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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Final Rule To Reclassify and Remove the Gray Wolf From the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States; Establishment of Two Special Regulations for Threatened Gray Wolves; Final and Proposed Rules

DEPARTMENT OF THE INTERIOR

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RIN 1018–AF20

Endangered and Threatened Wildlife and Plants; Final Rule To Reclassify and Remove the Gray Wolf From the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States; Establishment of Two Special Regulations for Threatened Gray Wolves

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service or we) hereby changes the classification of the gray wolf (*Canis lupus*) under the Endangered Species Act of 1973, as amended (Act). We establish three distinct population segments (DPS) for the gray wolf in the conterminous United States. Gray wolves in the Western DPS and the Eastern DPS are reclassified from endangered to threatened, except where already classified as threatened or as an experimental population. Gray wolves in the Southwestern DPS retain their previous endangered or experimental population status. All three existing gray wolf experimental population designations are retained and are not affected by this rule. Gray wolves are removed from the protections of the Act in all or parts of 16 southern and eastern States where the species historically did not occur. We establish a new special regulation under section 4(d) of the Act for the threatened Western DPS to increase our ability to respond to wolf-human conflicts outside the two experimental population areas in the Western DPS. A second section 4(d) special regulation applies provisions similar to those previously in effect in Minnesota to most of the Eastern DPS. We find that these special rules are necessary and advisable to provide for the conservation of the Western DPS and the Eastern DPS. The classification, under the Act, of captive gray wolves is determined by the location from which they, or their ancestors, were removed from the wild. This final rule does not affect the protection currently afforded by the Act to the red wolf (*Canis rufus*), a separate species found in the southeastern United States that is listed as endangered.

DATES: This rule becomes effective April 1, 2003. The explanation of the need for an immediate effective date is found in the **SUPPLEMENTARY INFORMATION** section under the heading *Need for Immediate Implementation.*

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at our Midwest Regional Office: U.S. Fish and Wildlife Service, Federal Building, 1 Federal Drive, Ft. Snelling, MN 55111–4056. Call 612–713–5350 to make arrangements. The comments and materials we received during the comment period are also available for public inspection, by appointment, during normal business hours at this and other Regional Offices and several of our Ecological Services field offices. Use the contact information in the next paragraph to obtain the addresses of those locations.

FOR FURTHER INFORMATION: Direct all questions or requests for additional information to the Service using the Gray Wolf Phone Line—612–713–7337, facsimile—612–713–5292, the general gray wolf electronic mail address—*GRAYWOLFMAIL@FWS.GOV,* or write to: GRAY WOLF QUESTIONS, U.S. Fish and Wildlife Service, Federal Building, 1 Federal Drive, Ft. Snelling, MN 55111–4056. Additional information is also available on our World Wide Web site at *http://midwest.fws.gov/wolf.* Individuals who are hearing-impaired or speech-impaired may call the Federal Relay Service at 1–800–877–8337 for TTY assistance.

SUPPLEMENTARY INFORMATION:

Background

This rule begins with discussions on the biology, ecology, taxonomy, and the historical range of the gray wolf. We then describe previous Federal listing actions taken for the gray wolf. Next we provide information concerning specific issues related to this rulemaking, including our Vertebrate Population Policy, experimental population designations, and wolf-dog hybrids. We conclude this introductory section with a discussion on the recovery of the gray wolf.

We next provide a summary of the many and diverse comments and recommendations on the proposal. All substantive issues that were raised during that comment period are described, and we present our response to each of those issues.

A detailed discussion is then presented for the five listing factors as required by the Act. We analyze these factors for the reclassification of certain populations in response to the current status of the species, which encompasses present and future threats and conservation efforts. We designate three distinct population segments (DPSs), and we also discuss how this listing affects wolves in captivity and their role in wolf recovery.

We next describe the differences between our July 13, 2000, proposal (65 FR 43450) and this final rule. In our proposal, we identified a variety of alternative actions that we considered but did not propose, and we explained the reasons for selecting the proposed action. We also requested comments on those alternatives. Those alternatives will not be discussed in this rule except in the cases where they were adopted or partially adopted in our final decision, or were otherwise addressed in substantive comments that we received.

Separate sections explain the two special regulations that are being adopted and how these special regulations are consistent with the conservation of the gray wolf within their respective DPSs. We also explain the conservation measures that are being provided to the species by this rule. The text of the regulatory changes for the gray wolf is found at the end of this document.

A. Biology and Ecology of Gray Wolves

Gray wolves are the largest wild members of the Canidae, or dog family, with adults ranging from 18 to 80 kilograms (kg)(40 to 175 pounds (lb)) depending upon sex and subspecies (Mech 1974). The average weight of male wolves in Wisconsin is 35 kg (77 lb) and ranges from 26 to 46 kg (57 to 102 lb), while females average 28 kg (62 lb) and range from 21 to 34 kg (46 to 75 lb) (Wisconsin Department of Natural Resources (WI DNR) 1999a). In the northern U.S. Rocky Mountains, adult male gray wolves average just over 45 kg (100 lb), while the females weigh slightly less. Wolves' fur color is frequently a grizzled gray, but it can vary from pure white to coal black. Wolves may appear similar to coyotes (*Canis latrans*) and some domestic dog breeds (such as the German shepherd or Siberian husky) (*C. familiaris*). However, wolves' longer legs, larger feet, wider head and snout, and straight tail distinguish them from both coyotes and dogs.

Wolves primarily are predators of medium and large mammals. Wild prey species in North America include white-tailed deer (*Odocoileus virginianus*) and mule deer (*O. hemionus*), moose (*Alces alces*), elk (*Cervus canadensis*), woodland caribou (*Rangifer caribou*) and barren ground caribou (*R. arcticus*), bison (*Bison bison*), muskox (*Ovibos moschatus*), bighorn sheep (*Ovis canadensis*) and Dall sheep (*O. dalli*), mountain goat (*Oreamnos americanus*),

beaver (*Castor canadensis*), and snowshoe hare (*Lepus americanus*), with small mammals, birds, and large invertebrates sometimes being taken (Mech 1974, Stebler 1944, WI DNR 1999a). In the Midwest, during the last 22 years, wolves have also killed domestic animals including horses (*Equus caballus*), cattle (*Bos taurus*), sheep (*Ovis aries*), goats (*Capra hircus*), llamas (*Lama glama*), pigs (*Sus scrofa*), geese (*Anser sp.*), ducks (*Anas sp.*), turkeys (*Meleagris gallopavo*), chickens (*Gallus sp.*), pheasants (*Phasianus colchicus*), dogs, and cats (*Felis catus*) (Paul 2001, Wydeven *et al.* 2001a). Since 1987, wolves in the northern Rocky Mountains of Montana, Idaho, and Wyoming have also killed domestic animals, including llamas, horses, cattle, sheep, and dogs (Service *et al.* 2002).

Wolves are social animals, normally living in packs of 2 to 12 wolves. However, 2 packs within Yellowstone National Park (NP) had 22 and 27 members in 2000, and Yellowstone's Druid Peak pack increased to 37 members in 2001 (Service *et al.* 2001, 2002). Packs are primarily family groups consisting of a breeding pair, their pups from the current year, offspring from the previous year, and occasionally an unrelated wolf. Packs typically occupy, and defend from other packs and individual wolves, a territory of 50 to 550 square kilometers (sq km) (20 to 214 square miles (sq mi)). However, in the northern U.S. Rocky Mountains territories tend to be larger, usually from 520 to 1,040 sq km (200 to 400 sq mi), and in Wood Buffalo National Park in Canada, territories of up to 2,700 sq km (1,042 sq mi) have been recorded (Carbyn *in litt.* 2000). Normally, only the top-ranking (''alpha'') male and female in each pack breed and produce pups. Litters are born from early April into May; they can range from 1 to 11 pups, but generally include 4 to 6 pups (Michigan Department of Natural Resources (MI DNR) 1997; Service 1992a; Service *et al.* 2001). Normally a pack has a single litter annually, but producing 2 or 3 litters in one year has been documented in Yellowstone NP (Service *et al.* 2002). Yearling wolves frequently disperse from their natal packs, although some remain with their natal pack. Dispersers may become nomadic and cover large areas as lone animals, or they may locate suitable unoccupied habitat and a member of the opposite sex and begin their own territorial pack. Dispersal movements on the order of 800 km (500 mi) have been documented (Fritts 1983; James Hammill, Michigan DNR, *in litt.* 2001).

The gray wolf historically occurred across most of North America, Europe, and Asia. In North America, gray wolves formerly occurred from the northern reaches of Alaska, Canada, and Greenland to the central mountains and the high interior plateau of southern Mexico. The only areas of the conterminous United States that apparently lacked gray wolf populations since the last glacial events are parts of California and portions of the eastern and southeastern United States (an area occupied by the red wolf). In addition, wolves were generally absent from the extremely arid deserts and the mountaintops of the western United States (Young and Goldman 1944, Hall 1981, Mech 1974, Nowak 2000). (Refer to the *Taxonomy of Gray Wolves in the Eastern United States* section below for additional discussion.)

European settlers in North America and their cultures often had superstitions and fears of wolves. Their attitudes, coupled with perceived and real conflicts between wolves and human activities along the frontier, led to widespread persecution of wolves. Poisons, trapping, and shooting-spurred by Federal, State, and local government bounties-resulted in extirpation of this once widespread species from more than 95 percent of its range in the 48 conterminous States. At the time of the passage of the Act, likely only several hundred wolves occurred in northeastern Minnesota and on Isle Royale, Michigan, and possibly a few scattered wolves in the Upper Peninsula of Michigan, Montana, and the American Southwest.

Researchers have learned a great deal about gray wolf biology, especially regarding the species' adaptability and its use of nonwilderness habitats. Public appreciation of the role of predators in our ecosystems has increased, and we believe that the recovery of the species is widely supported. Most importantly, within the last decade the prospects for gray wolf recovery in several areas of their former historical United States range have greatly increased. In the western Great Lakes area, wolves have dramatically increased their numbers and occupied range. Gray wolf reintroduction programs in the northern U.S. Rocky Mountains have shown great success. Additionally, the reintroduction and recovery program of the Mexican wolf in the American Southwest, although in its initial stages, is beginning to show similar progress after only a few years.

The gray wolf (*Canis lupus*) is one of two North American wolf species currently protected by the Act. The other is the red wolf (*C. rufus*), a separate species that is listed as endangered throughout its range in the southeastern United States and extending west into central Texas. The red wolf is the subject of a separate recovery program. This final rule does not affect the current listing status or protection of the red wolf.

B. Taxonomy of Gray Wolves in the Eastern United States

Both the 1978 and 1992 versions of the Recovery Plan for the Eastern Timber Wolf were developed to recover the gray wolf subspecies *Canis lupus lycaon*, commonly known as the eastern timber wolf. *C. l. lycaon* was believed to be the gray wolf subspecies historically occurring throughout the northeastern quarter of the United States east of the Great Plains (Young and Goldman 1944, Hall 1981, Mech 1974). Since the publication of those recovery plans, various studies on the subspecific taxonomy of the gray wolf have been conducted with conflicting results (Nowak 1995, 2000; Wayne *et al.* 1995; Wilson *et al.* 2000).

At the time we prepared the July 13, 2000, gray wolf reclassification proposal, new information had recently become available that called into question the identity of the large canid in southeastern Canada, an area with an extant wolf population adjacent to the northeastern United States. However, we believed that the preponderance of available data supported the position that the historical canid in the northeastern United States was a subspecies of the gray wolf, probably *Canis lupus lycaon.*

An alternative position advanced by Wilson *et al.* (2000) appears to be gaining wider acceptance. That view is that the wolf currently occurring in Algonquin Provincial Park, and possibly the ancestral wolf of southeastern Canada and the northeastern United States, is a smaller form of wolf that is similar to or indistinguishable from the red wolf (*C. rufus*). Still others argue that ecologically, the ancestral wolf in northern Maine, New Hampshire, and Vermont, where moose and woodland caribou were the predominant ungulate prey (Hall 1981), was likely to be a large-bodied *C. lupus,* rather than a smaller, deer-eating wolf such as the red wolf (Daniel Harrison, University of Maine, pers. comm.).

The coyote is the dominant canid in the northeastern United States today, although wolf genetic material is also present in these animals. Prey species' ranges in the Northeast have undergone significant changes in the last hundred-plus years as the whitetail deer has expanded north into Canada, while the

caribou has disappeared from the northeastern United States, and the moose has repopulated northern and central New England and are newly reestablished in the Adirondacks of northern New York. Changes in prey base may trigger accompanying changes in the primary predator, because smaller canids and smaller canid social groups are able to subsist on deer, but are less well suited to preying on caribou and moose. All of these changes have proceeded with surprising rapidity, as has the eastern expansion of the coyote. Clearly, it becomes extremely difficult to determine the genetic identity of the wolf (or wolves) that occurred in the Northeast prior to European settlement. Bounty records, old trapper notes, and discovery of heretofore unknown mounted specimens may hold clues that will be investigated. However, the ranges of specific forms of wolf may have changed over time or intermingled along contact zones, and scientific consensus on one ancestral form of wolf for the Northeast may not be possible.

Currently, the existing molecular genetic and morphological data suggest several plausible identities for the large canid that historically occupied the Northeast. Nowak's morphological data continue to support the contention that *Canis lupus lycaon,* a subspecies of the gray wolf, occupied part of the Northeast and adjacent southeastern Canada; however, his more recent work suggests a smaller United States range (and a possible hybrid origin) for that subspecies and a consequent larger range for the red wolf (Nowak 1995, 2000). The recent molecular genetics studies (Wilson *et al.* 2000) identify this canid as something other than a gray wolf, which they tentatively refer to as *C. lycaon.* Under this scenario the historical northeastern United States wolf could either be the red wolf (*C. rufus*) or a separate subspecies of *C. lycaon.* Due to the extreme uncertainty over wolf taxonomy, at this time we are adopting no final position on the identity of the wolf (or wolves) that historically existed in the northeastern United States. Instead, we are encouraging additional research on that question, and we are maintaining the listing of the gray wolf in the northeastern United States because there are insufficient data showing that listing to be in error.

C. Historical Range of the Gray Wolf

Until the molecular genetics studies of the last few years, the range of the gray wolf prior to European settlement was generally believed to include most of North America. The only areas that were believed to have lacked gray wolf populations are southern and interior Greenland, the coastal regions of Mexico, all of Central America south of Mexico, coastal and parts of California, the extremely arid deserts and the mountaintops of the western United States, and parts of the eastern and southeastern United States (Young and Goldman 1944, Hall 1981, Mech 1974, and Nowak 1995). (However, some authorities question the reported historical absence of gray wolves from parts of California (Carbyn *in litt.* 2000, Mech *in litt.* 2000)). Authors are inconsistent on their views of the precise boundary of historical gray wolf range in the eastern and southeastern United States. Some use Georgia's southeastern corner as the southern extent of gray wolf range (Young and Goldman 1944, Mech 1974); others believe gray wolves didn't extend into the southeast at all (Hall 1981) or did so to a limited extent, primarily at somewhat higher elevations (Nowak 1995). The southeastern and mid-Atlantic States have generally been recognized as being within the historical range of the red wolf, and it is not known how much range overlap historically occurred between these competing canids. Recent morphological work by Nowak (2000) supports extending the historical range of the red wolf into southern New England or even further northward, indicating that the historical range of the gray wolf in the eastern United States may have been more limited than previously believed. Another possibility is that the respective ranges of several wolf species expanded and contracted in the eastern and northeastern United States, intermingling along contact zones, in post-glacial times.

The results of the recent molecular genetic (Wilson *et al.* 2000) and morphometric studies (Nowak 1995, 2000) may help explain some of the past difficulties in establishing the southern boundary of the gray wolf's range in the eastern United States. It may be shown by additional genetics investigation that the red wolf, or another wolf species, historically populated the entire east coast of the United States, and the gray wolf did not occur there at all. However, until additional data convincingly show that gray wolves did not historically occur in the northeastern States, we will view the historical range of the gray wolf as including those areas north of the Ohio River, the southern borders of Pennsylvania and New Jersey, and southern Missouri; and west from central Texas and Oklahoma. This boundary is a reasonable compromise of several published accounts, being somewhat south of that shown by Nowak (2000) and north of the range boundary shown by Young and Goldman (1944) and Mech (1974). The historical range boundary we are using most closely approximates that given in Hall (1981).

D. Previous Federal Action

The eastern timber wolf (*Canus lupus lycaon*) was listed as endangered in Minnesota and Michigan, and the northern Rocky Mountain wolf (*C. l. irremotus*) was listed as endangered in Montana and Wyoming in the first list of species that were protected under the 1973 Act, published in May 1974 (USDI 1974). A third gray wolf subspecies, the Mexican wolf (*C. l. baileyi*), was listed as endangered on April 28, 1976, (41 FR 17740) with its known range given as ''Mexico, USA (Arizona, New Mexico, Texas).'' On June 14, 1976, (41 FR 24064) the subspecies *C. l. monstrabilis* was listed as endangered (using the nonspecific common name ''Gray wolf''), and its range was described as ''Texas, New Mexico, Mexico.''

To eliminate problems with listing separate subspecies of the gray wolf and identifying relatively narrow geographic areas in which those subspecies are protected, on March 9, 1978, we published a rule (43 FR 9607) relisting the gray wolf at the species level (*Canus lupus*) as endangered throughout the conterminous 48 States and Mexico, except for Minnesota, where the gray wolf was reclassified to threatened (refer to Map 1 below, located after the *Changes from the Proposed Rules* section). In addition, critical habitat was designated in that rulemaking. In 50 CFR 17.95(a), we describe Isle Royale National Park, Michigan, and Minnesota wolf management zones 1, 2, and 3 (delineated in 50 CFR 17.40(d)(1)) as critical habitat. We also promulgated special regulations under section 4(d) of the Act for operating a wolf management program in Minnesota at that time. The depredation control portion of the special regulation was later modified (50 FR 50793; December 12, 1985); these special regulations are found in 50 CFR 17.40(d)(2).

On November 22, 1994, we designated areas in Idaho, Montana, and Wyoming as nonessential experimental populations in order to initiate gray wolf reintroduction projects in central Idaho and the Greater Yellowstone Area (59 FR 60252, 59 FR 60266). On January 12, 1998, a nonessential experimental population was established for the Mexican gray wolf in portions of Arizona, New Mexico, and Texas (63 FR 1752). These experimental population designations also contain special

regulations that govern take of wolves within these geographic areas (codified at 50 CFR 17.84(i) and (k)). (Refer to *Currently Designated Nonessential Experimental Populations of Gray Wolves,* section below, for more details.) We have received several petitions during the past decade requesting consideration to delist the gray wolf in all or part of the 48 conterminous States. We subsequently published findings that these petitions did not present substantial information that delisting gray wolves in all or part of the conterminous 48 States may be warranted (54 FR 16380, April 24, 1989; 55 CFR 48656, November 30, 1990; 63 FR 55839, October 19, 1998).

On July 13, 2000, we published a proposal (65 FR 43450) to revise the current listing of the gray wolf across most of the conterminous United States (Refer to Map 2 following *Changes from the Proposed Rules* section below). That proposal also included recommended wording for 3 special regulations that would apply to those wolves proposed for reclassification to threatened status. The proposal was followed by a 4-month public comment period, during which we held 14 public hearings and many additional informational meetings in those areas of the country where wolves and people would be most affected by the proposed changes.

Following the development of our July 2000 proposal, but prior to its publication, we received petitions from Mr. Lawrence Krak, of Gilman, Wisconsin, and from the Minnesota Conservation Federation. Mr. Krak's petition requested the delisting of gray wolves in Minnesota, Wisconsin, and Michigan. The Minnesota Conservation Federation requested the delisting of gray wolves in the Western Great Lakes DPS. Because the data reviews that would result from the processing of these petitions would be a subset of the review begun by our July 2000 proposal, we did not initiate separate reviews in response to those two petitions.

Subsequent to our proposal, but after the close of the comment period, we received petitions from Defenders of Wildlife to list gray wolf DPSs in the southern Rocky Mountains, northern California—southern Oregon, and western Washington, and to grant endangered status to gray wolves in those DPSs. Because wolves were already protected as endangered in those areas, we took no action on these petitions. Additionally, there are no wolf populations in those areas, and a DPS cannot be designated for an area that is unoccupied by a population of the species of concern.

Since then, we have received a petition from Mr. Karl Knuchel on behalf of the Friends of Northern Yellowstone Elk Herd Inc. Mr. Knuchel's petition requested the delisting of gray wolves in the Rocky Mountains. Because the data review that would result from the processing of this petition would be a subset of the review begun by this rulemaking, we will not initiate action on this petition until after publication of this rule.

E. Summary of Issues Related to This Final Rule

Purpose and Definitions of the Act

The primary purpose of the Act is to prevent animal and plant species endangerment and extinction. One of the ways the Act does this is to require the Service to identify species that meet the Act's definitions of endangered and threatened species, to add those species to the Federal Lists of Endangered and Threatened Wildlife and Plants (50 CFR 17.11 and 17.12, respectively), and to plan and implement conservation measures to improve their status to the point at which they no longer need the protections of the Act. When that protection is no longer needed, we take steps to remove (delist) the species from the Federal lists. If a species is listed as endangered, we may first reclassify it to threatened status as an intermediate step before its eventual delisting; however, reclassification to threatened status is not required prior to delisting.

Section 3 of the Act provides the following definitions that are relevant to this rule:

Endangered species—Any species which is in danger of extinction throughout all or a significant portion of its range;

Threatened species—Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range; and

Species—Includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature. (See additional discussion in the Distinct Population Segments Under Our Vertebrate Population Policy section, below.)

Distinct Population Segments Under Our Vertebrate Population Policy

The Act's definition of the term ''species'' includes ''any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' On February 7, 1996, we, in conjunction with the National Marine Fisheries Service, adopted a policy governing the recognition of distinct population segments (DPSs) for purposes of listing, reclassifying, and delisting vertebrate species under the Act (61 FR 4722). This policy, sometimes referred to as the ''Vertebrate Population Policy,'' guides the Services in recognizing DPSs that satisfy the definition of ''species'' under the Act. To be recognized as a DPS, a group of vertebrate animals must satisfy tests of discreteness and significance.

To be considered discrete, a group of vertebrate animals must be markedly separated from other populations of the same taxon by physical, physiological, ecological, or behavioral factors or by an international governmental boundary that coincides with differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms. A population does not have to be completely isolated by such factors from other populations of its parent taxon in order to be considered discrete.

The significance of a potential DPS is assessed in light of its importance to the taxon to which it belongs. Evidence of significance includes, but is not limited to, the use of an unusual or unique ecological setting; a marked difference in genetic characteristics; or the occupancy of an area that, if devoid of the species, would result in a significant gap in the range of the taxon.

If a group of vertebrate animals is determined to be both discrete and significant, it is then evaluated to determine whether it meets the definition of threatened or endangered based on the five listing factors (section 4(a)(1) of the Act). If it is recovered, a DPS can be delisted.

Although the Vertebrate Population Policy does not allow State or other intra-national governmental boundaries to be used in determining the discreteness of a potential DPS, a State boundary may be used as a boundary of convenience in order to clearly identify the geographic area included within a DPS designation when the State boundary incidentally separates two DPSs that are judged to be discrete on other grounds.

It is important to note that a DPS is a listed entity under the Act, and is treated the same as a listed species or subspecies. It is listed, protected, subject to interagency consultation, and recovered just as any other threatened or endangered species or subspecies. A DPS frequently will have its own recovery plan and its own recovery goals. As with a species or subspecies, a DPS recovery program is not required to seek restoration of the animal

throughout the entire geographic area of the listed entity, but only to the point at which it no longer meets the definition of a threatened or endangered species.

Distinct Population Segments and Experimental Populations

The Act does not provide a definition for the term ''population.'' However, the Act uses the term ''population'' in two different concepts—distinct population segments and experimental populations. These two concepts were added to the original Act at different times and are used in different contexts. The term ''distinct population segment'' is part of the statutory definition of a ''species'' and is significant for listing, delisting, and reclassification purposes, under section 4 of the Act. Our Vertebrate Population Policy (61 FR 4722; February 7, 1996) defines a DPS as one or more groups of members of a species or subspecies within a portion of that species' or subspecies' geographic distribution that meets established criteria regarding discreteness and significance. Congress included the DPS concept in the Act, recognizing that a listing, reclassification, or delisting action may, in some circumstances, be more appropriately applied over something less than the entire area in which a species or subspecies is found or was known to occur in order to protect and recover organisms in a more timely and cost-effective manner.

In contrast, Congress added the experimental population concept to give the Secretary another tool to aid in the conservation of ''species'' (*i.e.*, species, subspecies, or DPSs) that have already been listed under the Act. The Act also requires that an experimental population must be geographically separate from existing populations of the species. The term ''population'' as used in the experimental population program is necessarily a flexible concept, depending upon the organism involved and its biological requirements for successfully breeding, reproducing, and establishing itself in the reintroduction area.

For purposes of gray wolf reintroduction by means of experimental populations in central Idaho and Yellowstone National Park, we needed to examine the biological characteristics of the species to determine if the reintroduced wolves would be geographically separate from other gray wolf populations. We defined a wolf population to be two breeding pairs, each successfully raising two or more young for two consecutive years in a recovery area (Service 1994a). This wolf population definition was used to evaluate all wolves in the northern U.S. Rocky Mountains to determine if, and where, gray wolf populations might exist. We determined that gray wolves in northwestern Montana qualified as a wolf population under this definition and that this population was geographically separated from the potential experimental population areas. We therefore designated the two experimental population areas and began gray wolf reintroductions to establish the two experimental populations.

Because of these different purposes for experimental populations and distinct population segments, a DPS can contain several experimental populations, or a combination of experimental and nonexperimental populations.

Refer to the *Designation of Distinct Population Segments* section below, for further discussion and analysis of how our Vertebrate Population Policy has been applied in this rule.

F. Currently Designated Nonessential Experimental Populations of Gray Wolves

Section 10(j) of the Act gives the Secretary of the Interior the authority to designate populations of listed species that are reintroduced outside their current range, but within their probable historical range, as ''experimental populations'' for the purposes of promoting the recovery of those species by establishing additional wild populations. Such a designation increases our flexibility in managing reintroduced populations, because experimental populations are treated as threatened species under the Act. Threatened status, in comparison to endangered status, allows somewhat more liberal issuance of take permits for conservation and educational purposes, imposes fewer permit requirements on recovery activities by cooperating States, and allows the promulgation of special regulations that are consistent with the conservation of the species.

For each experimental population, the Secretary is required to determine whether it is essential to the continued existence of the species. If the Secretary determines that an experimental population is ''nonessential,'' then for the purposes of section 7 of the Act (Interagency Cooperation), the population is treated as a species proposed to be listed as a threatened or endangered species, except when the population occurs within areas of the National Wildlife Refuge System or the National Park System. Proposed species are subject to the advisory section 7(a)(4) conference process rather than the formal section 7(a)(2) consultation process.

The Secretary has designated three nonessential experimental population areas for the gray wolf, and wolves have subsequently been reintroduced into these areas. These nonessential experimental population areas are the Yellowstone Experimental Population Area, the Central Idaho Experimental Population Area, and the Mexican Wolf Experimental Population Area. The first two of these are intended to further the recovery of gray wolves in the northern U.S. Rocky Mountains, and the third is part of our Mexican wolf recovery program, as described in their respective recovery plans (Service 1982, 1987) (Refer to Map 1, after the *Changes from the Proposed Rules* section below.)

The Yellowstone Experimental Population Area consists of that portion of Idaho east of Interstate Highway 15; that portion of Montana that is east of Interstate Highway 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 Highway 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).

The special regulations for these two experimental populations allow flexible management of wolves, including authorization for private citizens to take wolves in the act of attacking livestock on private land. These rules also provide a permit process that similarly allows the taking, under certain circumstances, of wolves in the act of attacking livestock grazing on public land. In addition, they allow opportunistic noninjurious harassment of wolves by livestock producers on private and public grazing lands, and designated government employees may perform lethal and nonlethal control efforts to remove problem wolves under specified circumstances.

On January 12, 1998, we established a similar third nonessential experimental population area to reintroduce the Mexican gray wolf into its historical habitat in the southwestern States. The Mexican Gray Wolf Nonessential Experimental Population Area consists of that portion of Arizona lying south of Interstate Highway 40 and north of Interstate Highway 10; that portion of New Mexico lying south of Interstate Highway 40 and north of Interstate Highway 10 in the west and north of the Texas-New Mexico border

in the east; and that part of Texas lying north of U.S. Highway 62/180 (63 FR 1752).

This final rule will not affect any of these three existing nonessential experimental populations for gray wolves, nor will it affect the existing special regulations that apply to them.

G. Gray Wolf-Dog Hybrids

The many gray wolf-dog hybrids in North America have no value to gray wolf recovery programs and are not provided the protections of the Act. Wolf-dog hybrids, when they escape from captivity or are intentionally released into the wild, can interfere with gray wolf recovery programs in several ways. They are familiar with humans, so they commonly are attracted to the vicinity of farms and residences, leading to unwarranted fears that they are wild wolves hunting in pastures and yards. In such situations they may exhibit bold behavior patterns and show little fear of humans, leading to human safety concerns. They generally have poor hunting skills; thus, they may resort to preying on domestic animals, while the blame for their depredations is commonly and mistakenly placed on wild wolves. These behaviors, when reported in the media or spread by word of mouth, can erode public support for wolf recovery efforts. In addition, although unlikely, feral wolf-dog hybrids may mate with wild wolves, resulting in the introduction of dog genes into wild wolf populations. For these reasons, this rule does not extend the protections of the Act to gray wolf-dog hybrids, regardless of the geographic location of the capture of their pure wolf ancestors.

In recovery programs for other threatened or endangered species, hybrids and hybridization could perhaps play an important role. This decision to not extend the protections of the Act to gray wolf-dog hybrids should not be taken as an indication of our position on the potential importance of hybrids and hybridization to recovery programs for other species. Determining the importance and treatment under the Act of hybrids requires a species-by-species evaluation.

H. Conservation and Recovery of the Gray Wolf

Understanding the Service's strategy for gray wolf recovery first requires an understanding of the meaning of ''recover'' and ''conserve'' under the Act. ''Conserve'' is defined in the Act itself (section 3(3)) while ''recovery'' is defined in the Act's implementing regulations at 50 CFR 402.02. Conserve is defined, in part, as ''the use of all measures and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.'' Recovery is defined as ''improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act.'' Essentially, recover and conserve both mean to bring a species to the point at which it no longer needs the protections of the Act, because the species is no longer threatened or endangered.

Important Principles of Conservation Biology

Representation, resiliency, and redundancy are three principles of conservation biology that are generally recognized as being necessary to conserve the biodiversity of an area (Shaffer and Stein 2000). Although the Act is not a biodiversity conservation statute, in some ways it functions as such on a single species level. Thus, we can and should apply these principles when establishing goals for individual species' recovery under the Act.

The principle of representation is the need to preserve ''some of everything''—every species, every habitat, and every biotic community—so biodiversity can be maintained. At the species level it also calls for preserving the genetic diversity that remains within a species, in order to maximize the species' ability to cope with short-term environmental variability and to adapt and evolve in response to long-term environmental change.

Redundancy and resiliency both deal with preserving ''enough to last,'' but they address it at distinctly different levels. Redundancy addresses the need for a sufficient number of populations of a species, while resiliency deals with the necessary size (numerical and geographic) of those individual populations that are needed for species' persistence over time. Larger populations are more resilient to environmental changes and other threats to their existence. The redundancy that comes from preserving multiple populations provides additional assurances of species' survival. (In the broader conservation biology context, these two principles are also applied to biotic communities and ecosystems.)

Due to the vast array of life forms that are potentially subject to the protections of the Act, and the variety of physical, biological, and cultural factors acting on them, these three principles must be applied on a species-by-species basis to determine the appropriate recovery goals. For example, addressing the need for redundancy and resiliency for nonmotile organisms, species of limited range (for example, island or insular species), or those species restricted to linear features of the environment (stream or shoreline species) should be expected to result in recovery goals that are quite different from goals developed for habitat generalist, widely distributed, and/or highly mobile species.

Application of These Principles to the Gray Wolf DPSs

Because this rule finalizes three new DPS listings for the gray wolf (see ''Designation of Distinct Population Segments'' below), we evaluated what is necessary for long-term extinction avoidance in each DPS, and the extent of progress made to date toward that goal in each DPS. This examined whether recovery is underway across a significant portion of each DPS to ensure long-term viability when that recovery is completed. Each DPS evaluation used the principles of conservation biology and focused on the size, number, makeup, and distribution of wolves in the individual DPSs, and the threats manifest there, in order to determine if the gray wolf is in danger of extinction throughout all or a significant portion of the respective DPS.

Eastern DPS

The original Recovery Plan for the Eastern Timber Wolf and the 1992 revision of that plan (Service 1978, 1992a) established and reiterated criteria to identify the point at which long-term population viability would be assured in the eastern United States (Recovery Plans for the gray wolf are discussed in more detail below). Although the 1978 Recovery Plan predated the scientific field of conservation biology, it embodied conservation biology tenets in its recovery criteria, and those criteria were carried forward unchanged in the 1992 revised recovery plan. The Eastern Timber Wolf Recovery Team was subsequently queried by the Service in 1997, and at that time the Eastern Team reviewed the criteria and found them to be adequate and sufficient to ensure long-term population viability (Peterson *in litt.* 1997).

The principles of representation, resiliency, and redundancy are fully incorporated into the recovery criteria developed by the Eastern Timber Wolf Recovery Team. The need to maintain the Minnesota wolf population is believed to be vital, because the remaining genetic diversity of gray

wolves in the eastern United States was carried by the several hundred wolves who survived in the State into the early 1970s. The Eastern Team insisted that the remnant Minnesota wolf population must be maintained and expanded to achieve wolf recovery in the eastern United States, and the successful growth of that remnant population has maximized the representation of that genetic diversity among Midwestern gray wolves. Furthermore, the Eastern Team specified that the Minnesota wolf population would increase to 1250–1400 animals, which would increase the likelihood of maintaining its genetic diversity over the long-term, and would provide the resiliency to reduce the adverse impacts of unpredictable chance demographic and environmental events. The Minnesota wolf population currently is estimated to be double that numerical goal.

The need for redundancy was clearly recognized by the Eastern Team members, and they specified that it be accomplished by establishing a second population of gray wolves in the eastern United States. They identified several potential locations for the second population. To ensure that the second population also had sufficient resiliency to survive chance demographic and environmental fluctuations, the Recovery Teams specified a minimum size that must be maintained for a minimum of five years by the second population. If the second population was isolated from the larger Minnesota wolf population, the recovery criteria required that the second population contain at least 200 wolves for a minimum of 5 years. However, if it was near the Minnesota wolf population, the 2 populations would function as a metapopulation rather than as 2 separate and isolated populations; in that case the second population would be viable if it maintained 100 wolves for at least 5 years. A metapopulation is a conservation biology concept whereby the spatial distribution of a population has a major influence on its viability. In nature many populations exist as partially isolated sets of subpopulations-termed ''metapopulations.'' A metapopulation is widely recognized by conservation biologists as being more secure over the long-term than are several isolated populations that contain the same total number of packs and individuals (Service 1994a, Appendix 9, Dr. Steven Fritts). This is because adverse affects experienced by one of its subpopulations resulting from genetic drift, demographic shifts, and local environmental fluctuations can be countered by occasional influxes of individuals and their genetic diversity from the other components of the metapopulation.

The close proximity to the larger Minnesota population would allow wolves to move between the two populations and would provide substantial genetic and demographic support for the smaller second population. Therefore, the Recovery Team specified a lower recovery goal of 100 wolves if a second population would develop in a location that would allow it to be closely tied to (that is, less than 200 miles from) the Minnesota wolf population. Such a second wolf population has developed in Wisconsin and the adjacent Upper Peninsula of Michigan. This second population is less than 200 miles from the Minnesota wolf population, and it has had a late winter population exceeding 100 animals since 1994.

As described elsewhere in this final rule, there is no convincing evidence in recent decades of another wild gray wolf population in the United States east of Michigan, so the wolves in the western Great Lakes States represents all the known gray wolf genetic diversity found in the Eastern DPS. In other words, the area in the western Great Lakes States where the wolf currently exists represents the entire range of the species within the Eastern DPS. Furthermore, the number of wolves in the Eastern DPS greatly exceeds the recovery goals of (1) a secure wolf population in Minnesota and (2) a second population of 100 wolves for 5 successive years, and thus contains sufficient numbers and distribution (resiliency and redundancy) to ensure the long-term survival of gray wolves within the DPS. The wolf's progress toward recovery in the Eastern DPS, together with the threats that remain to the wolf within the DPS, indicates that the gray wolf is not in danger of extinction in its entire range within the DPS. Moreover, the progress towards recovery of each of the two populations that comprise the metapopulation within the western Great Lakes States demonstrates that the species is not in danger of extinction in any significant portion of the range of the species within the DPS. We therefore conclude that gray wolves are no longer properly classified as endangered in the Eastern DPS.

