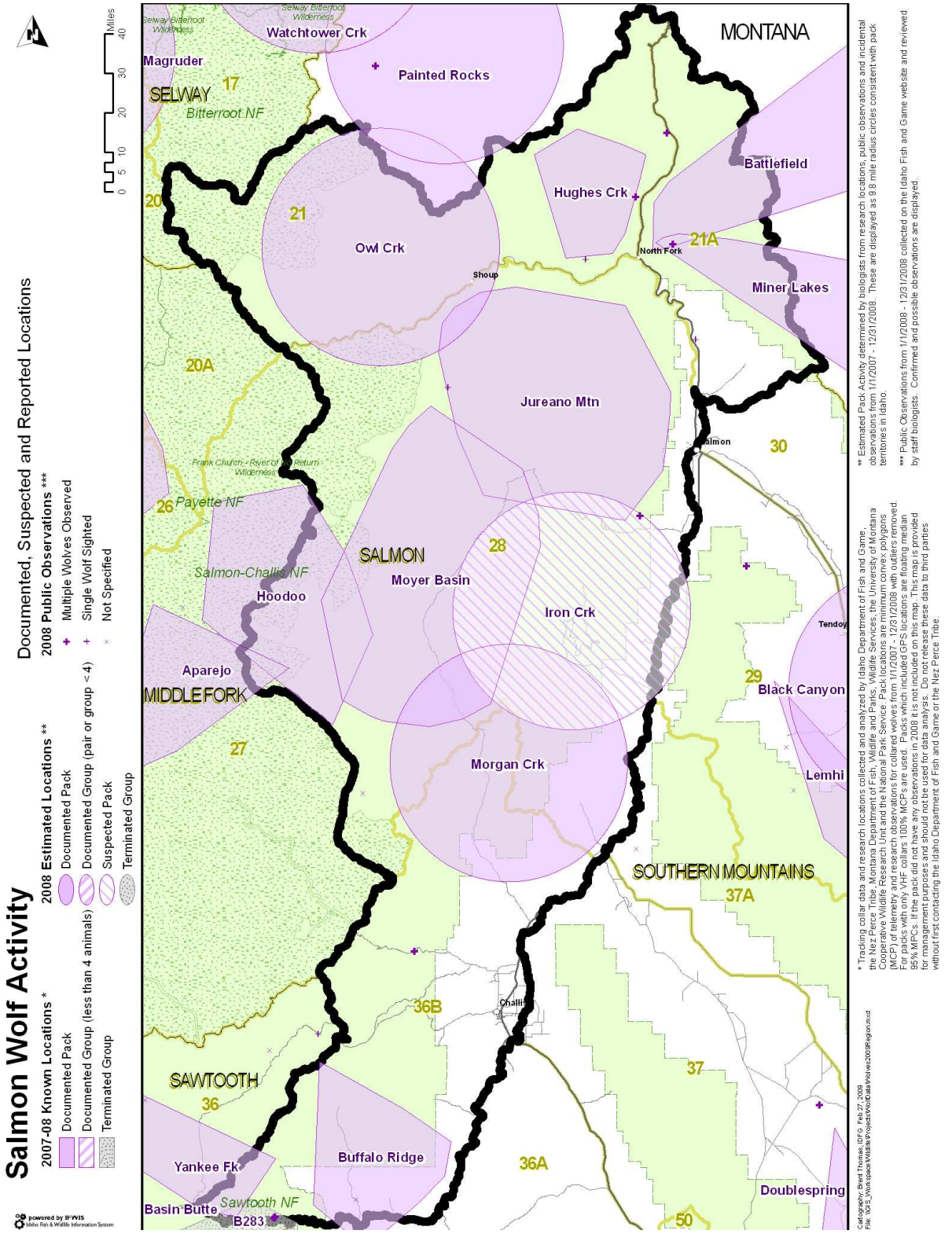


Figure 21. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in the Salmon DAU, 2008.

