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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing This Distinct Population Segment From the Federal List of Endangered and Threatened Wildlife; Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AU53

Endangered and Threatened Wildlife and Plants; Designating the Northern Rocky Mountain Population of Gray Wolf as a Distinct Population Segment and Removing This Distinct Population Segment From the Federal List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: Under the Endangered Species Act (Act), we, the U.S. Fish and Wildlife Service (Service), propose to establish a distinct population segment (DPS) of the gray wolf (*Canis lupus*) in the Northern Rocky Mountains (NRM) of the United States. The proposed NRM DPS of the gray wolf encompasses the eastern one-third of Washington and Oregon, a small part of north-central Utah, and all of Montana, Idaho, and Wyoming.

We are also proposing to remove the gray wolf in the NRM DPS from the List of Endangered and Threatened Wildlife under the Act, because threats will have been reduced or eliminated if Wyoming adopts a State law and wolf management plan that we believe will adequately conserve wolves. The States of Montana and Idaho have adopted State laws and management plans that would conserve a recovered wolf population into the foreseeable future. However, Wyoming State law and its wolf management plan are not sufficient to conserve Wyoming's portion of a recovered NRM wolf population at this time. Therefore, if Wyoming fails to modify its management regime to adequately conserve wolves, we will keep a significant portion of the range in the Wyoming portion of the NRM DPS because there are not adequate regulatory mechanisms in that area. In this situation, wolves in the significant portion of the range in northwestern Wyoming, outside the National Parks, will retain their nonessential experimental status under section 10(j) of the Act. We will remove the remainder of the NRM DPS from the List of Endangered and Threatened Species. Any gray wolves in the remainder of Wyoming outside the National Parks and those portions of Washington, Oregon, and Utah in the NRM DPS, are not essential to conserving the NRM wolf population and these areas do not constitute a significant portion of the range in the DPS. Therefore these areas will not remain listed. We are also soliciting comments regarding our intention to use section 6 agreements to allow States outside the NRM DPS with Service-approved wolf management plans to assume management of listed wolves, including nonlethal and lethal control of problem wolves.

DATES: We request that comments on this proposal be submitted by the close of business on April 9, 2007. We will hold six public hearings on this proposed rule scheduled between February 27 and March 8, 2007. In addition, we have scheduled six open houses that will precede the public hearings at each location (see **ADDRESSES** section for locations). Requests for additional public hearings must be received by us on or before March 26, 2007.

ADDRESSES: If you wish to comment, you may submit comments and materials concerning this proposal, identified by ''RIN number 1018–AU53,'' by any of the following methods:

1. Federal e-Rulemaking Portal—*http://www.regulations.gov.* Follow the instructions for submitting comments.
2. E-mail—*WesternGrayWolf@fws.gov.* Include ''RIN number 1018–AU53'' in the subject line of the message.
3. Fax—(406) 449–5339.
4. Mail—U.S. Fish and Wildlife Service, Western Gray Wolf Recovery Coordinator, 585 Shepard Way, Helena, Montana 59601.
5. Hand Delivery/Courier—U.S. Fish and Wildlife Service, Western Gray Wolf Recovery Coordinator, 585 Shepard Way, Helena, MT 59601.

Comments and materials received, as well as supporting documentation used in preparation of this proposed action, will be available for inspection following the close of the comment period, by appointment, during normal business hours, at our Helena office (see **ADDRESSES**).

Public Hearings

Six open houses, from 3 p.m. to 5 p.m. (brief presentations about the proposed rule will be given at both 3 p.m. and 4 p.m.) and six public hearings, from 6 p.m. to 8 p.m., will be held on:

February 27, 2007, Tuesday at Holiday Inn Cheyenne, 204 West Fox Farm Road, Cheyenne, WY.

February 28, 2007, Wednesday at Plaza Hotel, 122 West South Temple, Salt Lake City, UT.

March 1, 2007, Thursday at Jorgenson's Inn & Suites, 1714 11th Avenue, Helena, MT.

March 6, 2007, Tuesday at Boise Convention Center on the Grove, 850 Front Street, Boise, ID.

March 7, 2007, Wednesday at Pendleton Red Lion Inn, 304 S.E. Nye Street, Pendleton, OR.

March 8, 2007, Thursday at Oxford Inns & Suites, 15015 East Indiana Avenue, Spokane Valley, WA.

Anyone wishing to make an oral statement for the record is encouraged to provide a written copy of their statement and present it to us at the hearing. In the event there is a large attendance, the time allotted for oral statements may be limited. Speakers can only sign up at the open houses and hearing. Oral and written statements receive equal consideration. There are no limits on the length of written comments submitted to us. If you have any questions concerning the public hearings, please contact Sharon Rose 303–236–4580. Persons needing reasonable accommodations in order to attend and participate in the public hearings in Boise, ID; Pendleton, OR; or Spokane, WA, should contact Joan Jewett 503–231–6211 and for hearings in Cheyenne, WY; Salt Lake City, UT; or Helena, MT, please contact Sharon Rose at 303/236–4580 as soon as possible in order to allow sufficient time to process requests. Please call no later than one week before the hearing date. Information regarding the proposal is available in alternative formats upon request.

FOR FURTHER INFORMATION CONTACT: Edward E. Bangs, Western Gray Wolf Recovery Coordinator, U.S. Fish and Wildlife Service, at our Helena office (see **ADDRESSES**) or telephone (406) 449–5225, extension 204.

SUPPLEMENTARY INFORMATION:

Background

Gray wolves (*Canis lupus*) 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, p. 821).

Gray wolves have a circumpolar range including North America, Europe and Asia. As Europeans began settling the United States, they poisoned, trapped, and shot wolves, causing this once-widespread species to be eradicated from most of its range in the 48 conterminous States (Mech 1970, pp.

31–34; McIntyre 1995, pp. 1–461). Gray wolf populations were eliminated from Montana, Idaho, and Wyoming, as well as adjacent southwestern Canada by the 1930s (Young and Goldman 1944, p. 414).

Wolves primarily prey on medium and large mammals. Wolves have a social structure, normally living in packs of 2 to 12 animals. 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 *et al.* 2006, Tables 1–3). Packs typically occupy large distinct territories 518–1,295 square kilometers (km^2) (200–500 square miles (mi^2)) and defend these areas from other wolves or packs. Once a given area is occupied by resident wolf packs, it becomes saturated and wolf numbers become regulated by the amount of available prey, intraspecies conflict, other forms of mortality, and dispersal. Dispersing wolves may cover large areas as lone animals as they try to join other packs or attempt to form their own pack in unoccupied habitat. Dispersal distances in the NRM average about 97 kilometers (km) (60 miles (mi)), but dispersals over 805 km (500 mi) have been documented (Boyd 2006; Boyd and Pletscher 1999, p. 1102).

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 *et al.* 2006, Tables 1–3). 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 *et al.* 1989–2006, Tables 1–3). Most years, four of these five pups survive until winter (Service *et al.* 1989–2006, Tables 1–3). 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). Pup production and survival can increase when wolf density is lower and food availability per wolf increases (Fuller *et al.* 2003, p. 186). Breeding members also can be quickly replaced either from within or outside the pack (Packard 2003, p. 38; Brainerd 2006). 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, pp. 181–183; Service *et al.* 2006, Table 4).

For detailed information on the biology of this species see the ''Biology and Ecology of Gray Wolves'' section of the April 1, 2003, final rule to reclassify and remove the gray wolf from the list of endangered and threatened wildlife in portions of the conterminous United States (2003 Reclassification Rule) (68 FR 15804).

Recovery

Recovery Planning and the Selection of Recovery Criteria—Shortly after listing we formed the interagency wolf recovery team to complete a recovery plan for the NRM population (Service 1980, p. i; Fritts *et al.* 1995, p. 111). The NRM Wolf Recovery Plan (Rocky Mountain Plan) was approved in 1980 (Service 1980, p. i) and revised in 1987 (Service 1987, p. i). Recovery plans are not regulatory documents and are instead intended to provide guidance to the Service, States, and other partners on methods of minimizing threats to listed species and on criteria that may be used to determine when recovery is achieved. Overall, recovery of a species is a dynamic process requiring adaptive management and judging the degree of recovery of a species is also an adaptive management process.

The Rocky Mountain Plan (Service 1987, p. 57) specifies a recovery criterion of 10 breeding pairs of wolves (defined in 1987 as 2 wolves of opposite sex and adequate age, capable of producing offspring) for 3 consecutive years in each of 3 distinct recovery areas—(1) northwestern Montana (Glacier National Park; the Great Bear, Bob Marshall, and Lincoln Scapegoat Wilderness Areas; and adjacent public and private lands), (2) central Idaho (Selway-Bitterroot, Gospel Hump, Frank Church River of No Return, and Sawtooth Wilderness Areas; and adjacent, mostly Federal, lands), and (3) the YNP area (including the Absaroka-Beartooth, North Absaroka, Washakie, and Teton Wilderness Areas; and adjacent public and private lands). The Rocky Mountain Plan states that if 2 recovery areas maintain 10 breeding pairs for 3 successive years, gray wolves in the NRM can be reclassified to threatened status and if all 3 recovery areas maintain 10 breeding pairs for 3 successive years, the NRM wolf population can be considered fully recovered and can be considered for delisting. The Plan also states that individual recovery areas meeting recovery objectives can be reclassified to threatened status and consideration can be given to reclassifying such a population to threatened under similarity of appearance regulations after special regulations are established and a State management plan is in place for that population (Service 1987, pp. 19–20).

The 1994 environmental impact statement (EIS) reviewed wolf recovery in the NRM and the adequacy of the recovery goals (Service 1994, pp. 6:68–78). The EIS indicated that the 1987 recovery goal was, at best, a minimum recovery goal, and that modifications were warranted on the basis of more recent information about wolf distribution, connectivity, and numbers. This review concluded that, at a minimum, the recovery goal should be, ''Thirty or more breeding pairs (*i.e.*, an adult male and an adult female wolf that have produced at least 2 pups that survived until December 31 of the year of their birth, during the previous breeding season) comprising some 300+ wolves in a metapopulation (a population that exists as partially isolated sets of subpopulations) with genetic exchange between subpopulations should have a high probability of long-term persistence'' (Service 1994, pp. 6:75). We believe that a metapopulation of this size and distribution among the three areas of core suitable habitat in the NRM DPS would result in a wolf population that is representative, resilient, and redundant and would fully achieve our recovery objectives.

We conducted another review of what constitutes a recovered wolf population in late 2001 and early 2002 (Bangs 2002). Based on the review, we adopted the 1994 EIS's more relevant and stringent definition of wolf population viability and recovery (Service 1994, p. 6:75) and began using entire States, in addition to recovery areas, to measure progress toward recovery goals (Service *et al.* 2002, Table 4). We have determined that an essential part of achieving recovery is a well-distributed number of wolf packs and individual wolves among the three States and the three recovery zones. While uniform distribution is not necessary, a well-distributed population with no one State maintaining a disproportionately low number of packs or number of individual wolves is needed.

Fostering Recovery—In 1982, a wolf pack from Canada began to occupy Glacier National Park along the United States-Canada border. In 1986, the first litter of pups documented in over 50 years was born in the Park (Ream *et al.* 1989, pp. 39–40). Also in 1986, a pack denned just east of the Park on the Blackfeet Reservation, but was not detected until 1987, when they began to depredate livestock (Bangs *et al.* 1995,

p. 131). The number of wolves resulting from this ''natural'' recovery in northwestern Montana steadily increased for the next decade (Service *et al.* 2006, Table 4).

In 1995 and 1996, we reintroduced wolves from southwestern Canada to remote public lands in central Idaho and YNP (Bangs and Fritts 1996, pp. 785–786; Fritts *et al.* 1997, p. 7; Bangs *et al.* 1998, pp. 407–9). These wolves were classified as nonessential experimental populations under section 10(j) of the Act to increase management flexibility and address local and State concerns (59 FR 60252 and 60266, November 22, 1994). This reintroduction and accompanying management programs greatly expanded the numbers and distribution of wolves in the NRM. Because of the reintroduction, wolves soon became established throughout central Idaho and the Greater Yellowstone Area (GYA) (Bangs *et al.* 1998, pp. 787–789; Service *et al.* 2006, Table 4).

Monitoring and Managing Recovery—By 1989, we formed an Interagency Wolf Working Group (Working Group), composed of Federal, State, and Tribal agency personnel (Bangs 1991, p. 7; Fritts *et al.* 1995, p. 109; Service *et al.* 1989, p. 1). The Working Group, whose membership has evolved as wolf range has expanded, conducted four basic recovery tasks, in addition to the standard enforcement functions associated with the take of a listed species. These tasks were: (1) Monitor wolf distribution and numbers; (2) control wolves that attacked livestock by moving them, conducting other non-lethal measures, or by killing them; (3) conduct research on wolf relationships to ungulate prey, other carnivores and scavengers, livestock, and people; and (4) provide accurate science-based information to the public through reports and mass media so that people could develop their opinions about wolves and wolf management from an informed perspective (Service *et al.* 1989–2006, pp. 1–3).

The size and distribution of the wolf population is estimated by the Working Group each year and, along with other information, is published in interagency annual reports (Service *et al.* 1989–2006, Table 4). Since the early 1980s, the Service and our cooperating partners have radio-collared and monitored over 814 wolves in the NRM to assess population status, conduct research, and to reduce/resolve conflicts with livestock. The Working Group's annual population estimates represent the best scientific and commercial data available regarding year-end NRM gray wolf population size and trends, as well as distributional and other information.

Recovery by State—We measure wolf recovery by the number of breeding pairs because wolf populations are maintained by packs that successfully raise pups. We use ''breeding pairs'' to describe successfully reproducing packs (Service 1994, pp. 6:67; Bangs 2002). Breeding pairs are only measured in winter because most wolf mortality occurs in spring/summer/fall (illegal killing, agency control, and disease/parasites) and winter is the beginning of the annual courtship and breeding season for wolves. Often we do not know if a specific pack actually contains an adult male, adult female and two pups in winter, but there is a strong correlation between wolf pack size then and its probability of being classified as a breeding pair. The group size of packs of unknown composition in winter can be used to estimate their breeding pair status (Ausband 2006). Different habitat characteristics result in slightly different probabilities of breeding pair status in each State. However, regardless of which State, overall the probability of a pack of wolves having a 90 percent chance of being a breeding pair does not occur until there are at least nine wolves in a pack in winter (Ausband 2006). In the past we had primarily used packs of known composition in winter to estimate the number that meet our breeding pair recovery criteria. However, now we can use the best information currently available and use pack size in winter as a surrogate to reliably identify their contribution toward meeting our breeding pair recovery criteria and to better predict the effect of managing for certain pack sizes on wolf population recovery.

At the end of 2000, the NRM population first met its numerical and distributional recovery goal of a minimum of 30 ''breeding pairs'' (an adult male and an adult female wolf that have produced at least 2 pups that survived until December 31 of the year of their birth, during the previous breeding season) and over 300 wolves well-distributed among Montana, Idaho, and Wyoming (68 FR 15804, April 1, 2003; Service *et al.* 2001, Table 4). This minimum recovery goal was again exceeded in 2001, 2002, 2003, 2004, 2005, and 2006 (Service *et al.* 2002–2006, Table 4). Because the recovery goal must be achieved for 3 consecutive years, the temporal element of recovery was not achieved until the end of 2002 (Service *et al.* 2003, Table 4). By the end of 2006, the NRM wolf population had achieved its numerical and distributional recovery goal for 7 consecutive years (Service *et al.* 2001–2006, Table 4; 68 FR 15804, April 1, 2003; 71 FR 6634, February 8, 2006).

In 2000, 8 breeding pairs and approximately 97 wolves were known to occur in Montana; 12 breeding pairs and approximately 153 wolves were known to occur in Wyoming; and 10 breeding pairs and 187 wolves were known to occur in Idaho (Service *et al.* 2001, Table 4). In 2001, 7 breeding pairs and approximately 123 wolves were known to occur in Montana; 13 breeding pairs and approximately 189 wolves were known to occur in Wyoming; and 14 breeding pairs and 251 wolves were known to occur in Idaho (Service *et al.* 2002, Table 4). In 2002, 17 breeding pairs and approximately 183 wolves were known to occur in Montana; 18 breeding pairs and approximately 217 wolves were known to occur in Wyoming; and 14 breeding pairs and 216 wolves were known to occur in Idaho (Service *et al.* 2003, Table 4). In 2003, 10 breeding pairs and approximately 182 wolves were known to occur in Montana; 16 breeding pairs and approximately 234 wolves were known to occur in Wyoming; and 25 breeding pairs and 345 wolves were known to occur in Idaho (Service *et al.* 2004, Table 4). In 2004, 15 breeding pairs and approximately 153 wolves were known to occur in Montana; 24 breeding pairs and approximately 260 wolves were known to occur in Wyoming; and 27 breeding pairs and 422 wolves were known to occur in Idaho (Service *et al.* 2005, Table 4). In 2005, 19 breeding pairs and approximately 256 wolves were known to occur in Montana; 16 breeding pairs and approximately 252 wolves were known to occur in Wyoming; and 36 breeding pairs and 512 wolves were known to occur in Idaho, for a total of 71 breeding pairs and 1,020 wolves (Service *et al.* 2006, Table 4). In late 2006, preliminary estimates indicate there are 283 wolves in at least 22 breeding pairs in Montana (C. Sime, MFWP, pers. comm.), at least 650 wolves in about 42 breeding pairs in Idaho (S. Nadeau, IDFG, pers. comm.), and 310 wolves in 25 breeding pairs in Wyoming (M. Jimenez, Service, and D. Smith, NPS, pers. comm.) combining to at least 1,243 wolves in over 89 breeding pairs in the NRM wolf population. The NRM wolf population increased an average of 26 percent annually from 1995–2005 (Service *et al.* 2006, Table 4). Figure 1 illustrates wolf population trends by State from 1979 to 2005.

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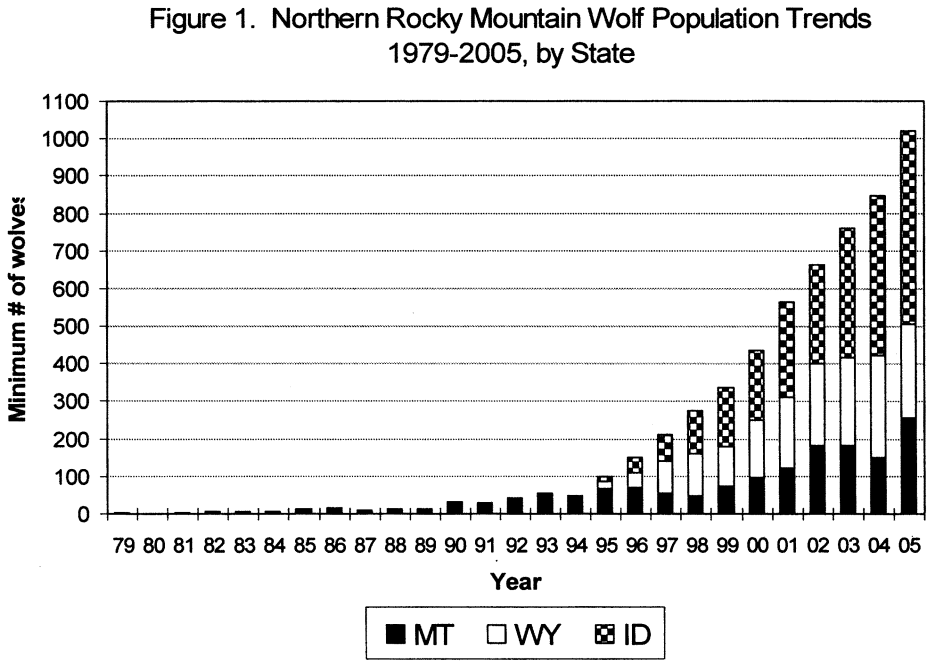

Figure 1: **Northern Rocky Mountain wolf population estimates by State, as calculated and reported in the interagency annual wolf status reports (Service et al. 1989-2006).**

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The following section discusses recovery within each of the three major recovery areas. Because the recovery areas cross State lines, the population estimates may sum differently.

Recovery in the Northwestern Montana Recovery Area—The Northwestern Montana Recovery Area (>49,728 km² (>19,200 mi²)) includes Glacier National Park; the Great Bear, Bob Marshall, and Lincoln Scapegoat Wilderness Areas; and adjacent public and private lands in northern Montana and the northern Idaho panhandle. Reproduction first occurred in northwestern Montana in 1986. The natural ability of wolves to find and quickly recolonize empty habitat, the interim control plan, and the interagency recovery program combined to effectively promote an increase in wolf numbers. By 1996, the number of wolves had grown to about 70 wolves in 7 known breeding pairs. However, since 1997, the number of breeding groups and number of wolves has fluctuated widely, varying from 4–12 breeding pairs and from 49–130 wolves (Service *et al.* 2006, Table 4). Our 1998 estimate was a minimum of 49 wolves in 5 known breeding pairs (Service *et al.* 1999, Table 4). In 1999, and again in 2000, 6 known breeding pairs produced pups, and the northwestern Montana population increased to about 63 wolves (Service *et al.* 2000, 2001, Table 4). In 2001, we estimated that 84 wolves in 7 known breeding pairs occurred; in 2002, there were an estimated 108 wolves in 12 known breeding pairs; in 2003, there were an estimated 92 wolves in 4 known breeding pairs; in 2004, there were an estimated 59 wolves in 6 known breeding pairs; and in 2005, there were an estimated 130 wolves in 11 known breeding pairs (Service *et al.* 2002–2006, Table 4) (See Figure 1). In 2006, preliminary estimates indicate there are about 149 wolves in at least 12 breeding pairs in northwestern Montana (C. Sime, MFWP, pers. comm.) and for the first time about 10 wolves in two packs (1 breeding pair) were documented in the endangered area of the Idaho Panhandle (S. Nadeau, IDFG, pers. comm.).

The Northwestern Montana Recovery Area has sustained fewer wolves than the other recovery areas because there is less suitable habitat. Wolf packs in this area may be near their local social and biological carrying capacity. Some of the variation in our wolf population estimates for northwestern Montana is due to the difficulty of counting wolves in the areas' thick forests. Wolves in northwestern Montana prey mainly on white-tailed deer (*Odocoileus virginianus*) and pack size is smaller, which also makes packs more difficult to detect (Bangs *et al.* 1998, p. 878). Increased monitoring efforts in northwestern Montana by Montana Fish, Wildlife and Parks (MFWP) in 2005 were likely responsible for some of the sharp increase in the estimated wolf population. MFWP has led wolf management in this area since February 2004. It appears that wolf numbers in northwestern Montana are likely to fluctuate around 100 wolves. Since 2001, this area has maintained an average of nearly 96 wolves and about 8 known breeding pairs (Service *et al.* 2006, Table 4).

Northwestern Montana's wolves are demographically and genetically linked to both the wolf population in Canada and in central Idaho (Pletscher *et al.* 1991, pp. 547–8; Boyd and Pletscher 1999, pp. 1105–1106). Wolf dispersal into northwestern Montana from both directions will continue to supplement this segment of the overall wolf population, both demographically and genetically (Boyd 2006; Forbes and Boyd 1996, p. 1082; Forbes and Boyd 1997, p. 1226; Boyd *et al.* 1995, p. 140).

Wolf conflicts with livestock have fluctuated with wolf population size and prey population density (Service *et al.* 2005, Table 5). For example, in 1997, immediately following a severe winter that reduced white-tailed deer populations in northwestern Montana, wolf conflicts with livestock increased dramatically, and the wolf population

declined (Bangs *et al.* 1998, p. 878). Wolf numbers increased as wild prey numbers rebounded. Unlike YNP or the central Idaho Wilderness, northwestern Montana lacks a large core refugium that contains large numbers of overwintering wild ungulates. Therefore, wolf numbers are not ever likely to be as high in northwestern Montana as they are in central Idaho or the GYA. However, the population has persisted for nearly 20 years and is robust today (Service *et al.* 2006, Table 4). State management, pursuant to the Montana State wolf management plan, will ensure this population continues to persist (see Factor D).