Western DPS

Similarly, the reclassification and recovery criteria that were found in the Northern Rocky Mountain Wolf Recovery Plan (Service 1987) have been subsequently revised following peer review (Bangs 2002) to provide sufficient representation, resiliency, and redundancy to ensure the species is no longer endangered in the Western DPS when those criteria are met. Large numbers of wolves in three widely-spaced locations in the Northern U.S. Rockies achieve the desired resiliency and redundancy. Furthermore, the recovery program is based on 3 founder populations from 3 different Canadian source populations having high levels of genetic diversity (Forbes and Boyd 1997, Fritts *et al.* 1997). This has achieved sufficient representation of the genetic diversity from the closest thriving wolf populations in Canada, and allowed the Northern U.S. Rockies wolves to benefit from the local adaptions of those source populations. Additionally, the northwest Montana population remains connected to the Canadian wolf population, providing a conduit for continuing genetic exchange with wolves farther to the north. This connection is exemplified by wolves such as ''Opal,'' which was radio collared in Banff National Park in Alberta, Canada, and subsequently moved south and successfully raised pups as the alpha female of the Boulder Pack in northwestern Montana.

The three initially isolated gray wolf populations in northwestern Montana, central Idaho, and the Greater Yellowstone Area have expanded in range and increased in numbers to the point that they are no longer isolated from each other and the movement of individual wolves from one to another is becoming more common. Wolf dispersal and interbreeding has been documented between all three core recovery areas within the northern Rocky Mountains (see *Dispersal of Western Gray Wolves*). They are now functioning as a large metapopulation rather than as three isolated populations. The revised recovery criteria specify that at least 30 packs, comprising at least 300 wolves, should exist across the metapopulation's range for a minimum of 3 years. Twenty packs (200 or more wolves) across the metapopulation for 3 years would indicate the species is no longer endangered in the DPS and should be considered for reclassification to threatened status. There have been at least 300 wolves in a minimum of 30 packs since the end of 2000, and at the end of 2001 there were 563 wolves in 34 packs in the Northern U.S. Rockies. There have been over 200 wolves in at least 20 packs since the end of 1997.

The gray wolf's substantial success in meeting the revised recovery criteria for the Northern Rocky Mountains area ensures the wolf's long-term survival within its range in the Western DPS (*i.e.*, the area inhabited by the

metapopulation of gray wolves in the Northern Rocky Mountains). We conclude, based both on the wolf's recovery progress, and on our assessment of the threats that will remain once the wolf is reclassified as threatened (including the continuation of the nonessential experimental population designation and its special regulations), that the gray wolf is not in danger of extinction throughout its range within the Western DPS. Because the three initially isolated populations in the Western DPS now function as a single large metapopulation, and because there is no other population of wolves within the DPS, this conclusion applies to all parts of the wolf's range in the DPS, and so we also conclude that the wolf is not in danger of extinction within any significant portion of its range in the DPS. The gray wolf therefore is no longer endangered throughout all or a significant portion of its range in the Western DPS.

Southwestern DPS

The recovery program for the Southwestern (Mexican) gray wolf is based upon reintroductions of captive reared Mexican wolves to portions of their historical range in the Southwestern U.S. and Mexico. These captive-reared wolves are the products of a carefully managed breeding program designed to preserve the remaining genetic diversity of the historical wolves in those areas and maximize the genetic diversity in the reintroduced population. This propagation and reintroduction program ensures that the principle of representation is achieved in the Mexican wolf recovery program.

At this point, the Mexican wolf recovery program lacks a recovery goal. A prime objective of 100 self-sustaining wolves in the wild was set in the 1982 Mexican Wolf Recovery Plan (Service 1982), but the Plan states that goal is preliminary, and is focused more on assuring the survival of wolves in the Southwest and Mexico, rather than on recovering and delisting them. As more is learned about wolves and their conservation in the Southwest, the Service will endeavor to develop reclassification (endangered to threatened) and delisting criteria for the Mexican wolf. When delisting criteria are developed, they too will incorporate the principles of representation, resiliency, and redundancy to assure the long-term survival of the Mexican wolf.

However, at this time we believe their geographic distribution, low numbers and population density, and relatively low rate of population increase indicate that the Mexican wolf recovery program has not achieved sufficient redundancy and resiliency to assure the long-term survival of the gray wolf in the Southwest and Mexico. We conclude that the gray wolf continues to be in danger of extinction throughout all or a significant portion of its range in the foreseeable future in the Southwestern DPS, and it remains properly classified as endangered in the DPS except where part of a nonessential experimental population.

I. Gray Wolf Recovery Plans

Section 4(f) of the Act directs us to develop and implement recovery plans for listed species. In some cases, we appoint recovery teams of experts to assist in the writing of recovery plans and oversight of subsequent recovery efforts. Once a species no longer meets the definition of endangered or threatened it is considered to be recovered and must be delisted. Therefore, the restoration of a species throughout its historical range, or even throughout all the remaining suitable habitat, may not be necessary before a species may be delisted.

We initiated recovery programs for the originally listed subspecies of gray wolves by appointing recovery teams and developing and implementing recovery plans. Recovery plans describe criteria that are used to assess a species' progress toward recovery, contain specific prioritized actions believed necessary to achieve the recovery criteria and objectives, and identify the most appropriate parties to implement the recovery actions.

Recovery plans contain criteria that are intended to trigger our consideration of the need to either reclassify (from endangered to threatened) or to delist a species due to improvements in its status. Criteria are based upon factors that can be measured or otherwise objectively evaluated to document improvements in a species' biological status. Examples of the type of criteria typically used are numbers of individuals, numbers and distribution of subgroups or populations of the species, rates of productivity of individuals and/or populations, protection of habitat, and reduction or elimination of threats to the species and its habitat.

The reclassification and recovery criteria contained in our recovery plans must be viewed in terms of the other currently available information. In some cases, new information will demonstrate that reclassification or delisting is appropriate independent of the information in the recovery plan. For example, our knowledge of a species and its conservation needs may be incomplete when the recovery plan is prepared. The criteria are based on the best available scientific data and analysis at the time the plan is developed. However, as recovery progresses and our knowledge of a species increases, we may need to reinterpret the original recovery goals, or even add or drop one or more recovery criteria. If appropriate, and if funding and timing allow, we may revise or update recovery plans to reflect our new knowledge and modified recovery criteria. However, revision of recovery plans or recovery criteria is not a required precursor to species reclassification or delisting.

The first gray wolf recovery plan was written for the eastern timber wolf, and it was approved on May 2, 1978 (Service 1978). This recovery plan was later revised and was approved on January 31, 1992 (Service 1992a). The 1978 Recovery Plan for the Eastern Timber Wolf (Eastern Plan) and its revision were intended to recover the eastern timber wolf, *Canus lupus lycaon,* believed at that time to be the only gray wolf subspecies that historically inhabited the United States east of the Great Plains. Thus, the Eastern Plan covers a geographic triangle extending from Minnesota to Maine and into northeastern Florida. The recovery plan for the eastern timber wolf was based on the best available information on wolf taxonomy at the time of its publication. Since the publication of those recovery plans, various studies have produced conflicting results regarding the identity of the wolf that historically occupied the eastern States. Therefore, this recovery program has focused on recovering the gray wolf population that survived in, and has expanded outward from, northeastern Minnesota, regardless of its subspecific identity. (See the *Taxonomy of Gray Wolves in the Eastern United States* section above).

The Northern Rocky Mountain Wolf Recovery Plan (Rocky Mountain Plan) was approved in 1980 and revised in 1987 (Service 1980, 1987). The Rocky Mountain Plan states in its introduction that it should be understood to refer to ''gray wolves in the northern Rocky Mountains of the contiguous 48 States, rather than to a specific subspecies.'' The Rocky Mountain Plan focuses recovery efforts in Idaho, most of Montana, and Wyoming.

The Mexican Wolf Recovery Plan was approved in 1982 (Service 1982). Based on a review of Southwestern (Mexican) subspecies of the gray wolf by Bogan and Mehlhop (1983), the plan combines the historical ranges of *Canus lupus baileyi, C. l. monstrabilis,* and the

presumed extinct *C. l. mogollonensis* (which historically occurred in parts of New Mexico and Arizona) to define the portions of Arizona, New Mexico, Texas, and Mexico where recovery of the Mexican wolf would be appropriate.

J. Recovery Progress of the Eastern Gray Wolf

The 1992 revised Eastern Plan has two delisting criteria. The first criterion states that the survival of the wolf in Minnesota must be assured. We, and the Eastern Timber Wolf Recovery Team (Rolf Peterson, Eastern Timber Wolf Recovery Team, *in litt.* 1997, 1998, 1999a, 1999b), believe that this first delisting criterion remains valid. It identifies a need for reasonable assurances that future State and tribal wolf management practices and protection will maintain a viable recovered population of gray wolves within the borders of Minnesota for the foreseeable future. While there is no specific numerical recovery criterion for the Minnesota wolf population, the Eastern Plan identified State subgoals for use by land managers and planners. The Eastern Plan's subgoal for Minnesota is 1,251 to 1,400 wolves.

The second delisting criterion in the Eastern Plan states that at least one viable wolf population should be reestablished within the historical range of the eastern timber wolf outside of Minnesota and Isle Royale, Michigan. The Eastern Plan provides two options for reestablishing this second viable wolf population. If it is located more than 100 miles from the Minnesota wolf population, it would be considered ''isolated,'' and the frequency of movement of individuals and genetic material from one population to the other would likely be low or nonexistent. Such an isolated population, in order to be self-sustaining, should consist of at least 200 wolves for at least 5 years (based upon late winter population estimates) to be considered viable. Alternatively, if the second population is located within 100 miles of a self-sustaining wolf population (for example, the Minnesota wolf population), a reestablished population having a minimum of 100 wolves for at least 5 years would be considered viable. Such a smaller population would be considered to be viable, because its proximity would allow frequent immigration of Minnesota wolves to supplement it numerically and genetically.

The Eastern Plan does not specify where in the eastern United States the second population should be reestablished. Therefore, the second population could be located anywhere within the triangular Minnesota-Maine-Florida land area covered by the Eastern plan, except on Isle Royale, Michigan and within Minnesota. While the 1978 Eastern Plan identified potential gray wolf restoration areas throughout the eastern States, extending as far south as the Great Smoky Mountains and adjacent areas in Tennessee, North Carolina, and Georgia, the revised 1992 Eastern Plan dropped from consideration the more southern potential restoration areas, because recovery efforts for the red wolf were being initiated in those areas (Service 1978, 1992a).

The 1992 Eastern Plan recommends reclassifying wolves in Wisconsin and Michigan from endangered to threatened status separately, recognizing that progress towards recovery may occur at differing rates in these two States. The Plan specifies that wolves in Wisconsin could be reclassified to threatened if the population within the State remained at or above 80 wolves (late winter estimates) for 3 consecutive years. The Plan does not contain a reclassification criterion for Michigan wolves. Instead, it states that if Wisconsin wolves reached their reclassification criterion, consideration should also be given to reclassifying Michigan wolves. However, with the subsequent increase in Michigan wolf numbers, it has frequently, but unofficially, been assumed that the ''80 wolves for 3 years'' criterion also would be applied to Michigan. In other words, each State could be considered for reclassification if its wolf population reached 80 individuals or more for 3 successive years. The Eastern Timber Wolf Recovery Team used these criteria in its recommendation that the gray wolf in the western Great Lakes States be reclassified to threatened as soon as possible (Peterson *in litt.* 1997, 1998, 1999a, 1999b).

The Eastern Timber Wolf Recovery Team clarified the second population delisting criterion, which considers the wolves in northern Wisconsin and the adjacent Upper Peninsula of Michigan to be a single population. The Recovery Team stated that the numerical delisting criterion for the Wisconsin-Michigan population will be achieved when 6 successive late winter wolf surveys document that the population equaled or exceeded 100 wolves (excluding Isle Royale wolves) for 5 consecutive years (Rolf Peterson, *in litt.* 1998). Because the Wisconsin-Michigan wolf population was first known to have exceeded 100 wolves in the late winter 1993–94 survey, the numerical delisting criterion was satisfied in early 1999, based upon late winter 1998–99 data (Beyer *et al.* 2001, Wydeven *et al.* 1999).

The Eastern Plan has no goals or criteria for the gray wolf population on the 546-sq km (210-sq mi) Isle Royale, Michigan. This small and isolated wolf population is not expected to make a significant numerical contribution to gray wolf recovery, although long-term research on this wolf population has added a great deal to our knowledge of the species.

Over the last several years, the Eastern Timber Wolf Recovery Team has consistently recommended that we designate a DPS in the western Great Lakes area and proceed with reclassification of wolves in that DPS to threatened status as soon as possible. The Eastern Team recommended that the DPS include a wide buffer around the existing populations of wolves in Minnesota, Wisconsin, and Michigan. This buffer was described as lands that may not be regularly occupied by wolves but which may be temporarily used by dispersing wolves. Thus, the Eastern Team suggested the DPS also include the States of North Dakota, South Dakota, Iowa, Illinois, Indiana, and Ohio (Peterson *in litt.* 1997, 1998, 1999a, 1999b).

Minnesota

During the pre-1965 period of wolf bounties and legal public trapping, wolves persisted in the more remote northeastern areas of Minnesota. Estimates of population levels of Minnesota wolves prior to listing under the Act in 1974 include 450 to 700 in 1950–53 (Fuller *et al.* 1992, Stenlund 1955), 350 to 700 in 1963 (Cahalane 1964), 750 in 1970 (Leirfallom 1970), 736 to 950 in 1971–72 (Fuller *et al.* 1992), and 500 to 1,000 in 1973 (Mech and Rausch 1975). While these estimates were based upon varying methodologies and are not directly comparable, they all agree in estimating the wolf population in Minnesota, the only significant population in the Lower 48 States during those time-periods, at 1,000 or fewer animals preceding their listing under the Act.

Various population estimates in Minnesota have indicated increasing numbers after the wolf was listed as endangered under the Act. A population of 1,000 to 1,200 was estimated by L. David Mech for 1976 (Service 1978), and 1,235 wolves in 138 packs were estimated for the winter of 1978–79 (Berg and Kuehn 1982).

In 1988–89, the Minnesota Department of Natural Resources (MN DNR) repeated the 1978–79 survey, and also used a second method to estimate wolf numbers in the State. The resulting

independent estimates were 1,500 and 1,750 wolves in at least 233 packs (Fuller *et al.* 1992).

During the winter of 1997–98, a Statewide wolf population and distribution survey was repeated by MN DNR, using methods similar to those of the two previous surveys. Field staff of Federal, State, tribal, and county land management agencies and wood products companies were queried to identify occupied wolf range in Minnesota. Data from five concurrent radio telemetry studies tracking 36 packs, representative of the entire Minnesota wolf range, were used to determine average pack size and territory area. Those figures were then used to calculate a Statewide estimate of pack numbers and the overall wolf population in the occupied range, with single (nonpack) wolves factored into the estimate (Berg and Benson 1999).

The 1997–98 survey concluded that approximately 2,445 wolves existed in about 385 packs in Minnesota during that winter period. This figure indicates the continued growth of the Minnesota wolf population at an average rate of about 3.7 percent annually. The Minnesota wolf population has shown approximately this average annual rate of increase since 1970 (Berg and Benson 1999, Fuller *et al.* 1992). No rigorous survey of the Minnesota wolf population has been conducted since the winter of 1997–98, but biologists generally accept that the population has increased, and will continue to increase, perhaps at a slower rate and with occasional fluctuations (Mech 1998, Paul 2001).

Simultaneous with the increase in wolf numbers in Minnesota there has been a parallel expansion of the area in which wolves are routinely found. During 1948–53 the major wolf range was estimated to be about 31,080 sq km (11,954 sq mi) (Stenlund 1955). A 1970 questionnaire survey resulted in an estimated wolf range of 38,400 sq km (14,769 sq mi) (calculated by Fuller *et al.* 1992 from Leirfallom 1970). Fuller *et al.* (1992), using data from Berg and Kuehn (1982), estimated that Minnesota primary wolf range included 36,500 sq km (14,038 sq mi) during winter 1978–79. By 1982–83, pairs or breeding packs of wolves were estimated to occupy an area of 57,050 sq km (22,000 sq mi) in northern Minnesota (Mech *et al.* 1988). That study also identified an additional 40,500 sq km (15,577 sq mi) of peripheral range, where habitat appeared suitable but no wolves or only lone wolves existed. The 1988–89 study produced an estimate of 60,200 sq km (23,165 sq mi) as the contiguous wolf range at that time in Minnesota (Fuller *et al.* 1992), an increase of 65 percent over the primary range calculated for 1978–79. The 1997–98 study concluded that the contiguous wolf range had expanded to 88,325 sq km (33,971 sq mi), a 47 percent increase in 9 years (Berg and Benson 1999). The wolf population in Minnesota has recovered to the point that its contiguous range covered approximately 40 percent of the State during 1997–98.

Wisconsin

Wolves were considered to have been extirpated from Wisconsin by 1960. No formal attempts were made to monitor the State's wolf population from 1960 until 1979. From 1960 through 1975 individual wolves and an occasional wolf pair were reported. However, no evidence exists of any wolf reproduction occurring in Wisconsin, and the wolves that were reported may have been dispersing animals from Minnesota.

Wolf population monitoring by the WI DNR began in 1979 and estimated a Statewide population of 25 wolves at that time. This population remained relatively stable for several years, then declined slightly to approximately 15 to 19 wolves in the mid-1980s.

In the late 1980s, the Wisconsin wolf population began an increase that continues today. WI DNR intensively monitors its wolf population, using a combination of aerial, ground, and satellite radio telemetry, snow tracking, and wolf sign surveys (Wydeven *et al.* 1995, 2001a). The number of wolves in each pack is estimated based on the totality of ground and aerial observations made of the individual packs over the winter. During the winter of 2000–01, 30 of Wisconsin's 66 wolf packs (45 percent) had members carrying active radio transmitters much of the season. Twenty-seven of these monitored wolves were located 20 or more times during the mid-September to mid-April period. Five additional radio-tracked wolves were loners, and one was in an adjacent Minnesota pack. Minimum wolf population estimates (late-winter counts) for 1994 through 2001 are 57, 83, 99, 148, 178, 205, 248, and 257 animals, comprising 14, 18, 28, 35, 47, 57, 66, and 66 packs respectively (Wydeven *et al.* 2001a). WI DNR preliminarily estimated that about 320 wolves in 70 to 80 packs were in the State in late winter 2001–2002 (WI DNR 2002, Wydeven *et al.* 2002). Because the monitoring methods focus on wolf packs, it is believed that lone wolves are undercounted in Wisconsin, and that, as a result, these population estimates are probably slight underestimates of the actual wolf population within the State.

In 1995, wolves were first documented in Jackson County, Wisconsin, an area well to the south of the northern Wisconsin area occupied by other Wisconsin wolf packs. The number of wolves in this central Wisconsin area has dramatically expanded since that time. During the winter of 2000–2001, there were 34 wolves in 9 packs, plus 3 lone wolves, in and around Jackson County (Wydeven *et al.* 2001a).

During the winter of 2000–2001, 10 wolves occurred on Native American reservations in Wisconsin, and this increased to at least 13 wolves in the winter of 2001–2002 (WI DNR 2002, Wydeven pers. comm. 2002). These animals were on the Bad River (8) and Lac Courte Oreilles Reservations (5). There also is evidence of individual wolves on the Lac du Flambeau and Menominee Reservations, with a high likelihood of wolf packs developing on these reservation in the near future (Wydeven pers. comm. 2002).

Wolf numbers in Wisconsin alone greatly surpassed the second population goal of 200 animals identified in the Eastern Plan and exceeded its reclassification criterion several years ago. Although population growth nearly stalled between 1999–2000 and 2000–2001, a resumption of the steady upward trend was again quite apparent in the preliminary late-winter 2001–2002 estimate of 320. (Refer to the *Disease or predation* section below for additional discussion.)

Michigan

Michigan wolves were extirpated as a reproducing population long before they were listed as endangered in 1974. Prior to 1991, and excluding Isle Royale, the last known breeding population of wild Michigan wolves occurred in the mid-1950s. As wolves began to reoccupy northern Wisconsin, the Michigan Department of Natural Resources (MI DNR) began noting single wolves at various locations in the Upper Peninsula of Michigan. In the late 1980s, a wolf pair was verified in the central Upper Peninsula and produced pups in 1991. Since that time, wolf packs have spread throughout the Upper Peninsula, with immigration occurring from both Wisconsin on the west and Ontario on the east. They now are found in every county of the Upper Peninsula.

The MI DNR annually monitors the wolf population in the Upper Peninsula by intensive late winter tracking surveys that focus on each pack. Pack locations are derived from previous surveys, citizen reports, and ground tracking of radio-collared wolves. During the winter of 2000–2001 at least 50 wolf packs

were resident in the Upper Peninsula. Approximately 40 percent of these packs had members with active radio tracking collars (Hammill pers. comm. 2002.) Care is taken to avoid double-counting wolves, and a variety of evidence is used to distinguish adjacent packs and accurately count their members (Beyer *et al.* 2001).

These annual surveys have documented the following minimum late winter estimates of wolves occurring in the Upper Peninsula from 1994 through 2001: 57 wolves in 1994, 80 in 1995, 116 in 1996, 112 in 1997, 140 in 1998, 174 in 1999, 216 in 2000, and 249 in 2001. In recent years the annual rate of increase has been about 24 percent (MI DNR 1997, 1999a, 2001). The MI DNR estimated a minimum of 278 wolves in the Upper Peninsula in late winter 2001–2002 (MI DNR 2002).

The Upper Peninsula Michigan wolf population has exceeded the unofficial criterion of 80 animals for reclassification from endangered to threatened status. Similar to the situation in Wisconsin, the Upper Peninsula wolf population by itself has surpassed the goal of 200 wolves for a second population, as specified in the Eastern Plan.

During the winter of 1997–98, one wolf pack composed of four animals lived on lands of the Keewenaw Bay Indian Community. No other wolves are known to be primarily using tribal lands in Michigan (Hammill *in litt.* 1998).

The wolf population of Isle Royale National Park, Michigan, is not considered to be an important factor in the recovery or long-term survival of wolves in the western Great Lakes States. This population is small, varying from 12 to 29 animals over the last 15 years, and is almost completely isolated from other wolf populations (Peterson *et al.* 1998, pers. comm. 1999). For these reasons, the Eastern Plan does not include these wolves in its recovery criteria and recommends only the continuation of research and complete protection for these wolves (Service 1992a).

Although there have been reports of wolf sightings in the Lower Peninsula of Michigan, including a 1997 report of 2 large canids believed to be wolves on the ice west of the Mackinaw Bridge, there is no evidence that there are resident wolves in the Lower Peninsula. However, recognizing the likelihood that small numbers of gray wolves will eventually move into the Lower Peninsula, MI DNR has begun a revision of its Wolf Management Plan to incorporate provisions for wolf management there (see issue U, ''State Wolf Management Plans'').

Northeastern United States

Wolves were extirpated from the northeastern United States by 1900. Few credible observations of wolves were reported in the Northeast during most of the 20th century. However, in 1993 a single female wolf was killed in western Maine, and in 1996 a second wolf or wolf-like canid was trapped and killed in central Maine. Another wolf-like canid was mistaken for a coyote and killed in 1997 in northern Vermont. In early 2002 a 29 kg (64 lb) apparent wolf was killed by a trapper in southeastern Quebec, 20 miles from the New Hampshire border; tissue samples are undergoing genetic analysis. These records and other observations and signs of large, unidentified canids in Maine during recent years led to speculation that wolves may be dispersing into the northeastern United States from nearby occupied habitat in Canada. Many of the characteristics of the unidentified canids are consistent with an animal intermediate between the eastern coyote and the gray wolf. Private conservation organizations, the Maine Department of Inland Fisheries and Wildlife, the New York Department of Environmental Conservation, and the Service are continuing to seek evidence of the presence of wild wolves in northern New York and New England. However, at this time there is no firm evidence that a breeding population of wolves or wolf-like animals exists in the northeastern United States.

A recent Geographic Information System analysis evaluated the potential for wolf dispersal from southern Quebec and Ontario into the northeastern United States (Harrison and Chapin 1998). The study also estimated the amount of suitable wolf habitat present in northern New York and other New England States, and with Wydeven *et al.* (1998) evaluated the likelihood of natural wolf colonization from existing occupied wolf range in Canada. These studies, and Mladenoff and Sickley (1998), found that sufficient suitable wolf habitat is available in the Adirondack Park region of New York and in Maine and northern New Hampshire. However, the New York habitat is relatively isolated, and the authors concluded that natural recolonization is unlikely to occur there. Furthermore, while there are relatively narrow potential dispersal corridors connecting expansive wolf habitat in Maine and New Hampshire with existing wolf populations north of Quebec City, there are significant barriers to dispersal, including about 18 km (11 mi) of the St. Lawrence River, an adjacent four lane highway, rail lines, and dense human developments that may preclude the movement of a sufficient number of wolves from Canada into Maine (Harrison and Chapin 1997).

In the study on the feasibility of wolf reintroduction in the Adirondacks, Paquet *et al.* (1999) found that suitable habitat for sustaining a small population of gray wolves is present, but that habitat fragmentation within the Adirondack Park and the lack of linkages to occupied wolf areas to the north suggest that wolves would not persist there without periodic human intervention. As a result, the authors conclude that the ecological conditions in the Adirondack Park dictate against a successful reintroduction of gray wolves.

Other Areas in the Eastern United States

The increasing numbers of wolves in Minnesota and the accompanying expansion of their range westward and southwestward in the State have led to an increase in dispersing, mostly young, wolves that have been documented in North and South Dakota in recent years. An examination of skull morphology of North and South Dakota wolves indicates that of eight examined, seven likely had dispersed from Minnesota; the eighth probably came from Manitoba, Canada (Licht and Fritts 1994). Genetic analysis of an additional gray wolf killed in 2001 in extreme northwestern South Dakota indicates that it, too, originated from the Minnesota-Wisconsin-Michigan wolf population (Straughan and Fain 2002). The low potential for the establishment of a viable and self-sustaining wolf population in North and South Dakota, and the belief that all or most wolves in the Dakotas are biologically part of the Minnesota-Wisconsin-Michigan wolf population, leads us to conclude that any wolves in these States should be included in the Eastern Gray Wolf DPS.

In October 2001, a wolf was killed in north-central Missouri by a farmer who believed it was a coyote. The wolf's ear tag identified it as having originated from the western portion of Michigan's Upper Peninsula, where it had been captured as a juvenile in July of 1999.

Wolves like these and others described below in the Western DPS are expected to continue to disperse from the core recovery populations and move into areas where wolf numbers are extremely low or nonexistent. Unless they return to a core recovery population and join or start a pack there, they are unlikely to contribute to wolf recovery. While it is possible for them to disperse and encounter another wolf, mate, and even reproduce,

throughout much of the Midwest the lack of large expanses of unfragmented public land will make it difficult for wolf packs to persist in new areas without causing significant conflicts with agricultural and other human activities.

Because gray wolf recovery in the eastern United States can be achieved by restoring the species to Minnesota, Wisconsin, and Michigan, we do not intend to undertake wolf recovery programs in other areas of the Midwest. However, we may provide technical assistance to States and tribes who wish to develop wolf recovery plans beyond those which we have undertaken.

K. Recovery Progress of the Rocky Mountain Gray Wolf

In 1974, an interagency wolf recovery team was formed, and it completed the Northern Rocky Mountain Wolf Recovery Plan in 1980 (Service 1980). The Rocky Mountain Plan focuses wolf recovery efforts on the large contiguous blocks of public land from western Wyoming through Montana to the Canadian border.

The revised Rocky Mountain Recovery Plan (Service 1987) identifies a recovery criterion of 10 breeding pairs of wolves (defined as a male and female capable of reproduction) for 3 consecutive years in each of the 3 recovery areas—(1) northwestern Montana (Glacier National Park; the Great Bear, Bob Marshall, and Lincoln Scapegoat Wilderness Areas; and adjacent public 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 Yellowstone National Park area (including the Absaroka-Beartooth, North Absaroka, Washakie, and Teton Wilderness Areas; and adjacent public lands). The Plan states that if one of these recovery areas maintains a population of 10 breeding pairs for 3 successive years, wolves in that recovery area can be reclassified to threatened status. If 2 recovery areas maintain 10 breeding pairs (totaling about 200 adult wolves) for 3 successive years, gray wolves across the coverage area of the Rocky Mountain Plan can be reclassified to threatened status. It also states that if all 3 recovery areas maintain 10 breeding pairs for 3 successive years, the Northern Rocky Mountain wolf population can be considered as fully recovered and can be delisted. The wolf population would be about 300 adult wolves upon attainment of full recovery. The Plan also recommends that wolves be reintroduced into the Yellowstone National Park area as an experimental population. Additionally, if natural recovery has not resulted in at least two packs becoming established in central Idaho within 5 years, the Rocky Mountain Plan states that other measures, including reintroduction, would be considered to recover wolves in that area. The goals identified in the Rocky Mountain Plan are intended to ensure a well distributed and viable population in the Rocky Mountains, goals that could be met in a variety of ways while still adhering to the ''biological intent'' of the recovery plan.

Gray wolf populations were eliminated from Montana, Idaho, and Wyoming, as well as adjacent southwestern Canada by the 1930s (Young and Goldman 1944). After human-caused mortality of wolves in southwestern Canada was regulated in the 1960s, populations expanded southward (Carbyn 1983). Dispersing individuals occasionally reached the northern Rocky Mountains of the United States (Ream and Mattson 1982, Nowak 1983), but lacked legal protection there until 1974 when they were listed as endangered.

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. In recognition of the ongoing natural recovery of wolves arising from these Canadian dispersers, the Rocky Mountain Plan was revised in 1987 (Service 1987). The revised Rocky Mountain Plan recommends that recovery be focused in areas with large blocks of public land, abundant native ungulates, and minimal livestock. Three recovery areas were identified—northwestern Montana, central Idaho, and the Greater Yellowstone Area. Promotion of natural recovery was advocated for Montana and Idaho (unless no breeding pairs formed in Idaho within 5 years), but recovery in the Yellowstone area was believed to require a reintroduction program.

By 1989, we formed an interagency wolf working group, composed of Federal, State, and tribal agency personnel. The group conducted four basic recovery tasks, in addition to the standard enforcement functions associated with any take of listed species. These tasks were—(1) monitor wolf distribution and numbers, (2) control wolves that attacked livestock by either moving or killing them, (3) research wolves' relationships to ungulate prey, livestock, and people, and (4) provide accurate 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.

In 1995 and 1996, we reintroduced wolves from southwestern Canada to remote public lands in central Idaho and Yellowstone National Park (Bangs and Fritts 1996, Fritts *et al.* 1997, Bangs *et al.* 1998). We designated these wolves as nonessential experimental populations to increase management flexibility and address local and State concerns (59 FR 60252 and 60266; November 22, 1994). Wolves in northwestern Montana remain listed as endangered, the most protective category under the Act; they are not included within the nonessential experimental population areas. (Refer to the *Currently Designated Nonessential Experimental Populations of Gray Wolves* section above, for additional details.)

The reintroduction of wolves to Yellowstone National Park and central Idaho in 1995 and 1996 greatly expanded the numbers and distribution of wolves in the northern Rocky Mountains of the United States. Because of the reintroduction, wolves soon became established throughout central Idaho and the Greater Yellowstone Area. In 1995, an estimated 8 breeding pairs (using the Environmental Impact Statement (EIS) definition of a male and female successfully raising 2 pups until December 31), within a total population of about 101 individual wolves, produced pups in the northern Rocky Mountains. By 1996, a total population of 152 wolves containing 14 breeding pairs were producing pups. In 1997, 213 wolves with 20 breeding pairs produced pups. In 1998, there were 275 wolves and 21 breeding pairs. In 1999 there were 322 wolves with 24 breeding pairs. December 1999 ended the third successive year in which over 20 wolf breeding pairs successfully produced pups in the northern U.S. Rocky Mountains. In 2000 there were 433 wolves with 30 breeding pairs. As of December 2001 the wolf population was about 563 wolves, with 34 breeding pairs producing pups (Service *et al.* 2002).

The presence of 20 breeding pairs (using the EIS definition of a male and female successfully raising 2 pups) distributed in 3 recovery areas for 3 successive years, exceeded the biological criteria of having 10 breeding pairs (defining as a male and female capable of reproduction) in only 2 recovery areas as recommended in the 1987 recovery plan. For this reason the Service proposed to reclassify the wolf population in the northern Rocky Mountains and adjacent States in July

2000. Because the wolf population has continued to expand since that time, it no longer warrants listing as endangered.

Northwestern Montana

Reproduction first occurred in northwestern Montana in 1986. The natural ability of wolves to find and quickly recolonize empty habitat and the interagency recovery program combined to effectively promote an increase in wolf numbers. By 1993 the number of wolves had grown to about 55 wolves in 4 packs. However, since 1993 the number of breeding groups and number of wolves has slowed or perhaps stabilized, varying from 5 to 7 packs and from 48 to 84 wolves. The reasons for this are unknown, but are being investigated. The lack of continuing steady growth in documented wolf numbers may be due to a dramatic reduction of white-tailed deer numbers throughout northwestern Montana (Caroline Sime, Montana Dept. Fish, Wildlife and Parks, pers. comm. 1998) due to the severe winter of 1996–97, which we believe was responsible for the record high level of livestock depredations and correspondingly high level of wolf control in northwestern Montana during summer 1997. Our 1998 estimate was a minimum of 49 wolves in 5 reproducing packs. In 1999, and again in 2000, 6 breeding pairs appear to have produced pups, and the northwestern Montana population increased to about 63 wolves. In 2001, there were an estimated 84 wolves in 7 breeding pairs (Service *et al.* 2002).

Wolf conflicts with livestock have increased with the growing wolf population and with fluctuations in prey populations. For example, in 1997, following a severe winter that reduced white-tailed deer populations, wolf conflicts with livestock increased dramatically. That year alone accounted for nearly 50 percent of all the wolf livestock depredations that were confirmed and subsequent lethal wolf control actions that were taken in northwestern Montana during the period 1987–1999 (Bangs *et al.* 1998). Wolf numbers should increase as prey numbers rebound, but, for now, the need for wolf control measures has subsided. Unlike Yellowstone National Park or the central Idaho Wilderness, northwestern Montana lacks a core refugia that also contains overwintering ungulates. Therefore, wolf numbers are not ever likely to be as high in northwestern Montana as they are in central Idaho and northwest Wyoming.

Central Idaho

In January 1995, 15 young adult wolves captured in Alberta, Canada, were released in central Idaho (Bangs and Fritts 1996, Fritts *et al.* 1997, Bangs *et al.* 1998). During January 1996, an additional 20 wolves from British Columbia were released. In 1998 the population consisted of a minimum of 114 wolves, including 10 packs that produced pups (Bangs *et al.* 1998). In 1999 it had grown to about 141 wolves in 10 reproducing packs. By 2000 Idaho had 192 wolves in 10 breeding pairs and in 2001 the population was about 261 wolves in 14 breeding pairs (Service *et al.* 2002).

Greater Yellowstone Area

In January 1995, 14 wolves from Alberta, representing three family groups, were placed in 3 pens in Yellowstone National Park (Bangs and Fritts 1996, Fritts *et al.* 1997). The groups were released in late March. Two of the three groups produced young in late April. In January 1996, this procedure was repeated with 17 wolves from British Columbia, representing 4 family groups, for release in early April. Two of those groups produced pups in late April. Furthermore, as the result of a September 1996 wolf control action in northwestern Montana, 10 5-month-old pups were transported to a pen in the Park. These pups and 3 adults from the Greater Yellowstone Area, which were originally reintroduced from Canada, were released in spring 1997. By 1998, the Greater Yellowstone Area population consisted of 112 wolves, including 6 packs that produced 10 litters of pups. The 1999 population consisted of 118 wolves, including 8 breeding pairs. In 2000 Yellowstone had 177 wolves, including 14 breeding pairs, and there were 218 wolves, including 13 breeding pairs, in 2001 (Service *et al.* 2002).

Dispersal of Western Gray Wolves

Significant numbers of pups (9 in 1995, 25 in 1996, 99 in 1997, and steadily increasing to about 150 in 2000, and nearly 200 in 2001 and 2002) born to reintroduced wolves are becoming sexually mature and are dispersing from their natal packs. Because dispersing wolves may travel extensively and often settle in areas without resident packs, we expect that these wolves will continue to initiate significant expansion in the number and distribution of wolf packs in the northern Rocky Mountains. Dispersal will increase management costs and controversy, because many of these wolves will not be radio-collared and will attempt to colonize areas of private land used for livestock production. This geographic expansion of wolf presence will also increase the amount of needed agency wolf control, particularly lethal control. Wolves that disperse southward in central Idaho and the Greater Yellowstone Area will increasingly encounter the full range of domestic livestock, including sheep, which are more susceptible to predation and multiple-mortality incidents than are other domestic livestock (Bangs *et al.* 1995, Fritts *et al.* 1992).

We predicted that these three populations eventually would expand and begin to overlap, resulting in one meta-population of gray wolves in the northern U.S. Rocky Mountains. In 1994 we believed that the most likely direction for wolf dispersal and population growth would be from northwestern Montana southward into the experimental areas. Wolves most commonly disperse toward other wolves even when separated by great distances, and we speculated that the presence of reintroduced wolves in the central Idaho and Yellowstone experimental areas would increase the likelihood for wolf dispersal into those areas from northwestern Montana. At that time, we believed that wolves in the northwestern Montana recovery area would be the first to reach 10 breeding pairs. We now believe that the severe winter of 1996–97 temporarily depressed the number of wolves in northwestern Montana and limited the number of dispersal-aged wolves in that area (Service 1994a, Bangs *et al.* 1998).