Table 13. End of year summary of estimated pack size, natality, mortality, dispersal, monitoring status, wolf captures, and livestock depredations for documented and suspected wolf groups within Idaho Department of Fish and Game Salmon Data Analysis Unit, 2008.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
DOCUMENTED PACKS															
Battlefield (MT)[j]															
Buffalo Ridge	?	0	NO	NO	0	5	0	0	0	0	0	1	4	0	0
Hoodoo	11	4(1)	YES	YES	0	0	2	0	1	1	2	0	0	0	0
Hughes Creek (ID)[j]	?	5	YES	YES	0	0	0	0	0	0	0	1	0	0	0
Jureano Mountain	?	6	YES	YES	0	1	0	0	1	0	1	0	4(1)	0	0
Miner Lakes (MT)[j]														0(4)	
Morgan Creek	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Moyer Basin	8	5	YES	YES	0	4	0	0	0	0	1	0	2(1)	0	0
Owl Creek	?	?	NO	NO	0	0	0	0	0	0	0	0	0	0	0
Painted Rocks (MT)[j]															
Sula (MT)[j]															
SUBTOTAL	19	20(1)			0	10	2	0	2	1	4	2	10(2)	0(4)	0
SUSPECTED PACKS															
Iron Creek	?														
SUBTOTAL	0				0	0	0	0	0	0	0	0	0	0	0
OTHER DOCUMENTED GROUPS															
~~B160~~	0				0	0	1	0	0	0	0	0	0	0	0
~~B283~~	0				0	1	0	0	0	0	0	0	0	0	0
~~B328~~	0				0	0	0	1	0	0	0	0	0	0	0
~~B383~~	0				0	1	0	0	0	0	0	0	0	0	0
Border DAU (Yankee Fork)							1								
SUBTOTAL	0				0	2	2	1	0	0	0	0	0	0	0
UNKNOWN															
GMU 36B					0	1	0	0	0	0	0	0	1	0	0

Table 13. Continued.

Wolf group[a]	Min. no. wolves detected[b]	Reproductive status: Min. no. pups prod. (died)[c]	Reproductive status: Reported as reprod. pack	Reproductive status: Reported as breeding pair[d]	Documented mortalities: Natural	Documented mortalities: Control[e]	Documented mortalities: Other human[f]	Documented mortalities: Unknwn[g]	Known dispersal	Monitoring status: Active radio collars	Monitoring status: No. wolf captures[h]	Monitoring status: No. wolves missing[i]	Confirmed & (probable) wolf-caused livestock losses: Cattle	Sheep	Dogs
SUBTOTAL	0	0			0	1	0	0	0	0	0	0	1	0	0
DAU TOTAL	19	20(1)			0	13	4	1	2	1	4	2	11(2)	0(4)	0

[a] Documented packs = territorial groups of wolves usually consisting of an adult male and female and their offspring from one or more generations, and has the potential to reproduce (2 adults of opposite sex). Suspected packs = geographic areas where wolf pack presence was suspected but not verified, or where wolf presence was verified but did not meet documented pack status. Other documented groups = verified groups not meeting either documented or suspected pack status (e.g., lone wolves, potential mated pairs, etc.). Unknown = geographic areas where wolf presence was previously unverified and/or no data on group status was known.

[b] Summing this column does not equate to number of wolves estimated to be present in the population.

[c] Number in parentheses indicates known pup mortality; pup mortalities tallied in the appropriate column in "documented mortalities."

[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.

[f] Includes all other human-related deaths.

[g] Does not include pups that disappeared before winter.

[h] Includes wolves captured for monitoring purposes during 2008. Most, but not all, were radiocollared.

[i] Radiocollared wolves that became missing in 2008.

[j] Border pack officially tallied to (STATE); territory known/likely shared with Idaho. Data on these packs can be found in Rocky Mountain Wolf Recovery 2008 Annual Report; data for mortalities and/or depredations by non-Idaho border packs that occurred within Idaho are presented here.

LITERATURE CITED

IDFG. 2008. Idaho Wolf Population Management Plan 2008-2012. Idaho Department of Fish and Game, Boise, ID 83707. 85pp.

IDFG. 2007. Elk PR report, Project W-170-R-31. Progress Report. Idaho Department of Fish a and Game, Boise, ID 83707. 138pp.

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

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

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

U.S. Fish and Wildlife Service. 1994. Final Environmental Impact Statement, The reintroduction of gray wolves to Yellowstone National Park and Central Idaho. U.S. Fish and Wildlife Service, Helena, Montana, USA.

U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, and USDA Wildlife Services. 2003. Rocky Mountain Wolf Recovery 2002 Annual Report. T. Meier, ed. USFWS, Ecological Services, 100 N Park, Suite 320, Helena, Montana, USA.

U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, Montana Fish Wildlife and Parks, Idaho Fish and Game, and USDA Wildlife Services. 2007. Rocky Mountain Wolf Recovery 2005 Annual Report. USFWS, Ecological Services, 585 Shephard Way, Helena, Montana, USA.

