Rocky Mountain Wolf Recovery
2010 Interagency Annual Report

A cooperative effort by the U.S. Fish and Wildlife Service, Montana Fish, Wildlife & Parks, Nez Perce Tribe, National Park Service, Blackfeet Nation, Confederated Salish and Kootenai Tribes, Wind River Tribes, Washington Department of Wildlife, Oregon Department of Wildlife, Utah Department of Natural Resources, and USDA Wildlife Services

MFWP Photo by Liz Bradley

This cooperative annual report presents information on the status, distribution and management of the Northern Rocky Mountain wolf population from January 1, 2010 to December 31, 2010. It is also available at:

http://westerngraywolf.fws.gov/annualreports.htm

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Note to Readers:

The 2010 Interagency Annual Report is comprised of separate sections, one each for the individual annual reports from the state of Montana, the Nez Perce Tribe for Idaho, federal agencies for Wyoming and Yellowstone National Park combined, and the overall U.S. Fish and Wildlife Service Northern Rockies Wolf Recovery Program. This makes for some degree of overlap and duplication between sections. Despite producing individual annual reports by state in this modified structure, the public can still access information about gray wolves in the northern Rocky Mountains in a single, comprehensive report or by individual state.

You can download the Interagency Report in its entirety and cite the Interagency Report as suggested on the cover. Alternatively, you may download a state report or section of the Interagency Report and cite it individually as noted on the cover page of each individual report, respectively. I hope you find this format useful.

Thank you,

Ed Bangs
U.S. Fish and Wildlife Service Northern Rockies Wolf Recovery Program Coordinator

Abstract- The 2010 wolf population within the Northern Rocky Mountain Distinct Population Segment (Idaho, Montana, Wyoming, eastern one-third of Washington and Oregon, and a small part of north central Utah)(NRM DPS; Fig. 1) is roughly the same as it was in 2009 with at least 1,651 wolves in 244 packs, and 111 breeding pairs. Wolf packs and especially breeding pairs largely remain within the core recovery areas, but breeding pairs were again confirmed in eastern WA and OR. Agency control, hunting, other causes of mortality, and the natural territorial behavior of wolves appeared to maintain the wolf population at about 2009 levels. While breeding pairs and pack numbers were virtually identical, total numbers were down from an estimate at least 1,733 wolves in 2009 to at least 1,651 wolves in 2010. The apparent decline was solely due to a lower minimum population estimate in ID. Private and state agencies paid $453,741 in compensation for wolf-damage to livestock in 2010 the same level as in 2009. Confirmed cattle death losses in 2010 (199) were virtually the same as in 2009 (193). However, confirmed sheep (249) and dog losses (2) in 2010 were much lower than in 2009 (749 and 24 respectively). In 2010 slightly fewer problem wolves were controlled (includes agency and legal private take) (260) than in 2009 (272). In 2010 MT removed 141 wolves by agency control; ID removed 78 by agency control and another 48 by public hunting; and in WY, 40 wolves were removed by agency control. No wolves were removed by agency control in OR or WA. A lone depredating wolf was killed by agency control in UT. In 2010 Federal agencies spent $4,566,000 for wolf management. Wolves became delisted May 4, 2009, but on August 5, 2010 a federal court order put wolves in the NRM DPS back on the list of endangered species.

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NORTHERN ROCKIES BACKGROUND

Gray wolf populations were extirpated from the western U.S. by the 1930s. Subsequently, wolves from Canada occasionally dispersed south into Montana and Idaho but failed to survive long enough to reproduce. Eventually, public attitudes toward predators changed and wolves received legal protection with the passage of the Endangered Species Act (ESA) in 1973. Wolves began to successfully recolonize northwest Montana (NW MT) in the early 1980s. By 1995, there were 6 wolf packs in northwest Montana. In 1995 and 1996, 66 wolves from southwestern Canada were reintroduced to Yellowstone National Park (YNP) (31 wolves) and central Idaho (CID) (35 wolves). From 1989-2001, we also relocated wolves 117 times to reduce conflicts with livestock, including moving wolves among different recovery areas. This included 10 wolf pups from NW MT whose pack was involved in chronic livestock depredation were relocated to YNP. They were released from their holding pen in spring 1997.