Recovery in the Central Idaho Recovery Area—The Central Idaho Recovery Area (53,600 km^2 [20,700 mi^2]) includes the Selway Bitterroot, Gospel Hump, Frank Church River of No Return, and Sawtooth Wilderness Areas; adjacent to mostly Federal lands in central Idaho; and adjacent parts of southwest Montana (Service 1994, p. iv). In January 1995, 15 young adult wolves were captured in Alberta, Canada, and released by the Service in central Idaho (Bangs and Fritts 1996, p. 409; Fritts *et al.* 1997, p. 7). In January 1996, an additional 20 wolves from British Columbia were released (Bangs *et al.* 1998, p. 787). Central Idaho contains the greatest amount of highly suitable wolf habitat compared to either northwestern Montana or the GYA (Oakleaf *et al.* 2006, p. 559). In 1998, the central Idaho wolf population consisted of a minimum of 114 wolves, including 10 known breeding pairs (Bangs *et al.* 1998, p. 789). By 1999, it had grown to about 141 wolves in 10 known breeding pairs (Service *et al.* 2000, Table 4). By 2000, this population had 192 wolves in 10 known breeding pairs, and by 2001, it had climbed to about 261 wolves in 14 known breeding pairs (Service *et al.* 2001, 2002, Table 4). In 2002, there were 284 wolves in 14 known breeding pairs; in 2003, there were 368 wolves in 26 known breeding pairs; in 2004, there were 452 wolves in 30 known breeding pairs and, by the end of 2005, there were 512 wolves in 36 known breeding pairs (Service *et al.* 2003–2006, Table 4). As in the Northwestern Montana Recovery Area, some of the Central Idaho Recovery Area's increase in its estimated wolf population in 2005 was due to an increased monitoring effort by the Idaho Department of Fish and Game (IDFG) (See Figure 1). In 2006, we estimated there were 713 wolves in at least 46 breeding pairs in central Idaho (S. Nadeau, IDFG, C. Sime, MFWP, pers. comm.).

Recovery in the Greater Yellowstone Area—The GYA recovery area (63,700 km^2 [24,600 mi^2]) includes YNP; the Absaroka Beartooth, North Absaroka, Washakie, and Teton Wilderness Areas (the National Park/Wilderness units); and adjacent public and private lands in Wyoming; and adjacent parts of Idaho and Montana (Service 1994, p. iv). The wilderness portions of the GYA are rarely used by wolves due to high elevation, deep snow, and low productivity in terms of sustaining year-round wild ungulate populations (Service *et al.* 2006, Figure 3). In 1995, 14 wolves from Alberta, representing 3 family groups, were released in YNP (Bangs and Fritts 1996, p. 409; Fritts *et al.* 1997, p. 7; Phillips and Smith 1996, pp. 33–43). Two of the three groups produced young in late April. In 1996, this procedure was repeated with 17 wolves from British Columbia, representing 4 family groups. Two of the groups produced pups in late April. Finally, 10 5-month old pups removed from northwestern Montana were released in YNP in the spring of 1997 (Bangs *et al.* 1998, p. 787).

By 1998, the wolves had expanded from YNP into the GYA with a population that consisted of 112 wolves, including 6 breeding pairs that produced 10 litters of pups (Service *et al.* 1999, Table 4). The 1999 population consisted of 118 wolves, including 8 known breeding pairs (Service *et al.* 2000, Table 4). In 2000, the GYA had 177 wolves, including 14 known breeding pairs, and there were 218 wolves, including 13 known breeding pairs, in 2001 (Service *et al.* 2001, 2002, Table 4). In 2002, there were an estimated 271 wolves in 23 known breeding pairs; in 2003, there were an estimated 301 wolves in 21 known breeding pairs; in 2004, there were an estimated 335 wolves in 30 known breeding pairs; and in 2005, there were an estimated 325 wolves in 20 known breeding pairs (Service *et al.* 2003–2006, Table 4) (See Figure 1). In 2006, we estimated there were 371 wolves in at least 30 breeding pairs in the GYA (D. Smith, NPS, M. Jimenez, Service, C. Sime, MFWP, pers. comm.).

Wolf numbers in the GYA were stable in 2005, but known breeding pairs dropped by 30 percent to only 20 pairs (Service *et al.* 2006, Table 4). The population recovered somewhat in 2006, primarily because wolves outside YNP in WY grew to about 174 wolves in 15 breeding pairs (M. Jimenez, pers. comm.). Most of this decline occurred in YNP (which declined from 171 wolves in 16 known breeding pairs in 2004, to 118 wolves in 7 breeding pairs in 2005 (Service *et al.* 2005, 2006, Table 4) and likely occurred because: (1) Highly suitable habitat in YNP is saturated with wolf packs; (2) conflict among packs appears to be limiting population density; (3) there are fewer elk (Cervus canadensis) than when reintroduction took place (White and Garrott 2006, p. 942; Vucetich *et al.* 2005, p. 259); and (4) a suspected, but as yet unconfirmed, outbreak of disease, canine parvovirus (CPV) or canine distemper, reduced pup survival to 20 percent in 2005 (Service *et al.* 2006, Table 2; Smith *et al.* 2006, p. 244). Additional significant growth in the National Park/Wilderness portions of the Wyoming wolf population is unlikely because suitable wolf habitat is saturated with resident wolf packs. In 2006, we estimated there were about 136 wolves in 10 breeding pairs in YNP (D. Smith, NPS, pers. comm.). Maintaining wolf populations above recovery levels in the GYA segment of the NRM area will likely depend on wolf packs living outside the National Park/Wilderness portions of Wyoming.

For detailed information on the history of NRM wolf recovery, recovery planning (including defining appropriate recovery criteria), population monitoring (through the end of 2005), and cooperation and coordination with our partners in achieving recovery, see the ''Recovery'' section of the August 1, 2006, 12-month finding on a petition to establish and delist the NRM gray wolf population (including population estimates through the end of 2005) (71 FR 43411–43413).

Previous Federal Action

In 1974, four subspecies of gray wolf were listed as endangered including the NRM 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 (39 FR 1171, January 4, 1974). In 1978, we published a rule (43 FR 9607, March 9, 1978) relisting the gray wolf as endangered at the species level (*C. lupus*) throughout the conterminous 48 States and Mexico, except for Minnesota, where the gray wolf was reclassified to threatened. At that time, critical habitat was designated in Minnesota and Isle Royale, Michigan.

On November 22, 1994, we designated unoccupied portions of Idaho, Montana, and Wyoming as two nonessential experimental population areas for the gray wolf under section 10(j) of the Act. The Yellowstone Experimental Population Area consists of that portion of Idaho east of Interstate 15; that portion of Montana that is east of Interstate 15 and south of the Missouri River from Great Falls, Montana, to the eastern Montana border; and all of

Wyoming (59 FR 60252, November 22, 1994). The Central Idaho Experimental Population Area consists of that portion of Idaho that is south of Interstate 90 and west of Interstate 15; and that portion of Montana south of Interstate 90, west of Interstate 15 and south of Highway 12 west of Missoula (59 FR 60266, November 22, 1994). This designation assisted us in initiating gray wolf reintroduction projects in central Idaho and the GYA (59 FR 60252, November 22, 1994). On January 6, 2005, we revised the regulations under section 10(j) and liberalized management options for problem wolves (70 FR 1286). We also encouraged State and Tribal leadership in wolf management in the nonessential experimental population areas (70 FR 1286, January 6, 2005) where States and Tribes had Service-approved wolf management plans.

The wolf population in the NRM achieved its numerical and distributional recovery goals at the end of 2000 (Service *et al.* 2001, Table 4). The temporal portion of the recovery goal was achieved at the end of 2002 (Service *et al.* 2001–2003, Table 4). Prior to delisting, the Service required that Idaho, Montana, and Wyoming develop wolf management plans to provide assurances that adequate regulatory mechanisms would exist should the Act's federal protections be removed. The Service determined that Montana and Idaho's laws and wolf management plans were adequate to assure the Service that their share of the NRM wolf population would be maintained above recovery levels and approved those two State plans. However, we determined that problems with the Wyoming legislation and plan, and inconsistencies between the law and management plan did not allow us to approve Wyoming's approach to wolf management (Williams 2004). In response, Wyoming litigated this issue (Wyoming U.S. District Court 04–CV–0123–J and 04–CV–0253–J consolidated). The Wyoming Federal District Court dismissed the case on procedural grounds (360 F. Supp 2nd 1214 March 18, 2005). Wyoming appealed that decision but the Tenth Circuit Court of Appeals agreed with the District Court decision on April 3, 2006 (442 F. 3rd 1262).

On October 30, 2001, we received a petition from the Friends of the Northern Yellowstone Elk Herd, Inc., that sought removal of the NRM gray wolf from endangered status under the Act (Knuchel 2001). On July 19, 2005, we received a petition dated July 13, 2005, from the Office of the Governor, State of Wyoming and the Wyoming Game and Fish Commission to revise the listing status for the gray wolf by establishing the NRM DPS and to remove the gray wolf in the NRM DPS from the Federal List of Endangered and Threatened Species (Freudenthal 2005). On October 26, 2005, we published a 90-day finding that considered the collective weight of evidence and initiated a 12-month status review (70 FR 61770, October 26, 2005). On August 1, 2006, we announced a 12-month finding that the petitioned action (delisting in all of Montana, Idaho, and Wyoming) was not warranted because Wyoming State law and its wolf management plan did not provide the necessary regulatory mechanisms to ensure that Wyoming's numerical and distributional share of a recovered NRM wolf population would be conserved (71 FR 43410, August 1, 2006).

On February 8, 2006, we published an Advanced Notice of Proposed Rulemaking (ANPR) announcing our intention to conduct a rulemaking to establish a DPS of the gray wolf in the NRM and to remove this DPS from the List of Endangered and Threatened Species, if Wyoming adopts a State law and a State wolf management plan that is approved by the Service (71 FR 6634).

For detailed information on previous Federal actions see the ANPR (71 FR 6634, February 8, 2006) and the 2003 Reclassification Rule (68 FR 15804, April 1, 2003).

Distinct Vertebrate Population Segment Policy Overview

Pursuant to the Act, we consider for listing any species, subspecies, or, for vertebrates, any DPS of these taxa if there is sufficient information to indicate that such an action may be warranted. To interpret and implement the DPS provision of the Act and congressional guidance, the Service and the National Marine Fisheries Service (NMFS) published, on December 21, 1994, a draft Policy Regarding the Recognition of Distinct Vertebrate Population Segments under the Act and invited public comments on it (59 FR 65884–65885). After review of comments and further consideration, the Service and NMFS adopted the interagency policy as issued in draft form, and published it in the **Federal Register** on February 7, 1996 (61 FR 4722–4725). This policy addresses the recognition of a DPS for potential listing, reclassification, and delisting actions.

Discreteness and Significance of the Proposed DPS

Under our DPS policy, three factors are considered in a decision regarding the establishment and classification of a possible DPS. These are applied similarly for additions to the list of endangered and threatened species, reclassification of already listed species, and removals from the list. The first two factors—discreteness of the population segment in relation to the remainder of the taxon; and the significance of the population segment to the taxon to which it belongs—bear on whether the population segment is a valid DPS. If a population meets both tests, it is a DPS and then the third factor is applied—the population segment's conservation status is evaluated in relation to the Act's standards for listing, delisting, or reclassification (i.e., is the DPS endangered or threatened).

Analysis for Discreteness

Under our Policy Regarding the Recognition of Distinct Vertebrate Population Segments, a population segment of a vertebrate taxon may be considered discrete if it satisfies either one of the following conditions—(1) is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

Defining the Boundaries of the Proposed NRM DPS

Our DPS policy allows for artificial or manmade boundary such as a road or highway to be used as a boundary of convenience in order to clearly identify the geographic area included within a DPS designation. The boundaries of the proposed NRM DPS include all of Montana, Idaho, and Wyoming, the eastern third of Washington and Oregon, and a small part of north central Utah. Specifically, the DPS includes that portion of Washington east of Highway 97 and Highway 17 north of Mesa and that portion of Washington east of Highway 395 south of Mesa. It includes that portion of Oregon east of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon east of Highway 95 south of Burns Junction. Finally, the DPS includes that portion of Utah east of Highway 84 and north of Highway 80. The center of these roads will be deemed the border of the DPS (see Figure 2).

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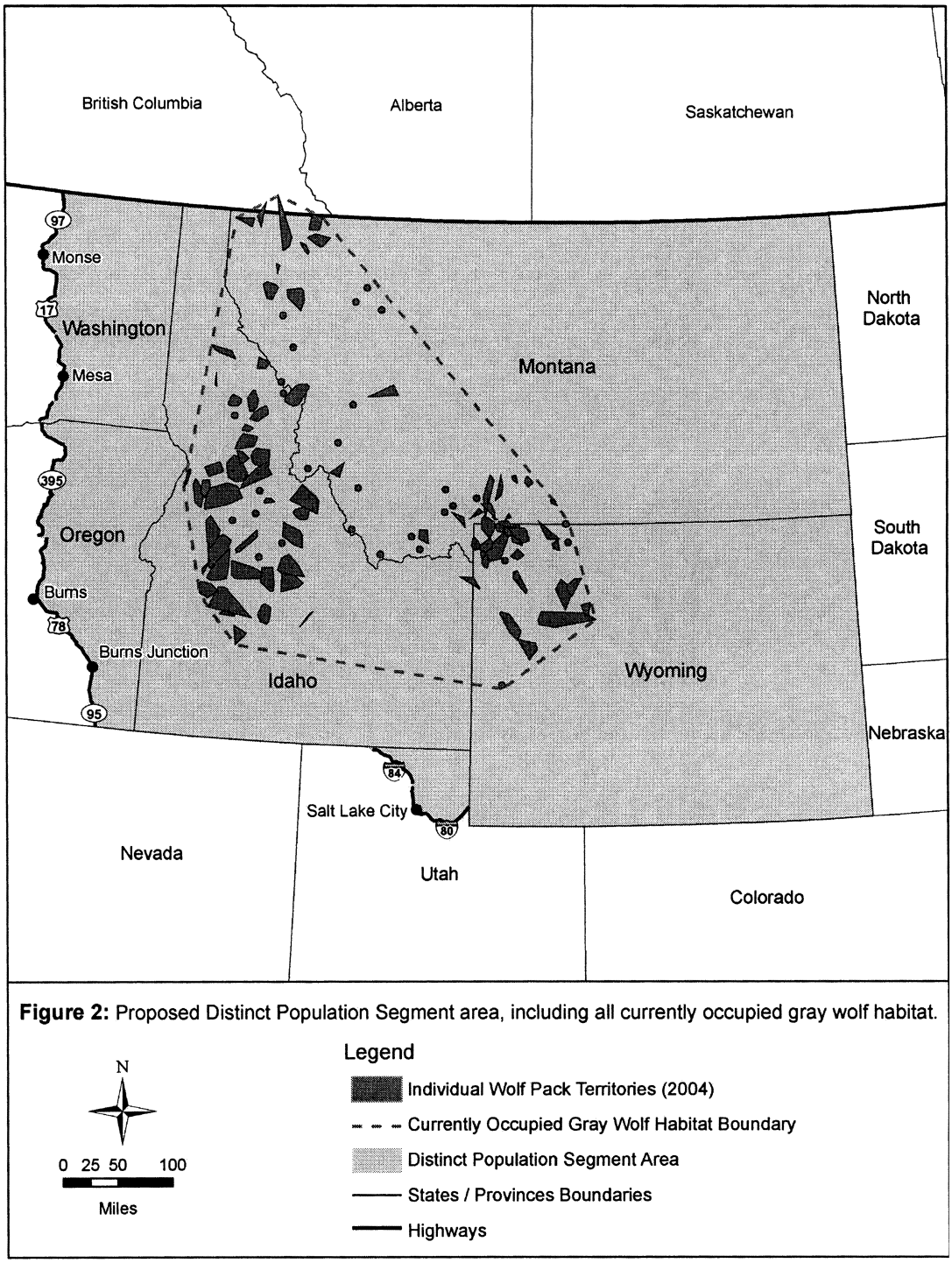

Figure 2: Proposed Distinct Population Segment area, including all currently occupied gray wolf habitat.

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One factor we considered in defining the boundaries of the proposed NRM DPS was the documented current distribution of all known wolf pack locations in 2004 (Service *et al.* 2005, Figure 1). We also viewed the annual distribution of wolf packs back to 2002; *i.e.*, the first year the population exceeded the recovery goal through 2005 (Service *et al.* 2002–2006, Figure 1; Bangs *et al.* in press b). Our estimate of the overall area occupied by wolf packs in the NRM would not have substantially changed our conclusions had we included other years of data, so we used the 2004 data that had already been analyzed in the February 8, 2006 ANPR. All known wolf packs in recent history have only been located in Montana, Idaho, and Wyoming. Only occasional lone dispersing wolves from the NRM population have been documented beyond those three States, in eastern Washington, eastern Oregon, northern Utah, central Colorado, and South Dakota (Boyd 2006).

Dispersal distances played a key role in determining how far to extend the DPS. We examined the known dispersal distance of over 200 marked dispersing wolves from the NRM, primarily using radio-telemetry locations and recoveries of the carcasses of marked wolves from the 1980s until the present time (Boyd and Pletscher 1999, p. 1097; Boyd

2006). These data indicate the average dispersal distance of wolves from the NRM for the last 10 years was about 97 km (60 mi) (Boyd 2006). We determined that 180 mi (290 km), three times the average dispersal distance, was a break-point in our data for unusually long-distance dispersal out from existing wolf pack territories. Only 8 wolves (none of which subsequently bred) have dispersed farther and remained in the United States. No wolf traveling that far has ever come back to the core population in Montana, Idaho, or Wyoming. Only dispersal from the NRM packs to areas within the United States was considered in these calculations because we were trying to determine the appropriate DPS boundaries within the United States. Dispersers to Canada were irrelevant because the Canadian border is to form the northern edge of the DPS. Thus, we plotted the average dispersal distance and three times the average dispersal distance out from existing wolf pack territories. The resulting map indicated a wide-band of likely wolf dispersal that might be frequent enough to result in additional pack establishment from the core wolf population given the availability of nearby suitable habitat. Our specific data on wolf dispersal in the NRM may not be applicable to other areas of North America (Mech and Boitani 2003, p. 13–16).

We also examined suitable wolf habitat in Montana, Idaho, and Wyoming (Oakleaf *et al.* 2006, pp. 555–558) and throughout the western United States (Carroll *et al.* 2003, p. 538, 2006, pp. 27–30) by comparing the biological and physical characteristics of areas currently occupied by wolf packs with the characteristics of adjacent areas that remain unoccupied by wolf packs. The basic findings and predictions of those models (Oakleaf *et al.* 2006, p. 559; Carroll *et al.* 2003, p. 541; Carroll *et al.* 2006, p. 32) were similar in many respects. Suitable wolf habitat in the NRM DPS is typically characterized by public land, mountainous forested habitat, abundant year-round wild ungulate populations, lower road density, lower numbers of domestic livestock that were only present seasonally, few domestic sheep (*Ovis* sp.), low agricultural use, and low human populations (see Factor A below under Summary of Factors Affecting the Species). The models indicate a large block of suitable wolf habitat exists in central Idaho and the GYA, and to a lesser extent in northwestern Montana. These findings support the recommendations of the 1987 wolf recovery plan (Service 1987) that identified those three areas as the most likely locations to support a recovered wolf population. The models indicate there is little suitable habitat within the portion of the NRM DPS in Washington, Oregon, or Utah (see Factor A).

Unsuitable habitat also is important in determining the boundaries of our DPS. Model predictions by Oakleaf *et al.* (2006, p. 559) and Carroll *et al.* (2003, pp. 540–541, 2006, p. 27) and our observations during the past 20 years (Bangs *et al.* 2004, p. 93; Service *et al.* 2006, Figures 1–4, Table 4) indicate that non-forested rangeland and croplands associated with intensive agricultural use (prairie and high desert) preclude wolf pack establishment and persistence. This unsuitability is due to chronic conflict with livestock and pets, local cultural intolerance of large predators, and wolf behavioral characteristics that make them extremely vulnerable to human-caused mortality in open landscapes (see Factor A). We looked at the distribution of large expanses of unsuitable habitat that would form a 'barrier' or natural boundary separating the current population from both the southwestern and midwestern wolf populations and from the core of any other possible wolf population that might develop in the foreseeable future in the northwestern United States.

Within the NRM DPS, we included the eastern parts of Washington and Oregon and a small portion of north central Utah, because—(1) these areas are within a 97- to 290-km (60- to 180-mi) band from the core wolf population where dispersal is likely; (2) lone dispersing wolves have been found in these areas in recent times (Boyd 2006); (3) these areas contain some suitable habitat (see Factor A for a more in-depth discussion of suitable habitat); and (4) the potential for connectivity exists between the relatively small and fragmented habitat patches in these areas and the large blocks of suitable habitat in the NRM DPS. If wolf packs do establish in these areas, they would likely be more connected to the core populations in central Idaho and northwestern Wyoming than to any future wolf populations that might become established in other large blocks of suitable habitat outside the NRM DPS. As noted earlier, large swaths of unsuitable habitat would isolate these populations from other suitable habitat patches to the west or south.

Although we have received reports of individual and wolf family units in the North Cascades of Washington (Almack and Fitkin 1998, pp. 7–13), agency efforts to confirm them were unsuccessful and to date no individual wolves or packs have ever been confirmed there (Boyd and Pletscher 1999, p. 1096; Boyd 2006). Intervening unsuitable habitat makes it highly unlikely that wolves from the NRM population have dispersed to the North Cascades of Washington in recent history. However, if the wolf were to be delisted in the NRM DPS, it would remain protected by the Act as endangered outside the DPS.

We propose to include all of Wyoming, Montana, and Idaho in the NRM DPS because (1) their State regulatory frameworks apply State-wide; and (2) expanding the proposed DPS beyond a 97- to 290-km (60- to 180-mi) band of likely dispersal to include the entire State adds only unsuitable habitat. Although including all of Wyoming in the NRM DPS results in including portions of the Sierra Madre, the Snowy, and the Laramie Ranges, we do not consider these areas to be suitable wolf habitat. Oakleaf *et al.* (2006, pp. 558–559; Oakleaf 2006) chose not to analyze these areas of southeast Wyoming because they are fairly intensively used by livestock and are surrounded with, and interspersed by, private land, making pack establishment unlikely. While Carroll *et al.* (2003, p. 541; 2006, p. 32) optimistically predicted these areas were suitable habitat, the model predicted that under current conditions these areas were largely sink habitat and that by 2025 (within the foreseeable future) they were likely to be ranked as low occupancy because of human population growth and road development. We chose not to extend the NRM DPS border beyond eastern Montana and Wyoming, although those adjacent portions of North Dakota and South Dakota only contain unsuitable habitat.

Given the available information on potentially suitable habitat, expansion of the DPS to include Colorado or larger portions of Utah would have required significant expansion of the DPS south and west. Given current occupancy, and consideration of the significant portion of the range language in the Act's definition of threatened and endangered, we concluded that a smaller DPS centered around occupied suitable habitat was more appropriate.

Markedly Separated from Other Populations of the Taxon—The eastern edge of the proposed NRM DPS (see Figure 2) is about 644 km (400 mi) from the western edge of the area currently occupied by the Western Great Lakes wolf population (eastern Minnesota) and is separated from it by hundreds of miles of unsuitable habitat (See discussion of suitable habitat in Factor A). The southern edge of the NRM DPS

border is about 724 km (450 mi) from the nonessential experimental populations of wolves in the southwestern United States with vast amounts of unoccupied marginal or unsuitable habitat separating them. Although individual wolves have occasionally been sighted west of the DPS boundary (likely individuals dispersing from Idaho or Canada), no wolf packs are known to occur west of the proposed DPS. No wolves from other U.S. populations are known to have dispersed as far as the borders of the NRM DPS.

Although dispersal distance data for North America (Fritts 1983, pp. 166–167; Missouri Department of Conservation 2001, pp. 1–2; Ream *et al.* 1991, pp. 351–352; Boyd and Pletscher 1999, p. 1094; Boyd 2006) show that gray wolves can disperse over 805 km (500 mi) from existing wolf populations, the average dispersal of NRM wolves is about 97 km (60 mi). Only 8 of nearly 200 confirmed NRM wolf dispersal events from 1994 through 2004 have been over 290 km (180 mi) (Boyd 2006). Six of these eight confirmed United States long-distance dispersers remained within the proposed DPS. None of those long-distance wolves found mates nor survived long enough to breed in the United States (Boyd 2006).