In contrast, the wolves reintroduced into central Idaho and Yellowstone have increased their numbers greatly, and nearly two-thirds of those wolves are young, dispersal-aged animals that may move from those areas over the next several years. We now believe that wolves that are offspring of the reintroduced animals will increasingly disperse into northwestern Montana and elsewhere. A recent study of wolf 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 genetic diversity was not a wolf conservation issue in the northern Rocky Mountains at this time (Forbes and Boyd 1997). To date, from radio telemetry monitoring we have documented routine wolf movement between wolves in Canada and northwestern Montana, occasional wolf movement between wolves in Idaho and Montana, and at least two wolves that have traveled into Idaho from northwestern Wyoming. Additionally,

in 2001–2002 a wolf from Yellowstone dispersed 240 km (150 mi) into northwestern Montana, and a wolf from Idaho dispersed over 480 km (300 mi) to northwestern Wyoming. Since two-thirds of the wolf population is not radio-collared, additional dispersal has undoubtedly occurred in addition to that documented by radio-collared wolves. Because of the long dispersal distances and the relative speed of natural wolf movement between Montana, Idaho, and Wyoming, we anticipate that wolves will continue to maintain high genetic diversity in the three States. If significant genetic concerns do arise at some future time, our experience with wolf relocation shows that we could effectively remedy those concerns with occasional wolf relocation actions.

We also anticipate additional movement of wolves from the northern U.S. Rockies and Canada into western Washington and Oregon and into the Cascade Range. For example, one radio-collared wolf from northwestern Montana was found dead in 1994 from unknown causes in eastern Washington, and a radio-collared young female wolf from central Idaho dispersed into eastern Oregon in early 1999. She was recaptured and returned to the Central Idaho Recovery Area where she would have a better opportunity to find a mate. Since 1999, 2 other dead wolves (1 radio-collared in Idaho and one not radio-collared) were found in eastern Oregon. These wolves were killed by a vehicle collision and an illegal shooting, respectively. Furthermore, suitable habitat and prey conditions exist in other areas to which wolves may be able to disperse from current populations. Given that wolves in the northern Rocky Mountains have dispersed over 800 km (500 mi), it is reasonable to assume that occasional but routine wolf dispersal will continue to occur within 400 km (250 mi) of the current boundaries of the wolf population.

Observation data indicate that the wolves outside of the core recovery areas mostly occur as individuals, although several wolf family units have been reported in the North Cascades (Almack and Fitkin 1998). However, because efforts to locate family units have been unsuccessful, we are not sure whether wolves are reproducing in the North Cascades. Under this final rule, any animals outside the core recovery areas are protected by the Act as threatened wolves, and we will continue to provide protection recommendations for den and rendezvous sites to Federal agencies on a site-specific basis.

While habitat that could support wolves certainly exists in several areas, we have no plans to initiate new wolf restoration efforts for any areas in the western United States outside of those already underway in Montana, Idaho, Wyoming, and the southwestern States. However, this final rule continues the protections of the Act for any wolves in the wild within all States that are included within the boundaries of the Western DPS. Therefore, any new gray wolf restoration programs undertaken by States or tribes within the boundaries of the DPS would benefit from the protections of the Act as long as the DPS remains listed as threatened.

While we have no plans to actively pursue wolf restoration in other areas of the Western DPS, we will not act to routinely prevent natural wolf recolonization in such areas. Wolves that naturally disperse into other States will be managed on a case-by-case basis, and we have the authority to manage these wolves. Generally, if there are no conflicts with human activities, such wolves will likely not be returned to the area of their origin. If wolves move outside of the recovery areas and depredate livestock, they will be killed rather than moved. In addition, States or tribes considering wolf restoration planning for lands under their jurisdiction may request us to provide technical assistance for those efforts.

Reclassification and Recovery Goals for the Northern U.S. Rocky Mountains

The criteria for threatened and recovered wolf populations in the northern Rocky Mountains have been the subject of intense interest and several peer review efforts (Fritts and Carbyn 1995). The 1987 Northern Rocky Mountain Wolf Recovery Plan (Service 1987) defined a recovered wolf population as securing and maintaining a minimum of 10 breeding pairs in each of 3 recovery areas for a minimum of 3 successive years. A breeding pair was defined as ''Two wolves of opposite sex and adequate age, capable of producing offspring.'' Recovery areas were relatively small and separate areas in northern Montana, central Idaho, and the Greater Yellowstone Area.

The 1994 environmental impact statement (EIS) review (Appendix 9, in Service 1994a) indicated that the 1987 recovery goal was, at best, a minimal recovery goal, and that modifications were warranted on the basis of more recent information about wolf distribution, connectivity, and numbers. Fritts (Appendix 9, in Service 1994a) specifically reviewed the issue of a viable wolf population in the EIS on wolf reintroduction. He concluded that ''Thirty or more breeding pairs comprising some +300 wolves in a metapopulation with genetic exchange between subpopulations should have a high probability of long-term persistence.'' Further, Fritts stated, ''My conclusion is that the 1987 wolf recovery plan's population goal of 10 breeding pairs of wolves in 3 separate recovery areas for 3 consecutive years is reasonably sound and would maintain a viable wolf population into the foreseeable future. The goal is somewhat conservative, however, and should be considered minimal.'' In his review, a breeding pair was defined as ''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.'' His review was based upon abutting recovery areas that were much larger than those recommended in the 1987 plan. This proximity would allow wolves to occasionally move from one recovery population to another, thus producing the metapopulation structure that was inherent to Fritts' analysis, but was absent from the 1987 Recovery Plan goal.

The Service (Bangs 2002) conducted another review of what constitutes a recovered wolf population in late 2001 and early 2002. Relevant literature was reviewed, and responses were received and evaluated from 50 of 88 experts contacted. That review showed that there is a wide variety of professional opinion about wolf population viability. However, that review supported and reaffirmed Fritts' earlier conclusions that 30 breeding pairs of wolves (using Fritts' definition of a breeding pair) widely distributed in a metapopulation structure (that is, populations within dispersal distance to promote movement between recovery populations) throughout the mountainous portions of Montana, Idaho, and Wyoming for 3 successive years would exceed the minimum biological requirements of a viable and recovered wolf population. The experts also compared the 1987 recovery plan recommendation of a recovered wolf population with Fritts' recommendation and concluded that Fritts' definition was more likely to define a viable wolf population than the 1987 recovery plan definition.

Therefore, in place of the 1987 Recovery Plan goal, we have adopted the definition of wolf population viability and recovery developed in the 1994 EIS (Service 1994a). That definition is ''Thirty breeding pairs of wolves (defined as an adult male and an adult female that raise at least 2 pups until December 31 of the year of their birth), comprising some +300

individuals in a metapopulation with some genetic exchange between subpopulations, for three successive years.''

A minimum of 30 breeding pairs was first documented in 2000, and a minimum of 34 breeding pairs was documented in 2001. We fully expect to confirm in early 2003 that the wolf population in the northern Rocky Mountains will have again exceeded 30 breeding pairs in 2002, thus achieving the wolf population recovery goal. At that point the Service could propose to delist the wolf population.

The 1987 recovery plan recommended that wolves be downlisted to threatened status throughout the northern Rocky Mountains at the time each of 2 recovery areas had maintained a minimum of 10 breeding pairs for 3 successive years. In 2000, when the Service proposed to reclassify these wolves to threatened status, the year 2000 was the fourth successive year of having 20 or more breeding pairs in the northern Rocky Mountains. The Service considered this to fully meet the intent of the downlisting goal. Since that time, the wolf population has continued to grow even larger and should no longer be considered endangered.

L. Recovery Progress of the Southwestern (Mexican) Gray Wolf

The objectives of the Mexican Wolf Recovery Plan (Service 1982) are to maintain a captive breeding program and to reestablish a population of at least 100 Mexican wolves within its historical range. The plan contains no numerical criteria that would support either revision of the endangered status of the Mexican wolf to threatened or delisting. We consider the current recovery plan objective for the wild population to be an essential first step toward the eventual recovery of the Mexican wolf. A revised recovery plan for the Mexican wolf will contain numerical criteria for reclassifying to a threatened status and for delisting. Because recovery of the Mexican wolf is in its very early stages, we are establishing a Southwestern Gray Wolf DPS, but we are making no changes to the protective legal status of the Mexican gray wolf at this time.

Through managed breeding, the captive population of Southwestern (Mexican) gray wolves had increased to 247 animals as of August 2002. Forty-five zoos and wildlife sanctuaries throughout the United States and Mexico cooperate in the maintenance and breeding of the captive wolves. The Blue Range Wolf Recovery Area (BRWRA), an 18,000-sq km (7000-sq mi) area, has been designated for the re-establishment of a wild population of at least 100 wolves. This area includes all of the Apache and Gila National Forests in eastern Arizona and western New Mexico.

Re-establishment of a wild population began with the release of 13 captive-reared Mexican gray wolves in eastern Arizona in 1998. Releases have occurred each year since then, and as of August 2002, an additional 61 wolves, including uncollared pups, had been released in the BRWRA. A minimum of 24 Mexican wolves representing 8 packs were free-ranging in the wild as of January 2003. During 2002, we documented surviving wild-conceived offspring from the past 3 breeding seasons and documented the production of the first second-generation wild-conceived, wild-born offspring. Efforts are ongoing to capture uncollared wolves living in the population. The documentation of the birth of second-generation wild-born offspring and breeding pairs forming on their own are both key signs that a Mexican wolf population is establishing itself in the BRWRA. Additional releases are planned to occur as they are needed to reach the current goal of a wild population of 100 wolves. This reintroduced population of wolves, like those in central Idaho and the Greater Yellowstone Area, has been designated nonessential experimental (63 FR 1752–1772, January 12, 1998); these wolves can be legally killed by ranchers if the wolves attack livestock on private land. Other provisions of the special regulation designating the population as nonessential experimental give agency managers flexibility to address wolf-human conflicts. Defenders of Wildlife, a private conservation organization, compensates ranchers whose livestock are killed by these wolves.

Designation of Distinct Population Segments

Previously, the gray wolf was listed as threatened in Minnesota and as endangered in the other 47 conterminous States, effectively establishing a Minnesota DPS that was delimited by State boundaries in the absence of any other indications of discreteness (Map 1). This separate designation of Minnesota gray wolves as threatened was established in 1978, before our adoption of the 1996 Vertebrate Population Policy (61 FR 4722, February 7, 1996); this final rule brings the current listing of the gray wolf into compliance with the policy.

As discussed above in the *Distinct Population Segments Under Our Vertebrate Population Policy* section, our Vertebrate Population Policy requires that we consider the concepts of ''discreteness'' and ''significance'' when deciding if a vertebrate population meets the requirements for a DPS designation. If the population is determined to be discrete and significant, then we evaluate the conservation status of the population to determine if it is threatened or endangered. The discussion of discreteness and significance for each DPS follows the descriptions of the geographic area included in each DPS.

Based on the Vertebrate Population Policy, this rule reclassifies the gray wolf by establishing the following 3 DPSs within the conterminous 48 States (Map 3).

Eastern Gray Wolf Distinct Population Segment. Consisting of gray wolves within the States of North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine; and those gray wolves in captivity that originated from, or whose ancestors originated from, this geographic area. This DPS includes all the areas that we proposed in July 2000 for the Western Great Lakes DPS and the Northeastern DPS, as well as 12 additional States.

Western Gray Wolf Distinct Population Segment. The exterior boundary of the Western DPS encompasses the States of California, Idaho, Montana, Nevada, Oregon, Washington, Wyoming, Utah north of U.S. Highway 50, and Colorado north of Interstate Highway 70. Gray wolves in this geographic area are included in the Western DPS, except for gray wolves that are part of an experimental population. Gray wolves in captivity that originated from, or whose ancestors originated from, this geographic area are also included in the Western DPS.

Southwestern Gray Wolf Distinct Population Segment. The exterior boundary of the Southwestern DPS encompasses the States of Arizona, New Mexico, Utah south of U.S. Highway 50, Colorado south of Interstate Highway 70, those parts of Oklahoma and Texas west of Interstate Highway 35, and Mexico. Gray wolves in this geographic area are included in the Southwestern DPS, except for gray wolves that are part of an experimental population. Gray wolves in captivity that originated from, or whose ancestors originated from, this geographic area are also included in the Southwestern DPS.

Discreteness. To date, we have no evidence that any wolves from any of these DPSs have dispersed across these DPS boundaries, although we expect

such dispersals to occur. The current gray wolf populations within each of these DPSs are separated from the gray wolf populations in the other DPS by large areas that are not occupied by breeding populations of resident wild gray wolves. Although small numbers of dispersing individual gray wolves have been seen in some of these unoccupied areas, and it is possible that individual dispersing wolves can completely cross some of these gaps between occupied areas and may therefore join another wolf population, we believe that the existing geographic isolation of wolf populations in each of these three DPSs from the other far exceeds the Vertebrate Population Policy's criterion for discreteness of each DPS. (Refer to the *Change to the Boundary Between the Western DPS and the Southwestern DPS* section, below, for additional discussion on establishing these DPS boundaries.)

The Vertebrate Population Policy allows us to use international borders to delineate the boundaries of a DPS even if the current distribution of the species extends across that border. Therefore, we will continue to use the United States-Canada border to mark the northern portions of the boundaries of the Western and Eastern DPSs due to the difference in control of exploitation, conservation status, and regulatory mechanisms between the two countries. In general, wolf populations are more numerous and wide-ranging in Canada; therefore, wolves are not protected by Federal laws in Canada and are publicly trapped in most Canadian provinces.

Along our border with Mexico, the situation is quite different. Gray wolves have been extirpated, or nearly so, from Mexico. However, the captive animals that have been used to start the Mexican wolf recovery program in the United States are of Mexican origin, and Mexico is closely cooperating with the Service in the Mexican wolf recovery program in a number of ways. The current Mexican Wolf Recovery Plan (1982) is a bi-national recovery plan, signed by both the U.S. and Mexico. This bi-national recovery effort will continue with plans for Mexico and the Service to jointly revise the bi-national recovery plan for the Mexican wolf. Because of the cooperative gray wolf conservation efforts we have with Mexico across our southern border, our Southwestern DPS does not end at the Mexican border, but rather it includes all historical gray wolf range in Mexico.

Significance. We further believe that all three of these wolf populations satisfy the significance criterion of the Vertebrate Population Policy under examples 2 and 4, as provided in the Policy—significant range gaps and genetic characteristics.

In our Vertebrate Population Policy, example 2 states that ''evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon'' shows that the population meets the significance criterion. Loss of the discrete wolf populations in either the Eastern DPS, the Western DPS, or the Southwestern DPS would clearly produce huge gaps in current gray wolf distribution in the 48 States.

Our Vertebrate Population Policy also states (example 4) that ''[E]vidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics'' is another indication that the population satisfies the significance test. Although genetic studies are continuing, and the subspecific taxonomy of the gray wolf remains to be conclusively determined, several studies agree that these three recovery programs are recovering different evolutionary lineages of the gray wolf (Bogan and Mehlhop 1983, Nowak 1995, Wilson *et al.* 2000). Even various gray wolf subspecies maps, which show vastly different numbers and ranges of subspecies and are still being disputed, all agree that the wolves currently being recovered in the Midwest, the northern U.S. Rockies, and in the Southwest are of different subspecific origins (Bogan and Mehlhop 1983, Hall 1981, Nowak 1995, 2000, Young and Goldman 1944). At a minimum, even if these three groups of gray wolves are not separate subspecies, strong indications suggest that they are separate reservoirs of diversity that differ from each other and therefore are significant to the species (Bogan and Mehlhop 1983, Nowak 1995, Wilson *et al.* 2000).

The existence of large areas of potentially suitable wolf habitat and prey resources in parts of northern New York and northern New England, occurrence records of a few wolves or wolf-like canids during the 1990s, and the presence of wolf populations in neighboring areas of eastern Canada caused us to propose a DPS for the gray wolf in the Northeast (Map 2). At the time of the proposal, we had limited information on extant wolves in the Northeast, and we specifically requested additional data and other information on Northeastern wolves. However, no new data were provided to substantiate that a wolf population exists in the Northeast.

A wolf population must exist in an area in order for us to designate it as a DPS. Therefore, as discussed above in the *Taxonomy of Gray Wolves in the Eastern United States* section, we do not have sufficient data on the identity of historical northeastern United States wolves or the current existence of wolves in the Northeast to support the designation of a DPS there. However, we are retaining the listing of gray wolves in these States under the Act in order to preserve the ability to protect wolves that may occur there. Because a separate DPS cannot be designated in the Northeast due to the lack of evidence of an extant wolf population, this area is being combined with the proposed Western Great Lakes DPS and with other States, and is being designated as part of the Eastern Gray Wolf DPS. The future possibility of establishing a Service wolf recovery program in the Northeast remains possible if it is demonstrated to be necessary for the recovery of a wolf ''species,'' as defined in the Act.

We emphasize that the expansion of the boundaries of these three DPSs from our July 2000 proposal does not reflect any intent of the Service to expand our current gray wolf recovery programs beyond their current geographic areas, or to initiate new gray wolf restoration efforts in these DPSs.

Peer Review

In accordance with our longstanding practice and with our July 1, 1994 (59 FR 34270), Interagency Cooperative Policy on Peer Review (Peer Review Policy), we requested the expert opinions of independent specialists regarding pertinent scientific or commercial data and assumptions relating to supportive biological and ecological information in the proposed rule. The purpose of such review is to ensure that our decision is based on scientifically sound data, assumptions, and analyses, including input from appropriate experts and specialists.

Our Peer Review Policy requires that we solicit expert opinions of three independent specialists. Because of the complexity, geographic scope, and expected controversial nature of the proposed actions, we requested reviews from 14 independent experts and received comments from 11 of them during the comment period. We contacted individuals who possess expertise on gray wolf biology and ecology, threats to wolves, and wolf health and diseases. In order to adhere to the Policy's requirement for independent reviewers, this peer review did not use employees of the Service, or of States that have a significant stake in the outcome of this rulemaking. The reviewers that we chose are from Alaska and Canada, as well as from across wolf range in the conterminous States. They

were asked to review the proposed rule and the supporting data, and to point out any mistakes in our data or analysis, and to identify any relevant data that we might have overlooked. We have incorporated their comments into the final rule, as appropriate, and have briefly summarized their observations below.

Of the peer reviewers who specifically expressed support for, or opposition to, our various proposed actions, all supported the DPS approach, that is, dividing the current listing into smaller geographic units that better reflect recovery progress and recovery needs, and providing the protections that are appropriate to that progress and those needs. All but one supported reclassification of the wolves in the western Great Lakes area to threatened status, and that dissenting reviewer recommended that we go a step further and delist those wolves instead of reclassifying them. Most peer reviewers supported reclassification of the Northern Rocky Mountain wolf population to threatened, but one questioned whether this is appropriate before the reclassification criteria of the 1984 Recovery Plan have been achieved. Another reviewer supported reclassification of the Western DPS, but stated that delisting should not occur until each of the 3 recovery segments exceed 10 breeding pairs. One reviewer suggested reducing the recovery goal for northwestern Montana to fewer than 10 breeding pairs.

Of those who specifically commented on it, all peer reviewers supported the proposed establishment of a separate Northeastern DPS. There was general support for gray wolf delisting in areas where wolf restoration was not necessary and not feasible, but there was some disagreement on where those areas were. Delisting in the Southeast was supported, but delisting in California and Nevada was opposed by two reviewers. Delisting the Dakotas (instead of reclassifying to threatened, as we proposed) was recommended by one reviewer. Five of the reviewers also recommended that the southern Rocky Mountains (Colorado, Utah, and the northern parts of Arizona and New Mexico) either be established as a separate DPS, or be included in the proposed endangered Southwestern (Mexican) DPS rather than in the threatened Western DPS. One reviewer recommended that a Northwestern DPS be established, composed of California and the western halves of Washington and Oregon.

Numerous suggestions for technical corrections were provided by the peer reviewers, and they also pointed out parts of the proposal that needed clarification.

The recommendations of the peer reviewers, as well as the comments we received from other sources during the comment period, are discussed in the following section. We also provide explanations for why the recommendations were, or were not, adopted in our final decision.

Summary of Comments and Recommendations

In our July 13, 2000, proposed rule and associated notifications, we requested that all interested parties submit comments, data, or other information that might aid in our decisions or otherwise contribute to the development of this final rule. The comment period for the proposed rule was open from July 13, 2000, through November 13, 2000. During that period we publicized and conducted 14 public hearings and numerous public informational meetings in order to explain the proposal, respond to questions concerning gray wolf protection and recovery, and receive input from interested parties. We contacted appropriate Federal, State, and tribal agencies, scientific organizations, agricultural organizations, outdoor user groups, environmental organizations, animal rights groups, and other interested parties and requested that they comment on the proposal. We conducted two national press conferences to promote wide coverage of our proposed rule in the print media, and we published legal notices in many newspapers across the range of the gray wolf announcing the proposal and hearings, and inviting comments. We posted the proposal and numerous background documents on our Web site, and we provided copies upon request by mail or E-mail and at our hearings and informational meetings. We established several methods for interested parties to provide comments and other materials, including verbally or in writing at public hearings, by letter, E-mail, facsimile, or on our Web site.

During the 4-month comment period and at our 14 public hearings we received nearly 16,000 separate comments, including comments from 329 individuals who spoke at public hearings and comments from 11 peer reviewers. We also received form letters and ''petitions'' with over 27,000 additional signatures. Comments originated from addresses in all 50 States, including the District of Columbia.

We revised and updated the proposed rule in order to make the final rule reflect comments and information we received during the comment period. In the following paragraphs we address the substantive comments that we received concerning various aspects of the proposed rule. Comments of a similar nature are grouped together under subject headings (referred to as ''Issues'' for the purpose of this summary) below, along with our response to each. In addition to the following discussion, refer to the *Changes from the Proposed Rule* section (also below) for more details.

A. Technical and Editorial Comments

Issue 1: Numerous technical and editorial comments and corrections were provided by respondents, including the peer reviewers. Clarification and consistent usage of terms such as ''public lands,'' ''tamed,'' ''domesticated,'' and ''breeding pair'' was recommended.

Response: We have corrected and updated numbers and other data wherever appropriate. Wolf population estimates made during 1999 have been replaced with the final numbers calculated in late December 2001. We also clarified numerous discussion points and have provided clearer terminology in several locations. We have substituted ''domesticated'' for ''tamed'' and have standardized our use of the phrase ''breeding pair.''

Issue 2: Commenter pointed out inconsistencies between the text of the proposed Western DPS 4(d) rule, the text explaining that proposed rule, and the table that compared it to the experimental populations special rules and the normal protections of the Act. In addition, the phrase ''public land'' is used several times in the table but is not defined there.

Response: We have revised the table, the explanatory text, and the wording of that 4(d) rule to make sure they are consistent. For example, as defined in the 4(d) rule, the term public lands refers only to federally administered lands unless specifically defined otherwise in State or tribal wolf management plans (see issue U, ''State Wolf Management Plans''). Other public lands such as city, county, or State lands would be treated the same as private land for the purposes of wolf management under the Western DPS 4(d) rule.

B. Compliance With Laws, Regulations, and Policies

Issue 1: Commenters expressed concern that the proposal was not in compliance with the Act and implementing regulations.

Response: We have carefully reviewed the requirements of the Act and its implementing regulations. We believe this final rule, as well as the process by which it was developed and finalized, complies with all provisions of the Act and applicable regulations. The Act requires that we identify and protect species that are endangered or threatened, develop and implement recovery programs for those species, and delist them when they are no longer threatened or endangered. These actions are not discretionary, but are mandated by the Act. We do this to the extent possible under the funds appropriated to us each year and in accordance with priorities established by Congress, and by us pursuant to the provisions of the Act. However, the Act does not require us to restore a species across its historical range, or to all remaining areas of suitable habitat. Rather, we restore it to the point that the threats to its continued existence are reduced to the point that it no longer is threatened or endangered. Our detailed analysis of the threats for each DPS is found in the *Summary of Factors Affecting the Species* section below.

Issue 2: A number of commenters stated that establishing numerical quotas for endangered or threatened species is contrary to the intent of the Act and that we should not use such quotas in reclassification or delisting decisions for the gray wolf.

Response: The Act (section 4(f)(1)) requires us to develop recovery plans that contain ''objective, measurable criteria'' that we are to use in making our determination of whether a species is recovered or is making significant progress toward recovery. Our longstanding practice is to include numerical criteria in our recovery plans as one means to trigger consideration of delisting or reclassification. However, we agree with the commenters that these numerical criteria should not be the sole basis for delisting or reclassification decisions. As required by the Act (section 4(a)(1)), we also conduct an evaluation of the factors (threats) that currently affect the species and the factors that would impact the species, or would increase their impact, if the species were to be delisted or reclassified.

Issue 3: Other commenters questioned our compliance with the Vertebrate Population Policy and stated that we must list more DPSs in order to comply with that Policy.

Response: The Act gives us the authority to list by species, subspecies, or DPS. However, Congress directed that we use our authority to list by DPS sparingly. The DPS policy identifies the criteria that must be met for a vertebrate group to qualify as a DPS, but it does not require that we designate a DPS in all cases where a vertebrate group meets the DPS criteria. The Service has the discretion to list, reclassify, or delist at the subspecies or species level instead of the DPS level, as we believe to be most appropriate to carry out our listing and recovery programs.

Issue 4: The Service should reclassify and delist the wolf on a State-by-State basis.

Response: The previous listing of the gray wolf, in which wolves in Minnesota were listed as threatened while wolves in adjacent States, including Wisconsin, are endangered, was done prior to our 1996 Vertebrate Population Policy, and that previous listing did not conform to the 1996 Policy. The Policy states that listings not in conformance with the Policy will be brought into conformance whenever the listing status of that taxon is changed.

While the policy allows us to use boundaries between States as boundaries of convenience between two populations if those populations are already discrete in relation to each other, we cannot use a boundary between States to subdivide a single biological population in an effort to artificially create a discrete population. Thus, although Minnesota wolves were listed separately in the past, we no longer list, or delist, them separately from the Wisconsin-Michigan wolf population because they are not biologically discrete. By reclassifying wolves throughout the Midwest from endangered to threatened status and joining them into a single DPS, we have brought the listing into conformance with the Vertebrate Population Policy and given the overall Midwest wolf population a threatened designation, which is biologically more appropriate than is an endangered designation.

Issue 5: One respondent believes that the proposal was in conflict with our mission statement, which is ''working with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.''

Response: We believe the proposal portrays an example of doing exactly what is intended by our mission statement. Gray wolf recovery programs involve many partners in the private and public sector, at all levels of government, and include numerous Federal agencies. The wolf recovery successes described in the proposal resulted from working with others to conserve, protect, and enhance gray wolf populations in several areas across their historical range. Those successes have now reached a point where several of those wolf populations no longer qualify for protection as endangered, so we are reclassifying them to threatened. Congress, through its enactment of the Endangered Species Act of 1973, stated that such programs benefit our nation and the American people. Furthermore, we have provided extensive opportunities and numerous pathways for all interested parties to become involved in the reclassification process.

Issue 6: A commenter believes that the proposal is not in compliance with our National Policy Issuance 96–06, which is also known as the ''10-point Plan for the Endangered Species Act.''

Response: The relevant points in this March 6, 1995 policy are these: base our listing/delisting decisions on sound and objective science; minimize social and economic impacts of our actions; treat landowners fairly and with consideration; promptly recover and delist threatened and endangered species; and provide State, tribal and local governments with opportunities to play a greater role in carrying out the provisions of the Act. To the extent allowed by the Act and other Federal laws and regulations, we have conducted gray wolf recovery and reclassification in a manner that fully adheres to the points of this Policy. We have used the best available scientific data, we have developed special regulations and depredation control programs that reduce social and economic impacts, we are reclassifying and intend to delist at the appropriate time, and we have provided State, tribal, and other governments many opportunities to participate in wolf recovery and in this rulemaking. In many ways, gray wolf recovery and this reclassification is an excellent example of following National Policy Issuance 96–06.

Issue 7: The proposal was not in compliance with National Policy Issuance 95–03 and Director's Order No. 110, both dealing with using the ''ecosystem approach.''

Response: This 1995 Policy and 1999 Order state that the Service will apply an ecosystem approach in carrying out our programs for fish and wildlife conservation. The goal of an ecosystem approach is for the Service, when carrying out its various mandates and functions, to strive to contribute to the effective conservation of natural biological diversity through perpetuation of dynamic, healthy ecosystems.

Preserving and recovering endangered and threatened species is one of the more basic aspects of an ecosystem approach to conservation. Successful

recovery of a rare species requires that the necessary components of its habitat and ecosystem be conserved, and that diverse partnerships be developed to ensure the long-term protection of those components. Thus, the recovery success demonstrated for gray wolves is also a demonstration of the ecosystem approach, including the various partnerships that are needed for success.

Issue 8: The Service has not adequately consulted with Native American tribes, as required by Secretarial Order 3206. (Refer to issue V, Native American Concerns, below, for additional Native American concerns.)

Response: During the development of the proposal and this final rule, we endeavored to consult with Native American tribes and Native American organizations in order both to provide them with a complete understanding of the proposed changes and also to enable ourselves to gain an appreciation of their concerns with those changes. Although we must base the decision on whether a species should be listed, reclassified, or delisted under the Act purely on scientific data concerning the threats and commercialization of the species, the manner in which we carry out listing, reclassification, or delisting vary so that we can address the cultural and spiritual importance of a species to Native Americans. As we have become aware of Native American concerns through consultation with them, we have tried to address those concerns to the extent allowed by the Act, the Administrative Procedures Act, and other Federal statutes.

For example, the proposed 4(d) rule for lethal control of depredating wolves in Wisconsin and Michigan has caused concern among several tribes that have, or expect to soon have, wolves living on their reservations. We are currently working with the Bad River Band and the WI DNR to develop a Memorandum of Understanding for the cooperative management of wolves in the area surrounding the Bad River Reservation (Wisconsin), in order to minimize the impacts that off-reservation depredation control actions by the WI DNR might have on reservation wolves. This agreement may serve as a prototype for other tribes and States.

We acknowledge that our early consultation efforts could be improved. Early consultation efforts were hampered primarily by the geographic scope and complexity of the proposal. We tried to remedy this issue by making additional efforts to contact and inform tribes during the comment period.

Issue 9: The Service should propose critical habitat for the gray wolf.

Response: Critical habitat was designated in 1978 for the gray wolf in parts of northeastern and north-central Minnesota and on Isle Royale, Michigan (43 FR 9607, March 9, 1978). We are not making any changes to the currently designated critical habitat, because we do not believe it is appropriate to do so.

The Endangered Species Act amendments of 1982 specified that, for any critical habitat designation for a species already listed as threatened or endangered at the time of enactment of the 1982 amendments, the procedures for revisions to critical habitat would apply (Pub. L. 97–304, section 2(b)(2)). Consequently, designation of critical habitat for the gray wolf is subject to the procedures for revisions to critical habitat. As such, it is not mandatory for the Service to designate critical habitat for the gray wolf. Section 4(a)(3)(B) provides that the Service ''may'' make revisions to critical habitat ''from time-to-time * * * as appropriate'' (16 U.S.C. 1533(a)(3)(B)). The Service has determined that there currently are no likely benefits to be derived from additional critical habitat designations, and it therefore is not appropriate to designate additional critical habitat. Wolf populations in both the Eastern and Western DPSs are at their numerical recovery goals as a result of past and current protections, but the currently designated critical habitat played a negligible role in wolf recovery. This is attributable to the fact that gray wolves are habitat generalists, and their numbers and range are not limited by a lack of suitable habitat or by any degradation of any essential habitat features. Designating critical habitat would be an inappropriate use of our limited listing funds if done for a species that is successfully recovering without such designation, and at a time when we have determined that it is more appropriate to reduce, rather than increase, the Federal protections for the species.

It should also be noted that the Act (section 10(j)(2)(C)(ii)) prohibits us from designating critical habitat for the nonessential experimental populations established in the Western DPS and the Southwestern DPS. Furthermore, 50 CFR 424.12(h) prohibits the designation of critical habitat in foreign countries.

Issue 10: The Service should have conducted additional public meetings and hearings, or extended the comment period to provide additional opportunities to learn more about the proposal and to provide comments. We should have used the postmark date, rather than the received date, to determine whether comments were made during the open comment period.

Response: The Act requires that we provide at least a 60-day comment period and that we conduct one public hearing if we are requested to do so. We recognized that the proposal would be controversial, would require more explanation than most of our proposals, and would result in a large number of comments. Therefore, we went well beyond the basic requirements of the Act and other Federal rulemaking procedures. We established a comment period that was twice the required length. We prearranged 14 hearings from Maine to Washington State. We conducted two national press conferences and two Congressional briefings. We conducted multiple informational meetings. We provided a variety of informational materials at hearings and meetings, by mail and e-mail, and on our Web site. We established mechanisms for interested parties to ask questions and to submit comments verbally, in writing, by e-mail or fax, and on our Web site.

Finally, while the Service sometimes uses the postmark date to determine whether comments were received before a deadline in rulemakings, our normal practice is to use the date of receipt, and our intent to use that cutoff method at the close of the 4-month comment period was clearly stated in all our documents that referred to comment submission. We believe we provided extensive, varied, and sufficient opportunities for interested partied to ask questions, obtain additional information, and provide input for our consideration.

Issue 11: The Service should conduct Population Viability Analyses (PVA) before reclassifying anywhere.

Response: The Act requires that we use the best scientific data available when we make decisions to list, reclassify, or delist a species. The Service recognizes that PVAs are a tool that can provide some insight into the vulnerability of species, and we have conducted PVAs for a number of species, usually as an aid in establishing recovery goals or identifying the most critical gaps in our knowledge in order to prioritize research needs. While we have found PVAs to be useful in some circumstances, in other cases the analyses provided little or no new information, or the outcome was not considered to be reliable.

PVAs can be a valuable as a tool to help us understand the population dynamics of a rare species (White 2000). They can be useful in identifying gaps in our knowledge of the demographic parameters that are most important to a species' survival, but they cannot tell us how many individuals are necessary to

avoid extinction. The difficulty of applying PVA techniques to wolves has been discussed by Fritts and Carbyn (1995). Problems include our inability to provide accurate input information for the probability of occurrence of, and impact from, catastrophic events (such as a major disease outbreak or prey base collapse; we know of no catastrophic events that have significantly impacted large wolf populations except for human persecution), providing realistic inputs for the influences of environmental variation (such as annual fluctuations in winter severity and the resulting impacts on prey abundance and vulnerability), temporal variation, and individual heterogeneity, as well as dealing with the spatial aspects of extreme territoriality and the long-distance dispersals shown by wolves. Each of these factors can be a powerful determinant of the outcome of a gray wolf PVA, and relatively minor changes in any of these input values can result in vastly different outcomes.

PVAs are also useful for studying small populations. In a small-population study, the modeling exercise can provide clues to which demographic, genetic, or environmental parameters may have the greatest likelihood of influencing a species' survival, and thus possible insight into areas where initial conservation actions should be focused. However, for obviously recovering entities like the gray wolf populations of the Northern U.S. Rocky Mountains and the Midwest, PVA modeling exercises may largely be an exercise in quantifying the recovery of a species whose increases, and the reasons for them, are already qualitatively quite apparent. In the case of species like the gray wolf—a species that has been well studied and is well along the road to recovery—generally little is to be learned from a PVA.

The WI DNR conducted a PVA for the State's wolf population several years ago when its wolf population was considerably smaller than it is today. Most scenarios that were modeled by WI DNR (varying the probability of catastrophic events, reproductive rates, and environmental variability) resulted in very low probabilities of extinction even with the maximum wolf population limited to only 500 animals (WI DNR 1999a). The model treated the Wisconsin wolf population as a totally isolated population (that is, with no possibility of wolf immigration from Minnesota or Michigan), so even those low extinction probabilities were overestimates. Because this reclassification reduces Federal protection of wolves only slightly, a PVA would not be expected show any resultant significant change in the risk of extinction.

Finally, we note that none of the 11 peer reviewers of the proposal indicated that there was any need for the Service to conduct a PVA or minimum viable population analysis for the 2 gray wolf populations for which we proposed changes in July 2000. One reviewer stated that PVAs are of little value and may even be misleading.

Issue 12: The Service should prepare an Environmental Impact Statement for this rule.

Response: As stated in the proposal, the question of whether environmental assessments or environmental impact statements need to be prepared was addressed by our previous determination (48 FR 49244; October 25, 1983) in which we stated that such documents do not have to be prepared for regulations developed under section 4(a) of the Act.

Issue 13: A better notification process is needed for our public hearings.

Response: We did a great deal to alert interested parties to the details of public hearings. Public hearing times and locations were announced in the **Federal Register**, posted on our Web site, publicized in local and national press releases, and, in some areas of the Midwest, advertised on local radio stations. Notification letters were sent to numerous organizations so they could alert their memberships. In addition, parties who requested to be added to our wolf electronic mailing list received information on hearings and public meetings electronically. However, we acknowledge that, despite all these efforts, some interested parties did not learn of the hearings in time to attend. We are interested in receiving ideas to further improve our efforts to publicize our public hearings in the future. However, in this case there were numerous avenues, in addition to public hearings, for interested individuals to obtain information and submit comments on the proposal. All comments received during the comment period, whether presented at a public hearing or provided in another manner, received the same review and consideration.

Issue 14: The Service should consider how to delist nonessential experimental populations.

Response: For the gray wolf, the nonessential experimental populations in the Northern Rocky Mountains are part of a larger recovery program that also includes the northwestern Montana wolves. They will be delisted at whatever time the Western DPS is delisted.

Issue 15: One commenter stated that we cannot use wolves in experimental populations to count toward recovery or reclassification goals, because such populations can only be used for research purposes.

