CHAPTER VI: GRAY WOLF

A. Status of the Species

As explained in more detail below, the status of the gray wolf in Idaho at the completion of this Opinion is as follows: the gray wolf north of Interstate 90 is listed as endangered and the gray wolf population south of Interstate 90 is considered nonessential experimental (NEP) under 10(j) of the Act (Figure 11). The USFS has concluded in their Assessment that the proposed MIRR may affect, and is likely to adversely affect the gray wolves throughout the state of Idaho. While making the same determination for both the endangered gray wolf north of Interstate 90 and the NEP of gray wolves south of I-90, the USFS has also concluded that the MIRR is not likely to jeopardize the continued existence of the NEP of gray wolves south of I-90. This Opinion only addresses the USFS's determination of may affect, and is likely to adversely affect the endangered gray wolf north of Interstate 90.

1. Listing History

In 1974, the Service listed four subspecies of gray wolf as endangered, including the northern Rocky Mountains gray wolf (*Canis lupus irremotus*), the eastern timber wolf (*C. l. lycaon*) in the northern Great Lakes region, the Mexican wolf (*C. l. baileyi*) in Mexico and the southwestern United States, and the Texas gray wolf (*C. l. monstrabilis*) of Texas and Mexico (50 CFR 17.11(h)) (Service 1974). In 1978, the Service relisted the gray wolf as endangered at the species level (*C. lupus*) throughout the conterminous 48 States and Mexico, except for Minnesota where it was reclassified as threatened (50 CFR 17.11(h)).

On November 22, 1994, the Service designated unoccupied portions of Idaho, Montana, and Wyoming as two NEP population areas for the gray wolf under section 10(j) of the Endangered Species Act of 1973, as amended (Act) (50 CFR 17.84(i)): the Greater Yellowstone Area NEP, including all of Wyoming and parts of southern Montana and eastern Idaho; and the central Idaho NEP area, including most of Idaho (south of Interstate Highway 90) and parts of southwestern Montana. In 2003, the Service adopted regulations that reclassified, or down-listed, wolves from endangered to threatened in Idaho north of I-90 (Service 2003); however, in early 2005, a federal court judge remanded these regulations. Consequently, wolves north of I-90 remained classified as fully endangered. Wolves were reintroduced to the NEP areas (south of I-90) starting in 1995. On January 6, 2005, the Service published a revised NEP 10(j) rule increasing management flexibility of these recovered populations for those States and Tribes with Service-approved wolf management plans (50 CFR 17.84(n)); this NEP special rule was revised again on January 28, 2008.

On March 12, 2007, the Service established and delisted the Western Great Lakes distinct population segment (DPS) of wolves, including all of Minnesota, Wisconsin, Michigan, and parts of North and South Dakota, Iowa, Illinois, Indiana, and Ohio (Service 2007).

On February 27, 2008, the Service designated and delisted the Northern Rocky Mountain gray wolf DPS throughout Idaho, Montana and Wyoming. Management of the delisted gray wolf was transferred to the individual state departments of wildlife with certain oversight responsibilities

remaining with the Service. On July 18, 2008, the district court of Montana issued a preliminary injunction on this Service action, temporarily reinstating protections under the Act previously provided to this species. Consequently the current status of the gray wolf in Idaho under the Act is as follows: the gray wolf north of Interstate 90 is listed as endangered and the gray wolf south of Interstate 90 is considered NEP under 10(j) of the Act (Figure 11). As stated above, this Opinion only addresses the USFS's determination that the proposed MIRR may affect, and is likely to adversely affect the population of gray wolves listed as endangered north of Interstate 90.

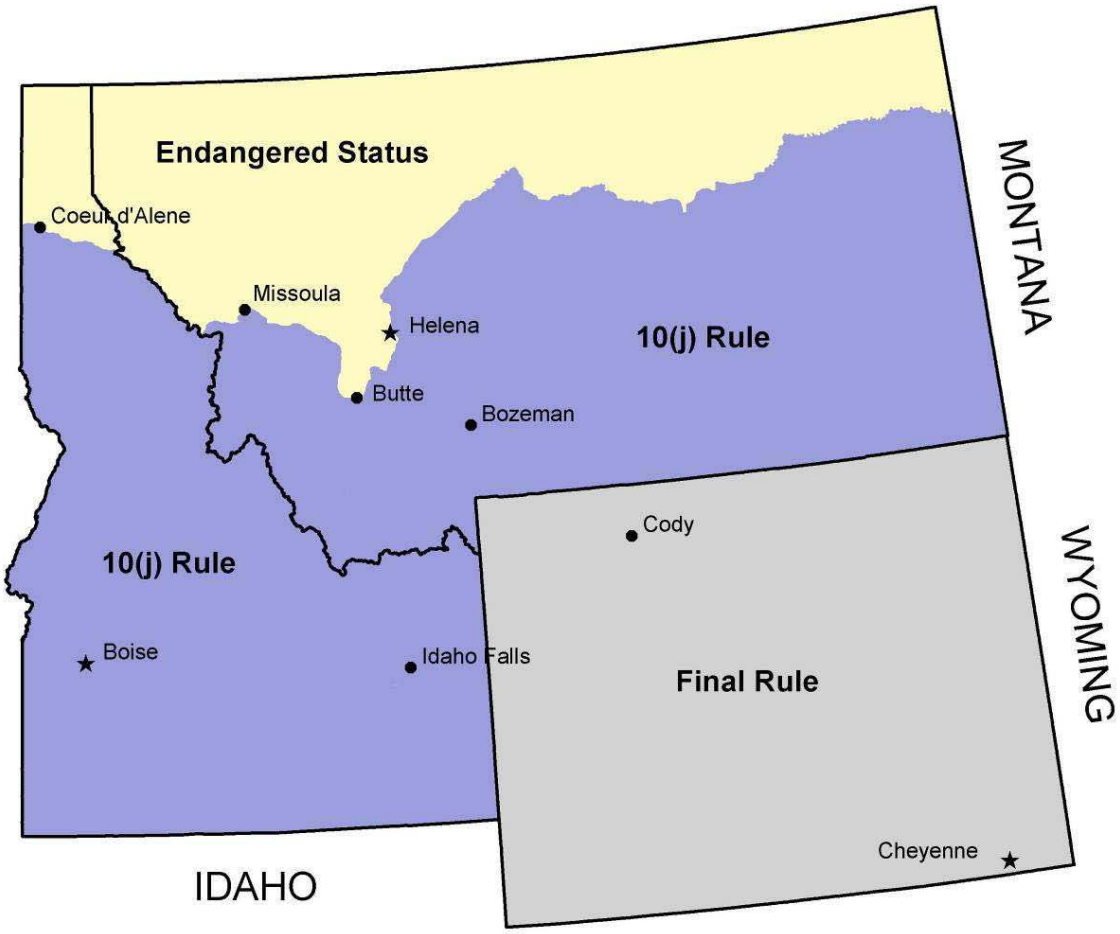

Figure 11. Northern Rocky Mountain Gray Wolf recovery areas depicting endangered (yellow) and nonessential experimental (blue) status of gray wolves.