Of the three wolves that dispersed into eastern Oregon, two died and one was relocated by the Service back to central Idaho. Of the two wolves that dispersed into eastern Washington, one died and the other moved north into Canada. A wolf that dispersed to northern Utah was incidentally captured by a coyote trapper and relocated back to Wyoming by the Service in late 2002. Another wolf that dispersed into the same area of northern Utah was incidentally killed in a coyote trap in 2006. The first wolf confirmed to have dispersed (within the United States) beyond the border of the proposed NRM DPS was killed by a vehicle collision along Interstate 70 in north-central Colorado in spring 2004. Although not confirmed, in early 2006, video footage of a black wolf-like canid was taken near Walden in northern Colorado, suggesting another possible dispersing wolf had traveled into Colorado. The subsequent status or location of that animal is unknown. Finally, in spring 2006, the carcass of a male black wolf was found along Interstate 90 in western South Dakota. Genetic testing confirmed it was a wolf that had dispersed from the Yellowstone area. We expect that occasional lone dispersing wolves will continue to disperse beyond the currently occupied wolf habitat area in Montana, Idaho, and Wyoming, as well as into States adjacent to the NRM DPS, but that pack development and persistence outside the proposed NRM DPS is highly unlikely in the foreseeable future.

No connectivity currently exists between the three United States gray wolf populations, nor are there any resident wolf packs in intervening areas. While it is theoretically possible that a lone wolf might transverse over 644 km (400 mi) from one population to the other, movement between these populations has never been documented and is extremely unlikely because of both the distance and the large gaps in suitable habitat between the populations. Furthermore, the DPS Policy does not require complete separation of one DPS from other populations, but instead requires ''marked separation.'' Thus, if occasional individual wolves or packs disperse among populations, the NRM DPS could still display the required discreteness. Based on the information presented above, we have determined that NRM gray wolves are markedly separated from all other gray wolves in the United States.

Management Differences Among the United States and Canadian Wolf Populations—The DPS Policy allows us to use international borders to delineate the boundaries of a DPS if there are differences in control of exploitation, conservation status, or regulatory mechanisms between the countries. Significant differences exist in management between U.S.-Canadian wolf populations. Therefore, we will continue to use the United States-Canada border to mark the northern boundary of the DPS due to the difference in control of exploitation, conservation status, and regulatory mechanisms between the two countries. About 52,000 to 60,000 wolves occur in Canada where suitable habitat is abundant (Boitani 2003, p. 322). Because of this abundance, protection and intensive management are not necessary to conserve the wolf in Canada. This contrasts with the situation in the United States, where, to date, intensive management has been necessary to recover the wolf. Wolves in Canada are not protected by Federal laws and are only minimally protected in most Canadian provinces (Pletscher *et al.* 1991, p. 546). If delisted, States in the NRM would carefully monitor and manage to retain populations at or above the recovery goal (see Factor D below).

Analysis for Significance

If we determine a population segment is discrete, we next consider available scientific evidence of its significance to the taxon to which it belongs. Our DPS policy states that this consideration may include, but is not limited to, the following: (1) Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon; (2) evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon; (3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; and/or (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics. Below we address Factors 1 and 2. Factors 3 and 4 do not apply to the proposed NRM DPS and thus are not included in our analysis for significance.

Unusual or Unique Ecological Setting—Within the range of holarctic wolves, the NRM has among the highest diversity of large predators occupying the same areas as a large variety of native ungulate prey species, resulting in complex ecological interaction between the ungulate prey, predator, and scavenger groups (Smith *et al.* 2003, p. 331). In the NRM DPS, gray wolves share habitats with black bears (*Ursus americanus*), grizzly bears (*U. arctos horribilis*), cougars (*Felis concolor*), lynx (*Lynx canadensis*), wolverine (*Gulo gulo*), coyotes (*Canis latrans*), badgers (*Taxidea taxus*), bobcats (*Felis rufus*), fisher (*Martes pennanti*), and marten (*Martes americana*). The unique and diverse assemblage of native prey include elk, mule deer (*Odocoileus hemionus*), white-tailed deer, moose (*Alces alces*), woodland caribou (*Rangifer caribou*), bighorn sheep (*Ovis canadensis*), mountain goats (*Oreamnos americanus*), pronghorn antelope (*Antilocapra americana*), bison (*Bison bison*) (only in the GYA), and beaver (*Castor canadensis*). This complexity leads to unique ecological cascades in some areas, such as in YNP (Smith *et al.* 2003, pp. 334–338; Robbins 2004, pp. 80–81; Campbell *et al.* 2006, pp. 747–753). For example, wolves appear to be changing elk behavior and elk relationships and competition with other ungulates and other predators (*e.g.*, cougars) that did not occur when wolves were absent. These complex interactions could be increasing streamside willow production and survival (Ripple and Beschta 2004, p. 755), which in turn can affect beaver and nesting by riparian birds (Nievelt 2001). This suspected pattern of wolf-

caused changes also may be occurring with scavengers, whereby wolf predation is providing a year-round source of food for a diverse variety of carrion feeders (Wilmers *et al.* 2003, p. 996). The wolf population in the NRM has significantly extended the range of the gray wolf in the continental United States into a much more diverse, ecologically complex, and unique assemblage of species than is found elsewhere within historical wolf habitat in the northern hemisphere, including Europe and Asia.

Significant Gap in the Range of the Taxon—Loss of the NRM wolf population would represent a significant gap in the holarctic range of the taxon. Wolves once lived throughout most of North America. Wolves have been extirpated from most of the southern portions of their North American range. The loss of the NRM wolf population would represent a significant gap in the species' holarctic range in that this loss would create a 15-degree latitudinal or over 1,600-km (1,000-mi) gap across the Rocky Mountains between the Mexican wolf and wolves in Canada. If this potential gap were realized, substantial cascading ecological impacts would occur in that area (Smith *et al.* 2003, pp. 334–338; Robbins 2004, pp. 80–81; Campbell *et al.* 2006, pp. 747–753).

Given the wolf's historic occupancy of the conterminous States and the portion of the historic range the conterminous States represent, recovery in the lower 48 States has long been viewed as important to the taxon (39 FR 1171, January 4, 1974; 43 FR 9607, March 9, 1978). The proposed NRM DPS is significant in achieving this objective, as it is 1 of only 3 populations of wolves in the lower 48 States and constitutes nearly 20 percent of all wolves in the lower 48 States.

We conclude, based on our analysis of the best available scientific information, that the NRM DPS is significant to the taxon in that NRM wolves exist in a unique ecological setting and their loss would represent a significant gap in the range of the taxon. Therefore, the NRM DPS meets the criterion of significance under our DPS policy.

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth the procedures for listing, reclassifying, and delisting species. The Act defines ''species'' to also include any subspecies or, for vertebrates, any DPS. Because the NRM gray wolf population is discrete and significant, as defined above, it warrants recognition as a DPS under the Act and our policy (61 FR 4722). Species may be listed as threatened or endangered if one or more of the five factors described in section 4(a)(1) of the Act threaten the continued existence of the species. A species may be delisted, according to 50 CFR 424.11(d), if the best scientific and commercial data available substantiate that the species is neither endangered nor threatened because of (1) extinction, (2) recovery, or (3) error in the original data used for classification of the species.

A recovered population is one that no longer meets the Act's definition of threatened or endangered. Determining whether a species is recovered requires consideration of the same five categories of threats specified in section 4(a)(1). This analysis of threats is an evaluation of both the threats currently facing the species and the threats that are reasonably likely to affect the species in the foreseeable future following the delisting or downlisting and the removal or reduction of the Act's protections.

For the purposes of this proposed rule, we consider ''foreseeable future'' to be 30 years. We use 30 years because it is a reasonable timeframe for analysis of future potential threats as they relate to wolf biology. The average gray wolf breeds at 30 months of age and replaces itself in 3 years (Fuller *et al.* 2003, p. 175; Smith *et al.* 2006, pp. 244–245). We used 10 wolf generations (30 years) to represent a reasonable biological timeframe to determine if impacts could be significant. To the extent practical, we assessed all potential threats to the wolf population based upon that 30-year foreseeable timeframe.

A species is ''endangered'' for purposes of the Act if it is in danger of extinction throughout all or a ''significant portion of its range'' and is ''threatened'' if it is likely to become endangered within the foreseeable future throughout all or a ''significant portion of its range.'' The following describes how we interpret the terms ''range'' and ''significant'' as used in the phrase ''significant portion of its range,'' and explains the bases for our use of those terms in this rule.

''Range''

The word ''range'' in the phrase ''significant portion of its range'' refers to the range in which a species currently exists, not to the historical range of the species where it once existed. The context in which the phrase is used is crucial. Under the Act's definitions, a species is ''endangered'' only if it ''is in danger of extinction'' in the relevant portion of its range. The phrase ''is in danger'' denotes a present-tense condition of being at risk of a future, undesired event. To say that a species ''is in danger'' in an area that is currently unoccupied, such as unoccupied historical range, would be inconsistent with common usage. Thus, ''range'' must mean ''currently-occupied range,'' not ''historical range.'' This interpretation of ''range'' is further supported by the fact that section 4(a)(1)(A) of the Act requires us to consider the ''present'' or ''threatened'' (*i.e.*, future), rather than the past, ''destruction, modification, or curtailment'' of a species' habitat or range in determining whether a species is endangered or threatened.

However, the Ninth Circuit Court of Appeals appeared to conclude, without any analysis or explanation that the ''range'' referred to in the SPR phrase includes the historical range of the species. The court stated that a species ''can be *extinct* 'throughout * * * a significant portion of its range' if there are major geographical areas in which it is no longer viable but once was,'' and then faults the Secretary for not ''at least explain[ing] her conclusion that the area in which the species can no longer live is not a significant portion of its range.'' *Defenders of Wildlife* v. *Norton,* 258 F.3d 1136, 1145 (emphasis added). This would suggest that the range we must analyze in assessing endangerment includes unoccupied historical range—*i.e.*, the places where the species was once viable but no longer exists.

The statute does not support this interpretation. This interpretation is based on what appears to be an inadvertent misquote of the relevant statutory language. In addressing this issue, the Ninth Circuit states that the Secretary must determine whether a species is ''extinct throughout * * * a significant portion of its range.'' *Id.* If that were true, we would have to study the historical range. But that is not what the statute says, and the Ninth Circuit quotes the statute correctly elsewhere in its opinion. Under the Act, we are not to determine if a species is ''extinct throughout * * * a significant portion of its range,'' but are to determine if it ''is in danger of extinction throughout * * * a significant portion of its range.'' A species cannot presently be ''in danger of extinction'' in that portion of its range where it ''was once viable but no longer is''—if by the latter phrase the court meant lost historical habitat. In that portion of its range, the species has by definition ceased to exist. In such situations, it is not ''in danger of extinction''; it is extinct.

Although we must focus on the range in which the species currently exists, data about the species' historical range and how the species came to be extinct in that location may be relevant in understanding or predicting whether a species is ''in danger of extinction'' in its current range and therefore relevant to our 5 factor analysis. But the fact that it has ceased to exist in what may have been portions of its historical range does not necessarily mean that it is ''in danger of extinction'' in a significant portion of the range where it currently exists. For the purposes of this notice we consider the range of the gray wolf to be the entire geographic area delineated by the boundaries of the NRM DPS.

''Significant''

The Act does not clearly indicate what portion(s) of a species' range should be considered ''significant.'' Most dictionaries list several definitions of ''significant.'' For example, one standard dictionary defines ''significant'' as ''important,'' ''meaningful,'' ''a noticeably or measurably large amount,'' or ''suggestive'' (Merriam-Webster's Collegiate Dictionary 1088 10th ed. 2000). If it means a ''noticeably or measurably large amount,'' then we would have to focus on the size of the range in question, either in relation to the rest of the range or perhaps even in absolute terms. If it means ''important,'' then we would have to consider factors in addition to size in determining a portion of a species' range is ''significant.'' For example, would a key breeding ground of species be ''significant,'' even if it was only a small part of the species' entire range?

One district court interpreted the term to mean ''a noticeably or measurably large amount'' without analysis or any reference to other alternate meanings, including ''important'' or ''meaningful.'' *Defenders of Wildlife* v. *Norton,* 239 F. Supp. 2d 9, 19 (D.D.C. 2002). We consider the court's interpretation to be unpersuasive because the court did not explain why we could not employ another, equally plausible definition of ''significant.'' It is impossible to determine from the word itself, even when read in the context of the entire statute, which meaning of ''significant'' Congress intended. Moreover, even if it were clear which meaning was intended, ''significant'' would still require interpretation. For example, if it were meant to refer to size, what size would be ''significant'': 30 percent, 60 percent, 90 percent? Should the percentage be the same in every case or for each species? Moreover, what factors, if any, would be appropriate to consider in making a size determination? Is size all by itself ''significant,'' or does size only become ''significant'' when considered in combination with other factors? On the other hand, if ''significant'' were meant to refer to importance, what factors would need to be considered in deciding that a particular portion of a species' range is ''important'' enough to trigger the protections of the Act?

Where there is ambiguity in a statute, as with the meaning of ''significant,'' the agency charged with administering the statute, in this case the Service, has broad discretion to resolve the ambiguity and give meaning to the term. As the Supreme Court has stated:

> In *Chevron,* this Court held that ambiguities in statutes within an agency's jurisdiction to administer are delegations of authority to the agency to fill the statutory gap in reasonable fashion. Filling these gaps, the Court explained, involves difficult policy choices that agencies are better equipped to make than courts. If a statute is ambiguous, and if the implementing agency's construction is reasonable, *Chevron* requires a federal court to accept the agency's construction of the statute, even if the agency's reading differs from what the court believes is the best statutory interpretation.

Nat'l Cable & Telecomms. Ass'n v. *Brand X Internet Servs.,* 545 U.S. 967, 980 (2005) (internal citations omitted).

We have broad discretion in defining what portion of a species' range is ''significant.'' No ''bright line'' or ''predetermined'' percentage of historical range loss is considered ''significant'' in all cases, and we may consider factors other than simply the size of the range portion in defining what is ''significant.'' In light of the general ecosystems conservation purposes and findings in section 2 of the Act, out goal is to define ''significant'' in such a way as to insure the conservation of the species protected by the Act. In determining whether a range portion is significant, we consider the ecosystems on which the species that use that range depend as well as the values listed in the Act that would be impaired or lost if the species were to become extinct in that portion of the range or in the range as a whole.

However, our discretion in defining ''significant'' is not unlimited. The Ninth Circuit Court of Appeals, while acknowledging that we have ''a wide degree of discretion in delineating'' what portion of a range is ''significant,'' appeared to set outer limits of that discretion. *See Defenders of Wildlife* v. *Norton,* 258 F.3d 1136. On the one hand, it rejected what it called a quantitative approach to defining ''significant,'' where a ''bright line'' or ''predetermined'' percentage of historical range loss is considered ''significant'' in all cases. 258 F.3d. at 1143. As the court explained:

> First, it simply does not make sense to assume that the loss of a predetermined percentage of habitat or range would necessarily qualify a species for listing. A species with an exceptionally large historical range may continue to enjoy healthy population levels despite the loss of a substantial amount of suitable habitat. Similarly, a species with an exceptionally small historical range may quickly become endangered after the loss of even a very small percentage of habitat.

The Ninth Circuit concluded that what is ''significant'' must ''necessarily be determined on a case by case basis,'' and must take into account not just the size of the range but also the biological importance of the range to the species. 258 F.3d. at 1143. At the other end of the spectrum, the Ninth Circuit rejected what it called ''the faulty definition offered by us,'' a definition that holds that a portion of a species' range is ''significant'' only if the threats faced by the species in that area are so severe as to threaten the viability of the species as a whole. 258 F.3d. at 1143, 1146. It thus appears that within the two outer boundaries set by the Ninth Circuit, we have wide discretion to give the definitive interpretation of the word ''significant'' in the phrase ''significant portion of its range.''

Based on these principles, we consider the following factors in determining whether a portion of a range is ''significant''—quality, quantity, and distribution of habitat relative to the biological requirements of the species; the historical value of the habitat to the species; the frequency of use of the habitat; the uniqueness or importance of the habitat for other reasons, such as breeding, feeding, migration, wintering, or suitability for population expansion; genetic diversity; and other biological factors. We focus on portions of a species' range that are important to the conservation of the species, such as ''recovery units'' identified in approved Section 4 recovery plans; unique habitat or other ecological features that provide adaptive opportunities that are of conservation importance to the species; and ''core'' populations that generate additional individuals of a species that can, over time, replenish depleted populations or stocks at the periphery of the species' range. We do not apply the term ''significant'' to portions of the species' range that constitute less-productive peripheral habitat, artificially-created habitat, or areas

where wildlife species have established themselves in urban or suburban settings— such portions of the species' range are not ''significant,'' in our view, to the conservation of the species as required by the Act.

In order to finalize this rule as proposed, Wyoming would have to adopt a State law and wolf management plan that would adequately conserve a recovered wolf population into the foreseeable future in the significant portion of range outside the National Parks in northwestern Wyoming. If Wyoming takes these steps and provides the Service with a statute and wolf management plan that we approve and which contains the necessary adequate regulatory measures, it is our intent to reopen the public comment period with respect to this proposed rule in order to receive comments on the Wyoming statute and wolf management plan before we would issue a final rule.

However, if Wyoming has not taken these steps by the date that a final decision is to be made, we have carefully considered the requirements of the Act and the record before us and concluded that an alternative approach may be in order. Specifically, it would then be our intention instead to reclassify the portions of the DPS in the States of Idaho and Montana, Washington, Oregon, and Utah as ''not listed.'' We would also reclassify the portion of Wyoming that is not a significant portion of the range and the portion that is in the National Parks in Wyoming as ''not listed''. The DPS would no longer exist. The significant portion of the range that exists outside the National Parks within the State of Wyoming would continue to be listed as ''nonessential experimental'' based on the biologically significant nature of that portion of the species' range and the continuing unacceptable level of threats that occur under the State's current statute and management plan. Accordingly, we request that comments also be submitted which specifically address this alternative as well as the proposal to establish this DPS.

The following analysis examines all significant factors currently affecting the NRM wolf population or likely to affect it within the foreseeable future.

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

The NRM DPS is approximately 980,803 km^2 (378,690 mi^2) and includes 411,308 km^2 (158,807 mi^2) of Federal land (42 percent); 53,701 km^2 (20,734 mi^2) of State land (5 percent); 39,026 km^2 (15,068 mi^2) of Tribal land (4 percent); and 467,604 km^2 (180,543 mi^2) of private land (48 percent). The DPS contains large amounts of three Ecoregion Divisions—Temperate Steppe (prairie) (312,148 km^2 [120,521 mi^2]); Temperate Steppe Mountain (forest) (404,921 km^2 [156,341 mi^2]); and Temperate Desert (high desert) (263,544 km^2 [101,755 mi^2]) (Bailey 1995, p. iv). The following analysis focuses on suitable habitat within the DPS and currently occupied areas (which may include intermittent unsuitable habitat). Finally, unsuitable habitat, ungulate populations, and connectivity are discussed.

Suitable Habitat—Wolves once occupied or transited most, if not all, of the proposed NRM DPS. However, much of the wolf's historical range within this area has been modified for human use and is no longer suitable habitat. We have reviewed the quality, quantity, and distribution of habitat relative to the biological requirements of wolves; the historic value of the habitat to wolves; the frequency of use of the habitat; the uniqueness or importance of the habitat for other reasons, such as breeding, feeding, migration, wintering, or suitability for population expansion; genetic diversity; and other biological factors. In doing so we used two relatively new models, Oakleaf *et al.* (2006, pp. 555–558) and Carroll *et al.* (2006, pp. 27–31), to help us gauge the current amount and distribution of suitable wolf habitat in the NRM. Both models ranked areas as suitable habitat if they had characteristics that suggested they might have a 50 percent or greater chance of supporting wolf packs. Suitable wolf habitat in the NRM was typically characterized by both models as public land with mountainous, forested habitat that contains abundant year-round wild ungulate populations, low road density, low numbers of domestic livestock that are only present seasonally, few domestic sheep, low agricultural use, and few people. Unsuitable wolf habitat was typically just the opposite (i.e., private land, flat open prairie or desert, low or seasonal wild ungulate populations, high road density, high numbers of year-round domestic livestock including many domestic sheep, high levels of agricultural use; and many people). Despite their similarities, these two models had substantial differences in their analysis area, layers, inputs, and assumptions. As a result, the Oakleaf *et al.* (2006, p. 559) and Carroll *et al.* (2006, p. 33) models predicted different amounts of theoretically suitable wolf habitat where their models overlapped (i.e., portions of Montana, Idaho, and Wyoming).

Oakleaf's basic model was a more intensive effort that only looked at potential wolf habitat in Idaho, Montana, and Wyoming (Oakleaf *et al.* 2006, p. 555). It used roads accessible to two-wheel and four-wheel vehicles, topography (slope and elevation), land ownership, relative ungulate density (based on State harvest statistics), cattle (*Bos sp.*) and sheep density, vegetation characteristics (ecoregions and land cover), and human density to comprise its geographic information system (GIS) layers. Oakleaf analyzed the characteristics of areas occupied and not occupied by NRM wolf packs through 2000 to predict what other areas in the NRM might be suitable or unsuitable for future wolf pack formation (Oakleaf *et al.* 2006, p. 555). In total, Oakleaf *et al.* (2006, p. 559) ranked 170,228 km^2 (65,725 mi^2) as suitable habitat in Montana, Idaho, and Wyoming.

In contrast, Carroll's model analyzed a much larger area (all 12 western States and northern Mexico) in a less specific way (Carroll *et al.* 2006, pp. 27–31). Carroll's model used density and type of roads, human population density and distribution, slope, and vegetative greenness as ''pseudo-habitat'' to estimate relative ungulate density to predict associated wolf survival and fecundity rates (Carroll *et al.* 2006, p. 29). The combination of the GIS model and wolf population parameters were then used to develop estimates of habitat theoretically suitable for wolf pack persistence. In addition, Carroll predicted the potential effect on suitable wolf habitat of increased road development and human density expected by 2025 (Carroll *et al.* 2006, pp. 30–31). Within the proposed DPS, Carroll *et al.* (2006, pp. 27–31) ranked 277,377 km^2 (107,096 mi^2) as suitable including 105,993 km^2 (40,924 mi^2) in Montana; 82,507 km^2 (31,856 mi^2) in Idaho; 77,202 km^2 (29,808 mi^2) in Wyoming; 6,620 km^2 (2,556 mi^2) in Oregon; 4,286 km^2 (1,655 mi^2) in Utah; and 769 km^2 (297 mi^2) in Washington. Approximately 96 percent of the suitable habitat (265,703 km^2 (102,588 mi^2)) within the DPS occurred in Montana, Idaho, and Wyoming. According to the Carroll model, approximately 28 percent of the NRM DPS would be ranked as suitable habitat (Carroll *et al.* 2006, pp. 27–31).

We believe that the Carroll *et al.* (2006, pp. 31–34) model tended to be more liberal in identifying suitable wolf habitat under current conditions than either the Oakleaf (*et al.* 2006, pp. 558–560) model or our field observations indicate is realistic, but Carroll's model provided a valuable relative measure across the western United States upon

which comparisons could be made. The Carroll model did not incorporate livestock density into its calculations as the Oakleaf model did (Carroll *et al.* 2006, pp. 27–29; Oakleaf *et al.* 2006, p. 556). Thus, this model ignores the fact that in situations where livestock and wolves both live in the same area, there will be some livestock losses, some wolf losses, and some wolf removal to reduce the rate of conflict. During the past 20 years, wolf packs have been unable to persist in areas intensively used for livestock production, primarily because of agency control of problem wolves and illegal killing.

Furthermore, many of the more isolated primary habitat patches that the Carroll model predicted as currently suitable were predicted to be unsuitable by the year 2025, indicating they were likely on the lower end of what ranked as suitable habitat in that model (Carroll *et al.* 2006, p. 32). Because these types of areas were typically small and isolated from the core population segments, we do not believe they are currently suitable habitat based upon on our data on wolf pack persistence for the past 10 years (Bangs *et al.* 1998, p. 788; Service *et al.* 1999–2006, Figure 1). Even if one views these habitat areas as suitable, they are not a significant portion of the range.

Despite the substantial differences in each model's analysis area, layers, inputs, and assumptions, both models predicted that most suitable wolf habitat in the NRM was in northwestern Montana, central Idaho, and the GYA, and in the area currently occupied by the NRM wolf population. They also indicated that these three areas were connected. However, northwest Montana and Idaho were more connected to each other than the GYA, and collectively the three core areas were surrounded by large areas of unsuitable habitat.