The NRM DPS (Montana, Idaho, and Wyoming, the eastern one-third of Washington and Oregon, and a small part of north central Utah) contains 3 core recovery areas: the NWMT (Figs. 1, 2) includes northern Montana and the northern Idaho panhandle; the Greater Yellowstone Area (GYA) (Figs. 1, 3) includes Wyoming and adjacent parts of Idaho and Montana; the CID (Figs. 1, 4) includes central Idaho and adjacent parts of southwest Montana. Wolf packs were also documented adjacent to CID in eastern Oregon and Washington for the second time in 2010 (Tables 6 & 7). Wolves in the NRM DPS were relisted by court order in 2010. Wolves in Montana are managed by Montana Fish, Wildlife and Parks (MFWP). Wolves in Idaho were managed by Idaho Department of Fish and Game (IDFG) until October 2010 and are now being managed by the U.S. Fish and Wildlife Service (USFWS) with assistance from the Nez Perce Tribe (NPT). Tribes manage wolves on their tribal reservations. Wolves in Wyoming continue to be managed by the USFWS. The USFWS assists the Washington Department of Wildlife, the Oregon Department of Wildlife, and Utah Department of Natural Resources to manage wolves in their states.

NORTHERN ROCKIES WOLF SUMMARY 2010

Abstract- The 2010 wolf population within the Northern Rocky Mountain Distinct Population Segment (Idaho, Montana, Wyoming, eastern one-third of Washington and Oregon, and a small part of north central Utah)(NRM DPS; Fig. 1) is roughly the same as it was in 2009 with at least 1,651 wolves in 244 packs, and 111 breeding pairs. Wolf packs and especially breeding pairs largely remain within the core recovery areas, but breeding pairs were again confirmed in eastern WA and OR. Agency control, hunting, other causes of mortality, and the natural territorial behavior of wolves appeared to maintain the wolf population at about 2009 levels. While breeding pairs and pack numbers were virtually identical, total numbers were down from an estimate at least 1,733 wolves in 2009 to at least 1,651 wolves in 2010. The apparent decline was solely due to a lower minimum population estimate in ID. Private and state agencies paid $453,741 in compensation for wolf-damage to livestock in 2010 the same level as in 2009. Confirmed cattle death losses in 2010 (199) were virtually the same as in 2009 (193). However, confirmed sheep (249) and dog losses (2) in 2010 were much lower than in 2009 (749 and 24 respectively). In 2010 slightly fewer problem wolves were controlled (includes agency and legal

private take) (260) than in 2009 (272). In 2010 MT removed 141 wolves by agency control; ID removed 78 by agency control and another 48 by public hunting; and in WY, 40 wolves were removed by agency control. No wolves were removed by agency control in OR or WA. A lone depredating wolf was killed by agency control in UT. In 2010 Federal agencies spent $4,566,000 for wolf management. Wolves became delisted May 4, 2009, but on August 5, 2010 a federal court order put wolves in the NRM DPS back on the list of endangered species.

Wolf Population- Estimating the size of the NRM DPS wolf population became less precise as it grew larger and our monitoring effort remained constant. However, our minimum estimate of the NRM DPS wolf population it is still a very accurate compared to most estimates of wildlife population density and distribution in North America. The NRM DPS wolf population in 2010 was estimated to be about what it was in 2009. In 2010 wolf numbers in the states of MT, WY, WA, and OR increased slightly (~9%) from 2009 levels but the 2010 Idaho estimate was about 20% lower than 2009. Pack and breeding pair estimates in 2010 were the same as in 2009. We suspect the difference in wolf numbers in ID was partly due to loss of radio-collared wolves and reduced monitoring effort in the inaccessible rugged forested mountainous terrain in central ID Wilderness areas. In addition to our wolf monitoring data, other indices of wolf population abundance, such as livestock damage, percentage of packs depredating, agency control, and site-specific research suggested the overall wolf population in 2010 was not higher than 2009 levels.