2. Description of the Species

Gray wolves are the largest wild members of the dog family (Canidae). Adult gray wolves range from 18–80 kilograms (kg) (40–175 pounds (lb)) depending upon sex and region (Mech 1974, p. 1). In the NRM, adult male gray wolves average over 45 kg (100 lb), but may weigh up to 60 kg (130 lb). Females weigh slightly less than males. Wolves' fur color is frequently a grizzled gray, but it can vary from pure white to coal black (Gipson et al. 2002).

3. Life History and Habitat Requirements

Wolves are considered relatively social, forming packs consisting on average of 2-12 animals, including a breeding pair (Service 2008, pg. 10514). In the NRM, pack sizes average about 10 wolves in protected areas, but a few complex packs have been substantially bigger in some areas of Yellowstone National Park (YNP) (Smith et al. 2006, p. 243; Service 2008b). Packs typically occupy large distinct territories from 518 to 1,295 km^2 (200 to 500 mi^2) and defend these areas from other wolves or packs. Typically, only the top-ranking ''alpha'' male and female in each pack breed and produce pups (Packard 2003, p. 38; Smith et al. 2006, pp. 243–4; Service 2008b). Females and males typically begin breeding as 2- year-olds and may annually produce young until they are over 10 years old. Litters are typically born in April and range from 1 to 11 pups, but average around 5 pups (Service 2008b). Most years, four of these five pups survive until winter (Service 2008b). Wolves can live 13 years (Holyan et al. 2005, p. 446), but the average lifespan in the NRM is less than 4 years (Smith et al. 2006, p. 245).

In general, wolves are habitat generalists in that they can use a wide array of habitat types. However, there are several biological and behavioral characteristics of wolves that largely dictate where populations can persist successfully. Wolves primarily prey on medium and large mammals. Ungulates comprise the major component of wolf diets throughout Idaho, including elk, mule deer, white-tailed deer, and moose where available. Columbian ground squirrels, snowshoe hare, and grouse may provide alternate prey sources (Service 1987, pg. 6). Wolves appear most vulnerable to human disturbance in and around denning and rendezvous sites (Service 1987, pg. 73). Based on these characteristics, key components of wolf habitat that appear consistent across the diversity of landscapes inhabited by wolves include the following: 1) a sufficient year-round prey based of ungulates and alternate prey, 2) suitable and somewhat secluded denning and rendezvous sites, and 3) sufficient space with minimal exposure to humans (Service 1987, pg. 7).

4. Population Dynamics

Once a given area is occupied by resident wolf packs, it becomes saturated and wolf numbers become regulated by the amount of available prey, intra-species conflict, other forms of mortality, and dispersal. Dispersing wolves may cover large areas as they try to join other packs or attempt to form their own pack in unoccupied habitat (Mech and Boitani 2003, p. 11–17). Pup production and survival can increase when wolf density is lower and food availability per wolf increases (Service 2008b; Fuller et al. 2003, p. 186). Pack social structure is very adaptable and resilient. Breeding members can be quickly replaced either from within or outside the pack and pups can be reared by another pack member should their parents die (Packard 2003, p. 38; Brainerd et al. 2008; Mech 2006, p. 1482). Consequently, wolf populations can rapidly recover from severe disruptions, such as very high levels of human-caused mortality or disease. After severe declines, wolf populations can more than double in just 2 years if mortality is reduced; increases of nearly 100 percent per year have been documented in low-density suitable habitat (Fuller et al. 2003; Service 2008b). Although most wolf packs tend to adhere geographically to their established home ranges, there are few real barriers to wolf movement across landscapes.

5. Historic and Current Distribution

The gray wolf has a circumpolar distribution in the northern latitudes. It occurs in Europe, Asia, and North America. Although once distributed broadly across the conterminous 48 states and Alaska, the breeding range within the United States was reduced down to only a small corner in southeastern Minnesota and Isle Royale, Michigan by 1974. Individual wolves were periodically observed in the West, but there were no breeding packs (Service 1978). Through recovery efforts, wolves have significantly increased in abundance and distribution in targeted recovery areas since 1974 (Figure V-9 in the Assessment). As stated above, the Western Great Lakes DPS rebounded in numbers to the point it was delisted under ESA in 2007 (Service 2007).

In the early 1980s, individual wolves, naturally dispersing from Canada, recolonized portions of northwest Montana near Glacier National Park. However, the 1987 plan called for establishing a metapopulation comprised of three northern Rocky Mountain wolf recovery areas: northwest Montana (NWMT), central Idaho (CID), and the Greater Yellowstone area (GYA). Collectively these three populations (NWMT, CID and GYA) form the Northern Rocky Mountain (NRM) gray wolf population. The Service reintroduced 15 gray wolves from southwestern Canada into central Idaho and Yellowstone in 1995, and 20 more wolves in 1996 (Bangs and Fritts 1996; Bangs et al. 1998). The reintroduction expanded the numbers and distribution of wolves throughout the three recovery areas of the NRM. Monitoring conducted throughout the NRM since 1979 indicates that this population achieved its numerical and distributional recovery goals at the end of 2000, Table 28 (Service et al. 2008). The temporal portion of the recovery goal was achieved in 2002 when the numerical and distributional recovery goals were exceeded for the third successive year, Table 28 (Service et al. 2008). In general, wolf numbers, as well as packs and breeding pairs, have exhibited relatively constant increasing trends since 1995, particularly throughout northern and central portions of the State (Nadeau et al. 2008, pgs. 132-134). Figure 12 illustrates the documented wolf packs dispersed throughout the state of Idaho.

As of 2007, there was a total minimum estimate of 1,513 wolves within the NRM distributed as follows: NWMT-230, CID-830; and GYA-453. Of 197 packs, 107 were classified as 'breeding pairs,' defined as an adult male and adult female raising 2 or more pups until December 31st. At least 10 breeding pairs and 100 wolves were documented within each recovery area, resulting in a well distributed wolf population across the NRM, as summarized below (Service et al. 2008):

Year	Recovery Area	Number of Wolves	Packs	Breeding Pairs*
1999	NWMT	63	10	5
	GYA	118	16	8
	CID	141	13	10
	Total	**322**	**39**	**23**
2007	NWMT	230	39	23
	GYA	453	53	3
	CID	830	105	51
	Total	**1513**	**197**	**107***

*Breeding pair: an adult male and an adult female that raise at least 2 pups until December 31 of the year of their birth.