These models are useful in understanding the relative proportions and distributions of various habitat characteristics and their relationships to wolf pack persistence, rather than as predictors of absolute acreages or areas that can actually be occupied by wolf packs. Additionally, both models generally support earlier predictions about wolf habitat suitability in the NRM (Service 1980, p. 9; 1987, p. 7; 1994, p. vii). Because theoretical models only define suitable habitat as those areas that have characteristics with a 50 percent or more chance of supporting wolf packs, it is impossible to give an exact acreage of suitable habitat that can actually be successfully occupied by wolf packs. It is important to note that these areas also have up to a 50 percent chance of not supporting wolf packs.

We considered data on the location of suitable wolf habitat from a number of sources in developing our estimate of suitable wolf habitat in the NRM. Specifically, we considered the locations estimated in the 1987 wolf recovery plan (Service 1987, p. 23), the primary analysis areas analyzed in the 1994 Environmental Impact Statement (EIS) for the GYA (63,700 km^2 [24,600 mi^2]) and central Idaho (53,600 km^2 [20,700 mi^2]) (Service 1994, p. iv), information derived from theoretical models by Carroll *et al.* (2006, p. 25) and Oakleaf *et al.* (2006, p. 554), our nearly 20 years of field experience managing wolves in the NRM, and locations of persistent wolf packs since recovery has been achieved. Collectively, this evidence leads us to concur with the Oakleaf *et al.* (2006, p. 559) model's predictions that the most important habitat attributes for wolf pack persistence are forest cover, public land, high elk density, and low livestock density. Therefore, we believe that Oakleaf's calculations of the amount and distribution of suitable wolf habitat available for persistent wolf pack formation, in the parts of Montana, Idaho, and Wyoming analyzed, represents the most reasonably realistic prediction of suitable wolf habitat in Montana, Idaho, and Wyoming. We do not predict that changes in habitat quantity, quality, and distribution of suitable habitat nor land-uses in the foreseeable future in all or a significant portion of range in the NRM DPS will threaten wolf population recovery. However, Oakleaf predicted that most of the suitable habitat in the GYA recovery area outside the National Parks is in northwestern Wyoming. Additionally, an important component of suitable habitat is a reduction or lack of risk to excessive human-caused mortality. Therefore, that area of northwestern Wyoming outside the National Parks that is listed as ''predatory animal'' under Wyoming state law and plan would sustain such a high level of excessive human-caused mortality that otherwise suitable wolf habitat there would be rendered unsuitable and the range of the GYA segment of the NRM wolf population would fall below that needed to assure its continued existence into the future.

The area that we conclude is suitable habitat is generally depicted in Oakleaf's *et al.* (2006) map on page 559. Although some areas outside this depiction have been temporarily occupied and used by wolves, or even packs, we consider them to be unsuitable habitat because wolf packs have generally failed to persist there long enough to be categorized as breeding pairs and successfully contribute toward our recovery goals. Generally this area of suitable habitat is located in western Montana, Idaho north of Interstate 84, and the NW corner of Wyoming, east of state highway 120, along the western border of the Wind River Reservation, and USDA Forest Service lands north of Boulder, WY. Although Carroll determined there may be some potentially suitable wolf habitat in the NRM DPS outside of Montana, Idaho, and Wyoming, we believe it is marginally suitable at best and is insignificant to wolf population recovery because it occurs in small isolated fragmented areas. Therefore, we consider such areas as containing unsuitable habitat and that dispersing wolves attempting to colonize those areas are unlikely to significantly contribute to population recovery.

Significant Portion of Range—We determined whether a portion of the species range is significant based on the biological needs of the species and the nature of the threats to the species. As stated above, the factors we used to determine significance include, but may not be limited to the following: quality, quantity, and distribution of habitat relative to the biological requirements of the species; the historic value of the habitat to the species; the frequency of use of the habitat; the uniqueness or importance of the habitat for other reasons, such as breeding, feeding, migration, wintering, or suitability for population expansion; genetic diversity (the loss of genetically based diversity may substantially reduce the ability of the species to respond and adapt to future environmental changes or perturbations); and other biological factors. In determining whether a portion of a species' range is significant we have also considered the portion's contribution to the representation (involves conserving the breadth of the genetic makeup of the species to conserve its adaptive capabilities; populations in peripheral areas may be important in terms of affecting future evolutionary processes), resilience (a species ability to recover from periodic disturbances or environmental variability; this is often related to habitat quality because it is assumed that the species is most resilient in its best habitat), or redundancy (ensuring a sufficient number of populations to provide a margin of safety for the species to withstand catastrophic events) of the species as a whole.

After careful examination of the NRM DPS in the context of our definition of

''significant portion of the range'' we have determined that portions of Idaho, Montana, and Wyoming each constitute a biologically significant portion of the NRM DPS because: (1) Idaho, Montana, and Wyoming contain the lion's share of suitable habitat within the DPS (approximately 96 percent of suitable habitat within the DPS according to Carroll (2006) (see Factor A below); (2) the suitable habitat within portions of these 3 States is of sufficient quality, extent, and distribution to support a viable wolf metapopulation (Service 1980, pp. 12–13; Service 1987, pp. 12, 23; Service 1994, pp. v, 3:1–109, 4:1–103; Carroll *et al.* 2003, p. 541; Carroll *et al.* 2006, p. 32; Oakleaf *et al.* 2006, pp. 70–71); (3) suitable habitat in Idaho, Montana, and Wyoming currently support all of the known wolf breeding pairs in the NRM (Service *et al.* 2006, Figure 1); and (4) maintenance of at least 30 breeding pairs and 300 wolves well distributed among these States, long considered necessary to maintain a viable wolf population in the NRM (Service 1987, p. 12; Service 1994, pp. 6:74–75; Bangs 2002, pp. 1–7), requires maintenance of wolf breeding pairs in each State. The ability to declare the NRM wolf population recovered at such relatively modest recovery goals is dependent as much on its overall distribution as simply maintaining at least 30 breeding pairs and at least 300 wolves in the three recovery areas/states. Therefore, that is the reason a significant portion of range is dependent on each of the three states contributing its share of suitable habitat. Current predatory animal status in Wyoming would jeopardize the GYA significant portion of range and the overall NRM wolf population. Thus, if Wyoming fails to modify its regulatory framework, the Act's protections will be necessary to ensure the GYA portion of the NRM wolf population is maintained above recovery levels into the foreseeable future.

Suitable habitat within the occupied area, particularly between the population segments, is important to maintain the overall population and is a significant portion of the range in the DPS. Habitat on the outer edge of the metapopulation is not capable of supporting wolf breeding pairs, is insignificant to maintaining the NRM wolf population's viability, and is not a significant portion of the range.

Oakleaf *et al.* (2006, p. 559) predicted that roughly 148,599 km^2 (57,374 mi^2) or 87 percent of Wyoming's, Idaho's, and Montana's suitable habitat was within the area we describe as the area currently occupied by the NRM wolf population. Substantial threats to this area would have the effect of threatening the viability of the NRM wolf population. These core areas are necessary for maintaining a viable, self-sustaining, and evolving representative metapopulation in order for the NRM wolf population to persist into the foreseeable future. We believe the remaining unoccupied, roughly 13 percent, of theoretical suitable wolf habitat (as described by Oakleaf *et al.* 2006, p. 561) is not capable of supporting wolf breeding pairs, is insignificant to maintaining the NRM wolf population's viability, and is not a significant portion of the range. We nevertheless considered potential threats to this area.

Additionally, the portions of Oregon, Washington, and Utah within the DPS are not a significant portion of the NRM DPS because: (1) These portions of Oregon, Washington, and Utah contain only about 4 percent of suitable habitat within the DPS (Carroll 2005); (2) habitat in these States is generally lower quality and more fragmented (Carroll *et al.* 2006, p. 541); (3) Oregon, Washington, and Utah do not currently support any wolf packs (although, on occasion, a few dispersing wolves have been documented in these areas) (Service *et al.* 1989–2006, Tables 1–3); and (4) if wolf packs did form in these areas, they might contribute to a viable wolf population in the NRM, but would not be essential for its continued existence.

In summary, a total of about 275,533 km^2 (106,384 mi^2) of occupied habitat in parts of western Montana (125,208 km^2 [48,343 mi^2]), Idaho (116,309 km^2 [44,907 mi^2]), and northwestern Wyoming (34,017 km^2 [13,134 mi^2]) (Service *et al.* 2005, Figure 1) are a significant portion of range in the NRM DPS. All other areas in the NRM DPS are not a significant portion of range. This area is roughly western Montana west of I–15 and North of I–90, Idaho north of I–84 and in Wyoming west of state highway 120, along the western border of the Wind River Reservation, and USDA Forest Service lands north of Boulder, WY to the Idaho border. More specifically, this area of northwestern Wyoming is described as: the junction of U.S. Highway 120 and the Wyoming/Montana State line; running southerly along state Highway 120 to the Greybull River; southwesterly up said river to the Wood River; running southwesterly up said river to the U.S. Forest Service boundary; following the U.S. Forest Service boundary southerly to the northern boundary of the Wind River Indian Reservation; following the Reservation boundary westerly, then southerly across U.S. Highway 26/287 to the Continental Divide; following the Continental Divide southeasterly to Middle Fork of Boulder Creek; following the Middle Fork of Boulder Creek and then Boulder Creek westerly to the U.S. Forest Service boundary; following the U.S. Forest Service boundary northwesterly to its intersection with U.S. Highway 189/191; following U.S. Highway 189/91 northwesterly to the intersection with Wyoming state highway 22 in the town of Jackson; following Wyoming state highway 22 westerly to the Wyoming/Idaho State line.

The significant portion of range for the NRM wolf population includes habitat where there are large blocks of contiguous public land; habitat is primarily forest in Temperate Steppe Regime Mountains (Bailey 1995); elk and/or white-tailed and mule deer are common; livestock are primarily cattle, grazed seasonally, and are at lower density than on private land; road density is low; and human presence is low or seasonal. The amount, connectivity, and location of these habitat characteristics in western Montana, central Idaho, and the GYA is sufficient to support a metapopulation of at least 30 breeding pairs and 300 gray wolves equitably distributed in western Montana, central Idaho and northwestern Wyoming. These areas in the NRM DPS are depicted in Figure 2. We do not predict that changes in habitat quantity, quality, or distribution of suitable habitat nor land-uses in the foreseeable future in all or a significant portion of range in the NRM DPS will threaten wolf population recovery.

Unoccupied Suitable Habitat—Habitat suitability modeling indicates the NRM core recovery areas are atypical of other habitats in the western United States because suitable habitat in those core areas occurs in such large contiguous blocks (Service 1987, p. 7; Larson 2004, p. 49; Carroll *et al.* 2006, p. 35; Oakleaf *et al.* 2006, p. 559). It is likely that without core refugia areas like YNP and the central Idaho wilderness that provide a steady influx of dispersing wolves, other potentially suitable wolf habitat would not be capable of sustaining wolf packs. Some habitat ranked by models as suitable that is adjacent to core refugia may be able to support wolf packs, while some theoretically suitable habitat that is farther away from a strong source of dispersing wolves may not be able to support persistent packs. This fact is important to consider as suitable habitat, as defined by the Carroll (*et al.* 2006, p. 30) and Oakleaf (*et al.* 2006, p. 559) models, only has a 50 percent or greater chance of being successfully

occupied by wolf packs. Therefore, model predictions regarding habitat suitability do not always translate into successful wolf occupancy and wolf breeding pairs.

Strips and smaller (less than 2,600 km² [1,000 mi²]) patches of theoretically suitable habitat (Carroll *et al.* 2006, p. 34; Oakleaf *et al.* 2006, p. 559) (typically isolated mountain ranges) often possess higher mortality risk for wolves because of their enclosure by, and proximity to, areas of high mortality risk. This phenomenon, in which the quality and quantity of suitable habitat is diminished because of interactions with surrounding less-suitable habitat, is known as an edge effect (Mills 1995, pp. 400–401). Edge effects are exacerbated in small habitat patches with high perimeter-to-area ratios (*i.e.*, those that are long and narrow, like isolated mountain ranges) and in long-distance dispersing species, like wolves, because they are more likely to encounter surrounding unsuitable habitat (Woodroffe and Ginsberg 1998, p. 2128). Because of edge effects, some habitat areas outside the core areas may rank as suitable in models but are unlikely to actually be successfully occupied by wolf packs. For these reasons, we believe that the NRM wolf population will remain centered in the three recovery areas. These core population segments will continue to provide a constant source of dispersing wolves into surrounding areas, supplementing wolf packs in adjacent but less secure suitable habitat.

Currently Occupied Habitat—The area ''currently occupied'' by the NRM wolf population was calculated by drawing a line around the outer points of radio-telemetry locations of all known wolf pack territories in 2004 (n=110) (Service *et al.* 2005, Figure 1). We defined occupied wolf habitat as that area confirmed as being used by resident wolves to raise pups or that is consistently used by two or more territorial wolves for longer than 1 month (Service 1994, pp. 6:5–6). We relied upon 2004 wolf monitoring data (Service *et al.* 2005, Figure 1). The overall distribution of wolf packs has been similar since 2000, despite a wolf population that has more than doubled (Service *et al.* 2001–2006, Figure 1; Bangs *et al.* in pressb). Because the States, except Wyoming, have committed to maintain a wolf population above the minimum recovery levels (first achieved in 2000) we expect this general distribution will be maintained. We do not believe the Wyoming state law and plan provide enough assurance that the significant portion of range outside the National Parks in northwestern Wyoming would remain occupied by enough wolf breeding pairs to maintain that segment of the metapopulation above recovery levels. However, if Wyoming does not modify its management plan and law, that portion of the wolf population will be maintained through the protections afforded by the Act in the significant portion of the wolves' range outside of the National Parks in Wyoming. Occupied habitat changed little (about 5 percent) from 2004 (275,533 km² [106,384 mi²]) to 2005 (260,535 km² [100,593 mi²]) (Service *et al.* 2006, Figure 1), so we used the currently occupied habitat analysis from the February 8, 2006 ANPR (71 FR 6634) for this proposed rule (Bangs *et al.* in pressb).

We included areas between the core recovery segments as occupied wolf habitat because they are important for connectivity between segments even though wolf packs did not persist in certain portions of these areas. While models ranked some of this habitat as unsuitable, those intervening areas are important to maintaining the metapopulation structure because dispersing wolves routinely travel through those areas (Service 1994, pp. 6:5–6; Bangs 2002, p. 3). This would include areas such as the Flathead Valley and other smaller valleys intensively used for agriculture, and a few of the smaller, isolated mountain ranges surrounded by agricultural lands in west-central Montana.

As of the end of 2004, we estimated approximately 275,533 km² (106,384 mi²) of occupied habitat in parts of Montana (125,208 km² [48,343 mi²]), Idaho (116,309 km² [44,907 mi²]), and Wyoming (34,017 km² [13,134 mi²]) (Service *et al.* 2005, Figure 1). Although currently occupied habitat includes some prairie (4,488 km² [1,733 mi²]) and some high desert (24,478 km² [9,451 mi²]), wolf packs did not use these habitat types successfully (Service *et al.* 2005, Figure 1). Since 1986, no persistent wolf pack has had a majority of its home range in high desert or prairie habitat. Landownership in the occupied habitat area is 183,485 km² (70,844 mi²) Federal (67 percent); 12,217 km² (4,717 mi²) State (4.4 percent); 3,064 km² (1,183 mi²) Tribal (1.7 percent); and 71,678 km² (27,675 mi²) private (26 percent) (Service *et al.* 2005, Figure 1).

We determined that the current wolf population resembles a three-segment metapopulation and that the overall area used by the NRM wolf population has not significantly expanded since the population achieved recovery. Stagnant distribution patterns indicate there is probably limited suitable habitat for the NRM wolf population to expand significantly beyond its current borders. Carroll's model predicted that 165,503 km² (63,901 mi²) of suitable habitat (62 percent) was within the occupied area; however, the model's remaining potentially suitable habitat (38 percent) was often fragmented and in smaller, more isolated patches (Carroll *et al.* 2006, p. 35).

Montana, Idaho, and Wyoming must each manage for 15 breeding pairs and maintain at least 10 breeding pairs and 100 wolves in mid-winter to ensure long-term viability of the NRM gray wolf population. The NRM wolf population occupies nearly 100 percent of the recovery areas recommended in the 1987 recovery plan (*i.e.*, central Idaho, the GYA, and the northwestern Montana recovery areas) (Service 1987, p. 23) and nearly 100 percent of the primary analysis areas (the areas where suitable habitat was believed to exist and the wolf population would live) analyzed for wolf reintroduction in central Idaho and the GYA (Service 1994, p. 1:6). Because of this success and the continued management of public lands in the significant portion of range in the NRM DPS for high ungulate densities, low to moderate road and livestock densities, and other factors contributing to successful wolf occupancy, we conclude that the threats to habitat under Factor A are not substantial enough to threaten or endanger wolf populations within the NRM in the foreseeable future.

Potential Threats Affecting a Significant Portion of Range—Establishing a recovered wolf population in the NRM did not require land-use restrictions or curtailment of traditional land-uses because there was enough suitable habitat, enough wild ungulates, and sufficiently few livestock conflicts to recover wolves under existing conditions (Bangs *et al.* 2004, pp. 95–96). We do not believe that any traditional land-use practices in the NRM need be modified to maintain a recovered NRM wolf population into the foreseeable future. We do not anticipate overall habitat changes in the NRM occurring at a magnitude that will threaten wolf recovery in the foreseeable future because 70 percent of the suitable habitat is in public ownership that is managed for multiple uses, including maintenance of viable wildlife populations (Carroll *et al.* 2003, p. 542; Oakleaf *et al.* 2006, p. 560).

The GYA and central Idaho recovery areas, 63,714 km² (24,600 mi²) and 53,613 km² (20,700 mi²), respectively, are primarily composed of public lands (Service 1994, p. iv) and are the largest

contiguous blocks of suitable habitat within the proposed NRM DPS. Central Idaho and the GYA provide secure habitat and abundant ungulate populations with about 99,300 ungulates in the GYA and 241,400 in central Idaho (Service 1994, pp. viii–ix). These areas provide optimal suitable habitat to help maintain a viable wolf population (Service 1994, p. 1:4). The central Idaho recovery area has 24,281 km² (9,375 mi²) of designated wilderness at its core (Service 1994, p. 3:85). The GYA recovery area has a core including over 8,094 km² (3,125 mi²) in YNP and, although less useful to wolves due to high elevation, about 16,187 km² (6,250 mi²) of designated wilderness (Service 1994, p. 3:45). These areas are in public ownership, and no foreseeable habitat-related threats would prevent them from anchoring a wolf population that exceeds recovery levels.

While the northwestern Montana recovery area (>49,728 km² [>19,200 mi²]) (Bangs *et al.* 1998, p. 786) also has a core of suitable habitat (Glacier National Park and the Bob Marshal Wilderness Complex), it is not as high quality, as large, or as contiguous as that in either central Idaho or GYA. The primary reason for this is that ungulates do not winter throughout the area because it is 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 *et al.* 1989–2006, Figure 1). This mix exposes wolves to higher levels of human-caused mortality, and thus this area supports smaller and fewer wolf packs. Wolf dispersal into northwestern Montana from the more stable resident packs in the core protected area (largely the North Fork of the Flathead River along the eastern edge of Glacier National Park and the few large river drainages in the Bob Marshall Wilderness Complex) helps to maintain that segment of the NRM wolf population. Wolves also disperse into northwestern Montana from Canada and some packs have trans-boundary territories, helping to maintain the NRM population (Boyd *et al.* 1995). Conversely, wolf dispersal from northwestern Montana into Canada, where wolves are much less protected, continues to draw some wolves into vacant or low-density habitats in Canada where they are subject to legal hunting (Bangs *et al.* 1998, p. 790). Despite mortalities that occur in Canada, the trans-boundary movements of wolves and wolf packs led to the establishment of wolves in Montana, and will continue to have an overall positive effect on wolf genetic diversity and demography in the northwest Montana segment of the NRM wolf population.

Within occupied suitable habitat, enough public land exists so that NRM wolf populations can be maintained above recovery levels. Most important suitable wolf habitat is in public ownership, and the States and Federal land-management agencies are likely to continue to manage habitat that will provide forage and security for high ungulate populations, sufficient cover for wolf security, moderate and seasonal levels of livestock grazing, and low road density. Carroll *et al.* (2003, p. 541; 2006, p. 31) predicted future wolf habitat suitability under several scenarios through 2025, including increased human population growth and road development. Those threats were not predicted to alter wolf habitat suitability in the proposed NRM DPS enough to cause the wolf population to fall below recovery levels in the foreseeable future.

The recovery plan (Service 1987, p. 13), the metapopulation structure recommended by the 1994 EIS (Service 1994, pp. 6:74–75), and subsequent investigations (Bangs 2002, p. 3) recognize the importance of habitat connectivity between northwestern Montana, central Idaho, and the GYA. There appears to be enough habitat connectivity between occupied wolf habitat in Canada, northwestern Montana, Idaho, and (to a lesser extent) the GYA to ensure exchange of sufficient numbers of dispersing wolves to maintain demographic and genetic diversity in the NRM wolf metapopulation (Oakleaf *et al.* 2006, p. 559; Carroll *et al.* 2006, p. 32; Wayne 2005; Boyd 2006). To date, from radio-telemetry monitoring, we have documented routine wolf movement between Canada and northwestern Montana (Pletscher *et al.* 1991, p. 544; Boyd and Pletscher 1999, pp. 1095–1096), occasional wolf movement between Idaho and Montana, and at least 11 wolves have traveled into the GYA (Wayne 2005; Boyd *et al.* 1995, pp. iii–3–1; Boyd 2006). Because we know only about the 30 percent of the wolf population that has been radio-collared, additional dispersal has undoubtedly occurred. This documentation demonstrates that current habitat conditions allow dispersing wolves to occasionally travel from one recovery area to another. Finally, the Montana State plan (the key State regarding connectivity) commits to maintaining natural connectivity to ensure the genetic integrity of the NRM wolf population by promoting land uses, such as traditional ranching, that enhance wildlife habitat and conservation.

Another important factor in maintaining wolf populations is the native ungulate population. Wild ungulate prey in these three areas are composed mainly of elk, white-tailed deer, mule deer, moose, and (only in the GYA) bison. Bighorn sheep, mountain goats, and pronghorn antelope also are common but not important, at least to date, as wolf prey. In total, 100,000–250,000 wild ungulates are estimated in each NRM State where wolf packs currently exist (Service 1994, pp. viii–ix). The States in the NRM DPS have managed resident ungulate populations for decades and maintain them at densities that would easily support a recovered wolf population. We know of no foreseeable condition that would cause a decline in ungulate populations significant enough to threaten the recovered status of the NRM wolf population.

Cattle and sheep are at least twice as numerous as wild ungulates even on public lands (Service 1994, p. viii). The only areas lacking livestock large enough to support wolf packs are YNP, Glacier National Park, some adjacent USFS Wilderness Areas, and parts of Wilderness Areas in central Idaho and northwestern Montana. Consequently, every wolf pack outside these areas has interacted with some livestock, primarily cattle. Livestock and livestock carrion are routinely used by wolves, but management discourages chronic use of livestock as prey. Conflict between wolves and livestock has resulted in the annual removal of some wolves (Bangs and Shivik 1991, pg 2; Bangs *et al.* 1995, p. 131; 2004, p. 92; 2005a, pp. 342–344; Service *et al.* 2006, Table 5a). This issue is discussed further under Factors D and E.

Therefore, except for Wyoming's predatory animal status, we do not foresee that impacts to suitable and potentially suitable habitat will occur at levels that will significantly affect wolf numbers or distribution or affect population recovery and long-term viability in the NRM. Occupied suitable habitat is secured by core recovery areas in northwestern Montana, central Idaho, and the GYA, except for the area of northwestern Wyoming outside the National Parks. These areas include Glacier National Park, Grand Teton National Park, YNP, numerous USFS Wilderness Areas, and other State and Federal 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 sufficient connectivity into the foreseeable future.

No significant threats to the significant portion of range in Idaho, Montana, and Wyoming are known to exist in the foreseeable future, except for Wyoming's predatory animal status. These areas 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 genetic exchange between subpopulations (Service 1980, pp. 1–4; 1987, p. 23; 1994, pp. 6, 74–75; 71 FR 6634, February 8, 2006). Unsuitable habitat and small fragmented areas of suitable habitat away from these core areas, largely represent geographic locations where wolves are likely to persist in low numbers, if at all. Although such areas may historically have contained suitable habitat (and may contribute to a healthy wolf population in the NRM), wolf packs in these areas are not important or necessary for maintaining a viable, self-sustaining, and evolving representative wolf population in the NRM into the foreseeable future. These areas are not a significant portion of the range for the NRM wolf population.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

As detailed below, overutilization for commercial, recreational, scientific, or educational purposes have not been a significant threat to the NRM wolf population. Mortality rates caused by commercial, recreational, scientific, or educational purposes are not anticipated to exceed sustainable levels following delisting. These activities have not been a threat to the viability of the wolves in the past and we have no reason to believe that they would become a threat to the viability of the wolves in the foreseeable future. However, as discussed later in Factor D, we have determined that human-caused mortality associated with Wyoming's current management strategy for treating delisted wolves as ''predatory animals'' would exceed sustainable levels if the species were delisted in the State.