Response: The term ''experimental'' is used in the Act to describe these populations; however, this designation does not mean these populations may only be used for research purposes. Reintroductions of plants and animals are often experimental in the sense that they may use techniques that are newly developed, untested on that species or locality, or uncertain in success rate for other reasons. The authority to designate and establish experimental populations was added to the Act for the specific purpose of assisting the Service in establishing additional populations to further the recovery of the species. We have used this authority for many species to help achieve recovery goals by expanding occupied range. In the case of the two nonessential experimental populations (NEPs) in the northern U.S. Rockies, the final rule establishing those two NEPs indicated specifically that they were being established to help achieve the Western Plan's goals to establish viable wolf populations in central Idaho and the Greater Yellowstone Ecosystem.

C. Comments Regarding the Number of Distinct Population Segments and Recovery Programs Necessary for Gray Wolf Recovery

Issue: A large number of comments expressed the opinion that additional gray wolf DPSs should be established, and that the Service should initiate additional recovery programs in order to achieve gray wolf recovery as mandated by the Act. Additional DPSs and recovery programs were suggested for Nebraska, Kansas, Missouri, and Iowa; Virginia and Kentucky; the Carolinas, Georgia, and Tennessee; California and Nevada; Colorado, Utah, and the northern portions of New Mexico and Arizona; Oregon and Washington; the Pacific Coast; the Cascade Range; West Virginia; Missouri; Florida; and Utah. In addition, some respondents recommended that gray wolves should be reintroduced and recovered throughout their historical range or ''in all States.''

Response: These comments appear to reflect a misunderstanding of the purpose of the Act and confusion regarding the meaning of ''recover'' under the Act. The purpose of the Act is to provide for the conservation of endangered and threatened species. Conservation is defined as the use of all methods and procedures which are

necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. When a species no longer meets the definition of an endangered or threatened species under the Act, it is recovered, and we are to delist it.

The meaning given to ''recover'' in common conversational usage is ''to restore to a previous, or to the original, condition.'' However, incorrectly ascribing this common meaning to ''recover'' as used in the Act has led some individuals to mistakenly believe the Act functions as a biodiversity restoration program. The goal of the Act—preventing species extinctions—is much narrower that the rangewide wolf restoration and biodiversity restoration goals implicit in these comments.

We have evaluated, in light of the conservation biology principles discussed previously, our three continuing recovery programs for the gray wolf in the context of its previous listing across the 48 conterminous States and Mexico. We have concluded that sufficient redundancy and resiliency will be achieved by establishing three separate viable wolf populations or metapopulations in widely spaced areas of that geographic area. If each of these three populations contains enough reproducing packs so that it is a viable and self-sustaining population, its numerical size and geographic extent will provide the resilience needed for it to bounce back from newly developing or expanding adverse factors (*e.g.*, disease, massive wildfire, or the temporary decline of a prey species' population) in the foreseeable future. Furthermore, if these three populations are widely spaced and somewhat isolated from one another it is very unlikely that all three populations would simultaneously, or in rapid sequence, suffer from the same catastrophic event.

Once they are completed, the Service's three current gray wolf recovery programs will result in wolf populations of sufficient size and relative isolation to provide the necessary resiliency and redundancy. For example, the Northern Rocky Mountain gray wolf population—now at recovery levels—exceeded 560 animals at the end of 2001, and preliminary results from the end of 2002 indicate a population of approximately 660 wolves (Tom Meier, Service, *in litt.* 2003). The Midwestern gray wolf population—which has exceeded the numerical goals of the Eastern Gray Wolf Recovery Plan—is estimated to be over 3000 wolves. (Final recovery goals have not yet been established for the Southwestern (Mexican) gray wolf recovery program, but they will be designed to ensure long-term viability of that wolf population.) The currently occupied areas of the Eastern and Northern Rockies populations are separated by approximately 1000 kilometers (600 mi), and a similar distance currently separates the Greater Yellowstone Area wolf packs from the reintroduced wolves in the Southwest. Each of these gray wolf populations will be viable and self-sustaining when their recovery programs are completed, and the distances between them, while not providing total isolation, will provide a great deal of protection from multi-population catastrophic events.

Both the Northern Rocky Mountain and Eastern gray wolf recovery programs—when all recovery goals are achieved—will each cover sufficient geographic area and have enough wolves in a population or metapopulation structure to be sufficiently resilient to respond to adverse factors that may arise in the future. The Southwestern (Mexican) gray wolf recovery program, when a final recovery goal is established and attained, similarly will have sufficient distribution and number of wolves. Thus, the conservation biology principle of resiliency is satisfied by the achievement of the respective recovery goals of these 3 recovery programs.

Commenters suggested that additional gray wolf populations should be established in the western United States in order to maximize the species' long-term survival and minimize the likelihood of extinction. However, the Act does not mandate maximizing species survival, nor does it require undertaking widespread species restorations to minimize extinction risk. Rather, as discussed above, its mandate is to recover species to the point that they are ''not likely'' to become in danger of extinction in the foreseeable future. We believe the ''not likely'' standard will be exceeded by establishing three geographically widespread gray wolf populations that are independently viable, because it is highly unlikely that future threats will endanger multiple widely separated wolf populations. Thus, the conservation biology principle of redundancy is satisfied by our three current recovery programs.

The concept of representation, when applied to the conservation of the gray wolf, argues that we should preserve enough of its remaining genetic diversity so that future genetic problems are unlikely to lead to its extinction. These problems may include genetic drift, inbreeding depression, and diminished ability to survive as new environmental conditions develop. The three current gray wolf recovery programs are preserving all of what remains of the species' genetic diversity in the 48 States and Mexico. The current genetic diversity of the wolves in the western Great Lakes is a product of the remnant wolf population that survived in northeastern Minnesota, Canadian wolves from southwestern Ontario and Manitoba that moved into Minnesota, as well as southern Ontario wolves that moved into the eastern portion of Michigan's Upper Peninsula. The Northern Rockies wolf population is a mixture of southern Canadian wolves that repopulated the Glacier National Park area and wolves from Alberta and British Columbia, Canada that were brought into central Idaho and Yellowstone National Park. These two recovery programs are preserving all the remaining genetic material of the gray wolves that formerly inhabited those areas. Both the Midwestern and Northern Rockies wolf populations are believed to contain sufficient genetic diversity to survive over the long term, even if they were to become completely and permanently isolated from neighboring wolves across the Canadian border.

The reintroduced Southwestern (Mexican) gray wolf population originated from small captive populations composed of individuals captured in the wild in Mexico and identified in captive facilities in Mexico and the United States (Hedrick *et al.* 1997). Detailed records and careful selection of captive breeding pairs has ensured the conservation of this founding Mexican wolf genome. This recovery program is utilizing all the remaining genetic material that has been preserved from the wild Southwestern and Mexican wolf population, and when completed, it will ensure the long-term survival of that unique genetic diversity and maximize the ability of this isolated population to cope with, adapt to, and evolve in response to environmental change.

Thus, our three current wolf recovery programs are doing all that can be done to preserve the remaining genetic material from the gray wolves that previously occupied the 48 conterminous States and Mexico. Establishing additional populations would provide no additional genetic benefits to wolf recovery under the Act (with the possible exception of the Northeast; see below). Therefore, the conservation biology principle of representation is satisfied by these three gray wolf recovery programs.

Based upon the above points, the Act's mandate to recover the gray wolf will be satisfied by the restoration of three viable populations of the species, located in the Midwest, Northern U.S. Rockies, and Southwest. Therefore, in order to recover the gray wolf, the Service intends to continue focusing its gray wolf recovery activities in the current core areas (*i.e.*, Minnesota, Wisconsin, Upper Peninsula of Michigan, Idaho, Montana, Wyoming, New Mexico, and Arizona) of those recovery programs.

We do not intend to initiate new gray wolf recovery programs in any area—except possibly the Northeast, pending ongoing genetic and taxonomic studies and efforts to locate a listable and recoverable wolf population there—because new recovery programs are not necessary to achieve recovery of the gray wolf under the Act either as formerly listed in the 48 States and Mexico or under the new listings established by this final rule.

Once wolf recovery goals are achieved in any one of the DPSs, we will proceed to delist the entire DPS, even if some of the States within the DPS lack wild gray wolves. The presence or absence of gray wolves outside of core recovery areas is not likely to have a bearing on the long-term viability of the three wolf populations after their recovery goals have been achieved, and therefore such presence or absence will not be a factor in our consideration of delisting each DPS.

We have determined that the level of threats faced by wolf populations in the Eastern DPS and in the Western DPS warrant reclassification of each DPS to threatened. These threatened DPS listings, along with the three retained nonessential experimental population designations and the retained endangered listing for the Southwestern DPS, will continue to provide the Act's protections to all wild gray wolves. Furthermore, we believe that the delisting criteria for the Eastern DPS and the Western DPS can be achieved without establishment of additional populations within each DPS.

The Act gives us the authority to list by species, subspecies, or DPS. The DPS policy identifies the criteria that must be met in order for a vertebrate group to qualify as a DPS. In order for us to designate a DPS, a population must exist. Most of the States have no wolves or in the States that do have some wolves, those wolves are part of a metapopulation. However, our DPS policy does not require that we designate a DPS in all cases where a vertebrate group meets the DPS criteria; Congress directed that we use our DPS authority sparingly. The Service has the discretion to list, reclassify, or delist at the subspecies, species, or DPS level, as we believe to be most appropriate to carry out our listing and recovery programs.

As described in the *Taxonomy of Gray Wolves in the Eastern United States* section above, there is a great deal of uncertainty regarding the identity of the large canid (or canids) that occurred historically in the Northeastern States. At the time our proposal was developed, we believed that the canid was likely a gray wolf, although we were uncertain as to its subspecific identity. However, subsequent molecular genetic and morphometric information has cast doubt on that interpretation of the evolutionary relationship of North American canids. Although far from certain at this time, increasing scientific evidence suggests that the historical large canid in the Northeastern States was more closely related to the red wolf than to the gray wolf. We will reevaluate our retained listing of the gray wolf in the Northeastern States at such time that we consider delisting Midwestern gray wolves, and at any time prior to that if significant new data become available.

D. Boundaries of Distinct Population Segments

Issue: We received comments expressing concerns with several aspects of the boundaries of the 4 proposed DPSs. Some commenters wanted the DPS boundaries to conform exactly with the geographic coverage of the existing gray wolf recovery plans, while other commenters wanted the boundaries expanded beyond those we proposed. Other commenters recommended that the boundaries be based solely on suitable wolf habitat and on physical barriers believed to subdivide that habitat. We also received comments suggesting that the boundary between the Southwestern and Western DPSs should be moved northward so that parts or all of Utah and Colorado are within the Southwestern DPS.

Comments that deal with the number of DPSs are addressed above in issue C, ''Comments Regarding the Number of Distinct Population Segments and Recovery Programs Necessary for Gray Wolf Recovery''; those dealing with delisting wolves outside of DPSs are addressed below in issue E, ''The Service Should Not Delist Outside of Distinct Population Segments''; and those dealing specifically with the boundaries of the proposed Northeastern DPS are covered below in issue S, ''Use of Scientific Data.'' For a detailed discussion of DPSs, refer to the *Distinct Population Segments Under Our Vertebrate Population Policy* section above. Also refer to the *Distinct Population Segments and Experimental Populations* section above for additional discussion of the purposes of these designations.

Response: A DPS is a listed entity that is usually described geographically rather than biologically. Nothing in the Act or in our Vertebrate Population Policy requires DPS boundaries to correspond to recovery plans, habitat characteristics, or physical barriers. DPS boundaries identify a geographic area that includes and surrounds a vertebrate biological grouping that has a separate listing under the Act. The DPS boundaries must contain the biological grouping and cannot subdivide it, but they do not have to precisely correspond with its present location, suitable habitat, or other features of the environment. In general, DPSs can be better understood, protected, recovered, and administered if their boundaries are placed beyond the area currently occupied by the biological grouping of concern, and even beyond the areas they are most likely to disperse into or colonize in the foreseeable future. Such boundary placement minimizes the potential confusion caused by individual wolves frequently crossing the boundaries and thereby changing their legal status and protection under the Act, and provides more consistent protection to dispersers that may ultimately return to their original core recovery area and contribute to recovery there.

While the Vertebrate Population Policy prohibits our use of boundaries between States to subdivide an existing biological population to establish ''discrete'' populations, it does not prohibit our use of boundaries between States or other cultural features as ''boundaries of convenience'' to identify the area within which the DPS's legal designation applies. By using boundaries between States (or other features such as major highways) that are located beyond the area currently occupied by wolf populations, we are able to clearly identify the geographic extent of the DPS listing (and thereby facilitate law enforcement and promote public understanding of the listing) while avoiding splitting the existing biological unit that we intend to recover.

Our proposed DPS boundaries were intended to serve two purposes. The first purpose was to include the core areas where the respective wolf population is recovering, as well as a substantial surrounding ''buffer area'' in which wolves dispersing from the core

areas were reasonably likely to occur in the foreseeable future. The second purpose was to remove Federal gray wolf protection in some areas of the 48 States where we believed restoration of wolves was unnecessary. Thus, our proposed DPS boundaries were designed to include the areas into which most, but not all, gray wolf dispersal was expected to occur. For example, most dispersing Midwest wolves have moved into the Dakotas, which were included in the proposed Western Great Lakes DPS. The Michigan Upper Peninsula wolf that recently dispersed to northern Missouri moved well outside of the proposed boundary for its DPS, but it is the only Midwestern wolf known to have moved beyond the proposed DPS boundary.

However, as discussed in issue E (below), we have now expanded the areas covered by these gray wolf listings. These new boundaries will provide continued protection under the Act to all gray wolves that disperse to any location within the species' historical range in the conterminous 48 States. A portion of the boundary between the Western DPS and the Southwestern DPS has been moved northward to a location approximately midway between the core recovery populations in the northern Rockies and the Southwest, in order to be consistent with existing gray wolf dispersal data. These final boundaries continue to serve our purpose of including the core recovery areas along with those areas into which wolves from the respective core areas are most likely to disperse. (Refer to the *Changes from the Proposed Rules* section below for additional discussion on DPS boundary changes.)

The expansion of the DPS boundaries does not mean that we intend to broaden our current gray wolf recovery programs to additional areas within the DPS boundaries or that we will initiate new wolf restoration programs. The expansion of these boundaries is being done solely because the Act requires that we maintain the gray wolf's listing in these areas until the species or the DPS is recovered. Recovery within a DPS can be achieved by reestablishing gray wolves in a portion of the DPS at a level and under circumstances that ensure that the population will not become in danger of extinction in the foreseeable future.

E. The Service Should Not Delist Outside of Distinct Population Segments

Issue: We received comments from many individuals and organizations regarding our proposal to remove the Act's protections for the gray wolf in all or parts of 30 States that were outside of the boundaries of the proposed DPSs. The commenters recommended that gray wolves should not be delisted in areas where they have not recovered and do not currently exist.

Response: Our proposed delisting outside of the proposed DPS boundaries was based on our belief that, because restoration of gray wolves in these areas is unnecessary, and because we have no plans to restore gray wolves in those areas, there was no reason to maintain the Act's protection for any gray wolves that might turn up there. We believed it was reasonable and appropriate to remove any unnecessary Federal regulatory burden, and any perception of such a burden, by removing the listing in those areas. Furthermore, we thought it would be desirable to eliminate any uncertainty in those areas regarding Federal protection for escaped or released captive gray wolves, wolf-dog hybrids, or feral dogs that are mistaken for wolves.

However, further analysis of the Act and implementing regulations has led to our conclusion that the Act does not provide for delisting a species in parts of its listed historical range because restoration of wolves in these areas is unnecessary, even if wolf recovery is proceeding successfully in other areas. Delisting can occur only when a species (or subspecies or DPS) is recovered, when it is extinct, or when the original data or analysis that led to the listing was in error (50 CFR 424.11(d)).

Therefore, we have modified those portions of our proposal that would have delisted the gray wolf in any part of its historical range. This was done by expanding the boundaries of the remaining gray wolf DPSs so they now include all States within the historical range of the gray wolf. This has the biological benefit of continuing Federal protection for all long-distance dispersers that remain within the species' historical range, thus providing them a greater probability of surviving and rejoining the core population in that area, or even joining the population in another gray wolf recovery area.

As discussed above in the *Historical Range of the Gray Wolf* section, we have now delisted the gray wolf in 14 States and in the eastern portions of Oklahoma and Texas. These southeastern and mid-Atlantic States are not included within the boundaries of any listed gray wolf DPS, because they are outside the generally recognized historical range of the gray wolf (Hall 1981). These States should not have been included when the gray wolf was listed at the species level in 1978. Due to their close approximation of Hall's historical range boundaries, we have used State boundaries and an interstate highway as the boundaries around this delisted area to facilitate law enforcement efforts and public understanding of the areas now included and excluded in the three gray wolf DPSs.

F. The Service Should Delist Gray Wolves in Additional Areas

Issue 1: A large number of comments recommended that we delist gray wolves in areas that we proposed for inclusion in one of the proposed DPSs, and thus would remain listed as threatened, endangered, or part of an experimental population and subject to the protective regulations that apply to it. The reasons for the delisting recommendations include: wolves are common elsewhere (in other areas of the 48 States or in Alaska and Canada) so they are not threatened or endangered; wolves have recovered (in that area or elsewhere) so they should be delisted; wolves are extirpated from the State; and a State can manage a resident species better than the Federal government.

Response: The Act mandates that we identify, list, and protect those species, subspecies, plant varieties, and distinct vertebrate population segments that are threatened or endangered, and that we maintain the listing and protection until the entity is recovered or goes extinct, or until we determine that the original listing was done in error. Unless and until one of these occurs, the entity must remain a threatened or endangered species. Full management authority cannot be returned to States or tribes until recovery has occurred or an erroneous listing is removed.

For vertebrate species, the Act, as implemented by way of our 1996 Vertebrate Population Policy, allows us to use international borders to limit the geographic scope of the threats evaluation that is done when we are considering a species for listing as threatened or endangered. This is appropriate, as it allows us to protect from extirpation within the United States those vertebrate species that might be more common elsewhere (*e.g.*, in Canada or Mexico). This approach has been successfully used for other species that are more common in Canada than in the United States, including the peregrine falcon, grizzly bear, and bald eagle, and we are witnessing similar success with the gray wolf.

In order to determine when a species is recovered, we must evaluate the current status of the species in comparison to recovery goals established for it in its recovery plan. We must also analyze the threats that

still face the species, as well as the threats that might increase or develop if the species is delisted. Five categories of threats are specified in the Act: loss or degradation of habitat or range; overutilization for commercial, scientific, or other purposes; disease or predation; inadequacy of regulatory mechanisms; and, any other natural or manmade factors. At the time we developed our proposal and conducted this analysis of threats, we could not affirm that recovery goals had been met and also conclude that probable future threats had been sufficiently reduced so that recovery could be declared and delisting initiated for any of our gray wolf recovery programs. Therefore, we proposed a reduction of Federal protections via a reclassification to threatened in some area, but did not propose the delisting of any gray wolf population. Because we have not proposed delisting of any gray wolf populations, at this time we cannot finalize a rulemaking that would include such a delisting. We must first propose such a change and provide an opportunity for public review and comment on it. Given the continued recovery progress of gray wolves in the West and western Great Lakes States, and State wolf management plan development work that has happened subsequent to our reclassification proposal (see issue U, ''State Wolf Management Plans''), we anticipate working on one or more gray wolf delisting proposals in the near future. However, we have determined that this reclassification action should be finalized first.

Since the gray wolf is not extinct in the United States, the species cannot be delisted for that reason.

The final reason that could justify a delisting-that the original listing was done in error-is discussed above in issue E, ''The Service Should Not Delist Outside of Distinct Population Segments'', and in the *Historical Range of the Gray Wolf* section. For this reason, we have delisted the gray wolf in all or parts of 16 States where the species should not have been listed originally because those areas are outside of the species' historical range.

Issue 2: Wolf management in the Western DPS needs to be transferred to the States.

Response: The Service agrees that a recovered wolf population is best managed by the respective States and tribes. The Service will propose to delist the Western DPS wolf population as soon as possible under the conditions specified by the Endangered Species Act. Two primary conditions have to be met for the western wolf population to be delisted. First the recovery goal of having a minimum of 30 breeding pairs of wolves distributed throughout Montana, Idaho, and Wyoming for a minimum of 3 successive years must be met. The Service is also required to make sure the factors that caused wolves to be listed are resolved. The one factor that applies most to wolves is that human-caused mortality be regulated so it does not cause wolf populations to become threatened or endangered again. The Service must be reasonably assured that adequate regulatory mechanisms are in place to conserve the wolf population so that it will not become threatened or endangered if the Act's protections are removed. The Service is working closely with the States of Montana, Idaho, and Wyoming as they develop wolf conservation plans that will meet this requirement. Upon confirmation in early 2003 that the wolf population has met the wolf population recovery goal for the Western DPS and if the States have finalized their wolf management plans (see issue U, ''State Wolf Management Plans''), the Service could propose to delist the gray wolf throughout the Western DPS in early 2003.

G. Threats From Humans Need Additional Consideration

Issue: A large number of commenters described the past persecution of wolves and expressed the belief that similar persecution will resume if the proposed rule is adopted.

Response: We recognize that human persecution of wolves is the primary reason for the decline of wolves across North America, and we analyze the nature and magnitude of this threat before and after this final rule in factor ''C. Disease or predation'' under the *Summary of Factors Affecting the Species* section. We believe the protections of the Act, in combination with extensive public education efforts by the Service and numerous private and public partner organizations, have reduced human persecution and led to the increase in gray wolf numbers and range. Therefore, in order for wolf population to remain recovered or nearing recovery, those prelisting levels of human-caused mortality must be avoided.

For two reasons, this final rule is not expected to increase the level of human persecution of gray wolves. First, the reclassification of wolves in 2 DPSs to threatened does not remove the protections of the Act, nor does it eliminate the Federal penalties for illegally killing one of these gray wolves. Second, by providing additional mechanisms for the control of problem wolves, including allowing certain landowner harassment/control actions in the Western DPS, we believe the incentive for illegally killing wolves will be significantly reduced. Thus, we do not believe this reclassification action will increase the threats from human-caused mortality; conversely, the action may result in decreasing those threats.

At such time as we propose delisting gray wolves, we will again assess the threats from human-caused mortality.

H. Other Threats Need To Be Assessed

Issue 1: The Service should consider the impacts of genetic risks on gray wolf recovery, because low genetic diversity can cause problems for a rare species.

Response: We agree that low genetic diversity is a concern for species with small populations or that have gone through a population bottleneck. However, Midwestern gray wolf populations currently are showing no signs of diminished genetic diversity. These wolves came from a remnant wolf population in northeastern Minnesota and Canadian wolves that have moved across the international border from western and eastern Ontario and Manitoba. At its lowest level, the Minnesota wolf population was probably 350 wolves or more, a level well above that expected to potentially cause genetic problems, especially because there is frequent interaction with adjacent Canadian wolf populations.

Similarly, the recovering northern U.S. Rocky Mountain wolves are derived from several Canadian sources, which increased the genetic diversity of their founding populations. They are not expected to have genetic problems. In contrast, Southwestern (Mexican) wolves have all come from 7 founders, but through managed breeding of these founders during the past 22 years, 86 percent of the founding genetic diversity has been preserved. Moreover, no signs of inbreeding depression have been detected (Kalinowski *et al.* 1999).

Issue 2: For the northern Rocky Mountain gray wolves, the Service should consider the impacts of wildfire, catastrophic events, human harassment, or genetic risks to gray wolf recovery.

Response: The Service evaluated a host of impacts as required by the Act, including habitat modification, human harassment and killing, and genetic risks. A recent study of genetic diversity of wolves in the northern Rocky Mountains indicated that the population was genetically diverse, in fact as much so as its source populations in Canada. None of these factors were thought to pose a significant risk to wolf

population viability in the foreseeable future; none would affect the reclassification of the gray wolf in the northern Rocky Mountains. With regard to wildfires, which humans often view as catastrophic events, large mobile species such as wolves and their ungulate prey usually are not adversely impacted. Wildfires generally lead to an increase in ungulate food supplies, leading to an increase in ungulate numbers, which supports increased wolf numbers in the area in the years following a wildfire.

I. Recovery Goals and Progress in the Western DPS

Issue 1: Commenters recommended that the Service abide by the strictest interpretation of the reclassification and recovery criteria found in the Northern Rocky Mountain Wolf Recovery Plan.

Response: We acknowledge that the proposed rule did not adequately explain how our goals for gray wolf reclassification and recovery in the northern Rocky Mountains have evolved since the 1987 Recovery Plan was written. A complete explanation can now be found in the subsection *Reclassification and Recovery Goals* within the section Recovery Progress of the Rocky Mountain Gray Wolf.

Issue 2: Several comments indicated that restoration of wolves in Montana, Idaho, and Wyoming does not warrant changing the classification of wolves throughout the much larger Western DPS from endangered to threatened.

Response: Wolf recovery in the northern Rocky Mountains of the United States has been defined as a minimum of 30 breeding pairs of wolves (a breeding pair is defined as a male and a female wolf that raise at least 2 young that survived until December 31) that are distributed throughout the mountainous portion of western Montana, Idaho, and northwestern Wyoming for a minimum of 3 successive years (see previous issue). A review of that definition by a wide diversity of professional peer reviewers indicated that such a population would be comprised of about 300 individuals and that some minimum level of connectivity among the U.S. subpopulations and with the larger wolf population in Canada was necessary to guarantee long-term persistence. That peer review indicated that population viability is a function of the population and not the area it occupies. The reviewers felt that geographically expanding an area that a population occupies had no impact on that population's viability. The Service believes that the Western DPS wolf population in the northern Rocky Mountains of Montana, Idaho, and Wyoming is not in danger of extinction, and therefore is no longer endangered but rather warrants reclassification to threatened status.

Issue 3: Address how reclassification of gray wolves in the Western DPS eliminates the threat of extinction.

Response: Reclassifying a species from endangered to threatened is not intended to eliminate the threat of extinction; instead, it is done in recognition that the species no longer warrants endangered status. Such is the case for gray wolves in the Western DPS. There currently are about 563 wolves in 34 breeding pairs in the Western DPS. Many of those breeding pairs are in extensive and secure habitats under public ownership, such as Yellowstone National Park and several National Forests. The gray wolf in the northwestern United States has achieved a population that is rapidly approaching our recovery goal. Reclassifying wolves in the Western DPS to threatened status still maintains the Service's management authority and the Act's protection for those wolves. The Act's protections will continue to prevent the excessive human-caused mortality that caused wolf extirpations in the past. When the States have adequate regulatory mechanisms in place, the Act's protections will no longer be needed. The reasons that wolves are no longer endangered are described in more detail in the 5-factor analysis that is part of this rulemaking.

J. Recovery in Northwestern Montana

Issue: The Service should not reclassify wolves in northwestern Montana, because recovery has proceeded slowly and may have stopped. Thus, full protection under an endangered classification should be maintained.

Response: The estimated wolf population in northwestern Montana is 84 wolves in 7 breeding pairs, which is the highest level recorded to date. The final regulations will not cause any significant increase in wolf mortality that would impact wolf population levels or prevent additional recovery there. We anticipate that the wolf population in northwestern Montana will enjoy the same benefits from more flexible management under this rule as have the rapidly expanding wolf populations in the nonessential experimental population areas. In addition, that management flexibility will extend to areas where the Service currently has no plans to actively promote wolf restoration under the Act, but where wolves may occasionally disperse and may cause conflicts. That flexibility should help increase local public tolerance of wolves.

Maintaining the connectivity of the wolf population in the northern Rocky Mountains of the United States with the much larger Canadian wolf population is important to the long-term viability of western United States wolves. However, at the current time, research indicates that wolves in all three general recovery areas of Montana, Idaho, and Wyoming are as genetically diverse as the source populations in Canada. Long-term genetic and demographic viability of wolves in the northern Rocky Mountains will depend on long-term management by the States and tribes and their strategies for maintaining population characteristics such as genetic diversity. That management could involve maintaining natural connectivity between United States and Canadian wolf populations or by active management such as relocation. With about 563 wolves in 34 breeding pairs distributed throughout Montana, Idaho, and Wyoming, the gray wolf in the northern Rocky Mountains—including northwestern Montana—is clearly no longer endangered with extinction. The 4(d) rule is very similar to the nonessential experimental population rule, under which rule wolf populations in Idaho and Wyoming have flourished. The Service believes the increased management flexibility under threatened status and a 4(d) rule is appropriate and the increased management flexibility will assist in completing the species recovery.

K. Special Regulations Under Section 4(d) for the Western DPS

Issue 1: The Service should not encourage harassment of wolves in the Western DPS.

Response: The Western DPS 4(d) rule allows landowners and permittees on Federal grazing allotments to harass wolves in a noninjurious manner at any time. This type of harassment will not affect the wolf population other than by making some individual wolves more wary of people. Wolves are adept social learners. Harassing wolves that have begun to be comfortable around people will cause those wolves to become more wary. Wolves that are wary of people and places that are frequented by people may be less likely to be involved in livestock and pet depredations. Wolves that are not wary of people are more vulnerable to being illegally killed or being hit by cars and, in rare and the most extreme circumstances, wolves can become habituated to human foods and can become a potential threat to human safety.

In some situations the 4(d) rule also allows the injurious harassment (for example, by rubber bullets) of wolves under a permit from us. This type of harassment will permit management of situations (for example, loitering around vulnerable livestock, approaching humans, trying to attack pets) before they have escalated into a situation that calls for more drastic measures such as lethal control. To prevent abuse, this type of activity would be limited by case-by-case evaluation and controlled by a permit. In the experimental population areas, this type of management has been used in a few situations, and no wolves have been permanently injured.

Issue 2: The Service should only allow translocation (that is, livetrapping and releasing at a distant location) to control problem wolves.

Response: Translocation of wolves to reduce wolf-livestock conflicts can be a valuable management tool when wolf populations are low and empty habitat is available for translocated wolves. Wolves are territorial, and resident packs will kill wolves that are translocated to their territory. With the wolf population near recovery levels, few places are available to translocate wolves. It also appears that translocation of problem wolves is often not successful at preventing further problems, because the wolf has learned that livestock can be prey and carries that learned behavior to its new location and becomes a problem wolf there. Some wolves have traveled great distances after translocation and have returned to the area where they were captured. The Service primarily will rely on lethal control for management of wolves that attack livestock, because most habitat in Montana, Idaho, and Wyoming that does not have livestock is already occupied by resident wolf packs. However, translocation may continue to be used to resolve pet dog depredations and excessive depredation of native wild ungulate populations.

Issue 3: The Service should allow a limited wolf hunting season in Montana.

Response: Hunting is a valuable, efficient, and cost effective tool to manage wildlife populations. The Service has recommended that State wolf management programs in the West have regulated public hunting as part of their policy to conserve the wolf population. Conservation programs to restore large predators such as mountain lions and wolves are succeeding because of the historic restoration of wild ungulates, such as elk and deer, by State fish and game agencies and sportsmen. However, allowing public hunting of wolves while they are listed under the Act is unlikely. (A Service-proposed public trapping season for threatened Minnesota wolves in areas of high wolf depredation was prohibited by a Federal court in the mid-1980s.) Upon confirmation in early 2003 that the wolf population in Montana, Idaho, and Wyoming has met the recovery goal and when State wolf management plans are completed (see issue U, ''State Wolf Management Plans''), the Service will move as quickly as possible to delist the wolf population. Following delisting, State-managed wolf hunting could be allowed by States if it is carefully managed and closely monitored.

Issue 4: The Service should relocate livestock if conflicts occur on public grazing allotments.

Response: Wolves and livestock, primarily cattle and horses, can live near one another for extended periods of time without significant conflict. Most wolves do not learn that livestock can be successfully attacked and do not view them as prey. However, when individual wolves learn to attack livestock, that behavior can quickly be learned by other wolves if it is not stopped. Since large portions of wild ungulates winter on private property, even wolves that prey on wild ungulates will be in close proximity to livestock during at least some portion of the year. Wolf recovery can occur without disruption of traditional western land-use practices and has successfully occurred without moving livestock off of public grazing allotments. Public lands can have both large predators and seasonal livestock grazing.

Furthermore, the Service does not have the authority to relocate livestock on either public or private land, except on lands within the National Wildlife Refuge System. Regulating or prohibiting livestock grazing on public lands is under the discretion of the respective land management agency.

Issue 5: The Service should emphasize nonlethal wolf control to resolve conflicts.

Response: We will continue to use nonlethal forms of wolf management, such as wolf harassment by landowners, injurious but nonlethal harassment by permitted individuals, use of scaring devices, working with conservation groups to provide fencing, alternative pasture, and guard animals and extra herders, and providing information on livestock management practices that can reduce conflicts with wolves. However, these methods are only effective in some circumstances, and no one tool is a cure for every problem. Wolf populations are at recovery levels, and wolf conflicts will increase as the population continues to grow. Most habitats in Montana, Idaho, and Wyoming, where conflicts between people and wolves are unlikely, are now occupied by wolves. The Service will rely on a variety of management tools including nonlethal approaches, but lethal control will often be used to resolve conflicts with livestock. Wolf populations can remain stable while withstanding 25–35 percent human-caused mortality per year. Agency lethal control of problem wolves was predicted to remove about 10 percent of the wolf population annually, and at that level it will not reduce the wolf population, but will minimize conflicts with livestock.

Issue 6: The special rule under section 4(d) should not exempt Federal agencies from the section 7 consultation requirements of the Act.

Response: The proposed rule does not exempt Federal agencies from their consultation requirements under the Act for threatened species. Federal agency consultation with the Service on their actions that may affect gray wolves is required, but under the special rule, it will not result in land-use restrictions unless these restrictions are needed to avoid take at active den sites between April 1 and June 30. Wolves are very adaptable, and Federal activities—unless they directly kill wolves—will have no significant effect on them. To date there have been virtually no land-use restrictions imposed for the benefit of wolves, and the wolf population has recovered quickly.

Issue 7: The Service should not loosen restrictions on lethal take; and we should base the take levels on scientific information.

Response: Wolf management, including the nearly identical forms of lethal wolf control included in the 4(d) rule, have been employed in the nonessential experimental population areas since 1995. The wolf population in those areas has rapidly expanded, and very few wolves have been taken under those provisions. Lethal take by agency personnel and lethal take under permits issued to the public are designed to target problem wolves and reduce the level of conflict with local rural residents. This level of take is unlikely to affect wolf population recovery and is based upon the biology of wolf populations. We have scientific data that show that such take is not excessive and allows the continuing growth of wolf populations.

Issue 8: The Service should allow wolves to be lethally taken for depredations on public land.

Response: The 4(d) rule allows wolves to be killed on public grazing allotments. Livestock producers can

receive a permit from us to shoot a wolf that is physically attacking livestock or guard and herding animals after we have confirmed that a wolf depredation has previously occurred. Comments on the environmental impact statement on wolf reintroduction, the experimental population designation process, and the proposal for this final 4(d) rule indicated that commenters believed that wolf management on public lands should be more closely controlled (that is, more protective of wolves) than on private land. To address this public concern and the legal responsibilities of Federal land management agencies to conserve listed species and provide a balance between the needs of wildlife and other uses, the 4(d) rule distinguishes between wolf management practices on Federal lands versus those on private land, while also addressing chronic wolf depredation. Under otherwise similar circumstances, the 4(d) rule will allow livestock producers to kill a gray wolf that is attacking their livestock on their private land without a Federal permit.

Issue 9: Commenters stated that the Service should deny a take permit to livestock producers who experience wolf depredation after improper disposal of livestock carcasses. Other commenters recommended that the Service redefine ''problem wolf'' to exclude those involved with acts of human carelessness or negligence.

Response: The Western DPS 4(d) rule states that wolves that attack livestock after being attracted to an area by artificial or intentional feeding, including livestock carcasses, may not be identified as problem wolves and may not be controlled, either by agencies or by permits to individuals. However, it would take an unusual situation to warrant withholding Service-authorized control of wolves that attacked livestock (that is, outside of the scope of traditional livestock management practices). In many instances, particularly in remote public land grazing allotments, it is nearly impossible to dispose of livestock carcasses. Wolves are very effective scavengers and will feed on livestock carcasses they discover. The fact that wolves feed on livestock carcasses does not mean that they will begin to depredate on livestock. Many biologists believe that the more familiar wolves become with livestock, even by feeding on carcasses, the greater the odds are that one could try to attack livestock. However, the bigger risk factor is that livestock carcasses may attract wolves to an areas near livestock which could increase the encounter rate and potential for depredation. The occasional discovery of a livestock carcass that would occur through traditional Western rangeland animal husbandry practices is unlikely to significantly increase the risk of wolf depredation on livestock. The Service does advise livestock producers of the potential for conflict that could occur when wolves are attracted to areas with livestock and, where possible, that livestock carcasses should be rendered or buried. The Service may determine not to control wolves until the attractants are removed.

Issue 10: The Service should increase the issuance of take permits on private, State, and Federal public lands.

Response: For the purposes of the Western DPS 4(d) rule, the Service considers State grazing leases to be treated the same as private property, unless a State management plan approved by the Service specifies otherwise (see issue U, ''State Wolf Management Plans''). For instance, a permittee on a State livestock grazing allotment could shoot a wolf in the act of physically attacking livestock without a permit from the Service, just as he or she could do on private land. The 4(d) rule allows wolves to be noninjuriously harassed without a permit, injuriously harassed under permit, and killed in the act of attacking livestock or herding and guarding animals. In chronic problem situations, wolves can be shot on sight under permit. Furthermore, Federal, State, and tribal agencies can harass, move, and/or kill wolves to reduce conflicts with livestock, other domestic animals, and pets, and even big game populations. The Service does not plan to implement even more liberal practices for dealing with problem wolves at this time. More liberal management—for example, management through regulations allowing defense of property and public hunting—might be a part of State-run wolf conservation programs once the wolf population is delisted.