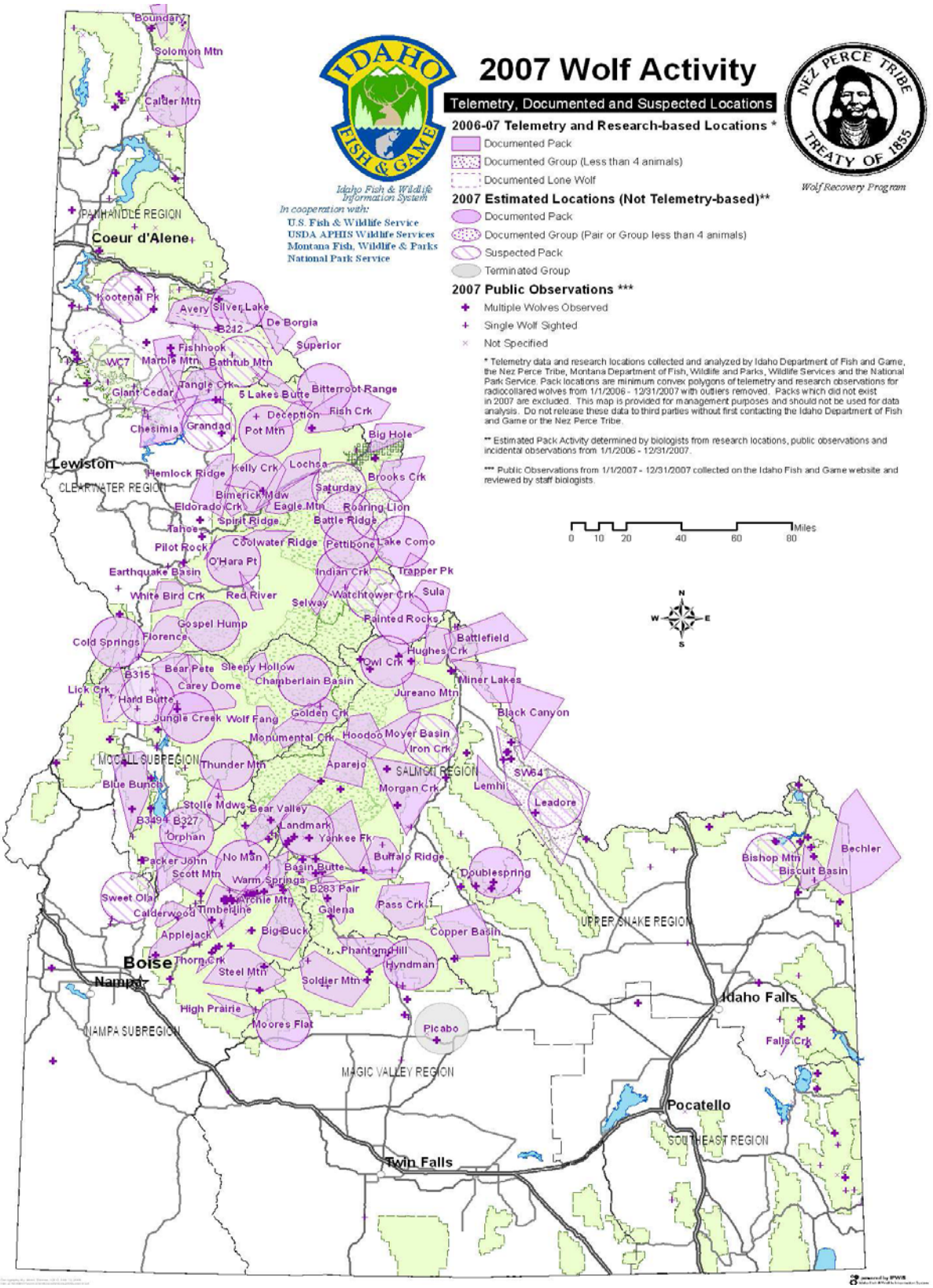

Figure 12. Distribution of documented and suspected wolf packs, other documented groups, and public wolf reports in Idaho, 2007.

Following 2002, the Service began to use States, in addition to recovery areas, to measure progress toward recovery goals (Service et al. 2008; Service 2008b). Because Montana, Idaho, and Wyoming each contain the vast majority of one of the original three core recovery areas, we determined the metapopulation structure would be conserved by equally dividing the overall recovery goal between the three States. This approach made each State's responsibility for wolf conservation fair, consistent, and clear. It avoided any possible confusion that one State might assume all of the responsibility for maintaining the required number of wolves and wolf breeding pairs in a shared core recovery area. State regulatory authorities and traditional management of resident game populations occurred on a State-by-State basis. Management by State would still maintain a robust wolf population in each core recovery area because they each contain manmade or natural refugia from high levels of human-caused mortality (e.g., National Parks, wilderness areas, and remote Federal lands) that guarantee those areas remain the stronghold for wolf breeding pairs and source of dispersing wolves in each State. Recovery targets by State promote connectivity and genetic exchange between the metapopulation segments by avoiding management that focuses solely on wolf breeding pairs in relatively distinct core recovery areas and promote a minimum level of potential natural dispersal to and from each population segment. Table 28 displays the status of gray wolves within Montana, Idaho, and Wyoming from 1979 through 2007 (Service et al. 2008). Figure 13 provides a graphical representation of the increasing wolf population trends within each of these three states. At the end of 2007 Idaho supported 732 in 86 packs, 43 of which constituted 43 breeding pairs (Service et al. 2008).

Table 28. Status of the gray wolf in Montana, Wyoming, and Idaho from 1979 to 2007 (Service et al. 2008)

Minimum fall wolf population by state:

Year	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07
State																													
MT	2	1	2	8	6	6	13	15	10	14	12	33	29	41	55	48	66	70	56	49	74	97	123	183	182	152	256	316	422
WY																	21	40	86	112	107	153	189	217	234	272	252	311	359
ID																	14	42	71	114	156	187	251	263	345	422	512	673	732
TOTAL	2	1	2	8	6	6	13	15	10	14	12	33	29	41	55	48	101	152	213	275	337	437	563	663	761	846	1020	1300	1513

Breeding pairs by state:

Year	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07
State																													
MT								1	2	1	1	3	2	4	4	5	6	7	5	5	7	8	7	17	10	15	19	21	39
WY																	2	4	9	6	7	12	13	18	16	25	16	25	25
ID																		3	6	10	10	10	14	14	25	26	36	40	43
TOTAL								1	2	1	1	3	2	4	4	5	8	14	20	21	24	30	34	49	51	66	71	86	107

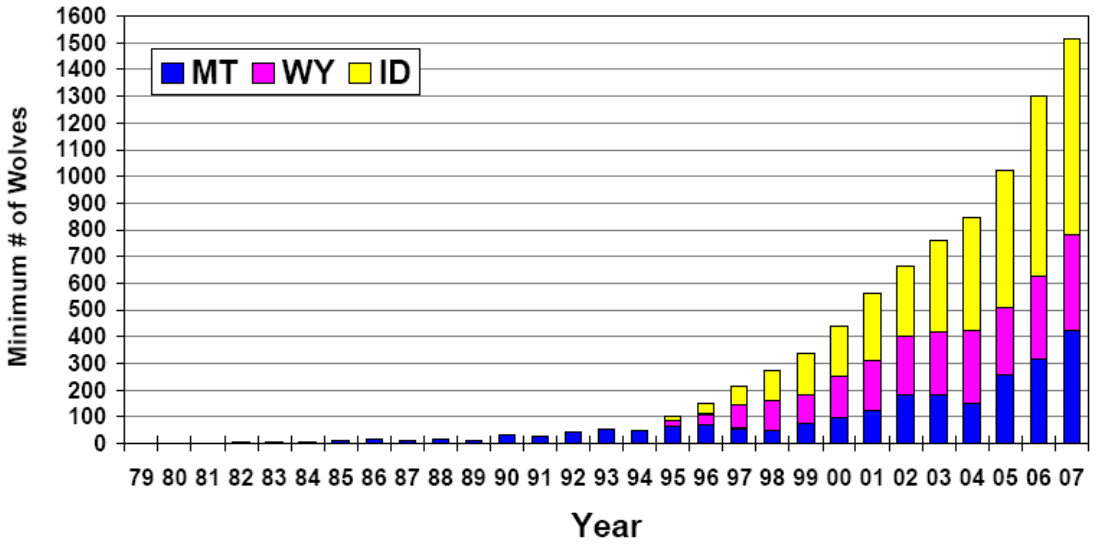

Figure 13. Northern Rocky Mountain population trends by State, 2007- 2008 (Service et al. 2008).