Since their listing under the Act, no gray wolves have been legally killed or removed from the wild in the NRM for commercial, recreational, or educational purposes. In the NRM, about 3 percent of the wolves captured for scientific research, nonlethal control, and monitoring have been accidentally killed (Bangs *et al.* in pressa). Some wolves may have been illegally killed for commercial use of the pelts and other parts, but we believe illegal commercial trafficking in wolf pelts or wolf parts is rare. Illegal capture of wolves for commercial breeding purposes also is possible, but we have no evidence that it occurs in the NRM. We believe the prohibition against ''take'' provided for by Section 9 of the Act has discouraged and minimized the illegal killing of wolves for commercial or recreational purposes. Although Federal penalties under Section 11 of the Act will not apply if delisting is finalized, other Federal laws will still protect wildlife in National Parks and on other Federal lands (Service 1994, pp. 1:5–9). In addition, the States and Tribes have similar laws and regulations that protect game or trophy animals from overutilization for commercial, recreational, scientific, and educational purposes (See Factor D for a more detailed discussion of this issue and world wide web links to applicable State laws and regulations). We believe these laws will continue to provide a strong deterrent to illegal killing of wolves by the public as they have been effective in State-led conservation programs for other resident wildlife such as black bears and mountain lions. In addition, the State fish and game agencies, National Parks, other Federal agencies, and most Tribes have well-distributed experienced cadres of professional law enforcement officers to help enforce State, Federal, and Tribal wildlife regulations (See Factor D).

Scientific Research and Monitoring—From 1984 to 2005, the Service and our cooperating partners captured about 814 NRM wolves for monitoring, nonlethal control, and research purposes with 23 accidental deaths. If NRM wolves were delisted, the States, National Parks, and Tribes would continue to capture and radio-collar wolves in the NRM area for monitoring and research purposes in accordance with their State wolf management plans (See ''Factor D'' and ''Post-Delisting Monitoring'' sections). We expect that capture-caused mortality by Federal agencies, universities, States, and Tribes conducting wolf monitoring, nonlethal control, and research will remain below 3 percent of the wolves captured, and will be an insignificant source of mortality to the wolf population.

Education—We are unaware of any wolves that have been removed from the wild for solely educational purposes in recent years. Wolves that are used for such purposes are usually the captive-reared offspring of wolves that were already in captivity for other reasons. However, States may get requests to place wolves that would otherwise be euthanized in captivity for research or educational purposes. Such requests have been, and will continue to be, rare; would be closely regulated by the State wildlife management agencies through the requirement for State permits for protected species; and would not substantially increase human-caused wolf mortality rates.

Commercial and Recreational Uses—In Idaho and Montana, any legal take after delisting would be regulated by State or Tribal law so that it would not threaten each State's share of the NRM wolf population (See Factor D). Currently, Wyoming State law does not regulate human-caused mortality to wolves throughout most of Wyoming (see Factor D for a more detailed description of this issue). This unaddressed threat was one of the primary reasons the Service did not approve the final Wyoming Plan (71 FR 43410, August 1, 2006; WGFD 2003; Williams 2004). If Wyoming changes its law and plan in a satisfactory manner, this will no longer be a threat.

Because wolves are highly territorial, wolf populations in saturated habitat naturally limit further population increases through wolf-to-wolf conflict or dispersal to unoccupied habitat. Wolf populations can maintain themselves despite a sustained human-caused mortality rate of 30 percent or more per year (Keith 1983; Fuller *et al.* 2003, pp. 182–184), and human-caused mortality can replace up to 70 percent of natural mortality (Fuller *et al.* 2003, p. 186). Wolf pups can be successfully raised by other pack members and breeding individuals can be quickly replaced by other wolves (Brainerd 2006). Collectively, these factors means that wolf populations are quite resilient to human-caused mortality if it can be regulated.

Montana and Idaho would regulate human-caused mortality to manipulate wolf distribution and overall population size to help reduce conflicts with livestock and, in some cases, human hunting of big game, just as they do for other resident species of wildlife. Idaho and Montana, and some Tribes in those States, would allow regulated public harvest of surplus wolves in the NRM wolf population for commercial and recreational purposes by regulated private and guided hunting and trapping. Such take and any commercial use of wolf pelts or other parts would be regulated by State or Tribal law (See discussion of State laws and plans under Factor D). The regulated take of

those surplus wolves would not affect wolf population recovery or viability in the NRM because the States of Montana and Idaho (and Wyoming, if its plan is approved in the future) would allow such take only for wolves that are surplus to achieving the State's commitment to maintaining a recovered population.

State laws in Washington, Oregon, and Utah do not allow public take of wolves for recreational or commercial purposes. Regulated hunting and trapping are traditional and effective wildlife management tools that may be applied to help achieve State and Tribal wolf management objectives as needed.

In summary, the States have organizations and regulatory and enforcement systems in place to limit human-caused mortality of wolves (except for Wyoming at this time). Montana's and Idaho's State plans commit these States to regulate all take of wolves, including that for commercial, recreational, scientific, and educational purposes, and will incorporate any Tribal harvest as part of the overall level of allowable take to ensure that the wolf population does not fall below the NRM wolf population's numerical and distributional recovery levels. Wyoming's current State regulatory framework would not adequately regulate human-caused mortality so Wyoming's portion of a recovered wolf population will be maintained through the protections afforded by the Act, unless Wyoming updates its State law and management plan. The States and Tribes have humane and professional animal handling protocols and trained personnel that will ensure that population monitoring and research results in limited unintentional mortalities. Furthermore, the State permitting process for captive wildlife and animal care will ensure that few, if any wolves will be removed from the wild solely for educational purposes. . We do not predict that changes in threats to wolves from overuse for commercial, scientific or educational purposes in all or a significant portion of range in the NRM DPS will threaten wolf population recovery for the foreseeable future. In the significant portion of the range in northwestern Wyoming, either an approved state law and plan or the Act's protection will provide the necessary conservation measures and adequate regulation of these potential threats into the foreseeable future.

C. Disease or Predation

As discussed in detail below, a wide range of diseases may affect the NRM wolves. However, no diseases are of such magnitude that the population is likely to become in danger of extinction in the foreseeable future. Similarly, predation does not pose a significant threat to the NRM wolf population. The rates of mortality caused by disease and predation are well within acceptable limits, and we do not expect those rates to change appreciably if NRM wolves are delisted. More information on disease and predation are discussed below.

Disease—The NRM wolves are exposed to a wide variety of diseases and parasites that are common throughout North America. Many diseases (viruses and bacteria, many protozoa and fungi) and parasites (helminthes and arthropods) have been reported for the gray wolf, and several of them have had significant, but temporary impacts during wolf recovery in the 48 conterminous States (Brand *et al.* 1995, p. 428; Kreeger 2003, pp. 202–214). The EIS on gray wolf reintroduction identified disease impact as an issue, but did not evaluate it further, as it appeared to be insignificant (Service 1994, pp. 1:20–21).

Infectious disease induced by parasitic organisms is a normal feature of the life of wild animals, and the typical wild animal hosts a broad multi-species community of potentially harmful parasitic organisms (Wobeser 2002, p. 160). We fully anticipate that these diseases and parasites will follow the same pattern seen in other areas of North America (Brand *et al.* 1995, pp. 428–429; Bailey *et al.* 1995, p. 445; Kreeger 2003, pp. 202–204) and will not significantly threaten wolf population viability. Nevertheless, because these diseases and parasites, and perhaps others, have the potential to impact wolf population distribution and demographics, careful monitoring (as per the State wolf management plans) will track such events. Should such an outbreak occur, human-caused mortality would be regulated over an appropriate area and time period to ensure wolf population numbers in the NRM DPS are maintained above recovery levels in those portions of the DPS.

CPV infects wolves, domestic dogs (*Canis familiaris*), foxes (*Vulpes spp.*), coyotes, skunks (*Mephitis mephitis*), and raccoons (*Procyon lotor*). The population impacts of CPV occur via diarrhea-induced dehydration leading to abnormally high pup mortality (Wisconsin Department of Natural Resources 1999, p. 61). Clinical CPV is characterized by severe hemorrhagic diarrhea and vomiting; debility and subsequent mortality is a result of dehydration, electrolyte imbalances, and shock. The CPV has been detected in nearly every wolf population in North America including Alaska (Johnson *et al.* 1994, p. 270; Bailey *et al.* 1995, p. 441; Brand *et al.* 1995, p. 421; Kreeger 2003, pp. 210–211), and exposure in wolves is thought to be almost universal. Currently, nearly 100 percent of the wolves handled by Montana Fish, Wildlife and Parks (MFWP) (Atkinson 2005) had blood antibodies indicating exposure to CPV. The CPV contributed to low pup survival in the northern range of YNP in 1999, and was suspected to have done so again in 2005 (Smith *et al.* 2006, p. 244). Preliminary monitoring data suggest 2006 pup production and survival in YNP returned to normal levels (Smith 2006). The impact of such disease outbreaks to the overall NRM wolf population has been localized and temporary, as has been documented elsewhere (Bailey *et al.* 1995, p. 441; Brand *et al.* 1995, p. 421; Kreeger 2003, pp. 210–211).

Canine distemper is an acute, fever-causing disease of carnivores caused by a paramyxo-virus (Kreeger 2003, p. 209). It is common in domestic dogs and some wild canids, such as coyotes and foxes in the NRM (Kreeger 2003, p. 209). The seroprevalence in North American wolves is about 17 percent (Kreeger 2003, p. 209). Nearly 85 percent of Montana wolf blood samples analyzed in 2005 had blood antibodies indicating non-lethal exposure to canine distemper (Atkinson 2005). Mortality in wolves has been documented in Canada (Carbyn 1982, p. 109), Alaska (Peterson *et al.* 1984, p. 31; Bailey *et al.* 1995, p. 441), and in a single Wisconsin pup (Wydeven and Wiedenhoeft 2003, p. 7). Distemper is not a major mortality factor in wolves, because despite exposure to the virus, affected wolf populations demonstrate good recruitment (Brand *et al.* 1995, pp. 420–421). Mortality from canine distemper has only been confirmed once in NRM wolves despite their high exposure to it, but we suspect it contributed to the high pup mortality documented in the northern GYA in spring 2005.

Lyme disease, caused by a spirochete bacterium, is spread primarily by deer ticks (*Ixodes dammini*). Host species include humans, horses (*Equus caballus*), dogs, white-tailed deer, mule deer, elk, white-footed mice (*Peromyscus leucopus*), eastern chipmunks (*Tamias striatus*), coyotes, and wolves. Lyme disease has not been reported from wolves beyond the Great Lakes regions (Wisconsin Department of Natural Resources 1999, p. 61). In those populations, it does not appear to cause adult mortality, but might be

suppressing population growth by decreasing wolf pup survival.

Sarcoptic mange is caused by a mite (*Sarcoptes scabeii*) that infests the skin. The irritation caused by feeding and burrowing mites results in intense itching, resulting in scratching and severe fur loss, which can lead to mortality from exposure during severe winter weather or secondary infections (Kreeger 2003, pp. 207–208). Advanced sarcoptic mange can involve the entire body and can cause emaciation, decreased flight distance, staggering, and death (Kreeger 2003, p. 207). In a long-term Alberta wolf study, higher wolf densities were correlated with increased incidence of mange, and pup survival decreased as the incidence of mange increased (Brand *et al.* 1995, pp. 427–428). Mange has been shown to temporarily affect wolf population growth rates and perhaps wolf distribution (Kreeger 2003, p. 208).

Mange has been detected in, and caused mortality to, wolves in the NRM, but almost exclusively in the GYA, and primarily east of the Continental Divide (Jimenez 2006). Those wolves likely contracted mange from coyotes or fox whose populations experience occasional outbreaks. In southwestern Montana, 1 of 12 packs in 2003, 4 of 17 packs in 2004, and 11 of 18 packs in 2005, showed evidence of mange, although not all members of every pack appeared infested (Jimenez 2006b). In Wyoming, east of the YNP, 1 of 8 packs in 2003, 2 of 9 packs in 2003 and 2004, and none of 13 packs in 2005, showed evidence of mange (Jimenez 2006). Mange has not been confirmed in wolves from Idaho or northwestern Montana (Jimenez 2006).

In packs with the most severe infestations, pup survival appeared low, and some adults died (Jimenez 2006). In addition, we euthanized three wolves with severe mange. We predict that mange in the NRM will act as it has in other parts of North America (Brand *et al.* 1995, pp. 427–428; Kreeger 2003, pp. 207–208) and not threaten wolf population viability. Evidence suggests NRM wolves will not be infested on a chronic population-wide level given the recent response of Wyoming wolf packs that naturally overcame a mange infestation.

Dog-biting lice (*Trichodectes canis*) commonly feed on domestic dogs, but can infest coyotes and wolves (Schwartz *et al.* 1983, p. 372; Mech *et al.* 1985, p. 404). The lice can attain severe infestations, particularly in pups. The worst infestations can result in severe scratching, irritated and raw skin, substantial hair loss particularly in the groin, and poor condition. While no wolf mortality has been confirmed, death from exposure and/or secondary infection following self-inflicted trauma, caused by inflammation and itching, appears possible. Dog-biting lice were first confirmed in NRM wolves on two members of the Battlefield pack in the Big Hole Valley of southwestern Montana in 2005, and on a wolf in south-central Idaho in early 2006, but their infestations were not severe (Service *et al.* 2006, p. 15). The source of this infestation is unknown, but was likely domestic dogs.

Rabies, canine heartworm (*Dirofilaria immitus*), blastomycosis, brucellosis, neosporsis, leptospirosis, bovine tuberculosis, canine coronavirus, hookworm, tapeworm, coccidiosis, and canine hepatitis have all been documented in wild gray wolves, but their impacts on future wild wolf populations are not likely to be significant (Brand *et al.* 1995, pp. 419–429; Johnson 1995a, pp. 5–73, 1995b, pp. 5–49; Mech and Kurtz 1999, p. 305; Wisconsin Department of Natural Resources 1999, p. 61; Kreeger 2003, pp. 202–214). Canid rabies caused local population declines in Alaska (Ballard and Krausman 1997, p. 242) and may temporarily limit population growth or distribution where another species, such as arctic foxes (*Alopex lagopus*), act as a reservoir for the disease. Range expansion could provide new avenues for exposure to several of these diseases, especially canine heartworm, rabies, bovine tuberculosis, and possibly new diseases such as chronic wasting disease and West Nile virus, further emphasizing the need for vigilant disease monitoring programs.

Because several of the diseases and parasites are known to be spread by wolf-to-wolf contact, their incidence may increase if wolf densities increase. However, because wolf densities appear to be stabilizing (Service *et al.* 2006, Table 1 & Figure 1), wolf-to-wolf contacts will not likely lead to a continuing increase in disease prevalence. The wolves' exposure to these types of organisms may be most common outside of the core population areas, where domestic dogs are most common, and lowest in the core population areas because wolves tend to flow out of, not into, saturated habitats. Despite this dynamic, we assume that most NRM wolves have some exposure to most diseases and parasites in the system. Diseases or parasites have not been a significant threat to wolf population recovery in the NRM to date, and we have no reason to believe that they will become a significant threat to their viability in the foreseeable future.

In terms of future monitoring, each State has committed to monitor the NRM wolf population for significant disease and parasite problems. These State wildlife health programs often cooperate with Federal agencies and universities and usually have both reactive and proactive wildlife health monitoring protocols. Reactive strategies are the periodic intensive investigations after disease or parasite problems have been detected through routine management practices, such as pelt examination, reports from hunters, research projects, or population monitoring. Proactive strategies often involve ongoing routine investigation of wildlife health information through collection and analysis of blood and tissue samples from all or a sub-sample of wildlife carcasses or live animals that are handled. We do not believe that diseases or changes in disease monitoring by the states or tribes in the foreseeable future in all or a significant portion of range in the NRM DPS will threaten wolf population recovery.

Natural Predation—There are no wild animals that routinely prey on gray wolves (Ballard *et al.* 2003, pp. 259–260). Occasionally wolves have been killed by large prey such as elk, deer, bison, and moose (Mech and Nelson 1989, p. 207; Smith *et al.* 2006, p. 247; Mech and Peterson 2003, p. 134), but those instances are few. Since the 1980s, wolves in the NRM have died from wounds they received while attacking prey on about a dozen occasions (Smith *et al.* 2006, p. 247). That level of mortality could not significantly affect wolf population viability or stability.

Since NRM wolves have been monitored, only three wolves have been confirmed killed by other large predators. Two adults were killed by mountain lions, and one pup was killed by a grizzly bear (Jimenez 2006a). Wolves in the NRM inhabit the same areas as mountain lions, grizzly bears, and black bears, but conflicts rarely result in the death of either species. Wolves evolved with other large predators, and no other large predators in North America, except humans, have the potential to significantly impact wolf populations.

Other wolves are the largest cause of natural predation among wolves. Numerous mortalities have resulted from territorial conflicts between wolves and about 3 percent of the wolf population is removed annually by territorial conflict in the NRM wolf population (Smith 2005). Wherever wolf packs occur, including the NRM, some low level of wolf mortality will result from territorial conflict. Wolf populations tend to regulate their own

density. Consequently territorial conflict is highest in saturated habitats. That cause of mortality is infrequent and does not result in a level of mortality that would significantly affect a wolf population's viability in the NRM (Smith 2005).

Human-caused Predation—Wolves are very susceptible to human-caused mortality, especially in open habitats such as those that occur in the western United States (Bangs *et al.* 2004, p. 93). An active eradication program is the sole reason that wolves were extirpated from the NRM (Weaver 1978, p. i). Humans kill wolves for a number of reasons. In all locations where people, livestock, and wolves coexist, some wolves are killed to resolve conflicts with livestock (Fritts *et al.* 2003, p. 310; Woodroffe *et al.* 2005, pp. 86–107, 345–7). Occasionally, wolf killings are accidental (*e.g.*, wolves are hit by vehicles, mistaken for coyotes and shot, or caught in traps set for other animals) (Bangs *et al.* 2005a, p. 346). Some of these accidental killings are reported to State, Tribal, and Federal authorities.

However, many wolf killings are intentional, illegal, and are never reported to authorities. Wolves do not appear particularly wary of people or human activity, and that makes them very vulnerable to human-caused mortality (Mech and Boitani 2003, pp. 300–302). In the NRM, mountain topography concentrates both wolf and human activity in valley bottoms (Boyd and Pletscher 1999, p. 1105), especially in winter, which increases wolf exposure to human-caused mortality. The number of illegal killings is difficult to estimate and impossible to accurately determine because they generally occur in areas with few witnesses. Often the evidence has decayed by the time the wolf's carcass is discovered or the evidence is destroyed or concealed by the perpetrators. While human-caused mortality, including illegal killing, has not prevented population recovery, it has affected NRM wolf distribution (Bangs *et al.* 2004, p. 93). In the past 20 years, no wolf packs have successfully established and persisted solely in open prairie or high desert habitats that are used for intensive agriculture production (Service *et al.* 2006, Figure 1).

As part of the interagency wolf monitoring program and various research projects, up to 30 percent of the NRM wolf population has been radio-collared since the 1980s (Bangs *et al.* in press). The annual survival rate of mature wolves in northwestern Montana and adjacent Canada from 1984 through 1995 was 80 percent (Pletscher *et al.* 1997, p. 459); 84 percent for resident wolves and 66 percent for dispersers. That study found 84 percent of wolf mortality to be human-caused. Bangs *et al.* (1998, p. 790) found similar statistics, with humans causing most of the wolf mortality in the NRM. Radio-collared wolves in the largest blocks of remote habitat without livestock, such as central Idaho and YNP, had annual survival rates around 80 percent (Smith *et al.*, 2006 p. 245). Wolves outside of large remote areas had survival rates as low as 54 percent in some years (Smith *et al.* 2006, p. 245). This percentage is among the lower end of adult wolf survival rates that an isolated population can sustain (Fuller *et al.* 2003, p. 185).

These survival rates may be biased. Wolves are more likely to be radio-collared if they come into conflict with people, so the proportion of mortality caused by agency depredation control actions could be overestimated by radio-telemetry data. People who illegally kill wolves may destroy the radio-collar, so the proportion of illegal mortality could be underestimated. However, wolf populations have continued to expand in the face of ongoing levels of human-caused mortality.

An ongoing preliminary analysis of the survival data among NRM radio-collared wolves (n=716) (Smith 2005) from 1984 through 2004 indicates that about 26 percent of adult-sized wolves die every year, so annual adult survival averages about 74 percent, which typically allows wolf population growth (Keith 1983, p. 66; Fuller *et al.* 2003, p. 182). Humans caused just over 75 percent of all radio-collared wolf deaths (Smith 2005). This type of analysis does not estimate the cause or rate of survival among pups younger than 7 months of age because they are too small to radio-collar. Agency control of problem wolves and illegal killing are the two largest causes of wolf death; combined these causes remove nearly 20 percent of the population annually and are responsible for a majority of all known wolf deaths (Smith *et al.* 2006, p. 245).

Wolf mortality from agency control of problem wolves (which includes legal take by private individuals under defense of property regulations in rules promulgated under section 10(j) of the Act) is estimated to remove around 10 percent of adult radio-collared wolves annually. From 1995 through 2005, 30 wolves were legally killed by private citizens under Federal defense of property regulations (Service 1994, pp. 2:13–14; 70 FR 1285, January 6, 2005) that are similar to Idaho and Montana State laws that would take effect and direct take of problem wolves by both the public and agencies if wolves were delisted. Agency control removed 396 problem wolves from 1987 through 2005, indicating that private citizen take (about 7 percent) under State defense of property laws would not significantly increase the overall rate of problem wolf removal (Bangs *et al.* in press a, pp. 19–20).

A comparison of the overall wolf population and the number of problem wolves removed indicates agency control removes, on average, about 7 percent of the overall wolf population annually (Service *et al.* 2006, Table 5). Wolf mortality under State and Tribal defense of property regulations incidental to other legal activities, agency control of problem wolves, and legal hunting and trapping would be regulated by Montana, Idaho, and Tribes (and in Wyoming if it changes its law and management plan) if the Act's protections were removed. Specifically, the States would ensure that recovery levels are met after delisting, while the Service would continue to have oversight in the significant portion of the range in northwestern Wyoming outside the National Parks unless, or until, the State has a statute and plan that adequately conserves wolves in the State and the northwestern Wyoming wolf population is delisted in a separate rulemaking. This issue is discussed further below under Factor D.

The overall causes and rates of annual wolf mortality are affected by several variables. Wolves in higher quality suitable habitat, such as remote, forested areas with few livestock (like National Parks), have higher survival rates. Wolves in unsuitable habitat and areas without substantial refugia have higher overall mortality rates. Mortality rates also vary depending on whether the wolves are resident pack members or dispersers, if they have a history with livestock depredation, or have been relocated (Bradley *et al.* 2005, p. 1506). However, overall wolf mortality has been low enough since 1987 that the wolf population in the NRM has steadily increased. The wolf population is now nearly three times as numerous as needed to meet recovery levels and is distributed throughout most suitable habitat within the DPS (Service 1987, p. 23; Service 1994, p. 1:6).

If the NRM wolf population were to be delisted, State management would likely increase the mortality rate outside National Parks, National Wildlife Refuges, and Tribal reservations, from its current level of about 26 percent annually (Smith 2005). Wolf mortality as high as 50 percent annually may be sustainable (Fuller *et al.* 2003, p. 185). Idaho and Montana have the regulatory authorization and commitment to

regulate human-caused mortality so that the wolf population remains above its numerical and distributional recovery goals. If Wyoming changes its law and management plan consistent with the Service's recommendations, it will also sufficiently regulate human-caused mortality. If no changes occur, excessive human-caused mortality as allowed under state law would alone remain a threat to wolves in a significant portion of the range in Wyoming outside the National Parks. However, if a new Wyoming regulatory framework cannot be approved by the Service, then the Act's protections will remain in effect and they will provide adequate assurance into the foreseeable future that human-caused mortality will not become a threat to wolves in all or a significant portion of their range in Wyoming. This issue is discussed further below under Factor D.