Issue 11: The Service should provide clear guidelines to residents regarding their rights under the 4(d) rule.

Response: The Service will do many public information announcements on the 4(d) rule. After the experimental population rule was completed, the Service prepared a summary of the special rule and distributed it to local landowners, livestock organizations, and the media to clarify what kinds of activities were allowed. We will do the same for this special regulation. In addition, the Service routinely conducts presentations and interacts with the public to clarify its regulations.

Issue 12: We should allow States and tribes outside a gray wolf recovery area to relocate wolves that are impacting ungulate populations.

Response: The 4(d) rule does allow any State and tribe to define an unacceptable impact resulting from wolf depredation in its State and tribal wolf plan and relocate wolves that are causing that impact. If 10 or more breeding pairs are in a State, the Service, in cooperation with the State or tribe, may decide to move wolves that are impacting State ungulate populations, even if the State or tribe does not have an approved wolf plan.

Issue 13: The Service should drop the provision to translocate western wolves if they are causing ''unacceptable impacts'' to wild ungulate populations. There is no evidence that Rocky Mountain wolves pose any significant threat to the ungulate populations in the region.

Response: In some situations, wolf predation, in combination with other factors, can contribute to dramatic localized declines in wild ungulate populations. Segments of the public and State fish and game agencies are very concerned that if these unusual conditions exist and wolf predation is contributing to dramatic declines in a localized ungulate population, then management of wolf predation, in addition to management of other factors, must be an available option. Moving wolves to resolve these types of situations can assist in ungulate management and ease local public and State game managers' fears about excessive unchecked wolf predation on native big game populations and hunter harvest.

Issue 14: The Service should define ''abnormal'' as it is used in the Western DPS 4(d) rule to allow taking of wild wolf-like canids that may be detrimental to gray wolf recovery.

Response: The 4(d) rule allows the Service or designated agencies to take any wolf or wolf-like wild canid that the Service determines has abnormal physical or behavioral characteristics. The primary purpose of these provision is to allow for the removal of free-ranging privately owned captive wolves or wolf-dog hybrids. There are a wide variety of traits that could be considered abnormal by the Service and each situation will be addressed on a case-by-case basis. However, physical examples of abnormal would be wolf-like canids that have spotted pelt patterns or highly curled tails or otherwise appear to have dog-like traits. Behavioral abnormalities would include a high affinity to humans or human dwellings, aggressive behavior toward humans, or displaying prolonged courtship or breeding behaviors with domestic dogs.

Issue 15: Provide expanded definitions of ''wolf conflicts,'' ''wolf problems,'' ''persistent activity,'' and other related terms.

Response: Terms such as these necessarily need case-by-case application and situational definitions. A wolf pack living in an area and occasionally moving through livestock is routine and generally would not be considered to be a conflict or problem. However, a pack that also ''tests'' or runs livestock has crossed the line into a different category that may involve ''wolf conflicts'' and a need for some type of aversive conditioning. A wolf closely associated with a particular ranch for a short period of time may raise no specific concerns, whereas the same situation in proximity to a residential subdivision would. The Service believes that, because management flexibility will be required, wolf behavior can vary with individuals, and the number of situational variables is limitless, more-specific definitions of these terms are not necessary and would be unreasonably confining.

Issue 16: The Service should adhere to the Control Plan when targeting problem wolves.

Response: The Western DPS 4(d) rule now provides the regulatory framework under which problem wolves will be managed. The 1988 and 1999 Interim Wolf Control Plans have been replaced by the 4(d) rule.

Issue 17: Clarify the criteria that constitute opportunistic harassment.

Response: The definition of opportunistic harassment is provided in the Definitions section of the Western DPS 4(d) rule.

Issue 18: Clarify how wolf take rules apply to private land.

Response: The 4(d) rule has been slightly modified and does clearly State how wolves may be taken on private land. In addition, the comparison chart has been revised to clarify provisions of the Western DPS 4(d) rule as they apply to private and public land.

Issue 19: The Service should require verification of wolf depredation before allowing private control.

Response: The Western DPS 4(d) rule requires agency confirmation of wolf depredation before agency control or lethal take permits can be issued. The taking of a wolf that is physically attacking livestock on private land is allowed without a permit, but such take must be reported within 24 hours and evidence of a depredation (such as wounded livestock) must be present. We believe that these stipulations prevent abuse and focus control on specific problem wolves.

Issue 20: The Service should encourage ranchers to take measures to reduce the risk of wolf depredation.

Response: The Service works with USDA/APHIS-Wildlife Services, livestock organizations, and private groups to identify and publicize ways that livestock producers can reduce the risk of wolf depredation. In the past the Service and its cooperators have developed a host of tools that may help livestock producers prevent wolf-caused losses. The decision to utilize any of the tools offered is strictly voluntary on the part of the livestock producer, but in the past most of them have been very willing to voluntarily take steps to attempt to reduce the risk of wolf predation.

Issue 21: The Service should allow for the intentional harassment of gray wolves depredating on livestock.

Response: The Western DPS 4(d) rule allows all wolves on private land and those near livestock on public grazing allotments to be harassed at any time for any reason in a noninjurious manner. A permit to injuriously harass wolves can be issued on private and public lands. Wolves on private land that are actually seen depredating on livestock can be killed on private land without a permit, and on Federal grazing allotments a permit can be issued after a depredation has been confirmed.

Issue 22: The Service should allow landowners with inholdings within Federal lands to take wolves prior to suspicious activity or depredation.

Response: Wolves are very susceptible to human-caused mortality and were exterminated by excessive human persecution. Wolf populations could not persist in the face of unregulated human-caused mortality. Allowing any wolf seen to be shot on sight could significantly reduce wolf populations and jeopardize recovery. The States do not allow other large predators or wild ungulates that are much more common to be shot on sight for the same reason. Most large wildlife species, because of their relatively low reproductive rates and naturally high survival rates, will disappear in the face of unregulated human-caused mortality. A wolf that is simply on private property is not normally a problem animal, but wolves that attack livestock are aggressively controlled.

Issue 23: The Service should allow the intentional harassment of wolves on public lands.

Response: The Western DPS 4(d) rule allows any wolves near livestock to be harassed in a non-injurious manner on public lands.

Issue 24: The incidental take language in the proposed rule may undermine support by traditional wildlife users in Oregon, because it is dissimilar to the current rules for the nonessential experimental populations.

Response: The final special regulation for the Western DPS is intended to have similar incidental take provisions as those that have applied to the nonessential experimental populations, as specified in 50 CFR 17.84(i)(3)(viii). This is a change from the provisions of the previous endangered status, under which no incidental take of wolves was allowed outside of the nonessential experimental area.

Mistakenly shooting a wolf will not be classified as incidental take under the new special regulation; similarly, such an action has not been considered permissible as incidental take under the existing regulations for the nonessential experimental populations. One of the basic rules of hunter and gun safety is to be sure of your target. Just as is the case in current law in most States, a hunter who shoots a protected animal through mistaken identity is liable for that action. Both the new special regulation for the threatened Western DPS wolves and the existing regulation for the nonessential experimental populations stress the need for shooters to exercise reasonable due care to identify their target and avoid taking a gray wolf.

Issue 25: Under the permitting provisions of section 10(a)(1)(A) of the Act, the Service already has all the management flexibility it needs to deal with problem wolves in northwest Montana, so there is no need to reclassify those wolves to threatened and create a special regulation. The Service has not identified any additional flexibility that these changes would provide.

Response: We agree that the Service does have discretion to issue permits to manage wolves under the Act's 10(a)(1)(A) authority. However, that authority is not as broad or flexible as the provisions of this special 4(d) rule. The Service believes that the 4(d) rule clarifies the Service's intent and in some cases provides for the Service to allow management actions without the sometimes cumbersome process of issuing individual permits.

L. Nonessential Experimental Population Designations

Issue 1: Several respondents commented that the Service should review, delete, add to, and/or modify the NEP designations in central Idaho and the greater Yellowstone area. One peer reviewer recommended the NEP designations be removed, because they

are ''no longer appropriate and create an overly complex regulatory structure.''

Response: One of the alternatives considered in the draft proposal, but not selected for further analysis in that proposal, was removing the NEP designation in the central Idaho and Yellowstone areas, making all the Western DPS threatened, and managing all wolves in the Western DPS under this 4(d) rule. We chose to leave the NEP designations as they are, because in the 1994 rulemaking for the NEPs we stated we did not envision changing them until recovery occurred. In addition, several Federal agencies expressed concern over the potential of having to do section 7 consultation again, and the NEP rules are working well and are understood by most local residents in those areas. Instead, we have tried to make this 4(d) rule very similar to the special rule for the NEPs, thereby standardizing proven successful wolf management strategies throughout the Western DPS. While the NEP rules and this 4(d) rule are separate regulations, they are nearly identical, and they both address most public and agency concerns.

Issue 2: The Service should maintain NEP status for wolves that stray beyond NEP borders.

Response: Both the DPS and NEP designations are geographically based. Except for those wolves that are in captivity, gray wolves are listed and protected according to where they are located. However, the regulations for the three existing gray wolf NEPs do allow the Service to capture and return wolves known to be from the NEP areas if they move beyond the NEP boundaries. Thus, wolves that stray out of an NEP area can be moved back into the NEP area to further contribute to that recovery program.

Broadly applying all of the provisions of the NEP regulations to wolves that disperse and remain outside the NEPs would be equivalent to expanding the boundaries of the NEP. In our regulations establishing the Rocky Mountain gray wolf NEPs we stated we did not envision changing them until those wolf populations were delisted. We will not make such changes at this time in the absence of biological need and strong public support for such a change. Evidence of such need or support was not forthcoming during the comment period, even though we specifically requested comments on the two northern Rocky Mountain NEP regulations.

However, this final 4(d) rule applies provisions similar to those of the two Rocky Mountain NEPs to wolves outside of the NEPs. Thus, many of the provisions of the two Rocky Mountain NEPs will now be applied to wolves in the larger Western DPS.

M. Lethal Control of Gray Wolves

Issue 1: We received a number of comments that expressed varying degrees of opposition to the lethal control of gray wolves. Some commenters asked that we prohibit any form of lethal taking of wolves. Other comments supported killing of wolves only in defense of human life. Other viewpoints supported lethal control only if it is carried out by designated government agents, while some commenters feel that lethal control should not occur on public lands. The lethal control of wolves that kill only pets was opposed by some commenters.

Response: Current regulations under the Act that apply to both endangered and threatened species (50 CFR 17.21(a)(c)(2), § 17.21(a)(c)(3), § 17.31(a), and § 17.31(b)) provide the authority to lethally take endangered and threatened wildlife under several different scenarios. Furthermore, section 4(d) of the Act allows the promulgation of special regulations for threatened species if we determine that those regulations are ''necessary and advisable to provide for the conservation of such species.'' These special regulations can include provisions for lethal taking of the species, if appropriate. In the case of experimental populations, special regulations can also be promulgated allowing lethal control. The common feature across these various regulations is that lethal take is allowed if it is necessary to protect human life and safety or is necessary for the conservation of the species.

The Service has had gray wolf regulations that allow lethal take under various scenarios in different parts of the country. Those regulations were necessary for wolf conservation, and they were tailored to meet the needs of the differing situations in their respective areas. In all cases they have two purposes: reducing threats, and the perceptions of those threats, to human safety; and reducing conflicts between wolves and humans in order to lessen the likelihood that individuals would act on their own to reduce perceived conflicts, likely leading to the deaths of more wolves than would result from regulated lethal control actions.

We believe the special regulations that have been used in Minnesota to control wolves depredating on livestock and other domestic animals have reduced wolf-human conflicts, have diminished the illegal killing of wolves, and thus have aided the continuing recovery of gray wolves in that State. The special regulations for Minnesota wolves provide for lethal control by designated government agents when wolf depredation has been verified and is likely to reoccur. These restrictions result in the control, including killing or permanent captivity, of those wolves that are taking domestic animals, but provide protection for wolves that are members of packs that hunt only wild prey. These regulations are biologically sound, and we believe they are consistent with wolf recovery in Minnesota. We have no information that would lead us to suspect that the similar regulations finalized in this rule will interfere with continued wolf recovery in Wisconsin and Michigan.

We are not making any changes to the current lethal control regulations for Minnesota gray wolves. We are allowing similar depredation control activities in most other States in the Eastern DPS, and providing the authority for tribes to salvage wolf parts for spiritual and cultural use and to conduct depredation control actions on reservation land without a Federal endangered/threatened species permit.

We have developed the two special regulations to provide the actions necessary to reduce human conflicts in the Western and Eastern DPSs. Each special regulation is designed to address the unique needs within the respective DPS, and to minimize adverse impacts on wolf recovery. Lethal depredation control is being authorized only to the extent that we believe is necessary to continue the recovery of the wolf populations to meet our recovery goals within those two DPSs.

We are providing lethal depredation control authority to most of the States and tribes within the Eastern DPS, including those States outside of the core recovery States of Minnesota, Wisconsin, and Michigan. (This authority is not being provided to States and tribes east of Ohio). It will be the decision of the respective tribes and States as to whether they want to utilize this authority to kill depredating threatened wolves in those rare incidents of verified depredation in those noncore areas.

In the Western DPS the 4(d) rule allows wolves that have been involved in livestock depredations to be killed by agencies and the public. This take will be highly regulated and is not expected to significantly impact the wolf population. To date about 6 percent of the wolf population in Montana, Idaho, and Wyoming is affected by Service wolf control actions, including lethal control under the continuing authority of the nonessential experimental population regulations. This level of

human-caused mortality will not keep the northern Rocky Mountains wolf population from continuing its rapid expansion. As the wolf population has expanded rapidly, fewer areas of remote habitat remain for wolves to be moved to. Therefore, to resolve livestock depredations, the Service will be lethally controlling wolves in most situations.

Issue 2: A number of comments stressed that we should emphasize nonlethal depredation control measures and increase research efforts aimed at improved nonlethal control measures.

Response: The Service will continue to cooperate with USDA/APHIS-Wildlife Services, State DNRs, universities, and special interest groups to investigate ways to reduce the level of conflict between people, livestock, and wolves. To date we and our partners in wolf recovery have investigated and implemented the use of fencing; guard animals; extra herders; light, siren, and other scare devices, including those activated by wolf radio-collars; shock aversion conditioning; flagging; less-than-lethal munitions; offensive and repelling scents; supplemental feeding; harassing wolves at dens and rendezvous sites to move the center of wolf pack activity away from livestock; trapping and moving individual pack members or the entire pack; moving livestock and providing alternative pasture; investigating the characteristics of livestock operations that experience higher depredation rates; and research into the type of livestock and rate of livestock loss that are confirmed in remote public grazing allotments. We also correspond with and maintain professional contact with researchers and wildlife managers throughout the world to discuss and learn how they are dealing with similar problems. As a result of these attempts at nonlethal methods, we have not yet discovered a reliable method of nonlethal control. It is apparent that lethal control will remain an important tool for managing wolves that learn to depredate on livestock.

Lethal depredation control in the Western DPS is further discussed under section K. *Special Regulations under Section 4(d) for the Western DPS,* above.

N. Comments Regarding the Eastern DPS (composed of the proposed Western Great Lakes DPS and the proposed Northeastern DPS, as well as additional States)

Most comments regarding the Eastern DPS expressed opposition to delisting Midwestern wolves, addressed the proposed special regulation for the proposed Western Great Lakes DPS, or dealt with the proposed Northeastern DPS. Comments in the latter two categories are addressed in separate sections O and R, below. Other comments regarding the Eastern DPS follow:

Issue 1: Numerous comments expressed opposition to reclassifying Midwestern wolves to threatened status.

Response: Since our proposal was developed, we have received 2 additional years of data showing that wolf numbers in the Midwest are continuing to expand. We have reviewed, and have included in this rule, that additional population data, as well as updated information regarding disease occurrence and human-caused mortality. The additional information supports the reclassification from endangered to threatened.

Issue 2: The Service should support monitoring of gray wolves in the Midwest, and should improve wolf monitoring in the Lower Peninsula of Michigan.

Response: We have been partially funding wolf monitoring and research efforts by the Michigan and Wisconsin DNRs for many years. This support is expected to continue as long as the gray wolf is protected under the Act, and may continue to some extent for 5 years post-delisting.

Currently, we are not aware of any wild gray wolves in the Lower Peninsula of Michigan. While we understand the interest in identifying and protecting gray wolves that might occur in the Lower Peninsula, those wolves would be unnecessary to accomplishing gray wolf recovery under the Act. While we would provide technical assistance to initiate wolf monitoring and conservation in the Lower Peninsula if requested by the State and interested tribes, it is unlikely that we will be able to provide funding for wolf monitoring in the Lower Peninsula.

Issue 3: We should consider the potential impacts of hybridization with coyotes in the Midwest.

Response: We are concerned about gray wolf-coyote hybridization. There is mitochondrial DNA evidence that such hybridization may have occurred in the past (Lehman *et al.* 1991), but the nature of mitochondrial DNA provides little information on when, and how frequently, wolf-coyote hybridization may have occurred. There currently is no evidence that hybrid events have significantly changed the wolves in the Midwest. Morphologically, behaviorally, and ecologically they continue to look, act, and function as wolves, rather than like hybrids.

Issue 4: The Service should delist gray wolves in the Midwest.

Response: We recognize that wolf numbers in Minnesota, Wisconsin, and Michigan have surpassed the numerical goals of the Eastern Timber Wolf Recovery Plan. However, at the time our proposal was being prepared, we lacked reliable information on future wolf management in Minnesota, and we were therefore unable to evaluate the threats that might impact Minnesota wolves if they were delisted. See the Summary of Factors Affecting the Species section below under factor D., *The adequacy or inadequacy of existing regulatory mechanisms,* for additional discussion of Eastern DPS gray wolves.

The subsequent completion of the 2001 Minnesota Wolf Management Plan gives us the ability to better evaluate the extent of the threats that would likely be experienced by Minnesota gray wolves if they were delisted (see issue U, ''State Wolf Management Plans''). Therefore, now that we have completed this rulemaking, we intend to reevaluate the threats to wolves in the Midwest, in light of current data and expected future wolf management by the States and tribes, in order to determine if the Eastern DPS constitutes a recovered entity. If we conclude that recovery under the Act has occurred, we will promptly publish a delisting proposal and open a public comment period. As we develop the proposal and take final action, we will again evaluate information on gray wolf presence in the northeastern United States.

O. Special Regulations Under 4(d) for Parts of the Eastern DPS (formerly the Western Great Lakes and Northeastern DPSs)

Issue 1: The government should not be involved in control of depredating wolves in Minnesota, Wisconsin, and Michigan. It should be the farmers' responsibility to keep their livestock out of the reach of wolves.

Response: Assisting farmers in reducing the adverse impacts of wildlife on agricultural activities has long been a program of the Federal Government, and currently is accomplished by the Wildlife Services program of the U.S. Department of Agriculture. In addition, the Service has a policy that directs us to minimize the adverse economic effects of our endangered and threatened species recovery programs. Thus, reducing wolf depredation on livestock by removing the offending wolves and wolf packs is an appropriate part of our wolf recovery programs, as long as those activities are consistent with gray wolf recovery. We believe that

controlling depredating wolves is consistent with wolf recovery.

Issue 2: Lethal control of depredating wolves on public lands should not be permitted.

Response: Trapping for depredating wolves on public land generally has not been done under the ongoing wolf depredation control program in Minnesota, and we do not expect such trapping to be commonly carried out in either Wisconsin or Michigan under the new special regulation (50 CFR 17.40(o)). Such trapping is restricted to within 1 mile of the depredation site, and the trapping usually can be effectively carried out on private lands. In addition, most Federal lands (National Parks, Lakeshores, and Riverways, and National Forests) in these States will not allow wolf trapping on their lands. However, the special regulation will allow wolf trapping on State, tribal, county, or other publicly owned lands. We believe that if wolf depredation has been verified, it is in the best interests of wolf recovery to remove the problem wolves in the most effective manner, so we will not put unnecessary restrictions on the trapping locations.

Issue 3: The Service should require evidence of conflict between livestock and wolves prior to initiating control measures.

Response: We agree with this comment. The special regulation (both as proposed and as finalized) requires a determination that ''the depredation was likely to have been caused by a gray wolf'' and that ''depredation at the site is likely to continue'' if the problem wolves are not removed.

Issue 4: The special regulation should allow depredation control measures for wolf depredation of game farm animals.

Response: The special regulation allows depredation control measures to be carried out in response to wolf depredations on ''lawfully present livestock or domestic animals.'' The regulation does not specifically address game farm animals. However, if State or tribal wolf management plans (see issue U, ''State Wolf Management Plans'') define livestock to include game farm animals, our special regulation can be invoked in game farm depredation incidents. We expect such depredation control actions to occur in Wisconsin, because the Wisconsin Wolf Management Plan defines livestock to include ''pen-raised animals raised on licensed game farm operations'' (WI DNR 1999a).

Issue 5: We received a number of comments espousing various opinions on who should be allowed to conduct depredation control activities under the proposed special regulation that now applies to all midwestern States except for Minnesota. Opinions ranged from allowing private individuals, including farmers and animal owners, to take problem wolves, to allowing only qualified government agents to kill such wolves.

Response: We believe the depredation control program, as operated in Minnesota since the mid-1980s, has been highly successful in removing depredating wolves and thus greatly reducing domestic animal losses, while not unnecessarily impacting the continued growth of the Minnesota wolf population. Those regulations allow employees or designated agents of the Service or MN DNR to take depredating wolves. We have chosen to apply the proven success of this program to the other midwestern States, with only two minor changes. The first of those changes allows tribes or their designated agents to undertake depredation control actions on reservation lands without needing a Federal permit. The other change increases the area in which trapping can occur from the one-half mile allowed in Minnesota to 1 mile in Wisconsin and Michigan and 4 miles throughout the remaining area covered by the special regulation. We believe this approach will provide sufficient ability to control problem wolves without significantly impacting the ongoing wolf recovery in Wisconsin and Michigan.

Issue 6: The Service should require farmers to employ adequate animal husbandry practices in the Midwest as a prerequisite to being eligible for depredation control actions or compensation.

Response: While there is some evidence that supports the theory that certain animal husbandry practices will reduce the likelihood that a farm will experience wolf depredation, the only quantitative study on the subject in the Midwest to date did not find any clear connections between farm layout, animal husbandry practices, and wolf depredation incidents (Mech *et al.* 2000). Furthermore, even the most careful and protective livestock producer can still fall victim to wolf depredations. Given the uncertainty of success from ''better'' animal husbandry practices, we will not require such practices, but will continue to advocate for their use. Similarly, USDA/APHIS-Wildlife Services also recommends such practices and provides livestock producers with information on these practices.

Depredation compensation payments are made by State agencies or private organizations, not by the Service. The Service cannot dictate the criteria for such payments.

Issue 7: The special regulation for Michigan is too subjective. Depredation by a wolf should be proven beyond doubt, the identity of the depredating wolf should be identified, and only that individual wolf should be trapped and removed.

Response: The special regulation requires that ''the depredation was likely to have been caused by a gray wolf'' in order for trapping and removal operations to commence. Evidence, including tracks, location of bites, size and spacing of incisor punctures, and the presence and extent of subcutaneous hemorrhaging will usually allow trained depredation incident investigators to determine whether the predator was a wolf or coyote, and can even determine if a wolf killed the domestic animal or merely scavenged on it after it had died from other causes. If the evidence does not allow the investigator to conclude that a gray wolf likely was the cause of the mortality, then lethal depredation control actions cannot be carried out. The ''likely to have been caused'' standard has been used successfully in wolf depredation control activities in Minnesota for many years, and has allowed the wolf population in that State to continue to increase. We do not believe it will result in excessive wolf mortalities in Wisconsin and Michigan.

We agree that an ideal depredation control program would remove only the wolf that killed the domestic animal, and the remainder of the pack would then pursue only wild prey. However, this scenario is unrealistic for two main reasons. First, it is not possible to determine which pack member or members attacked and killed the domestic animal, short of capturing the entire pack and doing stomach content analysis within a few days of the depredation incident. This is not practical and in most cases it is impossible. Second, the wolf pack functions as a hunting unit and in many cases the entire pack, not just one member, develops the practice of preying on domestic animals. Thus, trapping and removing a single pack member will usually not stop the depredation problem.

Issue 8: The special regulations for Minnesota should be consistent with the special regulations for other areas of this DPS.

Response: We agree that the special regulations would be slightly easier to understand if they were identical across all the areas included within the Eastern DPS. However, the Act allows special regulations under section 4(d) to vary with the conservation needs of the

species in that area. Therefore, we have established smaller lethal control distances (that is, the radius around the depredation site in which lethal control can be carried out) in Michigan and Wisconsin than in the other States covered by the same 4(d) rule, in order to reduce the likelihood that the wrong wolves might be trapped in those two States with high wolf population densities. In addition, this 4(d) rule does not apply to any of the States in the Eastern DPS that are east of Ohio.

With respect to the differences between the continuing special regulation for Minnesota wolves (50 CFR 17.40(d)) and this new special regulation for most of the Eastern DPS (50 CFR 17.40(o)), we chose to propose no changes to the pre-existing Minnesota special regulation, because it was the product of a court order and has been functioning well and reducing wolf depredation problems for over 15 years. Modifying its language in any way could require Federal Court approval. Any modifications that might be seen as significant would likely result in litigation, or might otherwise delay the implementation of this final rule. Therefore, we have chosen to defer any changes to the special regulation for gray wolves in Minnesota.

In order to minimize any confusion, we have made the special regulation for the Eastern DPS consistent within a State's boundaries, so that State agencies, or the designated agents of State agencies, will only have to be concerned with a single set of regulations for that State. Furthermore, where Native American reservation boundaries cross State boundaries, the gray wolf special regulations are identical on both sides of the State boundary, and thus are consistent within individual reservations. Thus, we believe the possibilities for confusion in complying with the 4(d) rule for the Eastern DPS have been minimized.

P. Habitat Protection for Gray Wolves

Issue: Numerous comments expressed the belief that suitable gray wolf habitat should receive additional protection prior to reclassification, or that we should reassess the threats of habitat destruction and modification. Most of these comments dealt with the proposed Western Great Lakes DPS and the proposed Northeastern DPS; some comments specifically suggested that we require additional protection of roadless habitat in Wisconsin.

Response: From a review of gray wolf population data in western Great Lakes States and the northern U.S. Rockies, it is clear that wolf populations have increased dramatically under the habitat protections that have existed over the last several decades. Even in the two areas (Wisconsin and northwestern Montana) where wolf population growth had slowed or had been temporarily stalled, inadequate habitat protection was not the causative factor, and population growth has resumed in both areas in the absence of additional habitat protection measures.

At such time as we consider the delisting of gray wolves, we will review changes in habitat protection that would result from the elimination of the protections of the Act. The impacts of those changes will be part of the threats analysis that will accompany any delisting proposal, and will be considered in any final decision on delisting. However, as the current action is a reclassification which retains the current habitat protections of the Act, we believe the concerns expressed for its adverse impacts on habitat protection are unfounded.

Q. Compensation for Depredation by Gray Wolves

Issue: Several concerns were expressed regarding the payment of compensation to the owners of domestic animals, including pets and livestock, that are reported as killed or injured by gray wolves. Some commenters opposed such compensation and recommended that compensation funds should instead be used to reduce or prevent wolf depredation. Other commenters supported compensation for livestock losses caused by wolves; some commenters also would like compensation to be available in instances of wolf depredation on pets. There were comments both supporting and opposing a requirement for verification of wolf depredation in order for an owner to receive compensation. Other comments dealt with the amount of compensation.

Response: The Service does not provide monetary compensation for damage caused by any wildlife, including financial losses resulting from domestic animals being killed or injured by gray wolves. All such compensation programs are run by State agencies or private organizations and are not funded in any way by the Service. In the northern Rockies and the Southwest, wolf depredation compensation payments are made by Defenders of Wildlife. In the Midwest, wolf depredation compensation payments are made by the Minnesota Department of Agriculture, WI DNR's Nongame Wildlife Fund, and MI DNR, with partial financial support from private conservation organizations.

As we are not involved in wolf depredation compensation payments and do not envision becoming financially involved in these programs, we recommend that such comments be sent to the appropriate State agencies and Defenders of Wildlife.

R. Comments Regarding the Proposed Northeastern DPS

Issue: We received a diverse array of comments dealing with various aspects of the proposed Northeastern DPS and the special regulation proposed for that DPS. The comments spanned a spectrum from strong support for establishing a Northeastern DPS and recovering gray wolves there, to intense opposition to any steps towards wolf restoration in the Northeast. Other issues include suggestions for changing the special regulation that was proposed for gray wolves in the Northeastern DPS (for example, the provisions for lethal take of wolves, wild ungulate impacts, and States' roles), comments on whether those wolves should be listed as threatened or endangered, the boundaries of the DPS, the taxonomy of the historically resident wolf and the potential of hybridization with coyotes, the use of an experimental population designation, threats to wolves from disease and human activity and development, the role of public versus private land, habitat suitability and protection, prey availability, fear of lawsuits resulting from the incidental take of gray wolves on private lands, the cost of wolf restoration, and the need for public education programs to promote wolf restoration in a Northeastern DPS.

Response: As discussed elsewhere in this document, when we drafted our gray wolf reclassification proposal, we believed there may have been sufficient information to support the establishment of a gray wolf DPS in the northeastern States of New York, Vermont, New Hampshire, and Maine. If such a gray wolf DPS were to be established, we stated that we would initiate recovery planning to determine the feasibility of restoring a viable gray wolf population in that area and the best way to accomplish such a restoration. We proposed that gray wolves in the Northeastern DPS should be classified as threatened, and we also proposed special regulations under section 4(d) of the Act for gray wolves in this DPS. Both threatened classification and the special regulations were intended to increase the management flexibility for the States, tribes, and the Service in order to more effectively accomplish gray wolf recovery there.

In our July 13, 2000, proposed rule, we specifically requested comments and

additional information on the proposed Northeastern DPS and the associated proposed special regulation. Since that time we have paid particular attention to two important issues—insufficient evidence of a resident population of wolves in the Northeast and the identity of any such wolves and the wolves that historically occupied the Northeast.

Regarding the first issue, despite ongoing efforts by individuals and several conservation organizations, no reliable data support the contention that a population of wild wolves currently exists in the northeastern States. While there were three individual wolves or wolf-like canids killed in Maine and Vermont within the last 10 years, their origins are unknown, and there have been no subsequent confirmed sightings of pairs or packs of wolves. Thus, in view of the lack of reliable data showing that a wolf population exists in this area, we are unable to designate a separate DPS there. We cannot list a DPS when we lack data showing that a population exists.

We believe the second issue—the identity of the recent and historical wolf of eastern North America—remains unresolved. Until scientific data and analysis can conclusively determine which large canid historically occupied the Northeast, we are unable to determine which wolf, if any, would be considered for restoration there. We currently are unconvinced that the gray wolf was not the historical wolf in at least a portion of the Northeast, so we will not delist the gray wolf in that region on the basis of the assumption that it was listed in error. At this time we will maintain the Act's protection by including this geographic area in a threatened Eastern Gray Wolf DPS that also includes the proposed Western Great Lakes DPS and several other States.

Because we are not finalizing a listing of the proposed Northeastern DPS and are not finalizing the proposed 4(d) rule that was intended to provide management flexibility in order to promote wolf restoration within that DPS, we will not further address the many comments that dealt with these issues. However, if we receive reliable information supporting the existence of a northeastern wolf population, or if we subsequently determine that the gray wolf was the historical resident wolf in the Northeast, we could again consider listing a separate gray wolf DPS in the Northeast. At that time we will review all the issues that were raised during this comment period and endeavor to address them in any DPS proposal that we might publish.

S. Use of Scientific Data

Issue 1: A number of commenters stressed that our decision should be based on sound scientific data and analysis. Some of these comments accused us of improperly considering economic, political, or other factors when developing the proposal. We were accused of improperly favoring livestock interests as well as allowing undue influence from environmental organizations.

Response: The commenters are correct in their assertion that our decision should be based on sound scientific data and analysis. The Act clearly requires us to use only scientific and commercial data that are relevant to the five categories of threats that might be affecting the species.

The Service has followed the requirements of the Act in coming to a decision on this final rule. We used the best scientific data available as we developed the proposal, and in this final rule we have updated (and corrected, as described in the Technical Corrections category, above) wolf population and mortality figures wherever appropriate. In addition, newly available scientific data resulted in our decision to not finalize the listing of a Northeastern DPS at this time and to make changes to the proposed special regulation for the Western DPS.

Special interest groups have not had any undue or improper influence on this rulemaking, nor have we considered economic factors in our reclassification decision. Some commenters who expressed such a concern may have come to that conclusion as a result of a misunderstanding of the applicability of our ''Policy on Recovery Plan Participation and Implementation Under the Endangered Species Act'' (59 FR 34272, July 1, 1994; available at *http://endangered.fws.gov/policy/pol002.html*). That policy states that we will minimize the social and economic impacts of implementing recovery actions and will consider such impacts as we develop recovery plans. However, the Act prohibits such economic considerations during the rulemaking process for listing, reclassification, and delisting actions, and the Administrative Procedures Act prohibits Federal agencies from providing special interest groups any special access to the rulemaking process. This rulemaking has complied with those prohibitions.

Issue 2: The Service should clarify the process by which wolf population estimates are determined.

Response: In the northern Rocky Mountains the wolf population estimate is primarily derived by counting wolves in packs that contain radio-collared members. The breeding pair count is also estimated by radio telemetry and by counting the number of wolf groups that contain an adult male and an adult female wolf that raise at least two pups that survive until December 31.

Descriptions of the methods used to estimate gray wolf populations in the midwestern States have been added to the sections that describe the recovery progress of gray wolves in that area.

T. Requests for Consideration of Factors Other Than Threats to the Species

Issue 1: We received comments that recommended that decisions on the Act's protections for gray wolves should be based on a wide variety of factors in addition to the threats to the species. These factors include economic considerations (depredation costs, funding for game habitat acquisition and restoration efforts, costs and benefits to local communities, agency budgets), threats (or the lack of threats) to human safety and to pets, impacts on the Carolina Dog, ecological impacts to all native wildlife (and specifically to wild ungulates), the intrinsic value of the species, the ecological benefits provided by wolves, the wolf's role as an indicator species, and ethical concerns.

Response: We understand these concerns and the intensity with which they are felt by the commenters. Economic concerns, threats to humans and domestic animals, ecological effects, and impacts on other species (especially rare and declining species) are all taken into consideration as we develop and implement recovery programs for listed species. However, the Act clearly states that our decisions to list, reclassify, and/or delist a species can only be based on scientific and commercial data that deal with threats to the species and its habitat. These threats are broken into five factors by the Act (section 4(a)(1)), which are individually addressed below. While we recognize that there are many direct and indirect benefits and costs that arise from the listing or delisting of a species, the Act prohibits us from considering any factors except the threats to the species.

Issue 2: When we implement recovery programs for listed predator species, we should, or should not, consider the impact of wolf predation on wild ungulate populations.

Response: When implementing recovery programs for the gray wolf, our 1994 Policy on Recovery Plan Participation and Implementation Under the Endangered Species Act (59 FR 34272) requires that we strive to

minimize unnecessary social and economic impacts of those recovery actions. The Service is aware that while generally wolf predation is not expected to cause significant negative consequences to wild prey populations, there are conditions where it may. The 4(d) rule for the Western DPS allows for those wolves to be relocated should they cause significant negative effects on wild ungulate populations. The Service has initiated, and cooperated on a multitude of, wolf-ungulate relationship studies in Montana, Idaho, and Wyoming since the early 1980s to assess or detect the potential impact that wolf predation may have on various ungulate populations. Most of these projects were done by local university graduate students and in cooperation with other State and Federal resource management agencies. We will use the best scientific data available in future decisions involving actions to reduce wolf impacts on wild ungulate populations.

U. State Wolf Management Plans

Issue: A great deal of concern was expressed by a number of commenters about whether State protection and management of gray wolves would be adequate to ensure the continued viability of those wolf populations if Federal protections are reduced (via reclassification) or removed (via delisting). Some commenters stated that State protection will not be adequate or effective, and for that reason gray wolves cannot be delisted or reclassified to threatened. Other commenters want the Service to assist in the development of State wolf management plans, set minimum standards for such plans, and fund their implementation. Some commenters would like every State that has the potential for wolf recovery to be required to develop a management plan prior to delisting, even if no wolves currently reside in the State. The need for wolf management plans to be coordinated across State lines was another concern.

Response: When a species is listed as threatened or endangered, we develop a Federal recovery plan that describes the actions believed to be necessary to ensure the long-term survival of the species. Other Federal agencies, States, tribes, conservation organizations, and other affected parties are encouraged to assist in implementing these recovery actions, and in some cases non-Service entities take the leading role in carrying out these actions. For the gray wolf, the active and vigorous involvement of numerous State and tribal agencies and private conservation organizations has been instrumental in achieving the degree of wolf recovery that has already occurred.

States and other Federal agencies sometimes develop their own management plans that identify management actions they will take while the species is listed and/or after the species is delisted. If a State or other Federal agency is interested in assuming management responsibility for the species while the species is listed, the Service must approve the plan to ensure it is consistent with the recovery of the species and otherwise consistent with the Act prior to delegating management responsibility to that State or other Federal agency.