6. Previously Consulted-on Effects

Any projects in IRAs would need to be consistent with applicable plan components. For wolves, these constitute specific goals, objectives, standards, and guidelines that have been incorporated into the Forest Plans throughout Idaho National Forests, and have undergone consultation under 7(a)(2) of the Act. Particularly pertinent to wolves north of I-90, the IPNF Plan provides the following direction regarding gray wolves;

a. In areas of reported occurrence, consider maintenance of a high number of prey species (deer, elk) and maintenance of security through road management.
b. Forward information on reported sightings to the Wolf Recovery Team.
c. Cooperate in research and data collection involving wolf and wolf habitat.

In the Amended Biological Opinion Addressing the Effects to Listed Endangered and Threatened Species from the Continued Implementation of the IPNF LRMP (1987) issued on April 9, 2001, the Service indicated that based on these guidelines, implementation of the Forest Plan was not expected to result in adverse effects to gray wolves at the programmatic level (Service 2001). The conclusions of the Amended Opinion in 2001were based on the status of the species at the time when no wolf packs were known to occupy the Panhandle region north of I-90. Since that time, at least 3 wolf packs have been tallied as occurring in the Panhandle region, and conclusions of any current or future section 7 consultation will reflect this change in population status in north Idaho (Holt, pers. comm. September 8, 2008). The Assessment for the MIRR has determined that none of the standards and guidelines regarding gray wolves documented in the IPNF LRMP (1987) is inconsistent with the MIRR; therefore they would be applied.

Since issuance of the 2001 Opinion, the IPNF applies the following measures to most projects that are proposed near active den and/or rendezvous sites (USFS 2004):

- Known active wolf den and rendezvous sites will be protected from high impact equipment/activities within a 1.25 mile radius of the site during occupancy, generally between April 1 and July 1 for den sites and from July 1 - August 15 for rendezvous sites.
- Known active den and rendezvous sites will be protected from all other activity associated with trail maintenance (excluding walking through) within a 0.5 mile radius from April 1 – July 1 for den sites and from July 1 - August 15 for rendezvous sites.

Although these measures are not 'standards and guidelines' as established by the 1987 LRMP, they are considered mandatory for many projects to assist in minimizing impacts to wolves.

7. Conservation Needs

As stated above, the Recovery Plan for the Northern Rocky Mountain wolf (Service 1987) summarized the primary causes for decline of the eastern timber wolf and Northern Rocky Mountain wolf: 1) intensive human settlement; 2) direct conflict with domestic livestock; 3) a lack of understanding of the animal's ecology and habitats; 4) fears and superstitions concerning wolves; and 5) the extreme control programs designed to eradicate it. The Service concluded that these issues contributed to habitat loss and direct mortality (poisoning, trapping, hunting) in this western population (Service 1987, pg. 3). The demographic goals outlined in the Recovery Plan for the Northern Rocky Mountain wolf were achieved in 2000. This achievement was the basis for the Service determination in 2008 that this population met the criteria of a 'recovered' population (Service 2008). This determination suggests that previous threats to the species have been removed or are no longer impacting the Northern Rocky Mountain wolf to the extent that it warrants listing under the Act.

Human-caused mortality is the most significant threat to the long-term conservation of the gray wolf. Managing this source of mortality (i.e., overutilization of wolves for commercial, recreational, scientific and educational purposes and human predation) remains the primary challenge to maintaining a recovered wolf population into the foreseeable future. Montana and Idaho have wolf management plans to regulate human caused mortality that are current and effective under State law and that the Service has determined are adequate to support a recovered wolf population. On February 27, 2008, the Service designated and delisted the Northern Rocky Mountain gray wolf DPS throughout Idaho, Montana and Wyoming. Management of the delisted gray wolf was transferred to the individual state departments of game with certain oversight responsibilities remaining with the Service. On July 18, 2008, the district court of Montana issued a preliminary injunction on this Service action, temporarily reinstating protections under the Act previously provided to this species.

8. Critical Habitat

Critical habitat has not been designated for the endangered gray wolf north of I-90 in Idaho or the remainder of the NWMT recovery area, therefore none will be affected by the proposed action.

B. Environmental Baseline

1. Status of the Species in the Action Area

The action area for the MIRR consists of the IRAs on NFS lands throughout Idaho, and the Assessment addresses the status of gray wolf across the entire action area. As described above (and depicted in Figure 11), the MIRR action area involves both the NEP of gray wolves south of I-90 as well as the endangered gray wolf north of I-90. However, this formal consultation addresses the endangered gray wolf that occupies the Idaho portion of the NWMT recovery area. The entire NWMT recovery area basically extends west of I–15 and north of I–90 in Montana and Idaho. For that reason, the IRAs located north of I-90 are highlighted in this analysis.

The NWMT has sustained fewer wolves than the other recovery areas because there is less suitable habitat and it is more fragmented (Oakleaf et al.2006, p. 560). While the NWMT recovery area (84,800 km^2 (33,386 mi^2)) also has a core of protected suitable habitat (Glacier National Park, the Bob Marshal Wilderness Complex, and extensive USFS lands), it is not as high quality or as contiguous as that in either central Idaho or GYA. The primary reason is that many ungulates do not winter in the Glacier National Park or wilderness areas because these are higher in elevation. Most wolf packs in northwestern Montana live west of the Continental Divide, where forest habitats are a fractured mix of private and public lands (Service 2008b). This mix exposes wolves to high levels of human-caused mortality, and thus this area supports smaller and fewer wolf packs. There appears to be enough habitat connectivity between occupied wolf habitat in Canada, northwestern Montana, and Idaho to ensure exchange of sufficient numbers of dispersing wolves to maintain demographic and genetic diversity in the NRM DPS (Oakleaf et al. 2006, p. 559; Carroll et al. 2006, p. 32; Jimenez et al. in prep; vonHoldt et al. 2007, p. 19).

Numerous unconfirmed and confirmed sightings of transient or dispersing gray wolves have been documented north of I-90 in Idaho since 1995. In that year, a wolf was incidentally killed approximately 4 miles north of the town of Priest river, Idaho by an M-44 device set by the U.S. Department of Agriculture, Wildlife Services for lethal coyote (*Canis latrans*) control. In January and February 2002, a female radio-colored gray wolf was documented traveling from Montana though Northern Idaho (near Bonners Ferry), crossing into Washington State near Priest Lake, and then traveling north into Canada. Substantial wolf activity has been documented near Hall and Mission Mountains in northern Idaho, and dispersing wolves are expected to have traveled through the Idaho panhandle. Home ranges of 4 wolf packs: Boundary, Solomon Mountain, Calder Mountain, and Silver Lake appear to overlap areas north of I-90, the latter only marginally.