In summary, human-caused mortality to adult radio-collared wolves in the NRM, which averages about 20 percent per year (Smith 2006), still allows for rapid wolf population growth. The protection of wolves under the Act promoted rapid initial wolf population growth in suitable habitat. Idaho and Montana have committed to continue to regulate human-caused mortality so that it does not reduce the NRM wolf population below recovery levels. Idaho, Montana, Oregon, Washington, and Utah have adequate laws and regulations to ensure that the NRM wolf population remains above recovery levels (see Factor D). Each post-delisting management entity (State, Tribal, and Federal) has experienced and professional wildlife staff to ensure those commitments can be accomplished.

D. The Adequacy or Inadequacy of Existing Regulatory Mechanisms

To address this factor, we compare the current regulatory mechanisms within the proposed NRM DPS to the future mechanisms that would provide the framework for wolf management after delisting. These regulatory mechanisms are carried out by the State governments included in the DPS. Idaho and Montana's wolf management programs are designed to maintain a recovered wolf population while minimizing damage caused by it by allowing for removal of wolves in areas of chronic conflict or in unsuitable habitat. The three States with occupied habitat have proposed wolf management plans that would govern how wolves are to be managed if delisted. As discussed below, we have approved Idaho's and Montana's plans because these States have proposed management objectives that would maintain at least 10 breeding pairs and 100 wolves per State by managing for a safety margin of 15 breeding pairs in each State. We expect Wyoming to adopt a State law and wolf management plan that will adequately conserve a recovered wolf population into the foreseeable future by the time we finalize this proposed rule. However, at this time, we have been unable to approve the Wyoming law and plan because it does not provide for sustainable levels of protection (Williams 2004; 71 FR 43427–43432, August 2, 2006). Any wolf conservation by the Tribes and the States of Washington, Oregon, and Utah will be beneficial, but is not necessary to either achieving or maintaining a recovered wolf population in the NRM DPS.

Current Wolf Management

The 1980 and 1987 NRM wolf recovery plans (Service 1980, p. 4; 1987, p. 3) recognized that conflict with livestock was the major reason that wolves were extirpated and that management of conflicts was a necessary component of wolf restoration. The plans also recognized that control of problem wolves was necessary to maintain local public tolerance of wolves and that removal of some wolves would not prevent the wolf population from achieving recovery. In 1988, the Service developed an interim wolf control plan that applied to Montana and Wyoming (Service 1988, p. 1); the plan was amended in 1990 to include Idaho and eastern Washington (Service 1990, p. 1). We analyzed the effectiveness of those plans in 1999, and revised our guidelines for management of problem wolves listed as endangered (Service 1999, p. 1). Evidence showed that most wolves do not attack livestock, especially larger livestock such as adult horses and cattle, but wolf presence around livestock will result in some level of depredation (Bangs *et al.* 2005, pp. 348–350). Therefore, we developed a set of guidelines under which depredating wolves could be harassed, moved, or killed by agency officials (Service 1999, pp. 39–40). The control plans were based on the premise that agency wolf control actions would affect only a small number of wolves, but would sustain public tolerance for non-depredating wolves, thus enhancing the chances for successful population recovery (Mech 1995, pp. 276–276). Our assumptions have proven correct, as wolf depredation on livestock and subsequent agency control actions have remained at low levels, and the wolf population has expanded its distribution and numbers far beyond, and more quickly than, earlier predictions (Service 1994, p. 2:12; Service *et al.* 2006, Table 4).

The conflict between wolves and livestock has resulted in the average annual removal of 7–10 percent of the wolf population (Bangs *et al.* 1995, p. 130; Bangs *et al.* 2004, p. 92; Bangs *et al.* 2005a, pp. 342–344; Service *et al.* 2006, Tables 4, 5; Smith 2005). We estimate illegal killing removed another 10 percent of the wolf population, and accidental and unintentional human-caused deaths have removed 1 percent of the population annually (Smith 2005). Even with this level of mortality, populations have expanded rapidly (Service *et al.* 2006, Table 5). Despite the more liberal regulations, all suitable areas for wolves have been filled with resident packs (Service *et al.* 2006, Figure 1). The outer NRM wolf pack distribution has remained largely unchanged since the end of 2000 (Service *et al.* 2001–2006, Figure 1).

If the wolf population continues to expand, wolves will increasingly disperse into unsuitable areas that are intensively used for livestock production. A higher percentage of wolves in those areas will become involved in conflicts with livestock, and a higher percentage of those wolves will probably be removed to reduce future livestock damage. In 2006, about 12 percent of the NRM wolf population was removed because of conflicts with livestock but it still increased over 20 percent. Human-caused mortality would have to remove 34 percent or more of the wolf population annually before population growth would cease (Fuller *et al.* 2003, pp. 184–185). Preliminary wolf survival data from radio-telemetry studies suggests that adult wolf mortality resulting from conflict could be doubled to an average of 14–20 percent annually and still not significantly impact wolf population recovery (Smith 2005). The State management laws and plans would balance the level of wolf mortality with the recovery goals in each State.

Regulatory Assurances Within the Proposed NRM DPS

In 1999, the Governors of Montana, Idaho, and Wyoming agreed that regional coordination in wolf management planning among the States, Tribes, and other jurisdictions would be necessary to ensure timely delisting. They signed a Memorandum of Understanding to facilitate cooperation among the three States in developing adequate State wolf management plans so that delisting could proceed. In this agreement, all three States committed to maintain at least 10 breeding pairs and

100 wolves per State. The States were to develop their pack definitions to approximate the current breeding pair definition. Governors from the three States renewed that agreement in April 2002.

The wolf population in the NRM achieved its numerical and distributional recovery goals at the end of 2000. The temporal portion of the recovery goal (maintaining numerical and distributional recovery goals for the 3 consecutive years) was achieved at the end of 2002. Because the primary threat to the wolf population (human predation and other take) still has the potential to significantly impact wolf populations if not adequately managed, the Service needs regulatory assurances that the States will manage for sustainable mortality levels before we can remove the Act's protections. Therefore, we requested that the States of Montana, Idaho, and Wyoming prepare State wolf management plans to demonstrate how they would manage wolves after the protections of the Act were removed. Wolf management for the Tribes and the States of Washington, Oregon, and Utah will be beneficial, but is not necessary to either achieving or maintaining a recovered wolf population in the NRM. The Service provided varying degrees of funding and assistance to the States while they developed their wolf management plans. Several issues key to our approval of State plans include regulations that would allow regulatory control of take, a pack definition biologically consistent with the Service's definition of a breeding pair, and the ability to realistically manage State wolf populations and the number of breeding pairs above recovery levels.

The final Service determination of the adequacy of those three key State management plans was based on the combination of Service knowledge of State law, the State management plans, wolf biology, our experience managing wolves for the last 20 years, peer review of the State plans, and the States' response to peer review. Those State plans can be viewed at *http://westerngraywolf.fws.gov/.*

After our analysis of the State laws, the State plans, and other factors, the Service determined that Montana and Idaho's laws and wolf management plans were adequate to assure the Service that their share of the NRM wolf population would be maintained above recovery levels following delisting. Therefore, we approved those two State plans. However, problems with the Wyoming legislation and plan, and inconsistencies between the law and management plan, did not allow us to approve Wyoming's approach to wolf management (Bangs 2004a; Williams 2004; FR 71:43410). Though we have not approved Wyoming's current plan, we anticipate that Wyoming will revise its statute and develop a plan that we can approve prior to finalizing this proposed rule. Tribal and State management (in the portions of Washington, Oregon, and Utah included in the proposed DPS) also are discussed below. If Wyoming changes its law and management plan consistent with the Service's recommendations, it will sufficiently regulate human-caused mortality, just as the Montana and Idaho regulatory frameworks now do. If acceptable changes do not occur to the Wyoming regulatory framework, then the potential for excessive human-caused mortality as allowed under Wyoming state law would remain the lone threat to wolves in a significant portion of the range in Wyoming outside the National Parks. Therefore, if a new Wyoming regulatory framework cannot be approved by the Service, then the Act's protections will remain in effect in a significant portion of the range outside the National Parks in Wyoming and they will provide adequate assurance into the foreseeable future that human-caused mortality will not become a threat to wolves in all or a significant portion of their range in northwestern Wyoming.

Montana—The gray wolf was listed under the Montana Nongame and Endangered Species Conservation Act of 1973 (87–5–101 MCA). Senate Bill 163, passed by the Montana Legislature and signed into law by the Governor in 2001, establishes the current legal status for wolves in Montana. Upon Federal delisting, wolves would be classified and protected under Montana law as a ''Species in Need of Management'' (87–5–101 to 87–5–123). Such species are primarily managed through regulation of all forms of human-caused mortality in a manner similar to trophy game animals like mountain lions and black bears. The MFWP and the Commission would then finalize more detailed administrative rules, as is typically done for other resident wildlife, but they must be consistent with the approved Montana wolf plan and State law. Classification as a ''Species in Need of Management'' and the associated administrative rules under Montana State law create the legal mechanism to protect wolves and regulate human-caused mortality beyond the immediate defense of life/property situations. Some illegal human-caused mortality would still occur, but is to be prosecuted under State law and Commission regulations.

In 2001, the Governor of Montana appointed the Montana Wolf Management Advisory Council to advise MFWP regarding wolf management after the species is removed from the lists of Federal and State-protected species. In August 2003, MFWP completed a Final EIS and recommended that the Updated Advisory Council alternative be selected as Montana's Final Gray Wolf Conservation and Management Plan (Montana 2003, p. 131). See *http://www.fwp.state.mt.us* to view the MFWP Final EIS and the Montana Gray Wolf Conservation and Management Plan.

Under the management plan, the wolf population would be maintained above the recovery level of 10 breeding pairs by managing for a safety margin of 15 breeding pairs. MFWP would manage problem wolves in a manner similar to the control program currently being implemented in the experimental population area in southern Montana, whereby landowners and livestock producers on public land can shoot wolves seen attacking livestock or dogs, and agency control of problem wolves is incremental and in response to confirmed depredations. State management of conflicts would become more protective of wolves and no public hunting would be allowed when there were fewer than 15 breeding pairs. Wolves would not be deliberately confined to any specific areas of Montana, but their distribution and numbers would be managed adaptively based on ecological factors, wolf population status, conflict mitigation, and human social tolerance. The MFWP plan commits to implement its management framework in a manner that encourages connectivity among wolf populations in Canada, Idaho, GYA, and Montana to maintain the overall metapopulation structure. Wolf management would include population monitoring, routine analysis of population health, management in concert with prey populations, law enforcement, control of domestic animal/human conflicts, consideration of a wolf-damage compensation program, research, and information and public outreach. Montana's plan (Montana 2003, p. 132) predicts that under State management, the wolf population would increase to between 328 and 657 wolves with approximately 27 to 54 breeding pairs by 2015.

An important ecological factor determining wolf distribution in Montana is the availability and distribution of wild ungulates. Montana has a rich, diverse, and widely distributed prey base on both public and private lands. The MFWP has and will continue to manage wild ungulates according to Commission-approved policy direction and species

management plans. The plans typically describe a management philosophy that protects the long-term sustainability of the ungulate populations, allows recreational hunting of surplus game, and aims to keep the population within management objectives based on ecological and social considerations. The MFWP takes a proactive approach to integrate management of ungulates and carnivores. Ungulate harvest is to be balanced with maintaining sufficient prey populations to sustain Montana's segment of a recovered wolf population. Ongoing efforts to monitor populations of both ungulates and wolves will provide credible, scientific information for wildlife management decisions.

State regulations would allow agency management of problem wolves by MFWP and USDA–WS; take by private citizens in defense of private property; and, when the population is above 15 packs, some regulated hunting of wolves. Montana wildlife regulations allowing take in defense of private property are similar to the 2005 experimental population regulations, whereby landowners and livestock grazing permittees can shoot wolves seen attacking or molesting livestock or pets as long as such incidents are reported promptly and subsequent investigations confirm that livestock were being attacked by wolves. The MFWP has enlisted and directed USDA–WS in problem wolf management, just as the Service has done since 1987.

When the Service reviewed and approved the Montana wolf plan, we stated that Montana's wolf management plan would maintain a recovered wolf population and minimize conflicts with other traditional activities in Montana's landscape. The Service has every confidence that Montana would implement the commitments it has made in its current laws, regulations, and wolf plan. In June 2005, MFWP signed a Cooperative Agreement with the Service, and it now manages all wolves in Montana subject to general oversight by the Service.

Idaho—The Idaho Fish and Game Commission (Idaho Commission) has authority to classify wildlife under Idaho Code 36–104(b) and 36–201. The gray wolf was classified as endangered by the State until March 2005, when the Idaho Commission reclassified the species as a big game animal under Idaho Administrative Procedures Act (13.01.06.100.01.d). The big game classification would take effect upon Federal delisting, and until then, wolves will be managed under Federal status. As a big game animal, State regulations would adjust human-caused wolf mortality to ensure recovery levels are exceeded. Title 36 of the Idaho statutes currently has penalties associated with illegal take of big game animals. These rules are consistent with the legislatively adopted Idaho Wolf Conservation and Management Plan (IWCMP) (IWCMP 2002) and big game hunting restrictions currently in place. The IWCMP states that wolves will be protected against illegal take as a big game animal under Idaho Code 36–1402, 36–1404, and 36–202(h).

The IWCMP was written with the assistance and leadership of the Wolf Oversight Committee established in 1992 by the Idaho Legislature. Many special interest groups including legislators, sportsmen, livestock producers, conservationists, and IDFG personnel were involved in the development of the IWCMP. The Service provided technical advice to the Committee and reviewed numerous drafts before the IWCMP was finalized. In March 2002, the IWCMP was adopted by joint resolution of the Idaho Legislature. The IWCMP can be found at: *http://www.fishandgame.idaho.gov/cms/wildlife/wolves/wolf_plan.pdf.*

The IWCMP calls for IDFG to be the primary manager of wolves after delisting; like Montana, to maintain a minimum of 15 packs of wolves to maintain a substantial margin of safety over the 10 breeding pair minimum; and to manage them as a viable self-sustaining population that will never require relisting under the Act. Wolf take would be more liberal if there are more than 15 packs and more conservative if there are fewer than 15 packs in Idaho. The wolf population would be managed by defense of property regulations similar to those now in effect under the Act. Public harvest would be incorporated as a management tool when there are 15 or more packs in Idaho to help mitigate conflicts with livestock producers or big game populations that outfitters, guides, and others hunt. The IWCMP allows IDFG to classify the wolf as a big game animal or furbearer, or to assign a special classification of predator, so that human-caused mortality can be regulated. In March 2005, the Idaho Commission proposed that, upon delisting, the wolf would be classified as a big game animal with the intent of managing wolves similar to black bears and mountain lions, including regulated public harvest when populations are above 15 packs. The IWCMP calls for the State to coordinate with USDA–WS to manage depredating wolves depending on the number of wolves in the State. It also calls for a balanced educational effort.

Elk and deer populations are managed to meet biological and social objectives for each herd unit according to the State's species management plans. The IDFG will manage both ungulates and carnivores, including wolves, to maintain viable populations of each. Ungulate harvest would be focused on maintaining sufficient prey populations to sustain viable wolf and other carnivore populations and hunting. IDFG has conducted research to better understand the impacts of wolves and their relationships to ungulate population sizes and distribution so that regulated take of wolves can be used to assist in management of ungulate populations and vice versa.

The Mule Deer Initiative in southeast Idaho was implemented by IDFG in 2005, to restore and improve mule deer populations. Though most of the initiative lies outside current wolf range and suitable wolf habitat in Idaho, improving ungulate populations and hunter success will decrease negative attitudes toward wolves. When mule deer increase, some wolves may move into the areas that are being highlighted under the initiative. Habitat improvements within much of southeast Idaho would focus on improving mule deer conditions. The Clearwater Elk Initiative also is an attempt to improve elk numbers in the area of the Clearwater Region in north Idaho where currently IDFG has concerns about the health of that once-abundant elk herd.

Wolves are currently classified as endangered under Idaho State law, but if delisted under the Act, they would be classified and protected as big game under Idaho fish and game code. Human-caused mortality would be regulated as directed by the IWCMP to maintain a recovered wolf population. The Service has every confidence that Idaho would implement the commitments it has made in its current laws, regulations, and wolf plan. In January 2006, the Governor of Idaho signed a Memorandum of Understanding with the Secretary of the Interior that provided the IDFG the power to manage all Idaho wolves.

Wyoming—In 2003, Wyoming passed a very specific and detailed State law that would designate wolves as ''trophy game'' in YNP, Grand Teton National Park, John D. Rockefeller Memorial Parkway, and the adjacent USFS-designated Wilderness Areas once the wolf is delisted from the Act. Wolves in other portions of the State would alternate back-and-forth between ''trophy game'' and ''predatory animal'' status based on oscillating population numbers.

A large portion of the area permanently designated as ''trophy game'' actually has little to no value to wolf packs because it is not suitable habitat for wolves and, thus, is rarely used (GYA wilderness, and much of eastern and southern YNP) (Jimenez 2006c). For example, many of the wilderness areas are rarely used by wolves because of their high elevation, deep snow, and low ungulate productivity. The ''trophy game'' status would allow the Wyoming Game and Fish Commission (Wyoming Commission) and Wyoming Game and Fish Department (WGFD) to regulate methods of take, hunting seasons, types of allowed take, and numbers of wolves that could be killed.

The State law requires that when there are 7 or more wolf packs in Wyoming ''primarily'' (this term is undefined) outside of National Park/Wilderness Areas or there are 15 or more wolf packs anywhere in Wyoming, all wolves in Wyoming outside of the National Park/Wilderness units would be classified as predatory animals. When wolves are classified as a ''predatory animal'' they are under the jurisdiction of the Wyoming Department of Agriculture and may be taken by anyone, anywhere in the predatory animal area, at any time, without limit, and by any means (including shoot-on-sight; baiting; possible limited use of poisons; bounties and wolf-killing contests; locating and killing pups in dens including use of explosives and gas cartridges; trapping; snaring; aerial gunning; and use of other mechanized vehicles to locate or chase wolves down). Wolves are very susceptible to unregulated human-caused mortality, which would be the situation if they were to be designated as predatory animals. Wolves are unlike coyotes in that wolf behavior and reproductive biology results in wolves being extirpated in the face of extensive human-caused mortality. These types and levels of take would most likely prevent wolf packs from persisting in areas of Wyoming where they are classified as predatory, even in otherwise suitable habitat.

Wolves in other parts of Wyoming could be classified as trophy game only when populations dipped below 7 packs outside of the National Park/Wilderness units and there were fewer than 15 packs in Wyoming. When this situation occurs, the Wyoming Commission would determine how large an area to designate as trophy game in order to reasonably ensure seven packs are located in Wyoming, primarily outside the National Park/Wilderness units, at the end of the calendar year. Moreover, because many southern and eastern YNP packs leave the National Park/Wilderness Areas in winter and regularly utilize habitat on non-wilderness public lands and some private lands, these packs would be subject to unregulated and unlimited human-caused mortality to the extent wolves are classified as predatory in these lands. Wolf packs are highly territorial and are reluctant to trespass on other pack territories (Mech and Boitani 2003, p. 19–34). A distribution of wolf packs outside Yellowstone National Park may be necessary to act as a biological fence to reduce Park pack movements out of the Park. If packs outside the Park are removed, that may cause their in-Park neighbors to investigate their absence, and thus expose those Park packs to the same mortality sources that removed their neighbors. The security of Park packs may partly rely on having at least one layer of neighboring packs outside the Park Units.

The above restrictions present the very real possibility that Wyoming would not be able to maintain its share of a recovered wolf population, despite Wyoming's proposal to default to trophy game status when wolf populations get below 15 packs (defined as simply 5 wolves traveling together at any time of year). For example, in 2004, under Wyoming Law, the YNP wolf population (171 wolves in 16 confirmed breeding pairs) would have triggered predatory status outside the National Parks/Wilderness Areas and allowed for the elimination of all wolf packs outside YNP (89 wolves in 8 breeding pairs) (Service *et al.* 2005, Figure 3). In 2005, disease and other factors caused a natural reduction of the YNP wolf population to 118 wolves in 7 breeding pairs (Service *et al.* 2006, Table 4). The year 2005 marked the first time successful wolf packs outside the National Park/Wilderness Areas (134 wolves in 9 breeding pairs) contributed more to Wyoming's overall share of the recovered NRM wolf population than those in YNP (118 wolves in 7 breeding pairs) (Service *et al.* 2005, Table 2; 2006, Table 2). However, if all wolves outside the National Parks/Wilderness Areas had been eliminated in 2004 or early 2005, as allowed by state law, the Wyoming segment of the NRM wolf population would have fallen 3 breeding pairs below the 10 breeding pair recovery level in Wyoming by the end of 2005 (Service *et al.* 2006, Table 2).

The State law and plan (WGFD 2003) calls for intensive monitoring using standard methods and a review of the Wyoming wolf population's status every 90 days. While WGFD would have authority to manage wolves when they are classified as trophy game, that authority would end if the number of packs increased to 15 in the State or if there were 7 packs primarily outside the National Park/Wilderness units (even if there were fewer than 15 packs in the State). In essence, as soon as WGFD met their management objective, their management authority would be removed by State law within a maximum of 90 days. Every time the wolf population exceeded the minimum levels, all wolves outside the National Park/Wilderness units would be designated as predatory animals and would be subjected to unregulated human-caused mortality which could drive the wolf population back down to, or below, the minimum level. We believe the real potential for fluctuating between predatory animal status and trophy game status would result in a program that would be nearly impossible to administer and enforce because of widespread public confusion about the changing wolf status. Attempting to manage a wolf population that is constantly maintained at minimum levels would likely result in the wolf population falling below recovery levels due to factors beyond WGFD's control.

An essential element to achieving the Service's recovery goal is our definition of a breeding pair: An adult male and an adult female wolf that have produced at least two pups during the previous breeding season that survived until December 31 of that year. Wyoming State law defined a pack as simply five wolves traveling together regardless of the group's composition. According to this definition, these wolves could be with or without offspring and could be traveling together at any time of year. The Wyoming plan adopted the same definition of pack that is in State law. Wyoming's State law and management plan also allows a pack of 10 or more wolves with 2 or 3 breeding females to count as 2 or 3 packs, respectively. The Wyoming definition of a pack and the 90-day evaluation of population status is inconsistent with wolf biology and how the Service, Montana, and Idaho has, and will, measure wolf population recovery. Wolf packs only breed and produce young once a year (April), so a wolf population can only increase once a year. If a pack's breeding adults are killed between February and April, the pack will not produce young for at least another year. If pups are killed, no more will be produced for another year. The Wyoming definition of a wolf pack would lead to greater use of the

predatory animal designation and a minimal wolf population going into summer, when diseases and most human-caused wolf mortality occur, including that which WGFD could not regulate (control and illegal killing) even under trophy game status. For instance, there might be 15 groups of 5 or more wolves (which may or may not be ''breeding pairs'') going into summer, but as human-caused mortality and other mortality factors continued to operate, the population could decline below recovery levels at a time when the only opportunity for the population to recover that year had passed.

Making this problem worse, Wyoming could well be overestimating the number of breeding pairs. Wyoming incorrectly used, as the Service initially did, a linear regression to predict a relationship between wolf group size and its potential to be a breeding pair. This was mathematically incorrect and greatly overestimated wolf breeding pairs in Wyoming, because the relationship is logistic (Ausband 2006). Wyoming data show that groups of 5 wolves traveling together in winter only have a 0.56 probability of being a breeding pair in Wyoming (Ausband 2006). Thus, 15 groups of 5 wolves of unknown status that are traveling together in winter is only equal to 8.4 breeding pairs. This could lead Wyoming to trigger predatory status with only 8.4 breeding pairs, a level below recovery goals.

Consider the following examples. First, in 1999 and 2005, pup production and survival declined significantly (Service *et al.* 2000, Table 2; 2006, Table 2). Because few pups survived, five wolves traveling together in winter would not have equated to an adult male and female with two pups on December 31. Second, from 2002 to 2005, mange infested some packs in Montana and Wyoming causing them not to survive the winter (mange can lead to mortality from exposure during severe winter weather or secondary infections (Kreeger 2003, pp. 207–208). In this situation, if five wolves traveling together in summer or fall (instead of mid-winter) had mange, it would be unreasonable to rely on them as a breeding pair since they would be unlikely to survive until December 31. Third, conflict between the Service definition of a breeding pair and Wyoming's definition would result in over-counting the number of packs and overuse of predatory status. For example, by the end of 2005 there were 16 breeding pairs in Wyoming, but, under Wyoming's definition (even if it were used in mid-winter) there would have been 24 packs counted as breeding pairs, an overestimate of 50 percent. If Wyoming had been managing for 15 ''packs'' as they define them (by declaring predatory status outside of the National Park/Wilderness units), fewer than 10 actual ''breeding pairs'' would have been left in Wyoming.