Even if a State or other Federal agency does not assume management responsibility for the species while it is listed, delisting of the species will require that we evaluate State or other Federal agency management of the species following removal of the protections of the Act. Section 4(a)(1) of the Act requires the Secretary to determine whether any species is an endangered species or a threatened species because of any of five factors including the ''inadequacy of existing regulatory mechanisms.'' Section 4(b) establishes the basis for such determinations, which includes consideration of efforts being made by any State to protect the species. In the context of a delisting determination, the Service must show that a threat is no longer at a level warranting listing or, in the absence of the protections afforded by the Act, that other existing regulatory mechanisms will adequately remove or reduce the threat to the species. Such an analysis will often be greatly facilitated if there are approved State or tribal management plans that will be implemented following delisting.

We are willing to assist States and tribes with the development of their wolf management plans. We will encourage States and tribes to develop plans that provide for coordinated actions across State and reservation boundaries to the extent possible. For example, we are currently working directly with the Bad River Band of Chippewa Indians and the WI DNR to develop special management practices for Reservation wolves that might become involved in depredation incidents while off the Reservation.

Because management plans are not required by the Act or its implementing regulations, we cannot force States and tribes to develop them or to coordinate them across their boundaries. However, those States that are interested in gaining full management authority for gray wolves have already begun working on such plans. In most cases we have been involved to varying degrees in the development of these plans, and we are familiar with the level of the State's commitment to their implementation. For plans that have been completed and subsequently reviewed by the Service (MI DNR 1997, WI DNR 1999a, and MN DNR 2001), these plans will greatly assist our future evaluation of post-delisting threats to wolves in these States. However, because the Act overrides State laws, regulations, policies, and management plans, these State plans can only be implemented to the extent that they are consistent with the protections of the Act and any Federal regulations promulgated under the provisions of the Act. Therefore, many of the provisions of these State wolf management plans cannot be implemented while gray wolves are federally listed as threatened within the respective State. Specifically, this means that public hunting and trapping of wolves and preemptive lethal control of potentially depredating wolves without a Federal permit cannot be initiated by the States, nor will livestock producers or landowners be able to freely kill wolves while they are classified as threatened by the Service. The Act and the several NEP and 4(d) regulations will restrict take of gray wolves, regardless of the existence of State or tribal wolf management plans in the Midwest and West, until wolf populations are delisted.

At such time as we consider a proposal to delist the gray wolf, we will fully evaluate the impacts of State plan implementation. Those impacts will be discussed in any delisting proposal that we develop, and will be considered in any final decision on delisting. Regardless of whether or not State and tribal wolf management plans have been completed or are being developed, we must conduct a threats analysis as required by the Act. If completed wolf management plans exist, we will use them to assist in the threats analysis. If completed management plans are lacking, we will complete the threats analysis using whatever information is available to us. However, the absence of one or more State management plans may impair our threats analysis to the extent that delisting consideration might be deferred.

We have been funding, or partially funding, State and tribal wolf monitoring, research, and management planning efforts for gray wolves. Such funding has occurred in the Midwest, the northern Rockies, and the Southwest. We intend to continue such funding, as our annual budgets allow, for the reclassified wolf populations in the Midwest (Eastern DPS) and the

northern Rockies (Western DPS). However, the Service lacks any mandate to fund State and tribal management or monitoring actions for species that have been delisted.

V. Native American Concerns

A number of comments were received from Native American tribes and organizations and from individuals who identified themselves as Native Americans. While many of these comments have been addressed in other issue categories, the comments from Native American interests that are not addressed elsewhere are covered in this category.

Issue 1: The Service should consider the cultural value of wolves to Native Americans when making a reclassification or delisting decision for the gray wolf.

Response: During the development of this regulation, we contacted many tribes and Native American organizations to ensure that they were aware of the regulations we proposed on July 13, 2000, and to learn of their concerns with those proposed regulations. We will continue this dialogue, and expand these contacts as we proceed with our wolf recovery programs and ultimately propose the delisting of one or more gray wolf DPSs. In addition, we will followup with specific requests by several tribes for assistance with developing management plans, negotiating wolf protection agreements with States, and training, as described in the following responses. However, the Act provides no authority to extend its protections beyond the point at which a species no longer warrants a threatened or endangered status, so we cannot unreasonably delay or forgo reclassifying or delisting the wolf for cultural or spiritual reasons.

Issue 2: The Service should restrict or prohibit lethal take of wolves within treaty ceded areas and on and around certain reservations.

Response: We understand the desire of several tribes to retain strong protections for gray wolves both on reservations and on lands surrounding the reservations. While there is no provision within the Act to maintain such Federal protections for species which no longer warrant a classification as threatened or endangered, we will work with the interested tribes and the appropriate States and strive to develop protective agreements for gray wolves on or near reservations. These agreements would replace some or all of the protections currently provided by their current endangered or threatened listings. We are currently working with the Bad River Band of Lake Superior Chippewa Indians of Wisconsin and the WI DNR to develop such an agreement that might serve as a prototype agreement for other reservations. This agreement potentially will provide protection to threatened, but depredating, Wisconsin gray wolves beyond that provided by the new 4(d) regulation, and could continue to apply after Wisconsin gray wolves are federally delisted.

Issue 3: The Service should delay its reclassification and delisting decisions to allow time for the development of an intertribal management agreement among tribes in the 1836 Treaty Ceded Area.

Response: We appreciate the interest in developing wolf management plans both on reservations and across the areas ceded by treaty to the United States Government. Such plans would facilitate sharing expertise, exchanging data, and implementing cooperative research efforts and would lead to more effective wolf management programs. However, the Act requires that we base a species' listing status on the threats affecting it, and on whether the species meets the Act's definitions of threatened and endangered. Developing such an agreement is likely to be a lengthy process, involving discussions and negotiations with a number of agencies that have wildlife management authority in ceded areas. Therefore, while we are interested in assisting with the development of such a management agreement, we cannot delay this reclassification decision until such an agreement is completed.

Issue 4: The Service should provide depredation control training to the Mille Lacs Band (Minnesota Chippewa Tribe) conservation officers.

Response: Our proposal contained no changes to the listing of the gray wolf in Minnesota, nor to the special regulation that allows for the lethal control of Minnesota gray wolves depredating domestic animals. Currently, all wolf depredation control actions in Minnesota are carried out by the USDA/APHIS-Wildlife Services, but the special regulation allows us to designate agents to conduct depredation control activities. We will pursue this request by the Mille Lacs Band to become involved in depredation investigation and control activities to determine the extent of this interest and how any necessary training could be arranged.

Issue 5: The Service should require Minnesota DNR to coordinate with tribal governments in gray wolf management efforts.

Response: We agree that wolf management activities will be more effective and more efficient if they are coordinated across State and reservation boundaries. We will continue to encourage such cooperation, and will assist in the development of agreements to enhance this cooperative management.

Issue 6: The special regulation for most of the Eastern DPS should extend to tribes the authority to take, under section 6 cooperative agreements, for scientific research or conservation purposes.

Response: Section 6 of the Act gives us the authority for the development of endangered species cooperative agreements with any State that ''establishes and maintains an adequate and active program for the conservation of endangered species and threatened species.'' Once such an agreement is approved, the State is eligible for cooperative endangered species grants, and gains some additional take authorities under the regulations at 50 CFR 17.21(c)(5) and 17.31(b). Subparagraph (2)(v) of the new special regulation at 50 CFR 17.40(d) contains parallel language for States with conservation agreements developed pursuant to section 6. However, tribes are not eligible for cooperative agreements under section 6, so we cannot extend to them any of the other benefits or authorities that come from such agreements. However, tribes can receive permits to take threatened wolves for scientific research or conservation purposes under 50 CFR 17.32.

However, the new special regulation for most of the Eastern DPS extends to tribes two significant new authorities. One provision allows them to salvage from within their area of jurisdiction, and without a permit from us, dead gray wolf specimens that may be useful for traditional, cultural, or spiritual purposes. The second provision allows a tribe to conduct lethal wolf depredation control activities within its area of coverage within reservation boundaries without a permit from us. Both of these provisions are available for the tribes to use at their discretion.

Issue 7: The proposed tribal salvage regulation for parts of the Eastern DPS should be expanded to provide tribal governments with half of the salvageable species that are taken from the ceded territories.

Response: While the gray wolf is listed as a threatened or endangered species under the Act, we are required to put salvaged wolves and wolf parts to those uses that best serve the species' conservation. However, due to the continuing recovery and increase in wolf numbers in the Midwest, we believe sufficient wolf carcasses are

available to meet all remaining recovery needs while also giving tribes the authority to salvage carcasses and wolf parts found on reservations for traditional, cultural, or spiritual purposes. As is the case for wolves salvaged by State and Federal agents, the new special regulation under § 17.40(o) provides that these tribal-salvaged wolves will be reported to us and will be retained or disposed of ''only in accordance with directions from the Service.'' We will routinely allow the tribes to retain such wolves and wolf parts. However, if an overriding conservation need arises—such as a disease outbreak that requires conducting standardized necropsies of dead wolves—we may need to use parts or all of some of those wolves for conservation purposes. Tribal-salvaged wolves not needed for such urgent conservation purposes will be retained by, or returned to, the tribes. During the time that the gray wolf remains protected by the Act, we cannot categorically provide salvaged wolves or wolf parts to non-conservation uses, but we will attempt to provide, and to allow the tribes to salvage and retain, sufficient wolf carcasses and wolf parts to meet their needs for traditional, cultural, or spiritual purposes.

We previously have authorized APHIS-Wildlife Services in Minnesota to make 50 percent of wolves trapped by that Federal agency for depredation control available to tribes for cultural purposes. That practice for Minnesota wolves will not be changed by the new regulation.

Issue 8: The Service should consult with tribes in the Dakotas to ensure that they have a role in the management of wolves on-reservation and within their State.

Response: We acknowledge the desire of many Native American tribes to have management authority for those wolves found on their reservations if the protections of the Act are removed in the future. The Department of the Interior (Department) will assist those tribes in this pursuit. The Department will also assist interested tribes in developing cooperative wolf management agreements with the appropriate State agencies for off-reservation wolves.

W. Captive Gray Wolves and Wolf-Dog Hybrids

Issue 1: One peer reviewer questioned what role captive gray wolves might have in our ongoing wolf recovery programs, and if that role was sufficient to warrant that captive wolves retain the Act's protections for as long as their source population is listed as threatened or endangered.

Response: We acknowledge that where our wolf recovery programs are nearing completion there may be only minor and largely speculative recovery roles remaining for captive gray wolves. Such roles would likely be for research, and such studies might be DPS-specific (for example, genetic or taxonomic studies, or disease resistence investigations). However, for the Southwestern (Mexican) gray wolf recovery program, many of the wolves currently in captivity retain great importance as potential subjects for reintroduction. For these reasons, we have chosen to continue to protect captive gray wolves according to their original source location in the wild.

Issue 2: Various respondents recommended that the Service address the potential problems associated with wolf-dog hybrids, regulate their breeding and commercialization, and provide public education on wolf-dog hybrid concerns.

Response: We are well aware of the potential problems that wolf-dog hybrids can cause for our various wolf recovery programs. This final rule does not extend the protections of the Act to wolf-dog hybrids, so such animals can be removed from the wild if their presence is detrimental to wolf recovery. However, the Act provides no authority for the Service to regulate their breeding and commercialization; these actions must be undertaken at the State and local level. We will continue to support State efforts that restrict or prohibit the release of wolf-dog hybrids in wolf recovery areas.

X. Other Comments Specific to Minnesota

Issue: Our proposal contained no suggested changes for Federal wolf protections in Minnesota. The proposed rule was developed in part to bring consistency to the legal protections afforded by the Act to all midwestern wolves by listing them all as threatened (as Minnesota wolves have been listed since 1978) and by applying to them a special regulation that is very similar to the special regulation that has applied to Minnesota wolves since the mid-1980s. The proposal stated that the Minnesota special regulation (50 CFR 17.40(d)) would continue to apply to Minnesota gray wolves.

However, we received numerous comments that either suggested changes or opposed any changes to the Act's current protections for Minnesota gray wolves. Minnesota-specific comments included recommendations to decrease, remove, or increase those Federal protections; opposition to lethal depredation control of Minnesota wolves; criticism of the MN DNR's wolf management plan (much of which cannot be implemented until the wolves are federally delisted); suggestions for wolf hunting in Minnesota; and recommendations for changes to the current special rule for Minnesota wolves.

Response: Our final rule follows the proposed rule in making no changes to the Federal regulations that apply to the gray wolf in Minnesota. Because the proposed rule did not contain proposed changes that would affect the Act's protections for Minnesota wolves, we cannot consider making any such regulatory changes at this time. Therefore, we are not addressing any of these comments in this document. However, these comments will be considered as we subsequently consider proposing additional regulatory changes that might affect the Act's protections for Minnesota wolves.

Y. Suggestions for Changes to Gray Wolf Recovery Programs

Issue: We received a large number of diverse comments which suggested changes to one or more gray wolf recovery programs. These comments included suggestions to maintain and expand recovery partnerships (for example, with Native American tribes, private wolf research centers, landowners, Canada, and Mexico), map wolf travel corridors, increase law enforcement and protection, and provide more public education, ideas for additional research, and ways to reduce conflicts with human activities.

Response: Because these comments did not address the proposed regulatory changes, but instead dealt with recovery actions and recovery plan implementation, they will not be discussed here. However, they will be referred to the appropriate Service gray wolf recovery teams or recovery coordinators for their consideration. Recovery programs and recovery plans are flexible and are intended to adapt to new knowledge, ideas, methods, and technology. Several of our gray wolf recovery plans may be reviewed for possible revision as a result of this rulemaking, and these comments will be considered for incorporation into those plans if they are revised. It is our policy to make drafts of revised recovery plans available for public review and comment, so there will be additional opportunities for input into our continuing gray wolf recovery programs.

Z. Miscellaneous Comments

Issue 1: Commenters suggested that we should reconsider alternatives that were discussed in our proposal but which were not our preferred alternative. The alternatives of keeping gray wolves listed as endangered wherever they are currently so listed, and retaining the endangered status only throughout the West, were specifically recommended for our reconsideration.

Response: As we reviewed the comments and additional data that have become available since we drafted the proposed rule, we have reconsidered alternatives described in the proposal, as well as other alternatives that might be appropriate. With regard to the above two specific alternatives recommended for reconsideration, our evaluation of the current biological status and threats to gray wolves clearly indicates that both the Western and Eastern DPSs no longer warrant a classification as endangered, and are more appropriately classified under the Act as threatened species.

Our final rule is a modification of the proposed rule that now includes components of several other alternatives that were discussed in the proposal. One of those alternatives dealt with various boundary configurations for a DPS in the eastern United States and another included larger DPSs that included all of the 48 States.

Issue 2: How will the Service regulate wolf game farms and wolf pelt farms following reclassification?

Response: We are unaware of any existing wolf game farms or wolf pelt farms that use wolves that originated from within the 48 States or Mexico. Wolves in such farms would have been subject to the protection of the Act since 1978, and they could not have been legally killed for commercial purposes nor transported across State lines for commercial activities unless those purposes and activities promoted the species' recovery and were allowed under a permit we issued under 50 CFR 17.22 or § 17.32. This is an unlikely scenario, and we doubt that such wolf game farms or pelt farms exist. This situation will not change due to this reclassification, as the same Federal regulations will continue to apply to commercial use of threatened gray wolves.

Under this reclassification, gray wolves in captivity remain protected by the Act, on the basis of the locations at which they, or their ancestors, were removed from the wild, regardless of where they are being held. Thus, Mexican wolves that are in captivity in New Orleans remain endangered, while a wolf from Michigan held at the same New Orleans facility is classified as threatened. Captive wolves from Canada or Alaska remain unprotected by the Act, even if they are held in facilities in one of the gray wolf DPSs.

Facilities that breed gray wolves for use as pets, for exhibition, or for other nonrecovery purposes remain subject to the same legal requirements as they were before this regulatory change. Interstate commerce in such captive raised wolves continues to be prohibited by the Act, except under a Federal permit, if those wolves or their ancestors originated from within one of the DPSs. Intrastate commerce in such wolves is not regulated by the Act.

Issue 3: Several commenters expressed concern that wolf populations will decrease substantially if Federal protection is reduced or removed and recommended that we establish an expedited process to reclassify such wolves from threatened to endangered (or relist them if they had been delisted).

Response: Our analysis of the threats that gray wolves in the two reclassified DPSs will experience after their reclassification indicates that wolf populations will not decline if they are reclassified as threatened. However, wolf numbers and range will continue to be monitored at the same level of intensity as before this reclassification, so we will have data that will alert us if a population decline is occurring; Thus, we can reclassify wolves back to endangered status if necessary.

The Act clearly recognizes the possibility that the Service might reclassify or delist a species prematurely, or that unanticipated threats may cause a species to unexpectedly decline following a reclassification or a delisting. The Act directs the Service, in cooperation with the States, to monitor delisted recovered species for at least 5 years after they are delisted, and to relist them—including emergency relisting—if the monitoring indicates that such action is necessary. Thus, the Act already contains a process to relist a species, and to do so on an emergency basis, if necessary. Similarly, the Service also has the authority to reclassify a species from threatened to endangered if monitoring data indicate the need. An emergency reclassification from threatened to endangered is possible, if monitoring indicates this is necessary.

The new special regulations for the Western and Eastern DPSs both have reporting requirements for all wolves taken under their provisions. Thus, we will have information on any increased level of take that occurs as a result of these new rules, and we can promptly evaluate that level and make changes to the regulations, if appropriate.

In addition, the Act contains a provision (section 4(b)(3)) that allows an interested party to provide data to us and to petition to have a species listed, delisted, or reclassified. This petition process is a mechanism to direct our attention to species' data or to threats that we might otherwise overlook.

Issue 4: All costs of wolf monitoring, depredation control, and depredation mitigation efforts in Idaho should be paid by the Federal government.

Response: The Federal government currently funds all wolf-related activities in the Western DPS except for wolf depredation compensation payments, which are paid by Defenders of Wildlife. When the wolf population is recovered and delisted, and managed solely by the respective States and tribes, other sources of funding may be necessary. The Service cannot use its endangered species funding on species that are no longer listed under the Act, except to conduct the post-delisting monitoring required by section 4(g) of the Act. The States of Montana, Idaho, and Wyoming have stated that, if the wolf population is to be delisted and managed solely by the States, some form of Federal funding should be provided, or they would not support delisting. This issue still has to be resolved.

Issue 5: The Service should be responsible for any experimental population wolves that enter Wallowa County, Oregon.

Response: The Service can manage any wolves that leave the nonessential experimental population areas, including those that might disperse into Oregon. The experimental population rules allow us to retrieve or manage any wolf known to be an experimental population animal regardless of its location. The Service has stated that any wolf that disperses outside of the experimental population area and attacks livestock will be killed. A wolf that has not caused conflicts with people or livestock may be monitored, but it generally will not be captured or managed. The Service has no interest in spending time or funding on lone wolves that may have dispersed into other States and are not causing problems. The Service's only active recovery programs in the northern Rocky Mountains will be in Montana, Idaho, and Wyoming. The Service has no plans or interest in management for wolf restoration in adjacent States. After delisting, wolf populations and their management would be the ultimate responsibility of those respective State

and tribal governments and their natural resource agencies.

AA. Nonsubstantive Comments

Comments Not Germane to this Rulemaking. We received numerous comments covering a broad spectrum of wolf-related issues that are not the subject of this rulemaking. Some of these merely are beyond the scope of this rulemaking, while others dealt with issues that are beyond the authority of Service and of the Act. These comments covered such subjects as support for the Conservation and Reinvestment Act and the Roadless Initiative; support for, and opposition to, grazing on public lands; wolf reintroduction in Scotland; listing Alaskan wolves as endangered; and the red wolf. Since these issues do not relate to the action we proposed, they will not be addressed here.

Another set of nongermane comments dealt with delisting wolves in the western Great Lakes States (now included in the Eastern DPS), and the conditions (legal, biological, and social) that should occur before and after such a delisting. We again emphasize that we have not proposed the delisting of these gray wolves, and we are not taking such action at this time. Therefore, comments relating to delisting western Great Lakes States wolves will not be further discussed in this document. However, we appreciate the concerns expressed in those comments, and we will review those concerns at such time as we begin working on a delisting proposal for those wolves.

Expressions of Support or Opposition. Finally, we received a large number of comments expressing support for, or opposition to, wolf recovery and the proposal (or parts of it) without further elaboration or explanation. Those comments, and the interest they represent, are appreciated; however, because they did not contain scientific data, information on threats, or any other substantive information, they will not be further addressed in this final rule.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species 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. 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 threatens 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. This analysis must be based upon the same five categories of threats specified in section 4(a)(1).

In a subsequent section of this rule, we describe the three DPSs that are now being given separate treatment under the Act (refer to the *Designation of Distinct Population Segments* section above). These DPSs are the Western DPS, the Eastern DPS, and the Southwestern DPS. Therefore, for consistency and clarity in discussing each threat, the following analysis of the five categories of threats contains separate discussions for wolves within the geographic areas encompassed within the three DPSs.

(Note that the Eastern DPS includes those areas that were identified in our July 13, 2000, proposal as the Western Great Lakes DPS and the Northeastern DPS. Refer to the *Designation of Distinct Population Segments* section above for a discussion of the reasons for combining the two proposed DPSs.)

For species that are already listed as threatened or endangered, this analysis of threats is primarily an evaluation of the threats that could potentially affect the species in the foreseeable future following the delisting or downlisting and the removal or reduction of the Act's protections. Our evaluation of the future threats to the gray wolf in the Eastern DPS-especially those threats to wolves in the Midwest that would occur after removal or reduction of the protections of the Act-is partially based upon the wolf management plans and assurances of the States and tribes in that area. If the gray wolf were to be federally delisted in the future, then State and tribal management plans will be the major determinants of wolf protection and prey availability, will set and enforce limits on human utilization and other forms of taking, and will determine the overall regulatory framework for conservation or exploitation of gray wolves.

Even in those areas where the gray wolf is now reclassified to threatened status, many aspects of State and tribal management plans cannot yet be implemented because of the remaining and overriding prohibitions of the Act. However, State and tribal plans, to the extent that they have been developed, can serve as significant indicators of public attitudes and agency goals, which, in turn, are evidence of the probability of continued progress toward full recovery under the Act. Such indicators of attitudes and goals are especially important in assessing the future of a species that was officially persecuted by government agencies as recently as 40 years ago and still is reviled by some members of the public. Therefore, below we provide some details on the components of the wolf management plans that currently exist and analyze their impact on gray wolves in light of the changes in Federal protection that arise from this rule.

After a thorough review of all available information and an evaluation of the following five factors specified in section 4(a)(1) of the Act, we are changing the Act's protections for the gray wolf across the conterminous 48 States, except for Minnesota, portions of several southwestern and southern Rocky Mountain States, Mexico, and the nonessential experimental populations in the northern U.S. Rocky Mountains and southwestern U.S. Significant gray wolf recovery has occurred, and continues as a result of the reduction of threats as described below.

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

General. A popular perception is that wolves inhabit only remote portions of pristine forests or mountainous areas, where human developments and other activities have produced negligible change to the natural landscape. Their extirpation south of Canada and Alaska, except for the heavily forested portions of northeastern Minnesota, reinforced this popular belief. However, wolves survived in those areas not because those were the only places with the necessary habitat conditions, but because only in those remote areas were they sufficiently free of the human persecution that elsewhere killed wolves faster than the species could reproduce (Mech 1995).

Wolf research, as well as the expansion of wolf range over the last 2 decades, has shown that wolves can successfully occupy a wide range of habitats, and they are not dependent on wilderness areas for their survival. In the past, gray wolf populations occupied nearly every type of habitat north of mid-Mexico that contained large ungulate prey species, including bison, elk, white-tailed deer, mule deer, moose, and caribou. An inadequate prey density and a high level of human persecution apparently are the only factors that limit wolf distribution (Mech 1995). Virtually any area that has sufficient prey and adequate protection from human-caused mortality could be considered potential gray wolf habitat.

Eastern DPS. In the western Great Lakes States, wolves in the densely forested northeastern corner of

Minnesota have expanded into the more agricultural portions of central and northwestern Minnesota, northern and central Wisconsin, and the entire Upper Peninsula of Michigan. Habitats currently being used by wolves span the broad range from the mixed hardwood-coniferous forest wilderness area of northern Minnesota; through sparsely settled, but similar habitats in Michigan's Upper Peninsula and northern Wisconsin; into more intensively cultivated and livestock-producing portions of central and northwestern Minnesota and central Wisconsin; and even approaching the fringes of the St. Paul, Minnesota, and Madison, Wisconsin, suburbs. Wolves are also dispersing from Minnesota into the agricultural landscape of North and South Dakota in increasing numbers (Licht and Fritts 1994, Straughan and Fain 2002). Similarly, a gray wolf that had been radio-collared in Michigan's Upper Peninsula was recently mistaken for a coyote and killed in north-central Missouri, presumably traveling through expanses of agricultural land along the way (Missouri Department of Conservation 2001).

Based upon computer modeling, Wisconsin and the Upper Peninsula of Michigan contain large tracts of wolf habitat, estimated at 15,052 sq km (5,812 sq mi) and 29,348 sq km (11,331 sq mi), respectively (Mladenoff *et al.* 1995; WI DNR 1999a). In Wisconsin, much of this suitable habitat is on public lands, with most of these public lands being National, State, and county forest lands.

Wisconsin DNR biologists conducted a population viability analysis (PVA) using the computer simulation model VORTEX. The purpose of a PVA is to estimate extinction probabilities by modeling long-term species' population changes that result from multiple interacting factors. The resulting extinction probabilities may be able to provide some limited insight into the effects that management alternatives, environmental fluctuation, and biological factors may have on rare species' populations over many years.

Under most of the scenarios that were modeled by WI DNR, the results of the PVA indicated that a wolf population of 300 to 500 animals would have a low probability of extinction over a 100-year timeframe. However, the modeling indicated that the population might decline to a level that might trigger relisting under State law (fewer than 80 wolves for 3 years). ''[S]tate-relisting probabilities'' ranged from 10 to 40 percent for those scenarios which looked at a combination of moderate environmental variability and a 5 percent probability of catastrophic events. Within-State extinction probabilities were only 1 percent for those same scenarios (WI DNR 1999a). However, at this stage of their development, PVA models must be used with great caution, and it would be unwise to base management decisions solely on their predictions. (Refer above to section Summary of Comments and Recommendations, section B, *Compliance with Laws, Regulations and Policies, Issue #11* for additional discussion on the problems of population viability analysis.)

The Wisconsin wolf population has increased at an average annual rate of 19 percent since 1985, and at 26 percent annually since 1993. Wisconsin had at least 320 wild gray wolves in early 2002 (WI DNR 2002, Wydeven *et al.* 2002). The Michigan wolf population (excluding Isle Royale) has increased at an average annual rate of about 24 percent in recent years and was at least 280 wolves in early 2002 (MI DNR 2002). Wolf survey methods in both States focus on wolf packs and may miss many lone individuals, thus underestimating the actual wolf populations. However, it is safe to say that the combined gray wolf population in the two States (excluding Isle Royale, MI) was at least 600 animals in late winter 2001–2002.

Final State wolf management plans for Michigan and Wisconsin, respectively, have identified habitat protection as one of their top priorities for maintaining a viable wolf population. Both State wolf management plans emphasize the need to manage human access to wolf areas by avoiding increasing road densities, protecting habitat corridors between larger tracts of wolf habitat, avoiding disturbance and habitat degradation in the immediate vicinity of den and rendezvous sites, and maintaining adequate prey species for wolves by suitable habitat and prey harvest regulations.

Both the Michigan Plan and the Wisconsin Plan establish wolf population goals that exceed the viable population threshold identified in the Federal recovery plan for isolated wolf populations, that is, a population of 200 or more wolves for 5 consecutive years (U.S. Fish and Wildlife Service 1992a). Each State adopted this ''isolated population'' approach to ensure the continued existence of a viable wolf population within its borders regardless of the condition or existence of wolf populations in adjacent States or Canada.

The Michigan Plan contains a long-term minimum goal of 200 wolves (excluding Isle Royale wolves) and identifies 800 wolves as the estimated carrying capacity of suitable areas on the Upper Peninsula (MI DNR 1997). (''Carrying capacity'' is the number of animals that an area is able to support over the long term; for wolves it is primarily based on the availability of prey animals and competition from other wolf packs.)

The Wisconsin Plan identifies a management goal of 350 wolves, well above the 200 wolves specified in the Federal recovery plan for a viable isolated wolf population. After the Wisconsin wolf population reaches 250 (excluding wolves on Native American reservations), the species will be removed from the State's threatened and endangered species list (WI DNR 1999a). Wisconsin DNR is likely to begin the State delisting process in late 2002.

Three comparable surveys of wolf numbers and range in Minnesota have been carried out in recent decades. The first survey estimated a State wolf population of 1,235 in 1979 (Berg and Kuehn 1982). In 1989, 1,500 to 1,750 wolves were estimated in the State (Fuller *et al.* 1992). This represents an average annual increase of about 3 percent. The 1998 survey (Berg and Benson 1999) estimated that the State's wolf population was 2,445 animals, indicating an average annual growth rate of 4 to 5 percent during the intervening 9 years. While estimates of the wolf population that are made at about 10-year intervals do not provide any insight into annual fluctuations in wolf numbers that might be due to winter conditions, prey availability and vulnerability, legal depredation control actions, and illegal killing, these 3 population estimates clearly indicate that the Minnesota wolf population has continued to increase. As of the 1998 survey, the State's wolf population was approximately twice the planning goal for Minnesota, as specified in the Eastern Plan. (Refer to the *Recovery Progress of the Eastern Gray Wolf* section above, for additional details on the increase in numbers and range of Minnesota wolves.)

The MN DNR prepared a Wolf Management Plan and an accompanying legislative bill in early 1999 and submitted them to the Minnesota Legislature. However, the Legislature failed to approve the MN Plan in the 1999 session. In early 2000, the MN DNR released a second bill that would result in somewhat different wolf management and protection than would the 1999 bill. The Minnesota Legislature did not pass the 2000 Minnesota wolf management bill, but instead passed separate legislation directing the DNR to

prepare a new management plan based upon various new wolf protection and wolf take provisions also contained in that bill. MN DNR, in cooperation with the MN Department of Agriculture, completed a Wolf Management Plan (MN Plan) in early 2001 (MN DNR 2001).

The MN Plan's stated goal is ''to ensure the long-term survival of wolves in Minnesota while addressing wolf-human conflicts that inevitably result when wolves and people live in the same vicinity.'' It establishes a minimum goal of 1,600 wolves, with provisions to monitor the population and to take prompt corrective action if wolf numbers drop below that threshold. The MN Plan divides the State into 2 wolf management zones, designated as Zones A and B. Zone A corresponds to wolf management zones 1 through 4 in the Federal Eastern Recovery Plan, while Zone B constitutes zone 5 in the Federal Eastern Recovery Plan. Within Zone A, wolves would receive strong State protection, unless involved in attacks on domestic animals. In Zone B, more-liberal taking regulations would allow wolves to be killed to protect domestic animals under a much broader set of circumstances. However, neither the Zone A nor the Zone B regulations can be implemented while Minnesota gray wolves are federally listed as a threatened species.

When our July 13, 2000, proposed rule was being written, the Minnesota Legislature had not passed wolf management legislation, so we had little basis on which to evaluate the management and protection that Minnesota wolves would receive if we would remove their Federal protection. Therefore, we did not propose any change in Federal protection at that time. Because this final rule retains the Federal threatened listing and the associated protection for Minnesota gray wolves, and thus precludes the implementation of the MN Plan, we have not included a detailed review of the MN Plan in this rule. In the future, if and when we propose a change to the Federal protection of Minnesota gray wolves, we will evaluate and discuss the resulting affects of implementing the MN Plan in that proposed rule.

The complete text of the Wisconsin, Michigan, and Minnesota wolf management plans, as well as our summaries of those plans, can be found on our Web site (*see* **FOR FURTHER INFORMATION CONTACT**).

On the basis of discussions and written communications with Native American tribes and organizations prior to our proposal, and further supported by the comments we received from those sources during the comment period, we expect wolf populations to continue to be conserved on most, and probably all, Native American reservations in the western Great Lakes area. Those practices will augment the wolf population goals described above for the State DNRs. While we are unable to perform a comprehensive analysis of the likely future management and protection afforded to wolves on Native American reservations, we believe their traditional respect for the wolf, and its importance in Native American culture, will secure the species' future existence on most land under Native American control. At the time we consider initiating work on a proposal to delist or otherwise further reduce the Federal protection of gray wolves, we will again consult with Native American tribes and organizations to further discuss and evaluate their wolf management and protection plans and preferences.

The wolf retains great cultural significance and traditional value to many tribes and their members (Eli Hunt, Leech Lake Tribal Council, *in litt.* 1998; Mike Schrage, Fond du Lac Resource Management Division, *in litt.* 1998a). Some Native Americans view wolves as competitors for deer and moose, while others are interested in the harvest of the wolf as a furbearer (Schrage, *in litt.* 1998a). Many tribes intend to manage their natural resources, wolves among them, in a sustainable manner in order that they be available to their descendants. However, traditional natural resource harvest practices often include only a minimum amount of regulation by the tribal government (Hunt *in litt.* 1998).

In order to retain and strengthen these cultural connections, some tribes are opposed to the unnecessary killing of wolves on reservations and on ceded lands, even if wolves were to be delisted in the future. For example, because of the strong cultural significance of the wolf to their culture, the Ojibwa people support its protection (James Schlender, Great Lakes Indian Fish and Wildlife Commission, *in litt.* 1998). Additionally, the Tribal Council of the Leech Lake Band of Minnesota Ojibwe recently has adopted a resolution that describes the sport and recreational harvest of gray wolves as an inappropriate use of the animal. The resolution supports the limited harvest of wolves to be used for traditional or spiritual purposes by enrolled tribal members. This limited harvest would only be allowed by the tribe if it does not negatively affect the wolf population. Based on the Council's request, we will assist the Council with obtaining wolf pelts and parts that become available from other sources, such as depredation control activities. The Leech Lake Reservation is home to an estimated 75 to 100 gray wolves, the largest population of wolves on a Native American reservation in the 48 conterminous States (Hunt *in litt.* 1998).

The Red Lake Band of Chippewa Indians (Minnesota) has indicated that it is likely to develop a wolf management plan that will probably be very similar in scope and content to the plan developed by the MN DNR. The Band's position on wolf management is ''wolf preservation through effective management,'' and the Band is confident that wolves will continue to thrive on their lands (Lawrence Bedeau, Red Lake Band of Chippewa Indians, *in litt.* 1998).

The Keweenaw Bay Indian Community (Michigan) has at least one wolf pack of four animals on its lands. They will continue to list the gray wolf as a protected animal under the Tribal Code even if federally delisted, with hunting and trapping prohibited (Mike Donofrio, Biological Services, Keweenaw Bay Indian Community, pers. comm. 1998). Other tribes, such as the Fond du Lac Band of Lake Superior Chippewa, have requested a slower pace to any wolf delisting process to allow more time for the preparation of tribal wolf management plans. The Fond du Lac Band has passed a resolution opposing Federal delisting and any other measure that would permit trapping, hunting, or poisoning of the gray wolf (Schrage *in litt.* 1998b).

Several Midwestern tribes (*e.g.*, the Bad River Band of Lake Superior Chippewa Indians and the Little Traverse Bay Bands of Odawa Indians) have expressed concern regarding the possibility of the reclassification (and a potential future delisting) resulting in increased mortality of gray wolves on reservation lands, in the areas immediately surrounding the reservations, and in lands ceded by treaty to the Federal government by the tribes (Kiogama *in litt.* 2000). Interest has also been expressed in having our assistance in developing tribal and intertribal wolf management plans prior to delisting.

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) has Stated its intent to work closely with the States to cooperatively manage wolves in the ceded territories in the Upper Midwest, and will not develop a separate wolf management plan. The Commission intends to work with us to ensure that State plans will adequately protect the wolf (Schlender *in litt.* 1998).

The tribes are very concerned with the details of any change in Federal

protection for the gray wolf. However, the GLIFWC's Voigt Task Force, representing the off-reservation treaty-reserved fish, wildlife, and gathering rights of 11 tribes in the Midwest, supports the reclassification to threatened status and the accompanying increased flexibility provided by the special regulation that will now apply to the growing wolf populations in Michigan and Wisconsin. Although few if any tribes are likely to take depredating wolves under the new regulations, they appreciate being granted these authorities (Schlender *in litt.* 2000).

The lands of national forests, and the prey species found in their various habitats, are important to wolf conservation and recovery in the western Great Lakes States. There are six national forests in that area that have resident wolves. Their wolf populations range from 3 on the Nicolet National Forest in northeastern Wisconsin to an estimated 300–400 on the Superior National Forest in northeastern Minnesota. The land base of the Chequamegon National Forest currently is used by nearly half of the wolves in Wisconsin. All of these national forests are operated in conformance with standards and guidelines in their management plans that follow the recommendations of the 1992 Recovery Plan for the Eastern Timber Wolf (Service 1992a). Reclassification to threatened status is not expected to change these standards and guidelines; in fact, the gray wolf is expected to remain classified as a sensitive species by the Regional Forester for U.S. Forest Service Region 9 at least for 5 years even after Federal delisting (Steve Mighton, U.S. Forest Service, pers. comm. 1998). This continuation of current national forest management practices will be an important factor in ensuring the long-term viability of gray wolf populations in Minnesota, Wisconsin, and Michigan.