The Panhandle Region of the IDFG encompasses most of north Idaho both north and south of Interstate 90. There were 5 documented resident, 2 suspected resident, and 6 documented border packs (three tallied for Idaho and three tallied for Montana) in the Panhandle Region of the IDFG in 2007 (Figure 14). Four of the 8 documented Idaho packs (Avery, Calder Mountain, Fishhook, and Marble Mountain) produced litters, but only the Fishhook pack qualified as breeding pair. Litter production and breeding pair estimates were minimums as manpower and field season timing were insufficient to adequately survey all known Panhandle Region packs. The Calder

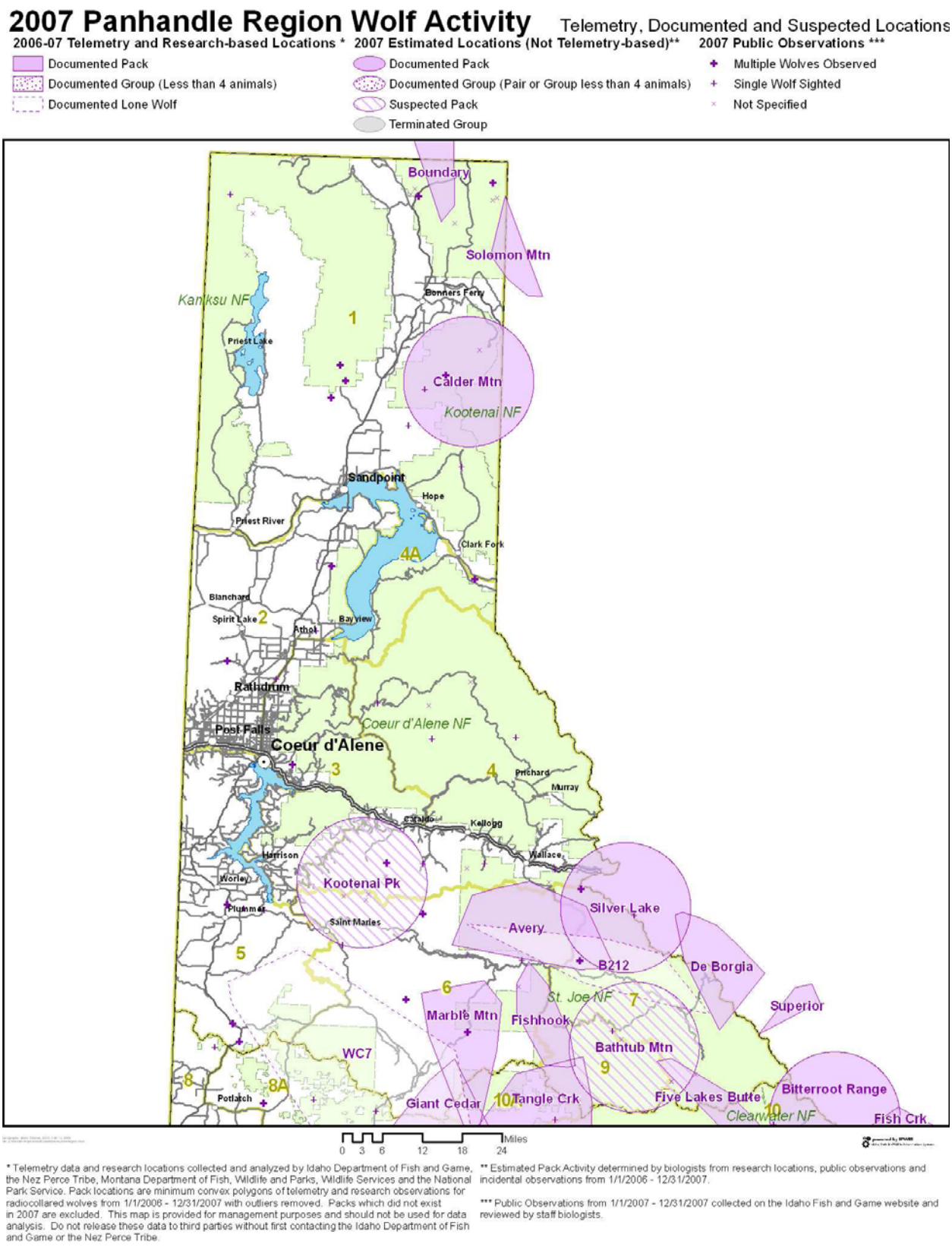

Figure 14. Wolf pack activity and observations in the Panhandle Region, 2007.

Mountain and Solomon Mountain border packs shared time between Idaho and Montana, and were counted as Idaho packs, while the De Borgia, Silver Lake, and Superior packs were counted by Montana. The Boundary pack moved between Idaho and Canada. Numerous observations of wolves or wolf sign have been reported in areas of the Panhandle Region where known wolf packs have not been documented. Reports indicated the recurring presence of wolves in the Coeur d'Alene Mountains, the eastern (near Priest Lake) and western (Pack River & southern Purcell Mountain ranges) portions of Big Game Management Unit 1. Observation reports have been received from additional areas of the Panhandle Region though not in a recurring fashion that would lead investigators to believe the persistent presence of wolves. Future monitoring will be conducted to determine the status of wolf activity in these areas of the Panhandle Region.

The following section provides more detailed information on the documented border packs (packs that travel between Idaho, Montana and Canada) tallied to Idaho in the Panhandle Region (IDFG 2007). Nadeau et al. (2008, pg, 144) reported on all wolf activity across Idaho in 2007 using the following terms:

- Documented Pack – 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 Pack – 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 wolf activity – verified groups or lone wolves not meeting either documented or suspected pack status.

Boundary (ID) - This border pack was tallied to Idaho for 2007. In spring 2007, the only marked member of the Boundary pack (female B296) was discovered with the newly documented Solomon Mountain pack. Program personnel surveyed the traditional Boundary pack area in September 2007 and determined the presence of at least 2 wolves, but were unable to mark any animals or quantify the pack size. In early December 2007, Wildlife Services 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 of Hall Mountain. The Boundary pack was considered a documented border pack (US/Canada border) but was not counted as a breeding pair.

Calder Mountain (ID) - This border pack was tallied for Idaho in 2007. This pack was first documented in 2005; however, to date no wolves have been radio collared. The Calder Mountain pack was considered a Panhandle Region border pack based on den and rendezvous site locations and spent time in both Idaho and Montana. Program personnel discovered rendezvous sites and tracks indicating at least 3 adults and 1 pup in September (official counts), although a report of 4 pups was unverified. The Calder Mountain pack was not counted as a breeding pair for 2007.

Solomon Mountain (ID) – This border pack was tallied for Idaho in 2007. The Solomon Mountain pack was discovered by monitoring female B296, originally a member of the Boundary pack. Program personnel monitored the radio signal at a likely den site in spring 2007 although no verification was accomplished. During summer, fall, and early winter 2007, the Solomon Mountain pack was located numerous times on both sides of the Idaho/Montana. The

Solomon Mountain pack was considered an Idaho pack but was not counted as a breeding pair for 2007.