The State wolf management plan (WGFD 2003) generally attempts to implement the State law, with some notable exceptions. Those exceptions make the plan appear more likely to conserve the wolf population above recovery levels than the law allows. Recognizing these inconsistencies, the WGFD Director requested that the Wyoming Attorney General's Office review Wyoming law regarding the classification of gray wolves as trophy game animals (O'Donnell 2003). The Attorney General's response stated that ''the plain language of the Enrolled Act is in conflict and thus suffers from internal ambiguity.'' The letter states:

> The noted ambiguities arise when there are either: (1) Less than seven (7) packs outside of the Parks, but at least fifteen (15) packs in the state, including the Parks; or, (2) at least seven (7) packs outside the Parks, but less than fifteen (15) packs in the state, including the Parks.
>
> W.S. § 23–1–304(b)(ii) states that the Commission shall maintain so-called ''dual'' classification, that is, maintain classification of the gray wolf as a predatory animal ''if it determines there were at least seven (7) packs of gray wolves * * * primarily outside of [the Parks] * * * or at least fifteen (15) packs within this state, including [the Parks]. * * *'' (Emphasis added). If this sentence is read without consideration of the stated legislative goals, the following scenarios can occur:
>
> Scenario #1: 10 packs inside the Parks & 5 packs outside the Parks. Classify as a predatory animal because at least 15 packs in the state.*This scenario leaves less than 7 packs outside of the Parks.*
>
> Scenario #2: 3 packs inside the Parks & 10 packs outside the Parks. Classify as a predatory animal because at least 7 packs outside the Parks. *This scenario leaves less than 15 packs total in the state.*
>
> These scenarios defeat the clearly identified legislative goals of maintenance of fifteen (15) packs in the state and maintenance of seven (7) packs outside the Parks.

The letter concludes:

> The goals specified by the legislation may be preserved if W.S. 23–1–304(b) is construed in light of those legislatively defined goals. Stated another way, the language of W.S. 23–1–304(b) must not be read so restrictively as to prevent the Game and Fish Department from crafting a state management plan for gray wolves which achieves delisting and satisfies the other stated legislative goals. The alternative interpretation, constructing the language of W.S. 23–1–304(b) in its most restrictive light, will defeat these clearly identified legislative goals. Such a result would be contrary to Wyoming law. Should the legislature decide to endorse or change the result reached as a result of the current statutory language, it will in all likelihood have an opportunity to do so before delisting is complete.

The Wyoming Attorney General's Office thus determined that the Wyoming State law is internally inconsistent as a key operative provision (the requirement in '23–1–304(b)(ii)) to classify gray wolves as predatory if there are at least 7 packs primarily outside the Parks or at least 15 packs within the entire State) conflicts with the legislative purpose of providing appropriate management to facilitate delisting of the wolf. The Attorney General's Office concluded that '23–1–304(b) should be construed in light of this legislative goal to allow WGFD to craft a management plan that is inconsistent with the predatory animal classification requirements of '304(b) if that is what is needed to prepare a plan that would achieve delisting. Notwithstanding the Attorney General's opinion, we are concerned that WGFD would have no authority to act contrary to the categorical requirements of an operative provision of the State law.

Furthermore, in the fall of 2003, the Service, in cooperation with the affected States, selected 12 recognized North American experts in wolf biology and management to review the Montana, Idaho, and Wyoming State wolf management plans. Eleven reviews were completed. While Wyoming's Plan was thought to be the most extreme in terms of wolf control and minimizing wolf numbers and distribution, some reviewers thought it was adequate, primarily because they (1) assumed in error that the Wyoming definition of a pack was equivalent to the Service's current breeding pair standard (Ausband 2006), (2) thought that YNP was likely to carry most of Wyoming's portion of the wolf population, and (3) assumed that the commitments in the Plan could be implemented under State law. As noted above, the Service now views these three assumptions as unrealistic.

Other important developments since these peer reviews include: recent Federal District court rulings emphasizing consideration of suitable habitat in calculating the significant portion of the range occupied by wolves, the decline of YNP wolves, and an improved method of estimating wolf population status. This new methodology demonstrates that earlier attempts to correlate pack size in winter with the probability of being a breeding pair were mathematically incorrect and

are clearly inconsistent with both the Service's previous and current breeding pair standards.

The potential success of the current Wyoming law and wolf plan to maintain its share of wolves in the NRM is greatly dependent on YNP having at least eight breeding pairs. However, recent experience tells us this is an unrealistic expectation. In 2005, wolf numbers substantially declined in YNP (Service *et al.* 2006, Table 2). The CPV and/or distemper are suspected of causing low pup survival in YNP, and pack conflicts over territory appear to have reduced the number of wolves and packs in YNP from 16 breeding pairs and 171 wolves in 2004, to 7 breeding pairs and 118 wolves in 2005 (Service *et al.* 2006, Table 2). In 2005, if each group of 5 or more wolves had been counted as a pack as Wyoming law defines a pack, there would have been a total of 24 ''packs'' in Wyoming: 11 inside YNP, and 13 outside YNP. It is likely that predatory animal status, if it had been implemented prior to the end of 2005, would have quickly reduced or eliminated the number and size of wolf packs outside YNP going into the summer and fall of 2005. The Wyoming segment of the wolf population would most likely have fallen below 10 breeding pairs (to only the 7 breeding pairs in YNP), and the distribution of wolf packs in suitable habitat in Wyoming outside the National Park/Wilderness units would have been significantly reduced. This could have occurred because the State definition of five wolves traveling together as constituting a pack would have prevented the Wyoming Commission from enlarging the area designated as trophy game even though there could have been only seven breeding pairs in the State. Also, Wyoming would have counted most wolf packs in YNP as breeding pairs even though they were not because they experienced reproductive failure in 2005.

Wyoming State law allows no regulation of human-caused mortality until the population falls below 7 packs outside the Parks and there are less than 15 packs in Wyoming. The Wyoming Petition's claim that such extensive removal of wolves is unlikely, even if they receive no legal protection, is not supported given the past history of wolf extirpation. The WGFD needs to be given the regulatory authority to adaptively manage the species throughout suitable habitat in Wyoming, outside of the National Park/Wilderness units, to account for wide fluctuations in wolf population levels.

In conclusion, Wyoming State law defines a wolf pack in a manner that has little biological relationship to wolf recovery goals or population viability, minimizes opportunities for adaptive professional wildlife management by WGFD, confines wolf packs primarily to YNP, depends on at least eight National Park/Wilderness wolf packs to constitute most of the wolves in Wyoming, minimizes the number and distribution of wolves and wolf packs outside the National Park/Wilderness Areas, and could lead the Wyoming wolf population to quickly slide below recovery goals. Additionally, Wyoming State law would prohibit WGFD from responding in a timely and effective manner should modification in State management of wolves be needed to prevent the population from falling below the recovery levels of at least 10 breeding pairs and 100 wolves for each of the 3 core States. Based on these inadequacies, the Service cannot reasonably be assured that Wyoming's State law would allow its wolf management plan to maintain the Wyoming segment of the wolf population above recovery levels or maintain an adequate distribution of the Wyoming segment of the tri-State wolf population. We conclude that the NRM wolf population is not threatened or endangered in a significant portion of its range except for that significant portion of its range outside the National Parks in northwestern Wyoming. Wyoming state regulatory mechanisms in such areas are inadequate to prevent excessive human-caused mortality from reducing that segment of the wolf population in that significant portion of its range below its recovery levels. However, retention of the Act's protections, should Wyoming fail to enact an adequate statute and plan, will assure that the segment of the NRM wolf population in Wyoming outside the National Parks will not become threatened or endangered in the foreseeable future.

Future Service approval of a regulatory framework for wolf management in Wyoming—The Service and Wyoming have continued to discuss approaches to post-delisting wolf management in Wyoming that would address our respective concerns and allow the Service to approve Wyoming's wolf management strategy. Ideas under consideration by the Wyoming legislature in the 2006 session includes; (1) The concept of a state Trophy Game Area large enough to adequately support the wolf population levels required for Wyoming, with predator status (with mandatory reporting of all take) in the remainder of the State; (2) acknowledgement that the State would manage for 15 breeding pairs in mid-winter and that the State's responsibility is 7 breeding pairs outside the National Parks, based on the assumption that segment of the Wyoming wolf population will be supplemented by 8 breeding pairs living on lands managed by the National Park Service; and, (3) that the State of Wyoming would be responsible for assuring that the absolute minimum of 10 breeding pairs and 100 wolves required to achieve Wyoming's share of the overall wolf recovery goal would be conserved. If such a regulatory framework was established by Wyoming law and was to be implemented by a Wyoming state plan, the Service intends to approve it. In addition, there are assurances from the National Park Service that adequate monitoring of wolf packs within Park managed properties will continue and that information will continue to be readily shared between the National Park Service and Wyoming. Acceptance of an adequate regulatory framework in Wyoming by the Service would allow Wyoming residents to have increased flexibility under the provisions of the 2005 experimental population regulations (FR 70:1286–1311, Jan 2005) for problem wolf management and would allow the Service to finalize delisting for that portion of the NRM DPS wolf population in Wyoming.

The recovery goal for the NRM wolf population requires that it be comprised of at least 30 breeding pairs and 300 wolves that are equitably distributed in potentially suitable habitat in Montana, Idaho, and Wyoming. To ensure this goal is achieved, each of the three States (Wyoming, Montana, and Idaho) committed to manage for an equitable distribution of the overall population and assume a management target of 15 breeding pairs in mid-winter within each State. The 15 breeding pair management target was not intended to be the minimum goal for each State. It was an objective so that each State's management would provide a reasonable cushion to ensure each State's share of the wolf population did not fall below the 10 breeding pairs requirement and that the 30 breeding pairs minimum would always be met or exceeded. Within Wyoming, the 15 breeding pair management target would be divided between lands where wildlife are managed by the National Park Service and lands where the Wyoming Game and Fish Department (WYGF) had primary management responsibility. Under the current proposal, the WYGF's responsibility for the overall 15 breeding pair target would be 7 breeding pairs in mid-winter

outside the National Park Units in Wyoming. We assume that the remaining 8 breeding pairs will be supported primarily on National Park Service lands. That said, the minimum recovery goal for the State of Wyoming of 10 breeding pairs must always be met or exceeded. Therefore, in the unlikely event that the wolf population within properties managed by the National Park Service ever dropped below a level that jeopardized Wyoming's recovery objective, additional management responsibility by the State of Wyoming may be required to avoid emergency listing actions.

State regulations would be enacted to ensure that wolves would be managed to prevent the need for relisting in the future. Therefore, the State of Wyoming would designate wolves as a Trophy Game Species within an area similar to that defined below which is capable of supporting at least 15 breeding pairs (USFWS *et al.* 2006, Figure 3). The area under consideration in northwestern Wyoming is approximately that beginning at the junction of U.S. Highway 120 and the Wyoming/Montana State line; running southerly along state Highway 120 to the Greybull River; southwesterly up said river to the Wood River; running southwesterly up said river to the U.S. Forest Service boundary; following the U.S. Forest Service boundary southerly to the northern boundary of the Wind River Indian Reservation; following the Reservation boundary westerly, then southerly across U.S. Highway 26/287 to the Continental Divide; following the Continental Divide southeasterly to Middle Fork of Boulder Creek; following the Middle Fork of Boulder Creek and then Boulder Creek westerly to the U.S. Forest Service boundary; following the U.S. Forest Service boundary northwesterly to its intersection with U.S. Highway 189/91; following U.S. Highway 189/91 northwesterly to the intersection with Wyoming state highway 22 in the town of Jackson; following Wyoming state highway 22 westerly to the Wyoming/Idaho State line.

Within the Trophy Game Area, WYGF would have management control over the species outside the National Parks and would manage problem wolves and set harvest regulations in such a way as to assure that the targets of 15 breeding pair for the State and 7 breeding pairs in Wyoming outside the National Park Units are met. Outside of the Trophy Game Area, the State of Wyoming would manage the species as predatory animals but would monitor the take of all wolves under the State's predatory animal status.

If this type of regulatory framework was enacted by Wyoming state law and its wolf management plan it would provide assurance that Wyoming's share of the tri-state NRM wolf population would be maintained above recovery levels into the foreseeable future and that a significant portion of the range in Wyoming was occupied by wolf packs. This type of management framework is consistent in its general principles to those already enacted and accepted as being adequate regulatory frameworks for wolves post-delisting in the states of Minnesota, Michigan, Wisconsin, Montana, and Idaho and would provide adequate assurances that a viable wolf population will be maintained in the NRM DPS.

Washington—Wolves in Washington are listed as endangered under the State's administrative code (WAC 232.12.014; these provisions may be viewed at: *http://apps.leg.wa.gov/wac/*). Under Washington's administrative code (WAC 232.12.297), ''endangered'' means any wildlife species native to the State of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the State. Endangered species in the State of Washington are protected from hunting, possession, and malicious harassment, unless such taking has been authorized by rule of the Washington Fish and Wildlife Commission (RCW 77.15.120; these provisions can be viewed at: *http://apps.leg.wa.gov/rcw/*). If the NRM DPS is delisted, those areas in Washington included in the NRM DPS would remain listed as endangered by Washington State law until the wolf was no longer seriously threatened with extinction throughout all or a significant portion of its range within the State. The areas in Washington not included in the NRM DPS would remain listed as endangered under both State and Federal law.

Although we have received reports of individual and wolf family units in the North Cascades of Washington (Almack and Fitkin 1998), agency efforts to confirm them were unsuccessful and to date, no individual wolves or packs have ever been documented there (Boyd and Pletscher 1999; Boyd 2006). Intervening unsuitable habitat makes it highly unlikely that wolves from the NRM population have dispersed to the North Cascades of Washington in recent history.

There is currently no Washington State recovery or management plan for wolves, but the State has established an advisory committee and is preparing a plan. Interagency Wolf Response Guidelines are being developed by the Service, WDFW, and USDA–WS to provide a checklist of response actions for five situations that may arise in the future. Wolf management in Washington is likely to be beneficial to the NRM wolf population, but is not necessary for achieving or maintaining a population of wolves in the NRM DPS that is unlikely to become threatened or endangered in the foreseeable future.

Oregon—The gray wolf has been classified as endangered under the Oregon Endangered Species Act (ORS 496.171–192) since 1987. The law requires the Oregon Fish and Wildlife Commission to conserve the species in Oregon. Anticipating the reestablishment of wolves in Oregon from the growing Idaho population, the Commission directed the development of a wolf conservation and management plan to meet the requirements of both the Oregon Endangered Species Act and the Oregon Wildlife Policy. The ORS 496.012 states in relevant part: ''It is the policy of the State of Oregon that wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state.''

In February 2005, the Oregon Fish and Wildlife Commission adopted the Oregon Wolf Conservation and Management Plan. The plan was built to meet the five delisting criteria identified in State statutes and administrative rules: (1) The species is not now (and is not likely in the foreseeable future to be) in danger of extinction in any significant portion of its range in Oregon or in danger of becoming endangered; (2) the species' natural reproductive potential is not in danger of failure due to limited population numbers, disease, predation, or other natural or human-related factors affecting its continued existence; (3) most populations are not undergoing imminent or active deterioration of range or primary habitat; (4) overutilization of the species or its habitat for commercial, recreational, scientific, or educational purposes is not occurring or likely to occur; and (5) existing State or Federal programs or regulations are adequate to protect the species and its habitat.

The Plan describes measures the Oregon Department of Fish and Wildlife (ODFW) will take to conserve and manage the species. This includes actions that could be taken to protect livestock from wolf depredation and address human safety concerns. The following summarizes the primary components of the plan:

- Wolves that naturally disperse into Oregon will be conserved and managed under the plan. Wolves will not be

captured outside of Oregon and released in the State.

• Wolves may be considered for Statewide delisting once the population reaches four breeding pairs for 3 consecutive years in eastern Oregon (note—the boundary between east and west wolf management zones is defined by U.S. Highway 97 from the Columbia River to the junction of U.S. Highway 20, southeast on U.S. Highway 20 to the junction with U.S. Highway 395, and south on U.S. Highway 395 to the California border). Four breeding pairs are considered the minimum conservation population objective, also described as Phase 1. The plan calls for managing wolves in western Oregon, as if the species remains listed, until the western Oregon wolf population reaches four breeding pairs. This means, for example, that a landowner would be required to obtain a permit to address depredation problems using injurious harassment.

• While the wolf remains listed as a State endangered species, the following will be allowed: (1) Wolves may be harassed (e.g., shouting, firing a shot in the air) to distract a wolf from a livestock operation or area of human activity; (2) harassment that causes injury to a wolf (e.g., rubber bullets or bean bag projectiles) may be employed to prevent depredation, but only with a permit; (3) wolves may be relocated to resolve an immediate localized problem from an area of human activity (e.g., wolf inadvertently caught in a trap) to the nearest wilderness area; (4) relocation will be done by ODFW or USDA–WS personnel; (4) livestock producers who witness a wolf ''in the act'' of attacking livestock on public or private land must have a permit before taking any action that would cause harm to the wolf; and (5) wolves involved in chronic depredation may be killed by ODFW or USDA–WS personnel; however, nonlethal methods will be emphasized and employed first in appropriate circumstances.

• Once the wolf is delisted, more options are available to address wolf-livestock conflict. While there are five to seven breeding pairs, landowners may kill a wolf involved in chronic depredation with a permit. Five to seven breeding pairs is considered the management population objective, or Phase 2.

• Under Phase 3 a limited controlled hunt could be allowed to decrease chronic depredation or reduce pressure on wild ungulate populations.

• The plan provides wildlife managers with adaptive management strategies to address wolf predation problems on wild ungulates if confirmed wolf predation leads to declines in localized herds.

• In the unlikely event that a person is attacked by a wolf, the plan describes the circumstances under which Oregon's criminal code and the Federal Act would allow harassing, harming or killing of wolves where necessary to avoid imminent, grave injury. Such an incident must be reported to law enforcement officials.

• A strong information and education program is proposed to ensure anyone with an interest in wolves is able to learn more about the species and stay informed about wildlife management activities.

• Several research projects are identified as necessary for future success of long-term wolf conservation and management. Monitoring and radio-collaring wolves are listed as critical components of the plan both for conservation and communication with Oregonians.

• An economic analysis provides estimates of costs and benefits associated with wolves in Oregon and wolf conservation and management.

• Finally, the plan requires annual reporting to the Commission on program implementation.

The Oregon Wolf Management Plan, as approved by the Oregon Fish and Wildlife Commission in February 2005, called for three legislative actions which the 2005 Oregon Legislative Assembly considered, but did not adopt. These actions were: (1) Changing the legal status of the gray wolf from protected non-game wildlife to a ''special status mammal'' under the ''game mammal'' definition in ORS 496.004; (2) amending the wildlife damage statute (ORS 498.012) to remove the requirement for a permit to lethally take a gray wolf caught in the act of attacking livestock; and (3) creating a State-funded program to pay compensation for wolf-caused losses of livestock and to pay for proactive methods to prevent wolf depredation. As a result, the Fish and Wildlife Commission is currently going through a public review process to amend the Oregon Plan and discuss legislative proposals. The Commission remains on record as calling for those legislative enhancements; however, implementation of the Oregon Plan does not depend upon them.

Under the Oregon Wolf Management Plan, the gray wolf will remain classified as endangered under State law until the conservation population objective for eastern Oregon is reached (*i.e.*, four breeding pairs for 3 consecutive years). Once the objective is achieved, the State delisting process will be initiated. Following delisting from the State Endangered Species Act, wolves will retain their classification as nongame wildlife under ORS 496.375. If a legislative change is made to reclassify the gray wolf as a ''special status mammal'' under the ''game mammal'' definition in Oregon, the Commission will retain the authority to regulate (and, where appropriate, prohibit) take of the wolf as necessary.

Utah—If federally delisted, wolves in that portion of the NRM DPS in Utah would remain listed as protected wildlife under State law. In Utah, wolves fall under three layers of protection—(1) State code, (2) Administrative Rule and (3) Species Management Plan. The Utah Code can be found at *http://www.le.state.ut.us/~code/TITLE23/TITLE23.htm*.

The relevant administrative rules that restrict wolf take can be found at *http://www.rules.utah.gov/publicat/code/r657/r657–003.htm* and *http://www.rules.utah.gov/publicat/code/r657/r657–011.htm*. These regulations restrict all potential taking of wolves in Utah, including that portion in the NRM DPS. Wolf management in Utah will have no effect on the recovered wolf population that resides in suitable habitat in Montana, Idaho, and Wyoming.

In 2003, the Utah Legislature passed House Joint Resolution 12 (HJR–12), which directed the Utah Division of Wildlife Resources (UDWR) to draft a wolf management plan for ''the review, modification and adoption by the Utah Wildlife Board, through the Regional Advisory Council process.'' In April 2003, the Utah Wildlife Board directed UDWR to develop a proposal for a wolf working group to assist the agency in this endeavor. The UDWR created the Wolf Working Group in the summer of 2003. The Wolf Working Group is composed of 13 members that represent diverse public interests regarding wolves in Utah.

On June 9, 2005, the Utah Wildlife Board passed the Utah Wolf Management Plan (Utah 2005). The goal of the Plan is to manage, study, and conserve wolves moving into Utah while avoiding conflicts with the elk and deer management objectives of the Ute Indian Tribe; minimizing livestock depredation; and protecting wild ungulate populations in Utah from excessive wolf predation. The Utah Plan can be viewed at *http://www.wildlife.utah.gov/wolf/*. Its purpose is to guide management of wolves in Utah during an interim period from Federal delisting until 2015, or until it is determined that wolves have become established in Utah, or the assumptions of the plan (political, social, biological, or legal) change. During this interim

period, immigrating wolves will be studied to determine where they are most likely to settle without conflict.

Tribal Plans—Approximately 20 Tribes are within the proposed NRM DPS. Currently no wolf packs live on, or are entirely dependent on Tribal lands for their existence in the NRM DPS. In the NRM DPS about 32,942 km^2 (12,719 mi^2) (3 percent) of the area is Tribal land. In the NRM wolf occupied habitat, about 4,696 km^2 (1,813 mi^2) (2 percent) is Tribal land (Service 2006; 71 FR 6645, February 8, 2006). Therefore, while Tribal lands can contribute some habitat for wolf packs in the NRM, they will be relatively unimportant to maintaining a recovered wolf population in the NRM DPS. Many wolf packs live in areas of public land where Tribes have various treaty rights, such as wildlife harvest. Montana and Idaho propose to incorporate Tribal harvest into their assessment of the potential surplus of wolves available for public harvest in each State, each year, to ensure that the wolf population is maintained above recovery levels. Utilization of those Tribal treaty rights will not significantly impact the wolf population or reduce it below recovery levels because a small portion of the wolf population could be affected by Tribal harvest or lives in areas subject to Tribal harvest rights.

The overall regulatory framework analyzed in this proposed rule depends entirely on State-led management of wolves that are primarily on lands where resident wildlife is traditionally managed primarily by the States. Any wolves that may establish themselves on Tribal lands will be in addition to those managed by the States outside Tribal reservations. At this point in time, only the Nez Perce Tribe has a Service approved wolf management plan, but that plan only applied to listed wolves, and it was reviewed so the Service could determine if the Tribe could take a portion of the responsibility for wolf monitoring and management in Idaho under the 1994 special regulation under section 10(j). No other Tribe has submitted a wolf management plan. In November 2005, the Service requested information from all the Tribes in the NRM regarding their Tribal regulations and any other relevant information regarding Tribal management or concerns about wolves (Bangs 2004). All responses were reviewed, and Tribal comments were incorporated into this proposed rule.

Summary

Montana and Idaho have proposed to regulate wolf mortality over conflicts with livestock after delisting in a manner similar to that used by the Service to reduce conflicts with private property, and that would promote the maintenance of wolf populations above recovery levels. These two State plans have committed to using a definition of a wolf pack that would approximate the Service's current breeding pair definition. Based on that definition, they have committed to maintaining at least 10 breeding pairs and 100 wolves per State by managing for a safety margin of 15 breeding pairs in each State. These States are to control problem wolves in a manner similar to that used by the Service (1988, p. 8; 1994, pp. 2, 9–12; 1999, pp. 39–40; 70 FR 1306–1311, January 6, 2005) and use adaptive management principles to regulate and balance wolf population size and distribution with livestock conflict and public tolerance. When wolf populations are above State management objectives for 15 breeding pairs, wolf control measures may be more liberal. When wolf populations are below 15 breeding pairs, wolf control as directed by each State will be more conservative.