Gray wolves regularly use four units of the National Park System in the western Great Lakes States and may occasionally use three or four other units. Although the National Park Service (NPS) has participated in the development of some of the State wolf management plans in this area, NPS is not bound by those plans. Instead, the NPS Organic Act and the NPS Management Policy on Wildlife give the agency a separate responsibility to conserve natural and cultural resources and the wildlife present within the parks. National Park Service management policies require that native species be protected against harvest, removal, destruction, harassment, or harm through human action, so management emphasis will continue to minimize the human impacts on wolf populations. Thus, because of their responsibility to preserve all wildlife, units of the National Park System can be more protective of wildlife than are State plans and regulations. In the case of the gray wolf, the NPS Organic Act and NPS policies will continue to provide protection to the wolf even after Federal delisting has occurred.

Voyageurs National Park, along Minnesota's northern border, has a land base of nearly 882 sq km (340 sq mi). Unpublished data from a 4-year wolf study indicate that there are a minimum of 6 to 9 packs that have at least a portion of their territory within the park. Management and protection of wolves within the park is not expected to change significantly after they are reclassified to threatened or even if delisted. Temporary closures around wolf denning and rendezvous sites will be enacted whenever they are discovered in Voyageurs National Park to reduce human disturbance. Sport harvest of wolves within the park will be prohibited, regardless of what may be allowed beyond park boundaries in future years. If there is a need to control depredating wolves (unlikely due to the current absence of agricultural activities adjacent to the park) the park will work with the State to conduct control activities outside the park to resolve the problem (Barbara West, Voyageurs National Park, *in litt.* 1999).

The wolf population in Isle Royale National Park is described above (see the *Recovery Progress of the Eastern Gray Wolf* section above). The NPS has indicated that it will continue to closely monitor and study these wolves, but at this time it does not plan to take any special measures to ensure their continued existence, regardless of their status under the Act. This wolf population is very small and isolated from the remainder of the western Great Lakes population; it is not considered to be significant to the recovery or long-term viability of the gray wolf (Service 1992a).

Two other units of the National Park System-Pictured Rocks National Lakeshore and St. Croix National Scenic Riverway—are regularly used by wolf packs. Pictured Rocks National Lakeshore is a narrow strip of land along Michigan's Lake Superior Shoreline; it contains wolves during the nonwinter months when deer populations are high. The Lakeshore intends to protect denning and rendezvous sites at least as strictly as the MI DNR Plan recommends (Brian Kenner, Pictured Rocks National Lakeshore, *in litt.* 1998). The St. Croix National Scenic Riverway, in Wisconsin and Minnesota, is also a mostly linear ownership, and it makes up portions of the territories of 3 to 5 packs of 10 to 40 wolves. The Riverway is likely to limit public access to denning and rendezvous sites, and to follow other management and protective practices outlined in the respective State wolf management plans (Robin Maercklein, St. Croix National Scenic Riverway, *in litt.* 1998).

In the western Great Lakes area, we currently manage seven units within the National Wildlife Refuge System with wolf activity. Primary among these are Agassiz National Wildlife Refuge (NWR) and Tamarac NWR in Minnesota, as well as Seney NWR in the Upper Peninsula of Michigan. Agassiz NWR has had as many as 20 wolves in 2 or 3 packs in recent years. Mange and illegal shootings reduced them to 5 wolves in a single pack and a separate single wolf in 1999, but in 2001, 2 packs with an estimated 11 members were using the refuge. Tamarac NWR has 2 packs, with approximately 18 wolves, using that refuge. Seney NWR currently has two packs, with a total of 4 wolves in the packs, plus several lone wolves also frequenting the refuge. Rice Lake NWR, in Minnesota, had 1 or 2 packs using the refuge in 2001. Late in the winter of 1998–99 a pair of gray wolves were located on Necedah NWR. By winter 2001–2002, there were 2 packs on the Refuge, with a total of at least 7 wolves in the packs. Sherburne NWR and Crane Meadows NWR, also in Minnesota, each have several individual wolves, but probably lack established wolf packs.

Gray wolves occurring on National Wildlife Refuges in the western Great Lakes States will be monitored, and refuge habitat management actions will maintain the current prey base for them while they are listed as threatened, and for a minimum of 5 years following any future delisting. Trapping or hunting by government trappers in response to depredation complaints will not be authorized on these refuges. However, because of the relatively small size of these NWRs, most, perhaps all, of these packs and individual wolves spend significant amounts of time off of these NWRs.

The extra protection afforded to resident and transient wolves, their den and rendezvous sites, and their prey by six national forests, two National Parks, and numerous National Wildlife Refuges in Minnesota, Wisconsin, and Michigan will further ensure the continuing recovery of wolves in the three States.

In summary, we believe that habitat or range destruction or degradation, or related factors that may affect gray wolf numbers, do not by themselves or in combination with other factors place the Eastern DPS of the gray wolf in danger of extinction. Recovery efforts over the past decade, as well as State, tribal, and Federal land management agency wolf management plans and practices will provide adequate protection for wolf populations, maintain their prey base, preserve denning sites and dispersal corridors, and are likely to keep wolf populations well above the numerical recovery criteria established in the Federal Recovery Plan for the Eastern Timber Wolf (Service 1992a).

Western DPS. The Recovery Plan (Service 1987) and the EIS for wolf reintroduction into Yellowstone and central Idaho (Service 1994a) recommended that wolf recovery efforts in the northern U.S. Rocky Mountains focus on areas that contained large blocks of public land, abundant wild ungulates, and minimal livestock to cause potential conflicts between people and wolves. Three primary recovery areas were identified: northwestern Montana, central Idaho, and the Greater Yellowstone Area (Service 1987). The northwestern Montana recovery area (more than 50,000 sq km (19,200 sq mi) is the area north of Interstate 90 and west of Interstate 15, and is a mixture of public land, primarily administrated by the USDA Forest Service, and private land. The economy and local culture is diverse and not as agriculturally based as in other parts of Montana (Bangs *et al.* 1995). The Greater Yellowstone Area and central Idaho areas, 64,000 sq km (24,600 sq mi) and 53,900 sq km (20,700 sq mi) respectively, are primarily composed of public lands (Service 1994a). These areas of potential wolf habitat are secure, and no foreseeable habitat-related threats prevent them from supporting a wolf population that exceeds recovery levels. There is already a demonstrated connectivity between occupied wolf habitat in Canada, northwestern Montana, Idaho, and Wyoming to ensure routine interchange of sufficient numbers of dispersing wolves to maintain demographic and genetic diversity in the wolf metapopulation. To date, natural connectivity between Idaho and northwestern Montana into the Greater Yellowstone Area appears to be more limited than that between Canada, northwestern Montana, and Idaho, but it does not appear to be a significant issue that would threaten wolf population viability in the Yellowstone segment of the northern Rocky Mountain wolf population. In addition, management actions have relocated about 120 wolves in and between Montana, Idaho, and Wyoming, including relocations between the various recovery areas. Wolf relocations will be used less often at higher wolf population levels because much of the most suitable wolf habitat is already occupied by resident wolf packs, but it will still occur and can further lessen the probability that genetic isolation could impact wolf population viability.

Wild ungulate populations in these three areas are composed mainly of elk, white-tailed deer, mule deer, moose, and (only in the Greater Yellowstone Area) bison. The States of Montana, Idaho, and Wyoming have managed resident ungulate populations for decades and maintain them at densities that would support a recovered wolf population. There is no foreseeable condition that would cause a decline in ungulate populations significant enough to affect a recovered wolf population. While 100,000 to 250,000 wild ungulates are estimated in each State, domestic ungulates, primarily cattle and sheep, are typically at least twice as numerous even on public lands (Service 1994a). The only areas large enough to support wolf packs, but lacking livestock grazing, are Yellowstone National Park and some adjacent USDA Forest Service Wilderness and parts of wilderness areas in central Idaho and northwestern Montana. Consequently, many wolf pack territories have included areas used by livestock, primarily cattle. While there is no livestock grazing in Glacier National Park, every wolf pack in northwestern Montana has interacted with some livestock, primarily cattle. Conflict between wolves and livestock has resulted in the annual removal of less than 6 percent of the wolf population (Bangs *et al.* 1995, Service *et al.* 2002). This level of removal by itself is not believed to cause declines in wolf populations.

In summary, we do not believe that habitat loss or deterioration, habitat fragmentation, or a decline in the abundance of wild prey will occur at levels that will affect wolf recovery and long-term population viability in the Western DPS.

Southwestern DPS. Sufficient suitable habitat exists in the Southwestern United States to support current recovery plan objectives for the Southwestern (Mexican) gray wolf. These habitats occur primarily on national forests and Native American reservations. Current and reasonably foreseeable management practices on these areas are expected to support ungulate populations at levels that will sustain wolf populations which meet or exceed recovery plan objectives. Habitat destruction or modification is not currently considered a threat or deterrent for restoration of Southwestern (Mexican) gray wolves.

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

General. Since their listing under the Act, no gray wolves have been legally killed or removed from the wild in the conterminous 48 States for either commercial or recreational purposes. We acknowledge that some wolves may have been illegally killed for commercial use of the pelts and other parts, but illegal commercial trafficking in wolf pelts or wolf parts is believed to be rare. Illegal capture of wolves for commercial breeding purposes is also possible, but is believed to be rare. The large fines and prison sentences provided for by the Act for criminal violations are believed to substantially discourage and minimize the illegal killing of wolves for commercial or recreational purposes. These penalties will remain following the reclassification to threatened status, although the maximum fines and prison sentences are reduced to $25,000 and 6 months for the wolves reclassified to threatened.

The intentional or incidental killing, or capture and permanent confinement, of endangered or threatened gray wolves for scientific purposes can only legally occur under permits issued by us (for example, under section 10(a)(1)(A) and 10(a)(1)(B) of the Act), under an incidental take statement issued by us as part of a biological opinion evaluating the effects of an action by a Federal agency, under an incidental take permit issued by us pursuant to section 10(a)(1)(B), or by a State agency operating under a cooperative agreement with us pursuant to section 6 of the Act (50 CFR 17.21(c)(5) and 17.31(b)). Although exact figures are not available rangewide, such removals of wolves from the wild have been very limited and probably comprised an average of fewer than 2 animals per year since the species was first listed as endangered. These animals were either taken from the Minnesota wolf population during long-term research activities (about 15 gray wolves); were accidental takings as a result of research activities in Wisconsin (4–5 mortalities and 1 long-term confinement); were accidentally killed during routine capture, monitoring, and research efforts in Montana, Idaho, Wyoming, or Arizona (fewer than 6 wolves); were

removed from the endangered population in Mexico (5 wolves) to be used as breeding stock for reintroduction programs in the United States; or were previously released *Canis lupus baileyi* that were recaptured for probable permanent confinement after being judged unsuitable for the reintroduction program (9 wolves) (William Berg, MN DNR, *in litt.* 1998; Mech, *in litt.* 1998; Brian T. Kelly, U.S. Fish and Wildlife Service pers. comm. 2002; Wydeven 1998).

We believe that no wolves have been legally removed from the wild for educational purposes in recent years. Wolves that are used for such purposes are the captive-reared offspring of wolves that were already in captivity for other reasons.

Refer to the *Depredation Control Programs in the Midwestern States* and *Depredation Control Programs in the Western DPS* sections under the *Summary of Factors Affecting the Species* section, factor D. *The adequacy or inadequacy of existing regulatory mechanisms,* below, for discussions of additional wolf mortalities associated with wolf depredation control programs.

Eastern DPS. The taking of gray wolves that are now classified as threatened for commercial, recreational, scientific, or educational purposes remains generally prohibited under the Act, but can be authorized by Federal permit. In addition, the taking of threatened wolves for conservation purposes can be done without an authorizing permit, if that taking is done by an employee or agent of a State conservation agency having an approved conservation agreement under the provisions of section 6(c) of the Act. The wildlife management agencies of the States of Minnesota, Wisconsin, Michigan, North Dakota, and South Dakota each have such an approved conservation agreement, and therefore will be able to take gray wolves for conservation purposes. The amount of such take must be reported to us annually.

This reclassification to threatened status for the Eastern DPS will not result in any decrease in protection for gray wolves in Minnesota, because they already are classified as threatened there. Therefore, there will be no increase in the taking of Minnesota wolves for these purposes. The extremely small current level of such take has not affected the recovery of Minnesota wolves, and is not expected to do so in the future.

Gray wolves in Wisconsin, Michigan, North Dakota, South Dakota and any other State where they may occur in the Eastern DPS are now subject to a possible increase in take, due to this reclassification, by employees or agents of these States. However, this take must be for conservation purposes, and is thus likely to be either for research purposes or part of a wolf depredation control program. (Depredation control programs, and the take expected to result from them under the new section 4(d) special regulation that now applies to parts of the Eastern DPS, are discussed in the *Depredation Control Programs in the Midwestern States* section under the *Summary of Factors Affecting the Species* section, factor D, *The adequacy or inadequacy of existing regulatory mechanisms,* below.) Therefore, we believe that such take will be minimal and that exempting such take is consistent with the recovery of the wolf in the Eastern DPS. To date, there has been no take of wolves for conservation purposes in, and we do not anticipate such take unless one or more packs becomes established in, the Dakotas or other States within this DPS, except for Minnesota, Wisconsin, and Michigan. Existing regulations require that the take must be for conservation purposes, and must be consistent with gray wolf recovery.

In summary, the taking of wolves by tribes, Federal agencies, organizations, or private citizens for commercial, recreational, scientific, or educational purposes may increase slightly, because the Act allows us to issue take permits for zoological exhibition, educational purposes, and ''special purposes consistent with the Act'' for threatened but not for endangered wildlife. However, the requirement that such take must be consistent with the conservation of the threatened species means that the magnitude of the take will be small and cannot inhibit gray wolf recovery. In addition, any additional take, under the new 4(d) regulation, of threatened wolves by State conservation agency employees must be for scientific research or conservation programs, and therefore must be consistent with continued wolf recovery.

Western DPS. Since western gray wolves were listed as endangered and experimental, no legal commercial, recreational, or educational utilization or take of them has occurred. In the States where wolves are now reclassified to threatened status and are now covered by the new 4(d) special regulation, no legal take would be allowed for these purposes under the threatened classification or under the new special regulation.

We believe some wolf mortalities associated with the ongoing scientific studies of wolves will continue to occur. Some of these studies involve capturing and radio-collaring wolves. Wolf capture by trapping, helicopter netgunning, and darting has the potential to seriously injure or kill wolves. Rare, these unintentional mortalities generally average less than 2 percent of the wolves handled (Service 1994a). During the reintroduction of wolves from Canada, nearly 100 wolves were handled and 2 died. Since then, there have been fewer than 6 wolf mortalities out of over 400 wolves captured as part of routine trapping and radio-collaring for monitoring purposes in Montana, Idaho, and Wyoming.

Southwestern DPS. In Arizona, New Mexico, the southern half of Utah and Colorado, the western half of Oklahoma and Texas, and Mexico, gray wolves continue to be protected by section 9 of the Act under their endangered or nonessential experimental population classifications. These classifications prohibit any commercial or recreational take of gray wolves, and we are unaware of any such take of southwestern wolves since their reintroduction. Enforcement by us will continue to keep such take to minimal levels.

Take for scientific or recovery purposes, including educational purposes, will be available in these States, but such take can be authorized only by a permit from us, and it must promote the conservation of the species. Thus, in all cases, gray wolf take for scientific, educational, and conservation purposes must benefit the gray wolf and must promote its recovery. Therefore, any take of this nature will not negatively impact continuing wolf recovery.

We do not believe that these forms of intentional take comprise a threat to the southwestern gray wolves, nor will they significantly impede recovery progress.

C. Disease or Predation

Disease. Many diseases and parasites have been reported for the gray wolf, and several of them have had significant impacts during the recovery of the species in the 48 conterminous States (Brand *et al.* 1995). These diseases and parasites, and perhaps others, must be considered to be significant potential threats to gray wolf populations in the future. Thus, in order to avoid a disease/parasite-related decline in the gray wolf population, their presence and impacts require diligent monitoring and appropriate follow-up for the foreseeable future.

Eastern DPS. Canine parvovirus (CPV) is a relatively new disease that infects wolves, domestic dogs, foxes, coyotes, skunks, and raccoons. Recognized in the United States in 1977 in domestic dogs,

it appeared in Minnesota wolves (based upon retrospective serologic evidence) live-trapped as early as 1977 (Mech *et al.* 1986). However, Minnesota wolves may have been exposed to the virus as early as 1973 (Mech and Goyal 1995). Serologic evidence of gray wolf exposure to CPV peaked at 95 percent of a group of Minnesota wolves live-trapped in 1989 (Mech and Goyal 1993). In a captive colony of Minnesota wolves, pup and yearling mortality from CPV was 92 percent of the animals that showed indications of active CPV infections in 1983 (Mech and Fritts 1987), demonstrating the substantial impacts this disease can have on young wolves. It is believed that the population impacts of CPV occur via diarrhea-induced dehydration leading to abnormally high pup mortality (WI DNR 1999a).

There is no evidence that CPV has caused a population decline or has had a significant impact on the recovery of the Minnesota gray wolf population. However, Mech and Goyal (1995) found that high CPV prevalence in the wolves of the Superior National Forest in Minnesota occurred during the same years in which wolf pup numbers were low. Because the wolf population did not decline during the study period, they concluded that CPV-caused pup mortality was compensatory, that is, it replaced deaths that would have occurred from other causes, especially starvation of pups. They theorized that CPV prevalence affects the amount of population increase, and that a wolf population will decline when 76 percent of the adult wolves consistently test positive for CPV exposure. Their data indicate that CPV prevalence in adult wolves in their study area increased by an annual average of 4 percent during 1979–93 and was at least 80 percent during the last 5 years of their study (Mech and Goyal 1995). Additional unpublished data gathered since 1995 indicate that CPV reduced wolf population growth in that area from 1979 to 1989, but not since that period (Mech *in litt.* 1999). These data provide strong justification for continuing population and disease monitoring.

The disease probably stalled wolf population growth in Wisconsin during the early and mid-1980s. During those years, the Wisconsin wolf population declined or was static, and 75 percent of 32 wolves tested by the same method were positive for CPV. During the following years (1988–96) of population increase, only 35 percent of the 63 wolves tested positive for CPV (WI DNR 1999a. CPV exposure rates were at 50 percent in live-captured Wisconsin wolves in 1995–96 (WI DNR 1999a, but no necropsy evidence of CPV mortalities from Wisconsin wolves exists (Nancy Thomas, National Wildlife Health Laboratory, *in litt.* 1998). Of 13 Wisconsin wolves that died and were examined in 2000, none of the deaths were attributed to CPV (Wydeven *et al.* 2001a). Similarly, CPV is not a suspected cause of death for the 22 wolves with a suspected cause of death identified in 2001 (WI DNR unpublished data). However, the difficulty of discovering CPV-killed pups must be considered.

Canine parvovirus is considered to have been a major cause of the decline of the isolated Isle Royale, Michigan, population in the mid and late 1980s. The Isle Royale gray wolf population decreased from 23 and 24 wolves in 1983 and 1984, respectively, to 12 and 11 wolves in 1988 and 1989, respectively. The wolf population remained in the low to mid-teens through 1995. However, factors other than disease may be causing, or contributing to, a low level of reproductive success, including a low level of genetic diversity and a prey population composed of young healthy moose that may make it difficult to secure sufficient prey for pups. There are no data showing any CPV-caused population impacts to the larger gray wolf population on the Upper Peninsula of Michigan (Peterson *et al.* 1998, Hammill pers. comm. 2002).

Sarcoptic mange is caused by a mite infection of the skin. The irritation caused by the feeding and burrowing mites results in scratching and then severe fur loss, which in turn can lead to mortality from exposure during severe winter weather.

From 1991 to 1996, 27 percent of live-trapped Wisconsin wolves exhibited symptoms of mange. During the winter of 1992–93, 58 percent showed symptoms, and a concurrent decline in the Wisconsin wolf population was attributed to mange-induced mortality (WI DNR 1999a). Seven Wisconsin wolves died of mange from 1993 through October 15, 1998, and severe fur loss affected five other wolves that died from other causes. During that period, mange was the third largest cause of death in Wisconsin wolves, behind trauma (usually vehicle collisions) and shooting (Nancy Thomas *in litt.* 1998).

The prevalence of mange and its impacts on the wolf population have increased in Wisconsin. During the 12-month period from April 2000 through March of 2001, mange appeared to be the second-most common cause of mortality in 23 Wisconsin wolves that were found dead; mange-induced hypothermia caused the death of 4 wolves and contributed to the death of a fifth wolf. (Motor vehicle collisions caused the death of 10 Wisconsin wolves during this same period, while 2 were shot and 2 were killed by other wolves.) Wolves nearing death from mange generally crawl into dense cover and are difficult to discover if they are not radio-tracked. During the winter of 2000–2001, approximately 14 percent of the radio-collared wolves being tracked by WI DNR died from mange. Other observations showed that some mangy wolves are able to survive the winter (Wydeven *et al.* 2000b, 2001a).

Pup survival during their first winter is believed to be strongly affected by mange. However, estimated survival of Wisconsin pups from 2000 until late winter 2000–2001 was 28 percent, only slightly lower than the previous year's 31 percent pup survival, yet the State's wolf population increased by 21 percent from 1999 to 2000 and only 4 percent from 2000 to 2001 (Wydeven *et al.* 2000a, 2001a). This indicates that mange mortality may not be the primary determinant of wolf population growth in the State, yet the impacts of mange in Wisconsin need to be closely monitored. So far, mange has not caused a sustained decline in the State's wolf population, and the wolf population increased by about 26 percent from late winter 2000–2001 to 2001–2002 despite the continued prevalence of mange in Wisconsin wolves (Wydeven *et al.* 2002).

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). At least 7 wild Michigan wolves died from mange during 1993–97, making it the most common disease of Michigan wolves. From 1999–2001, mange-induced hypothermia was the cause of death for all 7 Michigan wolves whose cause of death was attributed to disease (Hammill *in litt.* 2002). The Michigan Wolf Management Plan acknowledges that mange may be slowing wolf population growth and specifies that captured wolves be treated with Ivermectin to combat the mites (MI DNR 1997). MI DNR currently treats all captured wolves with Ivermectin if they show signs of mange. In addition, MI DNR vaccinates all captured wolves against CPV and canine distemper virus (CDV), and administers antibiotics to combat potential leptospirosis infections.

Wisconsin wolves similarly had been treated with Ivermectin and vaccinated for CPV and CDV when captured, but

the practice was stopped in 1995 to allow the wolf population to experience more natural biotic conditions. Since that time, Ivermectin has been administered only to captured wolves with severe cases of mange. In the future, Ivermectin and vaccines will be used sparingly on Wisconsin wolves, but will be used to counter significant disease outbreaks (Wydeven *in litt.* 1998).

Mange has not been documented to be a significant disease problem in Minnesota. Several packs in the Ely and Park Rapids areas are known to suffer from mange, and a pack at Agassiz NWR in northwestern Minnesota was reduced from at least five wolves (the pack may have numbered six to eight in the early 1990s) to a single animal over the last few years, primarily resulting from mange.

Lyme disease, caused by a spirochete, is another relatively recently recognized disease, first documented in New England in 1975; it may have occurred in Wisconsin as early as 1969. It is spread by ticks, that pass along the infection to their various hosts during feeding episodes. Host species include humans, horses, dogs, white-tailed deer, white-footed mice, eastern chipmunks, coyotes, and wolves. The prevalence of Lyme disease in Wisconsin wolves averaged 70 percent of live-trapped animals in 1988–91, but dropped to 37 percent during 1992–97. While there are no data showing wolf mortalities from Lyme disease, it may be suppressing population growth through decreased wolf pup survival. Lyme disease has not been reported from wolves beyond the Great Lakes regions (WI DNR 1999a).

Other diseases and parasites, including rabies, canine distemper, canine heartworm, blastomycosis, brucellosis, leptospirosis, bovine tuberculosis, hookworm, dog lice, coccidiosis, and canine hepatitis, have been documented in wild gray wolves, but their impacts on future wild wolf populations are not likely to be significant (Brand *et al.* 1995, Johnson 1995, Mech and Kurtz 1999, Thomas *in litt.* 1998, WI DNR 1999a). However, continuing wolf range expansion likely will provide new avenues for exposure to several of these diseases, especially canine heartworm, rabies, and bovine tuberculosis (Thomas *in litt.* 2000), further emphasizing the need for vigilant disease monitoring programs.

In aggregate, diseases and parasites were the cause of 25 percent of the diagnosed wolf deaths from 1960 through 1997 in Michigan (MI DNR 1997) and 19 percent of the diagnosed mortalities of radio-collared wolves in Wisconsin from 1979 through 1998 (Wydeven 1998).

Since several of the diseases and parasites are known to be spread by wolf to wolf contact, their incidence may increase as wolf densities increase in newly colonized areas. However, because wolf densities generally are relatively stable following the first few years of colonization, wolf to wolf contacts will not likely lead to a continuing increase in disease prevalence (Mech *in litt.* 1998).

Disease and parasite impacts may increase because several wolf diseases are carried and spread by domestic dogs. This transfer of diseases and parasites from domestic dogs to wild wolves may increase as gray wolves continue to colonize non-wilderness areas (Mech *in litt.* 1998). Heartworm, CPV, and rabies are the main concerns (Thomas *in litt.* 1998).

Disease and parasite impacts are a recognized concern of the State DNRs. The Michigan Gray Wolf Recovery and Management Plan states that necropsies will be conducted on all dead wolves, and that all live wolves that are handled will be examined, with blood, skin, and fecal samples taken to provide disease information. All handled wolves will be vaccinated for CDV and CPV and treated for parasites before release (MI DNR 1997).

Similarly, the Wisconsin Wolf Management Plan has a section on wolf health monitoring. It states that as long as the wolf is State listed as a threatened or endangered species, the WI DNR will conduct necropsies of dead wolves and test a sample of live-captured wolves for diseases and parasites. The goal will be to capture and screen 10 percent of the State wolf population for diseases annually. Following State delisting (after the State wolf population grows to 250 animals), disease monitoring will be scaled back because the percentage of the wolf population that is live-trapped each year will decline, but periodic necropsy and scat analyses will continue to test for disease and parasite loads. The plan also recommends that all wolves live-trapped for other studies should have their health monitored and reported to the WI DNR wildlife health specialists (WI DNR 1999a).

In summary, several diseases have had significant impacts on wolf population growth in the Great Lakes region in the past. These impacts have been both direct, resulting in mortality of individual wolves, and indirect, by reducing longevity and fecundity of individuals or entire packs or populations. Canine parvovirus stalled wolf population growth in Wisconsin in the early and mid-1980s, and it has been implicated as a contributing factor in declines of the isolated Isle Royale population in Michigan. Sarcoptic mange has impacted wolf recovery in both Michigan's Upper Peninsula and in Wisconsin in this decade, and is recognized as a continuing problem. However, despite these and other diseases and parasites, the overall trend for wolf populations in the western Great Lakes States is upward. The wolf management plans of Minnesota, Michigan, and Wisconsin include monitoring components that are expected to identify future disease and parasite problems in time to allow corrective action to be taken to avoid a significant decline in overall population viability. We do not believe disease impacts will prevent the continuation of wolf recovery in these States. The reclassification of Wisconsin and Michigan wolves from endangered to threatened will not change the incidence or impacts of disease on these wolves.

Western DPS. Wolves in the northern U.S. Rocky Mountains are exposed to a wide variety of canid diseases, common throughout North America. Some of these diseases and parasites have been documented to significantly affect wolf populations, usually temporarily, in other areas of North America. To date, canine parvovirus, canine distemper, and mange have been documented in wolves from the northern Rocky Mountains. Wolves in the Yellowstone area have almost certainly been exposed to brucellosis. However, in the studies of wolves in Montana, Idaho, and Wyoming to date, disease and parasites have not appeared to be a significant factor affecting wolf population dynamics. Just like wolves in all other parts of North America, wolves, usually pups, in the northern Rocky Mountains will occasionally die from a wide variety of canid diseases. However, it is doubtful that wolf populations in the northern Rocky Mountains could be significantly impacted, because wolf exposure to these diseases has been occurring for decades. The EIS on gray wolf reintroduction identified disease impact as an issue but did not evaluate it further, because it appeared not to be significant (Service 1994a). Likewise, in the ''Wolves for Yellowstone?'' reports to Congress in 1992, Johnson (1992a and 1992b) reviewed the relationship between wolves and rabies, brucellosis, and tuberculosis and found canids were not likely to be a reservoir for those diseases.

Southwestern DPS. There is no evidence suggesting that disease was a significant factor in the decline of the Mexican wolf. Likewise, there is no

reason to believe that disease will be a significant impediment to recovery of the Mexican wolf in the wild. Because the potential for disease and parasite transmission is much greater in captivity, especially in zoos, all captive Mexican wolves are vaccinated or treated for potential canine diseases and parasites that may exist in the captive environment.

As a result of captive disease and parasite prevention and treatment protocols, released wolves are in good health and physical condition when they enter the wild. Re-established Southwestern (Mexican) wolves will be monitored for disease or parasite-related problems, and all wild wolves captured for monitoring or management purposes will continue to be vaccinated indefinitely. To date, three Mexican wolf pups born in the wild have died from canine parvovirus. These pups were recaptured due to their parents killing livestock, and the pups subsequently died in captivity. This appears to be a limited occurrence and may have been associated with the pups being captured and placed in captivity.

Predation. There are no wild animals that habitually prey on gray wolves. Occasionally wolves will be killed by large prey such as deer or moose (Mech and Nelson 1989) or by a competing predator such as a mountain lion, but this has only been documented on rare occasions and is not believed to be a significant mortality factor. However, humans are highly effective predators of gray wolves.

Eastern DPS. Wolves are killed by other wolves, most commonly when a dispersing wolf encounters another pack and is attacked as an intruder, or when two packs encounter each other along their common territorial boundary. This form of mortality is likely to increase as more of the available wolf habitat becomes saturated with wolf pack territories, as is the case in northeastern Minnesota. Over the period from October 1979 through June 1998, 7 (13 percent) of the diagnosed mortalities of radio-collared Wisconsin wolves resulted from wolves being killed by other wolves (Wydeven 1998). However, this behavior is a normal part of the species' behavioral repertoire and should not be a cause for concern in healthy wolf populations, as it normally indicates that the wolf population is at, or approaching, the carrying capacity of the area.

Humans have functioned as highly effective predators of the gray wolf. We attempted to eliminate them from the landscape in earlier times: the United States Congress passed a wolf bounty that covered the Northwest Territories in 1817. Bounties on wolves subsequently became the norm for States across the species' range. In Michigan, an 1838 wolf bounty became the ninth law passed by the First Michigan Legislature; this bounty remained in place until 1960. A Wisconsin bounty was instituted in 1865 and then repealed about the time wolves were extirpated from the State in 1957. Minnesota maintained a wolf bounty until 1965.

Subsequent to the gray wolf's listing as a federally endangered species, the Act and State endangered species statutes prohibited the killing of wolves except under extenuating circumstances, such as in defense of human life, for scientific or conservation purposes, or under several special regulations intended to reduce wolf depredations of livestock. This reduction in human-caused mortality is the main cause of the wolf's comeback in parts of its historical range. However, it is clear that illegal killing of wolves continues.

Illegal killing of wolves occurs for a number of reasons. Some of these killings are accidental (*e.g.,* wolves are hit by vehicles, mistaken for coyotes and shot, or caught in traps set for other animals), and some of these accidental killings are reported to State, tribal, and Federal authorities. However, it is likely that most illegal wolf killings are intentional and are never reported to authorities. Such killings may be done because of frustration over wolf depredations of livestock or pets, fear for the safety of pets or children, hatred of the species, opposition to wolf recovery, a desire to protest against the government, or for other reasons. The number of illegal killings is difficult to estimate and impossible to accurately determine, because they generally occur in isolated areas and the evidence is quickly concealed.

Two Minnesota studies provide insight into the extent of human-caused wolf mortality before and after the species' listing. On the basis of bounty data from a period that predated wolf protection under the Act by 20 years, Stenlund (1955) found an annual human-caused mortality rate of 41 percent. Fuller (1989) provided 1980–86 data from a north-central Minnesota study area and found an annual human-caused mortality rate of 29 percent, a figure which includes 2 percent mortality from legal depredation control actions. However, drawing conclusions from these two data sets is difficult due to the confounding effects of habitat quality, exposure to humans, prey density, differing time periods, and vast differences in study design. While these figures provide support for the contention that human-caused mortality decreased subsequent to the wolf's protection under the Act, it is not possible at this time to determine if human-caused mortality (apart from mortalities from depredation control) has significantly changed over the 25-year period that the gray wolf has been listed as threatened or endangered.

Interestingly, when compared to his 1985 survey, Kellert's 1999 public attitudes survey showed an overall increase in the number of northern Minnesota residents who reported having killed, or knowing someone who had killed, a wolf. However, members of groups that are more likely to encounter wolves-farmers, hunters, and trappers-reported a decrease in the number of such incidents (Kellert 1985, 1999). Because of these apparently conflicting results, and differences in the methodology of the two surveys, drawing any clear conclusions on this issue is difficult.

It is important to note that despite the difficulty in measuring the extent of illegal killing of wolves, their population and range in the western Great Lakes States has continued to increase. During recent decades, all sources of wolf mortality, including legal (takings for research and depredation control activities) and illegal human-caused mortality, have not been of sufficient magnitude to stop the continuing growth of the wolf population, estimated at about 4 percent average annual increase in Minnesota, and about a 28 percent average annual increase in Wisconsin and Michigan since 1992–1993. This indicates that total gray wolf mortality continues to be exceeded by wolf recruitment (that is, reproduction and immigration) in these areas.

As the wolf population in Wisconsin and Michigan saturates the habitat or as the cultural carrying capacity is approached, the rapid population growth rates are expected to slow, and it is likely that growth will eventually stop. (''Cultural carrying capacity'' differs from the biological or habitat carrying capacity in that it also incorporates the limits that will likely be imposed on the wolf population by human society, including both legal and illegal limiting measures.) At that time we should expect to see negative growth rates (that is, wolf population declines) in some years, due to short-term fluctuations in birth and mortality rates. However, adequate wolf monitoring programs, as identified in the Michigan, Wisconsin, and Minnesota wolf management plans, should be able to identify excessively high mortality rates

and/or low birth rates and to trigger timely corrective action when necessary. Michigan and Wisconsin DNRs are currently monitoring their wolf populations in this manner, and this level of monitoring will continue following this reclassification. The goals of all three State wolf management plans are to maintain a within-State wolf population that is well above the 200 animals identified in the Federal Eastern Recovery Plan as needed for viable isolated wolf populations.

In Wisconsin, human-caused mortalities accounted for 58 percent of the diagnosed mortalities on radio-collared wolves from October 1979 through June 1998. One-third of all the diagnosed mortalities, and 55 percent of the human-caused mortalities, were from shooting. Another 12 percent of all the diagnosed mortalities resulted from vehicle collisions. Vehicle collisions have increased as a percentage of radio-collared wolf mortalities. During the October 1979 through June 1995 period, only 1 of 27 known mortalities was from that cause; but from July 1995 through June 1998, 5 of the 26 known mortalities resulted from vehicle collisions (WI DNR 1999a, Wydeven 1998); and from April 2000 through March 2001, 10 of 23 known mortalities were from that cause (Wydeven *et al.* 2000b, 2001a). Only 2 of those 23 mortalities were from shootings, but an additional 4 Wisconsin wolves were shot during the State's 2001 deer hunting season (WI DNR 2001).

In the Upper Peninsula of Michigan, human-caused mortalities accounted for 75 percent of the diagnosed mortalities, based upon 34 wolves recovered from 1960 to 1997. Twenty-eight percent of all the diagnosed mortalities and 38 percent of the human-caused mortalities were from shooting. In the Upper Peninsula during that period, about one-third of all the known mortalities were from vehicle collisions (MI DNR 1997). During the 1998 Michigan deer hunting season, 3 radio-collared wolves were shot and killed, resulting in one arrest and conviction (Hammill *in litt.* 1999, Michigan DNR 1999b). During the subsequent 3 years, 8 additional wolves were killed in Michigan by gunshot, and the cut-off radio-collar from a ninth animal was located, but the animal was never found. These incidents resulted in 6 guilty pleas, with 3 cases remaining open. Data from that 1999–2001 period show that human-caused mortalities still account for the vast majority of the diagnosed mortalities (79 percent) in Michigan. However, deaths from vehicular collisions now greatly outnumber shootings. Twenty-seven percent of the diagnosed mortalities were from shootings (35 percent of the human-caused mortalities), while 48 percent of the diagnosed Michigan mortalities were from vehicular collisions (Hammill *in litt.* 2002). When viewing these figures it is important to remember that there is a much greater likelihood of finding a vehicle-killed wolf than there is of finding a wolf that has been illegally shot, unless the animal was being radio-tracked.

A continuing increase in wolf mortalities from vehicle collisions, both in actual numbers and as a percent of total diagnosed mortalities, is expected as wolves continue their colonization of areas with more human developments and a denser network of roads and vehicle traffic.

A significant portion of the intentional illegal mortalities may arise as a protest against the Federal government or from frustration arising from a perception of inadequate Federal or State depredation control programs or inadequate State compensation for depredated livestock and dogs. The application of this final rule in the Midwest—reclassifying Wisconsin and Michigan wolves to threatened and implementing a special regulation for lethal depredation control, with no change in the nearly identical protection currently provided to threatened Minnesota wolves—is expected to have both positive and negative impacts on illegal wolf mortality.