Table 29. Overlap of documented and suspected wolf packs and other documented wolf activity3 and the Modified Idaho Roadless Rule in the Panhandle IDFG (Region 1).

IDFG Region	Total [1]	MIRR Theme						
		WLR	Prim	BCR	BCR CPZ	GFRG	SAHTS	FPSA
Panhandle								
Documented Packs	11	2	2	9	3	2	0	6
Suspected Packs	2	1	1	1	0	1	0	1
Documented wolf activity	1	0	0	1	1	0	0	1

1Total within the Panhandle IDFG (Region 1).

2. Factors affecting the Species in the Action Area

The majority of wolf records in Idaho, as of 2007, overlap IRAs to some degree. High use of roadless areas by wolves is not surprising given that wolves persist most effectively in areas where human disturbance is low. IRAs hold particular importance to wolves in providing both the prey base and a relatively large, undisturbed landscape to both persist and increase in numbers. As indicated above, the MIRR establishes prohibitions and permissions on road construction/reconstruction, timber cutting, and discretionary mining activities across IRAs based on management area 'themes'. This section begins with a general discussion of the potential effects that these management activities can have on gray wolves and then describes the implications of the management area themes proposed by the MIRR on the species north of I-90.

Roads, Road Construction and Reconstruction

Today, approximately 2,050 miles of roads currently exist on less than 5 percent of the land area (statewide) in IRAs. There are 51 miles and 3 miles of roads within IRA's within the Idaho Panhandle and Kootenai National Forests respectively. Because not all of the IPNF lies north of I-90, some of the 51 miles of roads found within roadless areas on this forest likely occur south of I-90. Some of these roads pre-date the roadless area inventories, while others have been constructed where Forest Plans permitted development. The more current inventory may include forest roads, other public roads, private roads, and unauthorized roads. The unauthorized roads include but are not limited to "jammer roads," user created routes, and other roads that were never authorized through contract or permit.

In general, roads were not considered a primary threat to the gray wolf at the time of listing in and of themselves (Service 1974, 2003). However, road construction, reconstruction, and use may affect individual wolves or packs through a number of mechanisms. First, wide-ranging carnivores such as wolves are vulnerable to collisions with vehicles (Forman et al. 2003, pg. 118). A number of wolf deaths documented in the NRM population have been attributed to collisions with cars on highways (Sime et al. 2007, pg. 35). Vehicle speeds on forest roads are relatively slow in comparison to highways or other public roads due to topography, substrate and

road conditions. Consequently, the potential for wolf mortality or injury due to collisions with vehicles is probably low on forest roads.

As wolves persist more successfully where interactions with humans is minimal (Service 1987, pg. 7), construction and use of roads do have the potential to impact wolves due to the human activities and disturbance they facilitate (Mech et al. 1988). Some studies suggest that wolves may avoid areas characterized by road densities that exceed certain thresholds (Jensen et al. 1986 and Thurber et al. 1994, as cited in Trombulak and Frissell 2000, pg. 20). Although individual roads and trails may not impact wolf movements, increasing road/trail densities to these thresholds may eventually displace wolves from certain areas (Whittington et al. pg. 550). Though IRAs may contain segments of roads as explained above, road densities currently found in IRAs are extremely low and do not reach a threshold sufficient to displace wolves from these areas. The likelihood of high road densities occurring in the future in IRAs north of I-90 is low, particularly as these IRAs are also managed to achieve grizzly bear recovery objectives (Holt, pers. comm., September 8, 2008).

The impact of human disturbance is of particular concern in and around dens and rendezvous sites (Service 1987, pg. 73) due to the potential implications to successful recruitment of pups. Frame et al. (2007, pg. 319) found that older pups (> 6 weeks of age) were more likely to be successfully moved from den sites disturbed by human intrusion than younger pups (< 3 weeks of age). Attempts to move younger pups to a new den site often were unsuccessful as pups were less mobile and apparently difficult to carry. Human intrusion during this period has the potential to adversely affect wolves where adults spend more time guarding pups and less time hunting, which could contribute to poor physical condition of pups. As the level of human disturbance evaluated in this study did not influence reproductive success or use of den sites by the same wolves in subsequent years, authors concluded there was a minimal effect on wolves at a population scale. Creel et al. (2002) reported similar findings to those of Frame et al. (2007) in that although free-ranging wolves did exhibit adrenal responses to snowmobile activity, there did not appear any consequences to recruitment of pups. It should be noted that this study did not necessarily focus on disturbance at den sites, and thus the degree to which wolves altered their behavior in response to disturbance was not examined. In summary, these studies suggest that although the behavior of wolves may be altered due to even small human disturbances in and around den sites, such changes in behavior did not appear to reduce individual survivability or population numbers.

Timber Cutting/Harvest

In general, wolves are considered habitat generalists, where the most important habitat characteristics revolve around the availability of a sufficient year-round prey base and areas free from human disturbance (i.e., ‘secure’ habitat). Although not considered a primary threat to wolves (Service 1974), timber cutting, sale, or removal has the potential to alter these characteristics in the following ways:

- Vegetation management that reduces the quality or availability of habitat of wolf prey species is likely to have cascading impacts on wolf populations as well, where prey densities are altered (Hanley et al. 2005, pgs. 122-123).

- Timber cutting activities and associated road construction increases human disturbance, and may increase road densities in areas utilized by wolves that were previously remote, which as discussed above, have the potential to displace wolves from key habitats such as denning and rendezvous sites. In some cases, however, even active wolf dens can be quite resilient to nonlethal disturbance by humans (Frame et al. 2007, p. 316).

C. Effects of the Proposed Action

The previous section presented factors and activities that can affect the gray wolf in the action area, some of which (particularly road construction, road reconstruction, timber cutting and discretionary mining) may also result from future actions undertaken as allowed by the MIRR. To minimize duplication, these potential effects are not reiterated in their entirety below, but are addressed specifically relative to the MIRR. Unlike most USFS project analyses of alternatives and environmental consequences, the analysis of the MIRR does not include an analysis of project implementation and resulting direct effects; it is an analysis of activities that could occur as allowed by the MIRR and the indirect and cumulative effects that could occur from those actions. It is an analysis of what is allowed under the rule versus an analysis of the on-the-ground activities, and therefore has no direct effects.

Almost all records of wolf activity in Idaho (e.g., documented packs, suspected packs, etc.) overlap IRAs to some degree. Consequently, management of IRAs is relevant to wolves throughout the state. Most wolf packs, given the sizes of their estimated or telemetered home ranges, overlap several themes. Consequently, totals across themes do not equate to total packs.

Conditions under which road construction/reconstruction and timber cutting could occur within IRAs vary with themes proposed by the MIRR. Generally, these themes rank in restrictiveness as follows (from most restrictive to least): WLR, PRIM and SAHTS, BCR, BCR-CPZ, and lastly GFRG (see Chapter II for more detailed descriptions of these themes). Approximately 1,000 acres of timber harvest (i.e., removal of a commercial product) and 3.3 miles of road are projected in IRAs per year across the entire state under the MIRR. Below we discuss the implications of these themes to the gray wolf.