On December 31, 2010 the gray wolf population in NRM DPS was estimated to have at least 1,651 wolves in 244 wolf packs, and 111 breeding pairs, similar to the estimates in 2009 (1,733 wolves; 242 packs; and 115 breeding pairs). The overall distribution of the NRM DPS wolf packs also was similar (Figure 1). At the end of 2010 we estimated there were at least 374 wolves in the Northwest Montana Recovery Area (NWMT), 501 in the Greater Yellowstone Recovery Area (GYA), and 739 in the Central Idaho Recovery Area CID)(Figure 1, Table 4a). Within the NRM DPS by state boundaries, there were an estimated minimum of 566 wolves in Montana, 343 in Wyoming, 705 in Idaho (Table 4b). Sixteen wolves were in eastern Washington and 21 in eastern Oregon (Tables 6 & 7). Only 1 pack was located adjacent to the NRM DPS (Twisp, WA) and it did not raise pups in 2010. Of approximately 244 packs (groups of 2 or more wolves with territories inside the NRM DPS persisting until Dec. 31, 2010), 111 packs met the definition of "breeding pair," (packs containing at least one adult male and one adult female and 2 or more pups on December 31) (Tables 4a, 4b). Minimum recovery goals (an equitably distributed wolf population that contained at least 300 wolves and 30 breeding pairs in Montana, in Idaho, and in Wyoming for at least 3 successive years) have been exceeded in the NRM DPS every year since 2002 (Table 4b).

Wolf Packs- The NRM DPS had 244 confirmed wolf packs at the end of 2010. Pack size in the NRM DPS averages less than 7 wolves at the end of the year. Montana had 118 wolf packs present at some point in 2010 but 13 packs (11% of all packs present in 2010) were no longer thought to exist by the end of 2010 (Table 1). In WY, 45 packs were present but 3 (7%) were gone by end of 2010 (Table 2). In ID, 87 wolf packs were present but 14 (16%) were gone by end of 2010 (Table 3). Agency control was likely responsible for (48%) of all the packs in the NRM DPS that did not persist. However, about one half of the packs that were recorded as not persisting in ID in 2010 were simply not confirmed due to the difficulty of monitoring wolves in

the central ID Wilderness. All packs in WA and OR persisted into the end of 2010. No packs were documented in UT (Table 6).

Wolf Depredations- In 2010 wolf depredation was about the same on cattle, decreased on sheep and dogs, and increased on other types livestock compared to 2009. Wolves in the NRM DPS subsist mainly on elk, white-tailed deer, mule deer, and moose, but livestock are also attacked. Although depredation results in a comparatively small proportion of all livestock losses in the NRM DPS, wolf damage can be significant to some livestock producers in the areas with wolves. Confirmed livestock depredations by wolves in 2010 were down from 2009 levels but included 199 cattle, 249 sheep, 2 dogs, and 15 other livestock (2 llamas, 6 goats, 4 horse, 4 miniature horses, and a domestic bison)(Tables 5 & 6). Approximately 64 out of 260 NRM DPS wolf packs (outside of YNP) that existed in 2010 (25%) were involved in at least one confirmed livestock or pet depredation down from the 2009 estimate of 32% of packs outside of YNP being involved in at least one depredation.

Agency Control of Problem Wolves- Lethal control of problem wolves (includes by agencies and legal take by private citizens in defense of private property) in 2010 (260) was 4% lower than 2009 (272) levels. Agency control in Montana removed the largest and Idaho the smallest proportion of their wolf population in 2010. For strictly comparative purposes we estimated the absolute minimum number of wolves alive in 2010 by combining the at least 1,651 wolves alive on Dec 31, and by adding all known wolf mortality (260 by agency control, 48 by hunting, and 86 by all other known causes (illegal, accidental, and natural which are all obviously under-reported and do not include mortality of young pups). This absolute minimum estimated population of 2,045 wolves at some point during 2010 [MT (746), ID (849), WY (412), WA (16), OR (21), UT (1)] was only used to compare the relative rates of wolf removal between states and by cause. A total of 259 wolves (13% of the minimum NRM DPS population) were removed by agency control in 2010 (141 in Montana, 40 in Wyoming, 78 in Idaho) (Table 5b). In 2010 agency authorized control (which included legal take by private citizens in defense of their private property- 16 in MT, 13 in ID, and 0 in WY- Table 1) removed 18% of the estimated minimum wolf population in MT; 10% in WY; 9% in ID.

Public Hunting of Wolves- Fair-chase hunting removed a maximum of 2% of the minimum estimated 2010 NRM DPS wolf population. ID extended a fall 2009 fair-chase hunting season into early 2010 (Jan 1- March 31) and 48 wolves were harvested. Hunting removed a maximum of 6% of Idaho's minimum estimated wolf population in 2010. ID and MT both took steps to prepare for a fall 2010 hunting season. However, the seasons were canceled due to the court order wolf relisting on August 5, 2010.