APPENDIX A

. POPULATION ESTIMATION TECHNIQUE USED TO DETERMINE WOLF POPULATION NUMBERS IN IDAHO

From 1996 until 2005, wolf populations were counted using a total count technique that was quite accurate when wolf numbers were low and most had radiocollars. We have, for the past two years, used an estimation technique that is more applicable to a larger population which is more difficult to monitor. In 2006 we began using an estimation technique that had been peer reviewed by the University of Idaho and northern Rocky Mountain wolf managers. This technique bypasses the need to count pups in every pack, and instead relies on our documented packs, estimated pack size, number of wolves documented in small groups not considered packs, and a percentage of the population believed to be lone wolves. Mathematically this technique is represented as:

Minimum Wolf Population Estimate = [(Documented packs * mean pack size) + (Wolves in other documented wolf groups)] * (lone wolf factor)

Using this technique, the 2008 wolf population estimate is 846 wolves and represents an increase of 16% over 2007's estimated wolf population:

((88 * 8.3) + (22)) * 1.125
(730 + 22) * 1.125
752 * 1.125 =
846

The number of documented packs that were extant at the end of 2008 was 88.

Mean pack size (8.3) was calculated using only those packs (n = 35) for which biologists believed complete pack counts were obtained in 2008.

To account for wolves not classified as lone wolves and not associated with documented packs, we included a "total count" for those radiocollared wolves in groups of 2-3 wolves that were not considered packs under Idaho's definition. This resulted in the addition of 22 wolves from 8 groups.

A lone wolf factor (12.5%) was added to account for that component of the wolf population comprised of wolves not associated with packs or groups of 2-3 wolves. This was a mid value derived from 5 peer-reviewed studies and 4 non-reviewed papers from studies that occurred in North America and were summarized and reported in 2003 (Mech and Boitani 2003, page 170). For 2008, an estimated 92 lone wolves were in the Idaho population.

It is important to recognize this estimate is not corrected for survey effort and represents only the minimum number of wolves estimated to be present in Idaho. The actual number of wolves in Idaho is likely more than the 'estimated minimum number', as we did not include suspected packs (packs for which we did not have verified evidence) in the estimator. Also, changes in the estimate from year to year are not adjusted to differing amounts of effort put forth to document wolf activity. However, we are comfortable that this estimate is a good representation of packs that have been reported by the public and agency professionals and verified by wolf specialists, and thus a defensible estimate of the minimum population.

APPENDIX B

. CONTACTS FOR IDAHO WOLF MANAGEMENT

Idaho Fish and Game Regional Offices at:

Headquarters Wildlife Bureau	(208) 334-2920
Panhandle Region	(208) 769-1414
Clearwater Region	(208) 799-5010
Southwest Region	(208) 465-8465
McCall Subregion	(208) 634-8137
Magic Valley Region	(208) 324-4350
Southeast Region	(208) 232-4703
Upper Snake Region	(208) 525-7290
Salmon Region	(208) 756-2271

For information about wolves in Idaho and IDFG management:

http://fishandgame.idaho.gov/cms/wildlife/wolves/

To contact IDFG via email:

http://fishandgame.idaho.gov/inc/contact.cfm

The Nez Perce Tribe's Idaho Wolf Recovery Program:

Telephone: (208) 634-1061
Fax: (208) 634-4097
Mail: P.O. Box 1922
McCall, ID 83638-1922
Email: cmack@nezperce.org
jholyan@nezperce.org

For information about the Nez Perce Tribe's Wildlife Program and to view Recovery Program Progress Reports, please visit the following website:

http://www.nezperce.org/programs/wildlife_program.htm

U.S. Fish and Wildlife Service Northern Rocky Mountain Wolf Recovery:

For information about wolf recovery in the Northern Rocky Mountains, please visit the USFWS website at the following:

http://www.westerngraywolf.fws.gov/

Appendix B. Continued.

To report wolf sightings within Idaho:

Report online: http://fishandgame.idaho.gov/wildlife/wolves/report.cfm

To report livestock depredations within Idaho:

USDA/APHIS/Wildlife Services	
State Office, Boise, ID	(208) 378-5077
District Supervisor, Boise, ID	(208) 378-5077
District Supervisor, Gooding, ID	(208) 934-4554
District Supervisor, Pocatello, ID	(208) 236-6921
Wolf Specialist, Arco, ID	(208) 681-3127

To report information regarding the illegal killing of a wolf or a dead wolf within Idaho:

U.S. Fish and Wildlife Service Senior Agent, Boise, ID	(208) 378-5333
Citizens Against Poaching (24hr) or any IDFG Office	1-800-632-5999