Wild Land Recreation, Primitive, SAHTS

Road construction and reconstruction is prohibited under both of these themes, unless provided for by statue or treaty, or pursuant to reserved or outstanding rights, or other legal duty of the United States. Therefore, effects to wolves associated with road construction or reconstruction within home ranges overlapping these themes (e.g., increased opportunities for vehicle-related injuries and mortalities, as well as facilitation of unauthorized recreational shooting) are not anticipated to occur. Further, prohibition on new roads, temporary or permanent, should benefit the species in these areas by reducing disturbance and human access. While there is documented overlap between wolf pack and these themes in the Idaho Panhandle Region of the IDFG, neither the Calder Mountain nor Solomon Mountain packs north of I-90 have been documented in WLR, PRIM or SAHTS themes. The Silver Lake pack, for which a small portion of the home range falls north of I-90, has not been documented to overlap WLR, PRIM or SAHTS. However,

given the widespread distribution of wolves across northern Idaho, areas assigned to these themes are likely to overlap areas occupied by wolves in the future.

Timber cutting, sale, or removal is generally prohibited in WLR except for personal or administrative uses, or where incidental to the implementation of management activities not otherwise prohibited. Consequently, we would not anticipate adverse effects to wolves under this theme resulting from timber cutting. Timber cutting is permitted in PRIM in two additional circumstances: to improve habitat for TEPC and to maintain or restore the characteristics of ecosystem composition and structure; or to reduce the risk of uncharacteristic wildland fire effects to an at-risk community or municipal water supply system. Such activities could only be facilitated using existing roads or aerial systems, and projects would have to meet certain additional criteria (e.g., retention of large trees, Regional Forester approval, etc.). Therefore, timber cutting activities (and related activities such as prescribed burning) could occur in PRIM where they are designed to restore or improve TEPC habitat, such as removal of encroaching conifers montane meadows. Such activities would likely have benign or long-term beneficial effects on wolves particularly where they maintain and/or improve habitat conditions for ungulates, the primary prey species of wolves.

Given the widespread distribution of wolves across Idaho, watersheds that contain municipal water sources are likely to overlap areas occupied by wolves. Further, there are several areas in the PRIM theme within 1 ½ mile of an at-risk community and which overlap areas characterized by wolf activity. Therefore, timber cutting activities (including related activities such prescribed fire) intended to reduce and remove hazardous fuels could occur in these IRAs to protect municipal water sources or at-risk communities. Such activities are unlikely to adversely affect wolves except possibly through short-term disturbance during implementation. However, the objective of fuels reduction is typically to remove ladder fuels, create a more open stand, conditions that could benefit wolves by improving habitat quality for primary wolf prey species.

Road construction and reconstruction related to discretionary mining activities and surface occupancy are prohibited in WLR and PRIM. Consequently, effects associated with these activities on wolves (e.g., habitat loss, fragmentation, increased human access) are not anticipated under these themes.

Backcountry Restoration

Both the Calder Mountain and Solomon Mountain wolf packs north of I-90 overlap BCR. Within BCR, roads could be constructed or reconstructed under six primary exceptions (See Chapter II for more details). In addition, temporary road construction to facilitate timber harvest could be allowed to reduce hazardous fuels in the BCR theme outside the CPZ if it is determined that there is a significant risk to a community or a municipal water supply system. Since additional conditions would be required, it is likely that temporary road construction for this purpose would be infrequent. Timber cutting from existing roads or using aerial systems could be done throughout all of BCR to improve TEPC habitat or ecosystem composition and function, provided that these activities maintain or improve at least one roadless characteristic. Activities away from roads would likely be in the form of prescribed fire or wildland fire use.

Within the CPZ temporary roads could be constructed to facilitate timber cutting to reduce hazardous fuels. Temporary roads may only be used for their specified purpose and must be decommissioned after use. Timber cutting from existing roads or using aerial systems could also occur to address similar purposes as described under PRIM (e.g., improve TEPC habitat, maintain characteristics of ecosystem composition and structure, etc). Effects to wolves resulting from construction of temporary roads or timber cutting could occur under BCR-CPZ, given that 54,200 acres on the IPNF are assigned with this theme. No BCR-CPZ is proposed in the KNF.

Again, timber cutting is not likely to adversely impact wolves except where disturbance, particularly around den and rendezvous sites, can not be avoided. Given both the Calder Mountain and Solomon Mountain wolf packs north of I-90 overlap the BCR theme, and given that the IPNF has 533,900 acres and the KNF has 34,900 acres assigned to the BCR theme, the likelihood that wolves may encounter activities under this theme is moderate. However, the severity of effects on wolves from these activities is expected to be relatively low.

General Forest, Rangeland or Grassland

North of I-90, the Calder Mountain Pack territory overlaps GFRG theme assignments. Both permanent and temporary forest roads can be constructed, reconstructed and/or maintained in GRFG and timber cutting, sale, and removal is permissible. All activities that take place in GRFG would be subject to applicable land management plan components as well as to specific conditions promulgated by this rule (See Chapter II for list of conditions).

Most of the road construction/reconstruction and timber cutting projected under the MIRR is expected to occur in GFRG. No GFRG is proposed in the KNF, but there are approximately 17,600 acres assigned to the GFRG theme on the IPNF. Again, the likelihood of adverse effects to wolves is low from these activities relevant to the MIRR.

Use of prescribed fire is not directly addressed by the MIRR. However, this activity is typically paired with timber cutting activities intended to reduce fuels, which is addressed by the MIRR, thus we address impacts of prescribed burning on gray wolves north of I-90. In general, fire exclusion throughout the western U.S. over the past 50 to 100 years has substantially altered the natural succession of many forested ecosystems, whereas early successional forest stages have been reduced or eliminated (Zager 1980, as cited in the Grizzly Bear Compendium 1987). Such changes have likely impacted the habitats for ungulate populations upon which wolves depend. Use of prescribed fire has the potential to improve habitat for key wolf prey species such as elk and deer, particularly where fire increases understory plant growth where nutrients are released from conifer litter. Short-term adverse effects to wolves from prescribed fire could occur where implementation overlaps wolf denning and rendezvous sites in space and time. Limited operating periods intended to avoid periods during which wolf pups are vulnerable to disturbance may assist in minimizing such effects. Such avoidance measures can be included during project design and subsequent site-specific section 7 consultations.

Discretionary mining activities would be allowed under the MIRR. However, new road construction and reconstruction associated with development of geothermal, oil, or gas reserves

is prohibited in roadless areas under the MIRR regardless of theme except to provide access to specific phosphate deposits on the Caribou portion of the Caribou-Targhee National Forest. Surface use and occupancy is permitted within the BCR and GFRG theme if allowed under the applicable Forest Plan. While there are 17,600 acres assigned to the GFRG theme on the IPNF, some of which could overlap gray wolf activity north of I-90, all of the unleased phosphate deposits where new discretionary mining might be initiated occur on the Caribou-Targhee National Forest well south of the I-90 boundary where wolves are listed endangered. Also, as of 2007, there were no documented or suspected wolf packs or documented records of wolf activity on the portions of the Caribou-Targhee National Forest where phosphate mining might occur (Nadeau et al. 2008). Surface occupancy to facilitate extraction of leaseable minerals (e.g., oil and gas, geothermal) would be allowed where it is consistent with applicable plan components. Although the likelihood of new leases in IRAs in northern Idaho is low, surface occupancy for any new mines that use existing road systems could impact wolves via habitat loss, disturbance, and reductions in prey availability and abundance where they overlap wolf packs or activity north of I-90.