Current Wyoming law provides a definition of pack that is not consistent with the Service's definition of a breeding pair. In addition, Wyoming uses the State definition of pack in a complicated structure for determining when wolves are protected under the regulatory mechanisms of the ''trophy game'' status and absent management structure under the ''predatory animal'' status. Wyoming's plan does not provide for sufficient regulatory control to balance wolf population size and distribution with livestock conflict and public tolerance. If Wyoming adopts a State management plan that is consistent with the requirements outlined above, and that have been already incorporated into Montana's and Idaho's regulatory framework, we intend to delist the entire NRM DPS.

If the Service delists the wolf in the NRM DPS, the major difference between the previous Federal management and the new State management of problem wolves will be the slightly increased authority to take wolves in the act of attacking or molesting livestock or other domestic animals on private land by private landowners or on grazing allotments by permittees and public harvest programs to help regulate wolf distribution and density to meet state management objectives.

Private take of problem wolves under State regulations would replace some agency control, but we believe this would not dramatically increase the overall numbers of problem wolves killed each year because of conflicts with livestock. However, if Wyoming does not finalize an adequate State management plan consistent with the requirements outlined above, current Wyoming State law designates predatory animal status that allows all wolves, including pups, to be killed by any means, without limit, at any time, for any reason, and regardless of any direct or potential threat to livestock. Such unregulated take could eliminate wolves from some otherwise significant portion of the range habitat in northwestern Wyoming. Therefore, without an adequate State management plan, wolf management in northwestern Wyoming will remain under the protections of the Act and continue to be conducted by the Service after this proposal is finalized.

In contrast to the Service recovery program, currently approved State and Tribal management programs also are to incorporate regulated public harvest, only when wolf populations in Montana and Idaho are safely above recovery levels of 15 or more breeding pairs, to help manage wolf distribution and numbers to minimize conflicts with humans. Wyoming State law and management also should meet this requirement before wolves in that State also could be delisted. Each of the three core States routinely uses regulated public harvest to help successfully manage and conserve other large predators and wild ungulates under their authority. Idaho and Montana will use similar programs to manage wolf populations safely above recovery levels, when there are more than 15 breeding pairs in their State. Wyoming will likely have a similar program prior to the Act's protections being removed.

The States of Montana, Idaho, and Wyoming have managed resident ungulate populations for decades and maintain them at densities that would easily support a recovered wolf population. They, and Federal land management agencies, will continue to manage for high ungulate populations in the foreseeable future. Native ungulate populations also are maintained at high levels by Washington, Oregon, and Utah in the portions of those States that are in the proposed NRM DPS. No foreseeable condition would cause a decline in ungulate populations significant enough to affect a recovered wolf population.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Public Attitudes Toward the Gray Wolf—The primary determinant of the long-term status of gray wolf populations in the United States will be human attitudes toward this large predator. These attitudes are largely

based on the conflicts between human activities and wolves, concern with the perceived danger the species may pose to humans, its symbolic representation of wilderness, the economic effect of livestock losses, the concerns regarding the threat to pets, opinions that the species should never be subject to sport hunting or trapping, and the wolf traditions of Native American Tribes.

In recent decades, national support has been evident for wolf recovery and reintroduction in the NRM (Service 1994, pp. 5:11–111). With the continued help of private conservation organizations, the States and Tribes can continue to foster public support to maintain viable wolf populations in the NRM. We have concluded that the State management regulations that will go into effect if wolves in the NRM are removed from the Act's protections will further enhance public support for wolf recovery. State management provides a larger and more effective local organization and a more familiar means for dealing with these conflicts (Mech 1995, pp. 275–276; Williams *et al.* 2002, p. 582; Bangs *et al.* 2004, p. 102). State wildlife organizations have specific departments and staff dedicated to providing accurate and science-based public education, information, and outreach.

Genetics—Genetic diversity in the GYA segment of the NRM is extremely high (Wayne 2005). A recent study of genetics among wolves in northwestern Montana and the reintroduced populations found that wolves in those areas were as genetically diverse as their source populations in Canada and that inadequate genetic diversity was not a wolf conservation issue in the NRM at this time (Forbes and Boyd 1997, p. 1089; Vonholdt 2006). Because of the long dispersal distances and the relative speed of natural wolf movement within the NRM DPS (discussed under Factor A), we anticipate that populations of NRM wolves will continue to intermix at a sufficient rate to maintain high genetic diversity into the foreseeable future. However, should it become necessary sometime in the distant future, Idaho, Montana, and Wyoming recognize relocation as a potentially valid wildlife management tool.

No manmade and natural factors threaten wolf population recovery within the foreseeable future. Public attitudes toward wolves have improved greatly over the past 30 years, and we expect that, given adequate continued management of conflicts, those attitudes will continue to support wolf restoration. The State wildlife agencies have professional education, information, and outreach components and are to present balanced science-based information to the public that will continue to foster general public support for wolf restoration and the necessity of conflict resolution to maintain public tolerance of wolves. Additionally, there are no concerns related to wolf genetic viability or interbreeding coefficients.

Conclusion of the 5-Factor Analysis

As required by the Act, we considered the five potential threat factors to assess whether wolves are threatened or endangered throughout all or a significant portion of their range in the NRM DPS and, therefore, whether the NRM DPS should remain listed. While wolves historically occurred over most of the proposed DPS, large portions of this area are no longer able to support viable wolf populations, and the wolf population in the NRM DPS will remain centered in northwestern Montana, central Idaho, and the GYA. This area represents the biologically significant portion of the species' range. If Wyoming develops an adequate State management plan, the NRM DPS would no longer be threatened or endangered in all or any significant portion of its range for the foreseeable future. Gray wolves in those portions of Oregon, Utah, and Washington that are within the boundaries of the distinct population segment do not constitute a significant portion of the range of this distinct population segment for the reasons outlined above. We reviewed all potential threats to the wolf population in the NRM DPS and we concluded that none except the current state regulatory framework in Wyoming would threaten wolves in any significant portion of the range in the NRM DPS in the foreseeable future. Such a regulatory framework would also threaten the suitable habitat and wolf range in Wyoming outside the National Parks. If Wyoming changes its law and management plan consistent with the Service's recommendations, it will also sufficiently regulate human-caused mortality. However, if no changes occur, excessive human-caused mortality as allowed under Wyoming state law would remain the lone threat to wolves in a significant portion of the range in northwestern Wyoming outside the National Parks. If a new Wyoming regulatory framework cannot be approved by the Service, then the Act's protections will remain in effect in a significant portion of range in Wyoming, outside the National Parks, and they will provide adequate assurance into the foreseeable future that human-caused mortality will not become a threat to wolves in all or a significant portion of their range, even in northwestern Wyoming outside the National Parks.

The large amount and distribution of suitable habitat in public ownership in the States of Montana, Idaho, and Wyoming, land-use practices that will maintain the suitability of these areas for wolves, the presence of three large protected core areas that contain high-quality suitable habitat assures the Service that threats to wolf habitat in the NRM DPS have been reduced or eliminated in all or a significant portion of its range for the foreseeable future, except for northwestern Wyoming outside the National Parks. Unsuitable habitat and small, fragmented suitable habitat away from these core areas within the NRM DPS, largely represent geographic locations where wolf packs cannot persist and are not significant to the conservation of wolves in the NRM DPS. Disease and natural predation do not threaten wolf population recovery in all or a significant portion of the species' range, nor are they likely to within the foreseeable future. Additionally, we believe that other relevant natural or manmade factors (i.e., public attitudes and genetics) are not significant conservation issues that threaten the wolf population in all or a significant portion of its range within the foreseeable future.

Human-caused mortality remains the primary threat to the gray wolf. Therefore, managing 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. Wolf management by the Tribes and the States of Washington, Oregon, and Utah will be beneficial, but is not necessary to either achieving or maintaining a recovered wolf population in the NRM DPS, as these areas do not constitute a significant portion of the DPS. We have determined that if Wyoming develops an adequate State management plan, the wolf management plans in the 3 States will be adequate to regulate human-caused mortality and that each State will maintain its share and distribution of the NRM wolf population above recovery levels for the foreseeable future. In this case, we propose to establish the NRM DPS of the gray wolf and to delist all gray wolves in the entire NRM DPS.

In the past, the Service has approached delisting of ''species'' (as that term is defined by the Act) due to recovery to require that the entity being delisted must be neither threatened nor endangered throughout all or a

significant portion of its range. In practice, this has meant that we have delisted entire species, subspecies, or distinct population segments of vertebrate animals. In the current situation, i.e., without an adequate management plan in place in Wyoming, we propose to establish a Northern Rocky Mountain distinct population segment of gray wolf and to delist wolves in all areas of that DPS exclusive of the significant portion of the range in the State of Wyoming outside of the National Parks in northwestern Wyoming. As clearly indicated by the discussion in this proposed delisting, we currently regard a portion of Wyoming to be a significant portion of the range of the NRM DPS because a biologically significant portion of the species' range occurs in Wyoming and have determined that the State has not adequately addressed the threats to the gray wolf in that portion. Accordingly, the protections of the Act will continue to apply to gray wolves in that significant portion of the range. We believe that this proposal is in the public interest because, by conditionally returning management to the States, it rewards those who have undertaken positive efforts to conserve the species and alleviate the threats posed by human-caused mortality. This approach furthers the Administration's efforts to emphasize the importance of cooperative conservation in achieving the purposes of the Act.

Section 4(c)(1) of the Act states, ''The Secretary of the Interior shall publish in the **Federal Register** a list of all species determined by him or the Secretary of Commerce to be endangered species and a list of all species determined by him or the Secretary of Commerce to be threatened species. Each list shall refer to the species contained therein by scientific and common name or names, if any, *specify with respect to such species over what portion of its range it is endangered or threatened*, and specify any critical habitat within such range'' 16 U.S.C. 1533(c)(1) (emphasis added). The Service believes the emphasized text, in conjunction with the ''significant portion of its range'' language in the definition of ''threatened'' and ''endangered,'' U.S.C. 1532(6), (20), indicates that Congress anticipated situations where the protections of the Act might not be extended to an entire species, as that term is defined by the Act, and that this provides the authority for listing or delisting a portion of a species, subspecies, or distinct population segment of vertebrate animal.

This conclusion is also consistent with the case law, the ESA, and the legislative history of the Act. In *Defenders of Wildlife* v. *Norton*, 258 F.3d 1136 (9th Cir. 2001), the Ninth Circuit stated regarding the ''significant portion of its range'' language: ''It appears that Congress added this new language in order to encourage greater cooperation between federal and state agencies to allow the Secretary more flexibility in her approach to wildlife management.'' *Id.* at 1144. The court went on to recount the Senate floor debate of the ESA, interpreting it as suggesting that the bill would allow the Secretary to give the American alligator different listing statuses in different states. *Id.* at 1144–45. Finally, in its holding, the court stated that a significant portion of a species' range could coincide with State boundaries, and that ''[t]he Secretary necessarily has a wide degree of discretion in delineating ''a significant portion of its range.'' *Id.* at 1145.

Therefore, based on the best scientific and commercial information available, if Wyoming modifies their wolf management framework we propose that the gray wolf in the NRM DPS be removed from the list of threatened and endangered species. However, if it fails to modify its management plan adequately, wolves in significant portion of the range in Wyoming outside of the National Parks in northwestern Wyoming will still require the Act's protections and will retain their nonessential experimental status under section 10(j) of the Act.

Post-Delisting Monitoring

Section 4(g)(1) of the Act, added in the 1988 reauthorization, requires us to implement a system, in cooperation with the States, to monitor for not less than 5 years, the status of all species that have recovered and been removed from the Lists of Endangered and Threatened Wildlife and Plants (50 CFR 17.11 and 17.12). The purpose of this post-delisting monitoring (PDM) is to verify that a recovered species remains secure from risk of extinction after it no longer has the protections of the Act. Should relisting be required, we may make use of the emergency listing authorities under section 4(b)(7) of the Act to prevent a significant risk to the well-being of any recovered species.

Monitoring Techniques—The NRM area was intensively monitored for wolves even before wolves were documented in Montana in the mid-1980s (Weaver 1978; Ream and Mattson 1982, pp. 379–381; Kaminski and Hansen 1984, p. v). Numerous Federal, State, Tribal agencies, universities, and special interest groups assisted in those various efforts. Since 1979, wolves have been monitored using standard techniques including collecting, evaluating, and following-up on suspected observations of wolves or wolf signs by natural resource agencies or the public; howling or snow tracking surveys conducted by the Service, our university and agency cooperators, volunteers, or interested special interest groups; and by capturing, radio-collaring, and monitoring wolves. We only consider wolves and wolf packs as confirmed when Federal, State, or Tribal agency verification is made by field staff that can reliably identify wolves and wolf signs.

The wolf monitoring system works in a hierarchical nature. Typically we receive a report (either directly or passed along by another agency) that wolves or their signs were observed. We make no judgment whether the report seems credible or not and normally just note the general location of that observation. Unless breeding results, reports of single animals are not important unless tied to other reports or unusual observations that elicit concern (i.e., a wolf reported feeding on a livestock carcass). Lone wolves can wander long distances over a short period of time (Mech and Boitani 2003, pp. 14–15) and may be almost impossible to find again or confirm. However, the patterns and clusters of those individual reports are very informative and critical to subsequent agency decisions about where to focus agency searches for wolf pack activity.

When we receive multiple reports of multiple individuals that indicate possible territoriality and pair bonding (the early stage of pack formation), or a report of multiple wolves that seems highly credible (usually made by a biologist or experienced outdoors-person), we typically notify the nearest Federal, State or Tribal natural resource/land management agency and ask them to be on the alert for possible wolf activity during their normal course of field activities. Once they locate areas of suspected wolf activity, we may ask experienced field biologists to search the area for wolf signs (tracks, howling, scats, ungulate kills). Depending on the type of activity confirmed, field crews may decide to capture, radio-collar, and release wolves on site. Radio-collared wolves are then relocated from the air 1 to 4 times per month dependent on a host of factors including funding, personnel, aircraft availability, weather, and other priorities. At the end of the year, we compile agency-confirmed wolf observations to estimate the numbers and locations of adult wolves and pups that were likely alive on December 31 of that year. These data are then

summarized by packs to indicate overall population size, composition, and distribution. This level of wildlife monitoring is intensive compared to nearly all others done in North America. We believe the results are relatively accurate estimates of wolf population distribution and structure (Service *et al.* 2006, Table 4, Figure 1) in the NRM DPS. This monitoring strategy has been used to estimate the NRM wolf population for over 20 years.

Montana, Idaho, and Wyoming, as well as Oregon and Utah, committed to continue monitoring of wolf populations, according to their State wolf management plans (See State plans in Factor D), using similar techniques as the Service and its cooperators (which has included the States, Tribes, and USDA–WS—the same agencies that will be managing and monitoring wolves post-delisting) have used. The States have committed to continue to conduct wolf population monitoring through the mandatory 5-year PDM period that is required by the Act. The States also have committed to publish the results of their monitoring efforts in annual wolf reports as has been done since 1989 by the Service and its cooperators (Service *et al.* 1989–2006). Other States and Tribes within the DPS adjacent to Montana, Idaho, and Wyoming also have participated in this interagency cooperative wolf monitoring system for at least the past decade, and their plans commit them to continue to report wolf activity in their States and coordinate those observations with other States. The annual reports have also documented all aspects of the wolf management program including staffing and funding, population monitoring, control to reduce livestock and pet damage, research (predator-prey interactions, livestock/wolf conflict prevention, disease and health monitoring, publications, etc.) and public outreach.

Service Review of the Post-Delisting Status of the Wolf Population—To ascertain wolf population distribution and structure and to analyze if the wolf population might require a status review (to determine whether it should again be listed under the Act), we intend to review the State and any Tribal annual wolf reports each year. The status of the NRM wolf population will be estimated by estimating the numbers of packs, breeding pairs, and total numbers of wolves in mid-winter throughout the post-delisting monitoring period (Service et al. 2006, Table 4, Figure 1). By evaluating the techniques used and the results of those wolf monitoring efforts, the Service can decide whether further action, including re-listing is warranted. In addition, the States and Tribes are investigating other, perhaps more accurate and less expensive, ways to help estimate and describe wolf pack distribution and abundance (Service *et al.* 2006, Figure 1, Table 4; Ausband 2006; Kunkel *et al.* 2005).

Data indicate that other survey methods and data can become the ''biological equivalents'' of the breeding pair definition currently used to measure recovery. Those State and Tribal investigations also include alternative ways to estimate the status of the wolf population and the numbers of breeding pairs that are as accurate, but less expensive, than those that are currently used (Ausband 2006). The States will continue to cooperate with National Parks and Tribes and publish their annual wolf population estimates after the 5-year mandatory wolf population monitoring required by the Act is over, but this will not be required by the Act.

We fully recognize and anticipate that State and Tribal laws regarding wolves and State and Tribal management will change through time as new knowledge becomes available as the States and Tribes gain additional experience at wolf management and conservation. We will base any analysis of whether a status review and relisting are warranted upon the best scientific and commercial data available regarding wolf distribution, abundance, and threats in the NRM DPS. For the 5-year PDM period, the best source of that information will be the State annual wolf reports. We intend to post those annual State wolf reports and our annual review and comment on the status of the wolf population in the NRM DPS on our Web site (*http://westerngraywolf.fws.gov/*) by, approximately, April 1 of each year. During our yearly analysis for PDM (at least 5 years) of the State's annual reports, we also intend to comment on any threats that may have increased during the previous year, such as significant changes in a State regulatory framework, diseases, decreases in prey abundance, increases in wolf-livestock conflict, or other factors.

Our analysis and response for PDM is to track changes in wolf abundance, distribution, and threats to the population. If the wolf population ever falls below the minimum NRM wolf population recovery level (30 breeding pairs of wolves and 300 wolves in Montana, Idaho, and Wyoming), we could initiate an immediate analysis of whether an emergency listing of gray wolves throughout the NRM DPS was appropriate. If the wolf population segment in Montana, Idaho, or Wyoming falls below 10 breeding pairs or 100 wolves in any one of those States for 3 consecutive years, we could initiate a status review and analysis of threats to determine if relisting was warranted. All such reviews would be made available for public review and comment, including peer review by select species experts. If either of these two scenarios (less than 30 breeding pairs or 300 wolves, or less than 10 breeding pairs or 100 wolves in either Montana, Idaho, or Wyoming) occurred in any year during the mandatory PDM period, the PDM period would be extended five additional years from that point.

Clarity of the Rule

Executive Order 12866 requires agencies to write regulations that are easy to understand. We invite your comments on how to make this proposal easier to understand including answers to questions such as the following—(1) Is the discussion in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful to your understanding of the proposal? (2) Does the proposal contain technical language or jargon that interferes with its clarity? (3) Does the format of the proposal (groupings and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? What else could we do to make the proposal easier to understand? Send a copy of any comments on how we could make this rule easier to understand to—Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You also may e-mail the comments to this address—*Exsec@ios.doi.gov.*

Public Comments Solicited

We solicit information, data, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposal. Generally, we seek information, data, and comments concerning the boundaries of the proposed NRM DPS and the status of gray wolf in the NRM. Specifically, we seek documented, biological data on the status and management of the NRM wolf population and its habitat.

Public Hearing

The ESA provides for public hearings on this proposed rule. We have scheduled six public hearings on this proposed rule as specified above in **DATES** and **ADDRESSES**. Public hearings are designed to gather relevant information that the public may have that we should consider in our

rulemaking. During the hearing, we will present information about the proposed action. We invite the public to submit information and comments at the hearing or in writing during the open public comment period. We encourage persons wishing to comment at the hearings to provide a written copy of their statement at the start of the hearing. This notice and the public hearings will allow all interested parties to submit comments on the proposed rule for the gray wolf. We are seeking comments from the public, other concerned governmental agencies, Tribes, the scientific community, industry, or any other interested parties concerning the proposal.

The eastern one-third of Washington and Oregon, and a small portion of northern Utah are included within the proposed DPS. We request comments on whether the DPS should, or should not, include more, or less, land within these, or any other, State(s). Any such comments should provide relevant scientific data. We will consider the information so submitted in delineating the boundaries for this DPS.

We request comment on our approach of removing protections in all or a portion of the NRM DPS. If Wyoming adopts a State law and a State wolf management plan that the Service approves we will remove Act protections for all of the NRM DPS. However, if Wyoming does not, the Service would remove the Act's protections for Idaho and Montana and parts of Washington, Oregon, and Utah. Northwestern Wyoming outside the National Parks would retain its nonessential experimental status under section 10(j) of the Act but the rest of the state would be delisted. Continued Service management of wolves in northwestern Wyoming would ensure their conservation, until a Wyoming regulatory framework can be developed and approved. We believe this process is in the public's best interest, furthers conservation efforts in the NRM DPS, and is within our statutory discretion under the Act.

Finally, we request comments concerning our intention to use section 6 agreements under the Act to allow States with Service-approved wolf management plans, located adjacent to NRM DPS, to assume wolf management including nonlethal and lethal control of problem wolves. Such agreements may be entered into with a State for the administration of and management for the conservation of endangered or threatened species. The protections of the Act would still continue to apply to the gray wolves outside the NRM DPS.

Submit comments as indicated under **ADDRESSES**. If you wish to submit comments by e-mail, please avoid the use of special characters and any form of encryption. Please also include your name and return address in your e-mail message.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home addresses from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment, but you should be aware that the Service may be required to disclose your name and address pursuant to the Freedom of Information Act. We will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at our Helena Office. (see **ADDRESSES**). In making a final decision on this proposed rule, we will take into consideration the comments and any additional information we receive. Such communications may lead to a final rule that differs from this proposed rule.

Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure that our delisting decision is based on scientifically sound data, assumptions, and analyses. We will send copies of this proposed rule to these peer reviewers immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed delisting. We will consider all comments and information received during the comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposed rule.

Paperwork Reduction Act

This rule does not contain any new collections of information other than those already approved under the Paperwork Reduction Act (44 U.S.C. 3501 et seq.) and assigned Office of Management and Budget (OMB) control number 1018–0094, which expires on September 30, 2007. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. For additional information concerning permit and associated requirements for endangered species, see 50 CFR 17.21 and 17.22.

National Environmental Policy Act

The Service has determined that Environmental Assessments and Environmental Impact Statements, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with actions adopted pursuant to section 4(a) of the Act. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

A complete list of all references cited in this document is available upon request from the Western Gray Wolf Recovery Coordinator (see **ADDRESSES** above).

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

§ 17.11 [Amended]

2. Amend § 17.11(h) by revising the entry for ''Wolf, gray'' under ''MAMMALS'' in the List of Endangered and Threatened Wildlife to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
*	*	*	*		*		*
Wolf, gray	*Canis lupus*	Holarctic	U.S.A., conterminous (lower 48) States, except: (1) Where listed as an experimental population below; (2) Minnesota, Wisconsin, Michigan, eastern North Dakota (that portion north and east of the Missouri River upstream to Lake Sakakawea and east of Highway 83 from Lake Sakakawea to the Canadian border), eastern South Dakota (that portion north and east of the Missouri River), northern Iowa, northern Illinois, and northern Indiana (those portions of IA, IL, and IN north of Interstate Highway 80), and northwestern Ohio (that portion north of Interstate Highway 80 and west of the Maumee River at Toledo); (3) except Montana, Wyoming, and Idaho, eastern Washington (that portion of Washington east of Highway 97 and Highway 17 north of Mesa and that portion of Washington east of Highway 395 south of Mesa), eastern Oregon (portion of Oregon east of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon east of Highway 95 south of Burns Junction), and north central Utah (that portion of Utah east of Highway 84 and north of Highway 80); and (4) Mexico. U.S.A. (portions of AZ, NM, and TX—see section 17.84(k)).	E	1, 6, 13, 15, 35, 561, 562, 735.	N/A	N/A
Do	do	do		XN	631	N/A	17.84(k)
*	*	*	*		*		*

§ 17.84 [Amended]

3. Amend § 17.84 by removing paragraphs (i) and (n).

Dated: January 29, 2007.

H. Dale Hall,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 07–487 Filed 2–7–07; 8:45 am]

BILLING CODE 4310–55–P