Human-caused Wolf Mortality by State and Cause- MT had the highest documented rate of human-caused mortality on wolves and Wyoming the lowest. In 2010 all documented human-caused mortality (agency authorized control, hunting, and other human-caused) removed 179 wolves in MT, 142 in ID, and 56 in WY. This meant 24% of the estimated minimum wolf population in MT, 17% in ID, and 13% in WY was known to be killed by people in 2010. In addition, past research on radio-collared NRM DPS wolves from 1984-2004 (Murray et al. 2010; Smith et al. 2010) indicated roughly 26% of adult-sized wolves died annually (80% of all morality was caused by humans) and the population still grew >20% annually. On average about

10 of them were killed by agency control, 10 by illegal killing, 3 were killed accidentally by people (mainly vehicle collisions) and 3 by natural causes (mainly wolf-to-wolf conflict and disease/parasites, which, because of fewer prey, caused the natural decline of wolves in YNP in 2008).

Wolf Funding- The cost of wolf management in the NRM DPS increased in Federal Fiscal Year 2010 (Oct 1, 2009-Sept 30, 2010). Federal agencies spent $4,556,000, including $1,103,000 spent by USDA WS to investigate reports of suspected wolf damage and to control problem wolves. In 2010, $453,741 was paid by private and state compensation programs for confirmed, probable, and likely livestock damage caused by NRM DPS wolves, a very similar amount to that paid in 2009 ($457,785). In 2010, $96,097 in compensation for wolf damage was paid in MT, $270,263 in ID, $82,186 in WY, $4,335 in OR, $463 in WA, and $397 in UT. In FY 2011, an estimated $4,765,000 in federal funding will be spent for wolf management in the NRM DPS.

Table 1. Wolves legally killed by private citizens in defense of private property**, either in the act of depredating or under shoot on sight permits from Jan. 1995 through December 2010 or under state defense of property laws when wolves were delisted from May 2, 2009 to August 5, 2010.

Year	# WY	# ID	# MT
1995-2000	0	0	2
2001	0	0	0
2002	0	0	1
2003	2	0	0
2004	2	0	0
2005	1	3	7
2006	1	7	2
2007	0	7	7
2008	0	14	7
2009	0	6	14
2010	0	13	16
Total	6	50	56

**Footnote- Defense of Property regulations for legal take of problem wolves by private citizens only applied in the experimental population areas in southern Montana, Idaho south of the panhandle, and all Wyoming beginning in January 1995. The experimental population regulations for defense of property were liberalized in January 2005 and again in January 2008 for states and tribes with Service-approved wolf management plans. Only citizens in the experimental population areas of Montana, Idaho, and the Wind River Tribal Reservation in Wyoming could take advantage of those more liberal regulations to defend private property from wolf depredation.

Wolf Population Recovery- By every biological measure the NRM DPS wolf population is fully recovered. Resident packs appear to saturate suitable habitat in the core recovery areas and dispersing wolves routinely travel between them and Canada and successfully breed. Consequently, genetic diversity in the NRM DPS is very high and will almost certainly be

maintained solely by natural dispersal at a population size less than half of current levels (vonHoldt et al. 2010). The 3 subpopulations function as a single large NRM DPS meta-population (Figure 1). In addition, the NRM DPS is simply a 400-mile southern extension of a vast western Canadian wolf population that by itself contains over 12,000 wolves. Lone dispersing wolves continue to routinely travel beyond the core recovery areas and a few even go outside the NRM DPS.

Data collected in 2010 about wolf distribution, numbers, packs, and breeding pairs; livestock depredation, compensation, and wolf control; and apparent declines in prey populations in the most remote areas in the NRM DPS that have the lowest rate of livestock conflict and the longest history of pack persistence (YNP and central Idaho Wilderness), suggest the NRM DPS wolf population maybe stabilizing or even starting a slow decline to some as yet undetermined lower equilibrium based on natural carrying capacity in suitable habitat and human social tolerance.

Numerous research projects are underway examining: wolf population dynamics, predator-prey interactions, wolf interactions with other wildlife species, wolf diseases and parasites, possible wolf-caused trophic cascades, wolf/elk interactions on elk winter feed-grounds, and livestock depredation by wolves. Numerous scientific papers were published about wolves in the NRM DPS (see literature cited).

State, tribal, and USFWS management will maintain a fully recovered wolf population in the NRM DPS while attempting to reduce conflict. Delisting the NRM wolf population would allow implementation of a more efficient, sustainable, and cost-effective wildlife conservation model, but has been difficult to achieve. However, regardless of which agencies manage the wolf population, controversy is likely to remain high because of the strong symbolism that humans ascribe to wolves.

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