Although it varies by commodity, surface use associated with the exploration and development of leasable minerals requires access and haul roads, open pits, facilities, power lines, pipelines, and communication sites, all of which can impact habitats for terrestrial species. For example, development of geothermal energy includes the following: exploratory drilling (some ground disturbance, road to access if not already there); if exploratory is favorable, construction of a well pad (about 3 acres); a power plant is needed within one to two miles, as well as pipelines which are above ground (Abing 2008). Development of oil, coal and gas plants require similar intra-structure components.

Generally, most of the impacts discretionary mining could have on terrestrial wildlife species, including the gray wolf, will ensue from removal of the substrate for the mine footprint and required infrastructure, primarily road construction and development. The impacts resulting from these activities include habitat loss, degradation, fragmentation, and human disturbance. Development associated with mining operations can also facilitate increased human access into gray wolf habitat, which could contribute to increased disturbance.

D. Cumulative Effects

Under the Act, cumulative effects are defined in 50 CFR 402.02 as: “those effects of future state and private activities that are reasonably certain to occur within the action area of the Federal Action subject to consultation.” A non-Federal Action is “reasonably certain” to occur if the action requires the approval of a state of local resource or land use control, such agencies have approved the action, and the project is ready to proceed. For Federal lands, state, Tribal, and local government actions could be in the form of legislation, administrative rules, or policy initiatives, or they could be actions proposed on non-federal lands that fall within the action area (e.g., inholdings).

We do not anticipate cumulative effects to gray wolves resulting from state, Tribal, and local government actions for the following reasons:

- The action area for the MIRR consists of IRAs (see definition in Section II of the Assessment), most of which are unlikely to contain significant inholdings given their current roadless character and thus effects on such intervening non-Federal lands are unlikely;
- Given the broad scope of this Federal Action, it is not possible to determine specific state, private or local government legislation, administrative rules, or policy initiatives that would be reasonably certain to occur in IRAs.

E. Conclusion

The Service has reviewed the current status of the endangered gray wolf north of Interstate 90 in northern Idaho, the environmental baseline in the roadless areas within the IPNF and KNF north of I-90, effects of the proposed action, and cumulative effects, and it is our conclusion that the proposed action is not likely to jeopardize the species continued existence of the species.

Timber cutting activities and road construction and reconstruction in IRAs permitted under the MIRR, particularly in GFRG, have some potential to adversely affect individual wolves comprising the Boundary, Calder Mountain and Solomon Mountain Packs north of I-90 in northern Idaho. Adverse effects might occur due to habitat degradation due to increased road densities and disturbance in and around dens and rendezvous sites. At the project level, all activities will be subject to existing plan components that may assist in avoiding or minimizing adverse effects. Most projects proposed by the IPNF have not resulted in adverse effects to wolves as they have avoided disturbance to dens and rendezvous sites either temporally or spatially (USFS 2004b). As we can not predict where future activities authorized by the MIRR might take occur in place and time, or ensure such avoidance can always be incorporated into project design, we can not discount the potential for adverse effects, primarily in the form of disturbance, to wolves north of I-90.

While adverse effects result to gray wolves north of I-90 from the proposed MIRR cannot be discounted, they may not rise to the level of take of wolves or their habitat. Activities undertaken pursuant to the MIRR are not expected to result in mortality to wolves, or cause changes to existing population numbers, breeding pairs, or distribution. Wolves are a habitat generalist and one of the most adaptable large predators in the world, and only became extirpated because of deliberate human persecution (Fuller et al. 2003, p. 163; Boitani 2003, pp. 328–330). Land-use restrictions on human development were not necessary to recover the wolf population (Service 2008b). The ranges of wolves and grizzly bears overlap in many parts of Montana, Idaho, and Wyoming, and mandatory habitat guidelines on public lands for grizzly bear conservation guarantee and far exceed necessary criteria for maintaining suitable habitat for wolves (Service 2008b). Suitable habitat, occupied by persistent wolf packs, is secured by core recovery areas in northwestern Montana, central Idaho, and the GYA, including northwestern Wyoming. These areas include Glacier National Park, Grand Teton National Park, YNP, numerous wilderness areas, and other State and Federal public lands. These areas will continue to be managed for high ungulate densities, moderate rates of seasonal livestock grazing,

moderate-to-low road densities associated with abundant native prey, low potential for livestock conflicts, and security from excessive unregulated human-caused mortality. The core recovery areas also are within proximity to one another and have enough public land between them to ensure enough natural connectivity for wolf dispersal into the foreseeable future (Service 2008b). These areas currently support nearly 1,500 wolves and over 100 breeding pairs and have long been recognized as the most likely areas to successfully support 30 or more breeding pairs of wolves, comprising 300 or more individuals in a metapopulation with some dispersal between subpopulations (Service 1980, pp. 1–4; 1987, p. 23; 1994, pp. 6, 74– 75). Overall, the Service has determined that secure portions of Idaho, Montana and Wyoming contain habitat of sufficient quality, extent, and distribution to collectively support connected, stable populations of more than 45 breeding pairs and 450 wolves that will not fall below 30 breeding pairs and 300 wolves (Service 2008b).

F. Incidental Take Statement

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without specific exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm in the definition of take in the Act means an act which actually kills or injures wildlife. Such acts may include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

1. Amount or Extent of the Take – No incidental take of gray wolves or gray wolf habitat is exempted herein as a result of the FS adopting the MIRR, although specific actions developed in accordance with the MIRR and associated LRMPs may cause effects that constitute take. The mere potential for take is not a legitimate basis for providing such an exemption. Subsequent consultation, as appropriate, on specific actions developed pursuant to the MIRR and relevant provisions of LRMPs will serve as the basis for determining if an exemption from the section 9 take prohibitions is warranted. If so, the Service will provide Reasonable and Prudent Measures and Terms and Conditions, as appropriate, to minimize the impacts of the taking on the listed species in accordance with 50 CFR 402.14i.

2. Effect of the Take – Not applicable to this Opinion.

3. Reasonable and Prudent Measures and Terms and Conditions – As there is not take exemption under 7(o) of the Act in this Opinion, the Service is not providing Reasonable and Prudent Measures or Terms and Conditions.

G. Conservation Recommendations

Section 7(a)(1) of the Act requires Federal Agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities intended to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends that the Forest Service implement the following conservation measures:

1. As the IPNF and KNF have routinely agreed to during site-specific project consultations, continue to provide protections to wolf den sites and rendezvous areas related to land management activities occurring in IRAs.

2. The USFS should continue to assist other federal agencies and the IDFG in monitoring the distribution of gray wolves in the Idaho Panhandle Region.