In Wisconsin and Michigan, the rapidly expanding wolf population is beginning to cause more depredation problems. For example, from 1991 through 1996 only 1 Wisconsin wolf was captured for depredation control. In 1997, 2 wolves were trapped and moved to eliminate depredation problems. In 1998, 4 wolves had to be captured as a result of verified depredation problems, and 8 were trapped (7 moved) in the first 9 months of 2001 (Wydeven *et al.* 2001b) in response to verified depredation incidents. Data from Michigan show a similar, but smaller, increase in confirmed wolf depredations on calves, cows, sheep, and dogs: 2 in 1996, 3 in 1998, 4 in 1999, 3 in 2000, and 6 in 2001 (Hammill *in litt.* 2002).

For Wisconsin and Michigan, the new special management regulations under section 4(d) of the Act provide increased flexibility and efficiency in dealing with these problem wolves (see the *Special Regulations Under Section 4(d) for Threatened Species* section below). This may result in greater public satisfaction with the States' abilities to promptly and effectively deal with depredation incidents, and may reduce the perception that wolves are out of control. Thus, the regulations may counter the viewpoint that vigilante action is needed to reduce their numbers. Such vigilante action is likely to result in the death of nondepredating wolves, and may impede recovery progress, at least locally.

Wolves were largely eliminated from the Dakotas in the 1920s and 1930s and were rarely reported from the mid-1940s through the late 1970s. Ten wolves were killed in these two States from 1981 to 1992; 5 of the mortalities were in 1991 and 1992 (Licht and Fritts 1994). Two more were killed in North Dakota since 1992, and in Harding County in extreme northwestern South Dakota, a wolf was killed in 2001. There have been other recent reported sightings of gray wolves, including a confirmed sighting by USDA/APHIS-Wildlife Services personnel in 1996 near Gary, South Dakota, (near the Minnesota border), and a 1994 confirmation of a den with pups in extreme north-central North Dakota near the Canadian border. Several other unconfirmed sightings have been reported from extreme northeastern and southeastern South Dakota. Wolves killed in North and South Dakota are most often shot by hunters after being mistaken for coyotes, or else they are killed by vehicles. The 2001 mortality in South Dakota was caused by an M–44 ''coyote getter'' device that had been properly set in response to complaints about coyotes. Genetic analysis of the Harding County mortality showed it to be a wolf from the Minnesota-Wisconsin-Michigan area (Straughan and Fain 2002).

Additional discussion of past and future wolf mortalities in the Eastern DPS arising from depredation control actions is found under the *Summary of Factors Affecting the Species* section, factor D, *The inadequacy of existing regulatory mechanisms.*

Despite human-caused mortalities of wolves in Minnesota, Wisconsin, and Michigan, it is clear that these wolf populations have continued to increase in both numbers and range. Under these new regulations, as long as other mortality factors do not increase significantly, and the wolf populations receive adequate and timely monitoring to document (and counteract, if necessary) the effects of excessive human-caused mortality, we believe the Minnesota and Wisconsin-Michigan wolf populations will not decline to nonviable levels, nor will recovery slow, in the foreseeable future resulting from human-caused killing or other forms of predation.

Western DPS. Since wolves have been monitored in Montana, Idaho, and Wyoming, only two wolves been confirmed to have been killed by

another predator. They were both lone wolves killed by mountain lions. Wolves in the northern Rocky Mountains inhabit the same areas as mountain lions, grizzly bears, and black bears, but conflicts rarely result in the death of either species. Wolves are occasionally killed by prey that they are attacking, but those instances are rare. Since 1987, wolves in the northern Rocky Mountains have apparently died from wounds they received while attacking prey on about 6 occasions. This level of mortality will not significantly affect wolf recovery. Other wolves are the largest cause of natural predation among wolves. About a dozen mortalities have resulted from territorial conflicts. Wherever wolves occur, including Montana, Idaho, and Wyoming, some low level of mortality resulting from territorial conflict between wolves is common. Those incidents occur but are so infrequent that they do not cause a level of mortality that would significantly affect a wolf population that is at or above recovery levels.

Humans are the largest cause of wolf mortality and the only cause that can significantly affect wolf populations at recovery levels. The annual survival rate of immature wolves in northwestern Montana and adjacent Canada from 1984 to 1995 was 80 percent (Pletscher *et al.* 1997); 84 percent for resident wolves and 66 percent for dispersers. That study found 84 percent of immature wolf mortality to be human-caused. Fifty-eight wolves from northwestern Montana with functioning radio-collars have died between 1987 and 1996, and humans caused the death of 49 (84 percent). Trends in causes of wolf mortality seem to be similar since 1996. 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 this study. People who illegally kill wolves may destroy the radio-collar so the proportion of illegal mortality could be under-estimated. However, the wolf population has continued to expand rapidly in the face of human-caused mortality.

As was typically the case elsewhere in North America, humans were the largest cause of wolf mortality in northwestern Montana. Wolf control was the leading cause of death for wolves since their return to northwestern Montana.

The EIS (Service 1994a) predicted that 10 percent of the reintroduced wolves would be removed annually for depredation control with an additional 10 percent dying annually from other causes. Known annual mortality has been below the 20 percent annual level that was predicted in the EIS. Compared to naturally colonizing wolves, reintroduced wolves had a lower proportion of human-caused mortality because they were released in remote areas where contact and conflicts with people were less likely. Relocated depredating wolves in northwestern Montana had a higher proportion of human-caused mortality (96 percent) than either reintroduced (61 percent) or naturally colonizing wolves in northwestern Montana (71 percent excluding legal harvest in Canada). In northwestern Montana, relocated depredating wolves traveled widely and often resettled in places similar to the areas that they had been removed from, typically private ranch land. Consequently they continued to come into conflict with people and livestock (Bangs *et al.* 1998).

The levels of documented human-caused mortality among wolves in the northern Rocky Mountains have not, at this time, been significant enough to cause declines in wolf populations or to slow overall wolf population growth. The protection of wolves under the Act appears sufficient to promote wolf population growth. Under the provisions of the experimental population rules for the central Idaho and Yellowstone areas, wolf population growth has been high. Although the new special management regulations under section 4(d) of the Act will allow some expanded take of problem wolves outside the experimental population areas, such regulations will still sufficiently protect wolves from human persecution. Continued steady growth towards recovery levels is therefore expected, and recovery targets should be achieved by the end of 2002 (see the *Special Regulations Under Section 4(d) for Threatened Species* section below).

Enforcement of the Act's prohibitions on taking wolves listed as ''experimental'' and ''endangered'' has been successful to date. Twelve wolves have been illegally killed in the experimental areas, and 6 cases have been resolved. In northwestern Montana, 9 wolves were known to have been illegally killed, and 4 cases have been resolved. Fines have ranged from $500 to $10,000, with jail sentences of up to 8 months incarceration and 1 year supervised release being imposed for some violators. The legal or illegal killing documented to date has not been at a level that could affect wolf population growth to recovery levels.

To date, 3 experimental wolves were legally killed (one in Montana and in Idaho) under the provisions of the experimental population special regulation by livestock producers who saw the wolves attacking livestock. They reported the shooting of the wolves to authorities within 24 hours as required. Investigations confirmed compliance with the experimental rules, and no further action was taken. Fewer than a dozen other wolves have been unintentionally killed in the northern Rockies by vehicles, coyote cyanide (M–44) devices, and traps, and during control and management actions, but investigations of these incidents concluded that prosecution was not warranted. These types of mortalities are relatively rare and will not affect wolf population growth to recovery levels.

Special management regulations under section 4(d) of the Act will allow for the legal take of wolves under more circumstances than the existing special regulation. The previous special management regulations under section 10(j) of the Act will continue to apply to the two nonessential experimental populations in the northern U.S. Rocky Mountains (see the *Special Regulations Under Section 4(d) for Threatened Species* section below). Therefore, we do not expect wolf mortality rates to change significantly as a result.

Southwestern DPS. Through January 2003, illegal killing has been confirmed as the cause of death of 11 of the 74 Mexican wolves that have been released to the wild. Two of the 74 wolves released died due to injuries sustained from other predators. However, there are now 8 packs in the wild, of which 7 appear to have produced pups in 2002, and 4 of those 7 litters were conceived and born in the wild. In addition, we continue to release additional gray wolves into the Blue Range Wolf Recovery Area (BRWRA) of New Mexico and Arizona. However, based on the current growth of the BRWRA population, releases will likely be scaled back or eliminated in the next few years. The rate of natural wolf population increase, combined with our continuing release of captive-raised wolves, is such that population growth is expected to continue despite these losses from human and animal-caused mortalities. Therefore, although predation may initially slow recovery, we do not believe that predation or illegal killing will preclude recovery of the Mexican wolf. Killing or capture and permanent confinement of gray wolves for scientific and educational purposes is discussed under Factor B, above.

D. The Adequacy or Inadequacy of Existing Regulatory Mechanisms

Upon being listed under the Act, the gray wolf immediately benefitted from a

Federal regulatory framework that includes prohibition of take, which is defined broadly under the Act to include killing, injuring, or attempting to kill or injure; prohibition of habitat destruction or degradation if such activities harm individuals of the species; the requirement that Federal agencies ensure their actions will not likely jeopardize the continued existence of the species; and the requirement that we develop and implement a recovery program for the species. In addition, the 1978 designation of critical habitat in Minnesota and Michigan (43 FR 9607) further requires Federal agencies to ensure that their actions do not result in the destruction or adverse modification of the primary constituent elements of the habitat in those designated areas. Many of these protective regulations and conservation measures have substantially improved the status of the gray wolf.

Eastern DPS. A June 29, 1998, announcement by then Secretary of Interior Bruce Babbitt and then Service Director Jamie Rappaport Clark described, in part, our intention to propose a delisting of gray wolves in the Western Great Lakes. That intention was based upon our belief that State wolf management plans for Minnesota, Wisconsin, and Michigan would either be completed, or would be sufficiently close to completion, so that our delisting and reclassification proposal could be based on an analysis of the protective mechanisms and management strategies and actions described in those three plans.

In late 1997 the Michigan wolf management plan was completed and received the necessary State approvals. The Wisconsin Natural Resources Board approved the Wisconsin wolf management plan in October of 1999. Our biologists have participated on the teams that developed these two State plans, so we are familiar with their evolution and likely future direction. We believe that these plans provide sufficient information for us to analyze the future threats to the gray wolf population in Wisconsin and Michigan after Federal delisting.

During the 1999 legislative session, the Minnesota Legislature failed to approve a State wolf management plan and regulatory bill that would have allowed us to evaluate the future of the Minnesota wolf population in the event it would be delisted and removed from the protections of the Act. Furthermore, as we finished work on our proposal in mid-February 2000, the Minnesota Legislature had not considered the wolf management bill produced by the MN DNR in early 2000. Therefore, in contrast to the June 1998 announcement by Babbitt and Clark, we did not propose to delist wolves in the Western Great Lakes. Rather we proposed to reclassify wolves in Wisconsin, Michigan, North Dakota, and South Dakota to threatened, bringing them to the same status that wolves in Minnesota were given in 1978.

The Minnesota Legislature subsequently passed wolf legislation and directed the MN DNR to complete a management plan in conformance with that legislation. MN DNR completed the Minnesota Wolf Management Plan (MN Plan) in early 2001. Although the Minnesota legislation and the MN Plan were not available in time to play a role in our July 2000 reclassification proposal, they will be carefully evaluated as we review all relevant information in preparation for a future proposal to delist gray wolves in the Eastern DPS.

Under this final rule, gray wolves will continue to be protected by the provisions of the Act throughout the Eastern DPS. The regulatory changes in that protection that will take place are twofold: (1) The recovering wolf populations in Wisconsin and Michigan, as well as wild wolves anywhere in the Eastern DPS, now will be protected as a threatened species, rather than as an endangered species; and (2) for the first time wolves in all but the eastern quarter of the DPS will be subject to routine, but limited, lethal depredation control measures under the terms of a special regulation under section 4(d) of the Act.

One change in protection that will result from a reclassification from endangered to threatened was discussed above, under the *Summary of Factors Affecting the Species* section, factor B, *Overutilization for commercial, recreational, scientific, or educational purposes* above. The change stems from the broader authority of Service or State employees, or their designated agents, to take a member of a threatened species without a need to obtain a permit from us. Furthermore, we can issue permits to take threatened species for a wider variety of purposes than for endangered species. The impact of this increased take authority on wolf recovery is believed to be insignificant; additional discussion is found in that earlier section.

The second impact of this reclassification is indirect, and it stems from our ability to implement special regulations under section 4(d) of the Act for threatened, but not endangered, species. We have used that authority to finalize a special regulation for the lethal control of depredating wolves in much of the Eastern DPS that is very similar to the lethal control currently authorized by the special regulation that has been in effect for Minnesota wolves since December 12, 1985 (50 FR 50792; see also 50 CFR 17.40(d)). That special regulation allows the killing of depredating wolves by certain government employees or agents, subject to several restrictions.

Depredation Control Programs in the Midwestern States. Wolves that are injuring and/or killing domestic animals in the Midwest have been controlled in different ways, depending upon their listing status under the Act and their importance to our gray wolf recovery programs. In Minnesota depredating wolves have been lethally controlled under a special regulation, because they are listed as threatened. Section 4(d) of the Act allows lethal take of threatened animals under a special regulation. (Details on the Minnesota depredation control program are provided later in this subsection.)

Depredating wolves in Wisconsin and Michigan, previously listed as endangered and therefore previously not eligible for a section 4(d) special regulation, have been trapped and released in a suitable and unoccupied area at some distance from the depredation location. The goal of this approach was to eliminate future depredations by moving the wolf or wolves to a suitable but vacant area at a location with adequate wild prey, and with minimal or no exposure to domestic animals. However, the results of this approach vary widely. In some cases the wolf will become resident at the new site and will not resume its previous habit of preying on domestic animals. In other cases the wolf attempts to return to its previous territory, continues its depredations of domestic animals at the new site, or is killed by nearby resident wolves. This approach has a greater chance of succeeding if there are several areas of suitable unoccupied habitat from which to choose for release of the wolf, so that a release location can be selected that is very remote from the wolf's previous territory.

However, the rapidly growing wolf populations in both Wisconsin and Michigan make it increasingly difficult to find suitable, but unoccupied, areas into which a depredating wolf can be successfully released. In one recent incident of the capture and translocation of a depredating wolf in Wisconsin, the animal left the release site and had traveled half of the distance back to its capture site before being mistaken for a coyote and shot

(Wydeven *in litt.* 1999). There is also growing opposition to the translocation of depredating wolves, and at least one county board has passed a resolution opposing the relocation of additional wolves to that county. Residents in the area to where these wolves are moved are concerned that the depredation problem will recur in their area.

Due to the decreasing effectiveness of, and increasing opposition to, translocation of depredating wolves, as well as the high monetary and labor costs of such attempts, the States of Wisconsin and Michigan have requested the authority to carry out lethal depredation control measures, similar to what has been done by USDA/APHIS-Wildlife Services in Minnesota. As the wolf population grows in number and expands in range in those two States, those wolves will increasingly occupy agricultural areas and will be exposed to additional domestic animals as potential prey. We believe that the new special management regulations under section 4(d) of the Act will provide increased flexibility and efficiency in managing wolves and are consistent with conservation of the gray wolf (see the *Special Regulations under Section 4(d) for Threatened Species* section below).

Based upon depredation control statistics from Minnesota, we expect the lethal control of depredating Wisconsin and Michigan wolves to be very small during the next few years. Data from Minnesota show that an expanding wolf population's increasing exposure to domestic animals will likely lead to increased depredation incidents, and the need for additional lethal control of those wolves. From 1980 to 1984, with a late winter wolf population of about 1,350 animals, an annual average of 2.2 percent of the Minnesota wolf population was killed by USDA/APHIS-Wildlife Services to reduce depredation problems. From 1985 to 1989, with a late winter wolf population averaging about 1,600 wolves, the annual average of wolves killed for depredation control increased to 3.0 percent. Additional increases have occurred in the 1990s.

With the Wisconsin and Michigan (Upper Peninsula) late winter wolf populations at about 250–350 in each State, we estimate that an average of about 2 to 3 percent of those wolves will be taken annually through lethal depredation control actions in response to attacks on livestock. This will be about 6 to 10 wolves in each State. Given the average annual population increases of 19 to 24 percent over recent years in each of these States, the effect of such levels of lethal depredation control will not prevent the continued growth of the wolf population in either State, and will probably be so small that it does not noticeably slow that growth over the next few years. Wolf recovery will not be affected in either State. Reporting (within 15 days) and monitoring requirements will ensure that the level of lethal depredation control is evaluated promptly and can be curtailed if necessary. Therefore, we do not believe that lethal livestock depredation control will be a significant threat to the future of wolves in either Michigan or Wisconsin, or that it will result in a need to reclassify those wolves back to endangered status in the foreseeable future.

In recent years there has been an increase in the number of dogs attacked by gray wolves in Wisconsin, with 17 killed and 1 injured in 2001. In almost all cases, these have been hunting dogs that were being used for, or being trained for, hunting bears and bobcats at the time they were attacked. It is believed that the dogs entered the territory of a wolf pack and may have been close to a den, rendezvous site, or feeding location, thus triggering an attack by wolves defending their territory or pups. As many as 7 or 8 wolf packs may have been involved in the 2001 attacks on hunting dogs (WI DNR unpublished data). The Wisconsin Wolf Management Plan States that ''generally only wolves that are habitual depredators on livestock will be euthanized'' (WI DNR 1999a). Furthermore, the State's draft guidelines for conducting depredation control actions on wolves that retain a Federal threatened status say that no control trapping will be conducted on wolves that kill ''dogs that are free-roaming or roaming at large.'' Lethal control will only be conducted on wolves that kill dogs that are ''leashed, confined, or under the owner's control on the owner's land'' (Wisconsin Wolf Technical Committee 2002). Because of these State-imposed limitations, we do not believe that lethal control of wolves depredating on hunting dogs will be a significant additional source of mortality in Wisconsin.

Michigan has not experienced as high a level of dog attacks by wolves, although a slight increase in such attacks has occurred over the last decade. The number of verified attacks was one dog killed in 1996, three (two injured, one killed) in 1999, and three killed in 2001. Similar to Wisconsin, MI DNR does not intend to trap and move wolves that depredate on free-ranging dogs. However, trapping and relocation of wolves would be considered if wolves have killed confined pets and remain in the area where more pets are being held (Hammill *in litt.* 2002).

The new special regulation that authorizes depredation control in Wisconsin and Michigan requires that wolves killed for depredation control purposes be reported to us within 15 days. Thus, we will be promptly alerted if an unexpected number of depredating wolves are killed under the new special regulation, and we can initiate corrective action, if necessary.

Since wolves were protected under the Act, only one wolf has been killed for depredation control purposes in Wisconsin and Michigan. That adult wolf was killed by the WI DNR in 1999, under the provisions of a permit that we issued to deal with that specific instance. This was done to end a chronic depredation problem at a private deer farm after the failure of extensive efforts to live-trap and remove the wolf (WI DNR 1999b).

For both North Dakota and South Dakota we had anticipated potential wolf depredation problems associated with mostly single, dispersing wolves from the Minnesota and Manitoba populations. To cope with these anticipated depredations we have had a ''Contingency Plan for Responding to Gray Wolf Depredations of Livestock'' in place for each State for several years (Service 1992b, 1994b). In partnership with USDA/APHIS-Wildlife Services and State animal damage control agencies, the contingency plans provide for the capture and permanent transfer to American Zoo and Aquarium Association (AZA)-approved holding facilities, such as zoos, captive breeding centers, or research facilities, of all depredating or injured/sick wolves in North Dakota and South Dakota. The lethal control of depredating and injured/sick wolves is authorized by the plans only if no AZA-approved holding facilities could be identified. Verified wolf depredations occur approximately once every other year in North Dakota, with the most recent occurring in June of 1999; there have been no verified wolf depredations in South Dakota in recent decades. To date, in neither State has it been necessary to implement either the nonlethal or lethal control measures authorized under the contingency plans, although confirmed wolf sightings and some incidents of wolf depredation continue to occur.

North Dakota and South Dakota are recognized as lacking significant potential for restoration of the gray wolf, and neither our Eastern Recovery Plan nor our Northern Rockies Plan includes those States in its list of possible locations for restoration of gray wolf populations (Service 1987, 1992a). Therefore, lethal control of depredating wolves in these two States will not

adversely affect the Eastern DPS recovery program. We believe that the new special regulations finalized with this rule to allow lethal control of depredating wolves will help to promote greater public acceptance of the gray wolf recovery programs (see the *Special Regulations under Section 4(d) for Threatened Species* section below). Furthermore, such regulations will allow Federal, State, and tribal agencies in the Dakotas to be more responsive to depredation incidents, thus, minimizing conflicts between wolves and livestock production. In addition, such regulations will eliminate the costs, time, and facilities needed to capture, transport, and house live gray wolves.

We expect a much higher proportion of North Dakota and South Dakota wolves to become involved in depredation on domestic animals than the approximately 2 to 3 percent we expect in Wisconsin and Michigan. Thus, if the Minnesota wolf population continues to expand and provide additional dispersing wolves, lethal depredation control activities in North Dakota and South Dakota may also kill on the order of 4 or 5 wolves annually in each of these 2 States. These mortalities will neither slow the recovery of the Minnesota and Michigan-Wisconsin wolf populations nor delay the eventual delisting of the Eastern DPS, because the Eastern Plan does not rely on wolves in North Dakota or South Dakota to achieve any of its recovery criteria. If wolves in the Dakotas are not involved in depredations on domestic animals they retain all the normal protections of a threatened species. If they return to Minnesota or to the Wisconsin-Michigan population, they may contribute to the continuing growth of the core wolf populations in the Midwest.

Our proposal would have applied the special regulation for lethal depredation control to all States within the proposed Western Great Lakes DPS, except Minnesota, which already is subject to a very similar special regulation. Because this final rule geographically expands the relevant DPS to additional States and retains the Act's protections for wolves as threatened throughout much of the eastern United States, we are also providing coverage of the special regulation to most, but not all, of those additional States.

The special regulation provides the authority for lethal control of depredating wolves to all parts of the Eastern DPS that are west of Pennsylvania. Except for Wisconsin, and the Upper Peninsula of Michigan, gray wolves that occur in the areas covered by the new special regulation are not necessary for the recovery of the Eastern DPS, and if they attack domestic animals State and tribal authorities will have authority for lethal control.

The special regulation for the Eastern DPS and its provision for lethal control of depredating wolves do not apply to wolves in Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine. No wolves are currently known to occur in this area, nor are these States within anticipated dispersal distance of the gray wolf population recovering in the western Great Lakes area, so there is a low probability of gray wolf depredation in these States. Furthermore, several State wildlife agencies in the Northeast have expressed support for natural wolf recovery and indicated a willingness to protect wolves that disperse into this region from Canada. In addition, as described above, the species identity of wolves that might naturally appear in northeastern States is uncertain at this time, and each individual wolf might be important to future wolf recovery efforts that might be undertaken there.

This final rule will not affect the current section 4(d) special regulation for wolf depredation control in Minnesota, and we expect that program will continue unchanged as long as those wolves are listed as threatened under the Act. During the period from 1980–1998, the Federal Minnesota wolf depredation control program has annually euthanized from 20 (in 1982) to 216 (in 1997) gray wolves. The annual average was 30 wolves killed from 1980 to 1984, 49 from 1985 to 1989, 115 from 1990 to 1994, and 152 from 1995 to 1999. Based upon estimates of the Minnesota wolf population during these periods, these numbers represent an average annual removal of approximately 2.2 percent, 3.0 percent, 6.0 percent, and 6.7 percent of the total population during those four 5-year periods, respectively. The lowest annual percentage of Minnesota wolves destroyed by USDA/APHIS-Wildlife Services was 1.5 percent in 1982; the highest percentage was 9.4 in 1997 (Paul 2001).

There is no evidence that this level of wolf removal for depredation control purposes has halted the increase in wolf numbers or range in Minnesota, although it is quite possible that the depredation control program may have slowed wolf population growth, especially since the late-1980s. Because the Minnesota wolf population has continued to grow at an average annual rate of nearly 4 percent since 1989, we believe that it is highly likely that a viable wolf population will continue to exist in Minnesota if a lethal depredation control program of this magnitude is continued. However, monitoring of the wolf population will become increasingly important if the percentage of wolves killed for depredation control continues to increase, or if other mortality factors increase in magnitude. Annual monitoring may become necessary to enable timely corrective action, including reduction of lethal depredation control activities, if the Minnesota wolf population begins to decrease or to contract in geographic range. At this time, however, it appears that continuing the current magnitude of lethal depredation control under the existing special regulation will not suppress the Minnesota wolf population.

State and Tribal Management and Protection of Wolves. The Wisconsin Wolf Management Plan recommended immediate reclassification from State-endangered to State-threatened status because the State's wolf population has already exceeded the State reclassification criterion of 80 wolves for 3 years; that State reclassification has already occurred. The Plan further recommends the State manage for a gray wolf population of 350 wolves outside of Native American reservations, and states that the species should be delisted by the State once the population reaches 250 animals outside of reservations. Upon State delisting, the species would be classified as a ''protected nongame species,'' a designation that would continue State prohibitions on sport hunting and trapping of the species. The Wisconsin Plan includes criteria that would trigger State relisting as threatened (a decline to fewer than 250 wolves for 3 years) or endangered (a decline to fewer than 80 wolves for 1 year). State delisting can occur while the wolf is still federally listed as either threatened or endangered, but the remaining stricter Federal protections would prevent the implementation of weaker State protections. Public taking of wolves will not occur while the wolf remains federally listed as threatened. The Wisconsin Plan will be reviewed annually by the Wisconsin Wolf Advisory Committee and will be reviewed by the public every 5 years.

Both the Wisconsin and Michigan Wolf Management Plans recommend managing wolf populations within each State as isolated populations that are not dependent upon frequent immigration of wolves from an adjacent State or Canada. Thus, even after Federal wolf delisting, each State will be managing for a wolf population at, or in excess of,

the 200 wolves identified in the Federal Recovery Plan for the Eastern Timber Wolf as necessary for an isolated wolf population to be viable. We support this approach and believe it provides further assurance that the gray wolf will remain a viable component of the western Great Lakes ecosystem in the foreseeable future.

The Wisconsin and Michigan wolf management plans recommend similar high levels of protection for wolf den and rendezvous sites, whether on public or private land. Both State plans recommend that most land uses be prohibited at all times within 100 meters (330 feet) of active sites. Seasonal restrictions (March through July) should be enforced within 0.8 km (0.5 mi) of these sites, to prevent high-disturbance activities such as logging from disrupting pup-rearing activities. These restrictions should remain in effect even after State delisting occurs.

While the tribes do not yet have management plans specific to the gray wolf, several tribes have informed us that they have no plans or intentions to allow commercial or recreational hunting or trapping of the species on their lands even if gray wolves were to be federally delisted. As previously discussed in the Summary of Factors Affecting the Species section, factor B, *Overutilization for commercial, recreational, scientific, or educational purposes*, tribes are expected to continue to provide sufficient protection to gray wolves on reservation lands to preserve the species' long-term viability in the western Great Lakes area.

At the request of the Bad River Tribe of Lake Superior Chippewa Indians, we are currently working with their Natural Resource Division and WI DNR to develop a wolf management agreement for lands adjacent to the Bad River Reservation. The tribe's intent is to reduce the threats to reservation wolf packs when they are temporarily off the reservation. Under the draft agreement, the WI DNR would consult with the tribe before using lethal depredation control methods in those areas, and would defer to the tribe's recommendations for wolves known to be part of a reservation pack. However, this agreement is still being developed, so its protective measures must be considered speculative. Other tribes have expressed interest in such an agreement, and if this and similar agreements are implemented they will provide additional protection to certain wolf packs in the Midwest.

On the basis of information received from other Federal land management agencies in the western Great Lakes area, we expect National Forests, units of the National Park System, and National Wildlife Refuges will provide additional protections to threatened gray wolves beyond the protections that will be provided by the Act and its regulations, State wolf management plans, and State protective regulations. For details, refer to the discussion above under the *Summary of Factors Affecting the Species* section, factor A, *The present or threatened destruction, modification, or curtailment of its habitat or range.*

Western DPS. Previous to this new regulation, wolves in these States had two different listings under the Act: (1) Those wolves within the two nonessential experimental populations (all of Wyoming and most of Idaho and Montana) were, and continue to be, treated as threatened wolves for take purposes. However, for purposes of interagency cooperation (section 7 of the Act), those wolves are treated as species proposed for listing and receive limited consideration in the planning and implementation of Federal agency actions, unless those actions occur on units of the National Park System or the National Wildlife Refuge System, in which case the wolves are treated as a threatened species and are subject to the full protections of section 7. These wolves also were, and continue to be, subject to two special regulations that modify the normal protections of the Act for threatened species (under the nonessential experimental population designations in 59 FR 60252 and 60266; November 22, 1994). (2) Those wolves outside of the nonessential experimental populations were listed as endangered and were subject to the strictest protections afforded by the Act. This endangered status no longer applies to these wolves, and they are now classified as threatened.

The new special regulations finalized in this rule (see the *Special Regulations under Section 4(d) for Threatened Species* section below) will increase management flexibility for wolves in the Western DPS in areas outside of the experimental population areas, because they will allow take under additional circumstances. Wolves near livestock could be harassed in a noninjurious manner at any time on private land or on public land by the livestock permittee. Intentional or potentially injurious harassment could occur by permit on private land and public land. Wolves attacking not only livestock, but also dogs and guard animals, on private land could be taken without a permit if they are in the act of attacking such animals; on public land a permit will be required for such take. Permits could be issued by the Service to take wolves on private land if they are a risk to livestock, herding and guard animals, or dogs.

The increased management flexibility for take is expected to reduce and more quickly resolve conflicts between livestock producers and wolves by providing additional methods by which individual problem wolves can be removed from the wild population. We do not expect the take under these new special regulations finalized in this rule (see the *Special Regulations under Section 4(d) for Threatened Species* section below) to result in a significant increase in the removal of problem wolves.

Depredation Control Programs in the Western DPS. In the northern U.S. Rocky Mountain wolf recovery area, reports of suspected wolf-caused damage to livestock are investigated by USDA/APHIS-Wildlife Services specialists using standard techniques (Roy and Dorrance 1976, Fritts *et al.* 1992, Paul and Gipson 1994). If the investigation confirms wolf involvement, Wildlife Services specialists contact us and subsequently conduct the wolf control measures that we specify. If the incident occurred in Idaho, Wildlife Services also coordinates with Nez Perce Tribal personnel. The established process is for Wildlife Services to investigate the incident, we decide what control measures are appropriate, and then Wildlife Services personnel carry out those measures.

In 1988, the Service developed an interim wolf control plan that was based on the assumption that wolves which chronically attack livestock would not be tolerated by the local residents. The control plan initially applied to northwestern Montana and northern Idaho, and was later amended to include Washington State. Evidence showed that most wolves do not attack livestock, especially larger livestock, such as horses and cattle. We do not intend for our wolf recovery program to be based in part on wolves that have developed the practice of livestock depredation, because that would likely erode local tolerance for wolf recovery, possibly to the degree that recovery would be impossible. Therefore, we developed a set of guidelines under which depredating wolves could be harassed, moved, or even killed by agency officials to prevent a significant level of chronic livestock depredation from occurring. This interim control plan was based on the premise that agency wolf control actions would affect only a small number of wolves, while it would increase public tolerance for wolf recovery and enhance recovery success.

To date, our assumptions have been shown to be correct, as wolf depredation on livestock and subsequent agency control actions have remained at low levels, while the wolf population has expanded its distribution and numbers and is approaching recovery goals. Using this experience, we developed special regulations for the experimental population areas that would also promote wolf recovery while reducing wolf conflicts with livestock. Thus, we have incorporated important aspects of the interim control plan and the experimental population rules in the new 4(d) regulation that replaces the interim control plan.

In the areas that were covered by the interim wolf control plan and experimental population rules, control measures were continued until livestock depredations cease, even if all wolves in an area or a pack eventually had to be removed. When five or fewer breeding pairs are in a recovery area, wolves were relocated on their first offense. When at least six breeding pairs are present, wolves were killed after their first offense. Wolves that repeatedly depredated on livestock were killed.

In experimental areas, the more flexible special regulations allow landowners on private land and livestock producers on public land to harass wolves at any time. In the experimental areas, wolves attacking livestock on private land can be shot by landowners with a permit, and, after six breeding pairs are established, our permit can allow permittees to shoot wolves attacking livestock on public land. Special permits can be issued in areas of chronic livestock-wolf conflict that allow qualifying landowners and their adjacent neighbors to shoot a wolf on sight. In addition, other special permits can be issued to take wolves and approved State management plans can liberalize the conditions under which wolves may be taken. A private program has compensated ranchers full market value for confirmed and one-half market value for probable wolf-kills of livestock and livestock guard animals (Defenders of Wildlife 2002, Fischer 1989).

In northwestern Montana, and while wolves were listed as endangered, wolf control under a section 10(a)(1)(A) permit was conducted only when livestock were attacked. In the experimental areas, wolf control could also occur when other domestic animals, such as dogs, are attacked on private land more than once in a calendar year. Control in both of these situations consisted of the minimum actions believed necessary to reduce further depredations. The spectrum of control measures used included intensive monitoring of the wolves and livestock (including providing a telemetry receiver to the affected rancher), aversive conditioning (*i.e.*, capturing, radio-collaring, and releasing wolves on site or harassing wolves with noise-makers such as cracker shells), relocating or killing some wolves, or some combination of these approaches.

In northwestern Montana, agency wolf control removed 53 wolves from 1987 through 2002. Control actions removed an average of 6 percent of the population annually, with a range of 0 to 29 percent. In only 3 of those 15 years (1987: 29 percent, 1997: 20 percent, and 1999: 12 percent) did agency control actions remove more than 10 percent of the estimated wolf population in that area (Service *et al.* 2002). At no time did agency wolf control remove more than one-third of the wolf population annually, the human-caused mortality level that must be exceeded to prevent wolf population growth. The percentage of removal by agency control in northwestern Montana has been higher than in either the Idaho or Yellowstone areas, because northwestern Montana does not have similar large areas of refugia (millions of acres of contiguous public lands with year-round resident big game populations). This results in an overall lower wolf habitat and social carrying capacity and a higher level of conflicts than in either the Idaho or Yellowstone areas. We expect that under threatened status and the accompanying 4(d) rule, which replaces the interim wolf depredation control plan, the level of wolf mortality caused by agency and public control will be similar to that occurring (less than 10 percent annually) under the experimental population regulations in central Idaho and the Greater Yellowstone Area.

The control of problem wolves depredating livestock resulted in the removal of less than 5 percent of the wolf population in the northern Rocky Mountains from 1987 through 2002 (Service *et al.* 2002). During that period, a total of 148 wolves were killed by agency control because of chronic livestock depredation. Only in 1987 did wolf control remove more than 9 percent of the wolf population. Only 3 of the 150 wolves that have been removed were legally killed by landowners who saw them attacking their livestock on private land; the rest were removed by agency actions. Three wolves were also killed under permits to shoot wolves attacking livestock on public grazing allotments or under the permits that allow landowners to shoot a wolf on sight in areas of chronic wolf-livestock conflict. Human-caused mortality below 10 percent annually has not been shown to prevent a wolf population from growing. The EIS on wolf reintroduction predicated that about 10 percent of the wolf population would be removed by agency control actions annually. To date, agency control has been about half of the expected level, but that percentage may increase as the wolf population expands into areas where conflicts with domestic livestock are more likely.

At the end of 2002, nearly all of the most suitable wolf habitat in the northern Rocky Mountains of Montana, Idaho, and Wyoming was occupied by resident wolf packs. As the wolf population continues to expand, wolves will increasingly attempt to settle in areas intensively used for livestock production, a higher percentage of those wolves likely will become involved in conflicts with livestock, and a higher percentage will need to be removed. For the wolf population to become stabilized, human-caused mortality would have to remove 30 percent or more of the wolf population annually.

This final rule replaces the interim wolf control plan with the wolf control actions specified in the 4(d) rule for the Western DPS. While wolf control actions will continue to remove wolves that attack livestock in the Western DPS, we still expect that wolf population recovery was achieved by the end of 2002. Management of wolves under the management regulations finalized in this rule (see the *Special Regulations under Section 4(d) for Threatened Species* section below) is not expected to significantly increase wolf mortality rates, because relatively few wolves attack livestock.

The only significant difference in the management of problem wolves between the previous management under the interim control plan and the new management of wolves under the 4(d) rule once they have been reclassified from endangered to threatened outside the experimental population areas will be the taking of wolves in the act of attacking livestock or domestic animals on private land by private landowners. In the past 6 years in Idaho and Wyoming, only 3 nonessential experimental wolves have been legally taken under such circumstances by landowners, and we believe the level of take of nonexperimental threatened wolves under the new regulations will be similar. That level of take could not significantly increase wolf mortality rates or decrease the rate of wolf population recovery. Through the end of 2002, 15 lambs (in Utah), but no other

livestock or pets, have been confirmed killed by a wolf in the Western DPS outside of Montana, Idaho, and Wyoming, and consequently, no wolves were removed from these areas by agency control actions.

During depredation control actions for problem wolves in Montana, Idaho, and Wyoming, individual wolves have incurred injuries from capture that ultimately resulted in their death or removal from the wild (four in Idaho and two in Montana). Mortality from capture is rare and not a significant portion of total mortality in the wolf population.

We have determined that effective control of problem wolves benefits the conservation of the species in the northern Rocky Mountains (Service 1999).

Southwestern DPS. The protection provided by the Act and the special regulation for the southwestern nonessential experimental population have been the most important factors in the successful reintroduction of gray wolves to the Southwest, and in the slow but steady growth of the wild wolf population there. The listing status of gray wolves in the Southwestern DPS does not change with this final regulation. They will remain endangered, except for the reintroduced population which retains its status as a nonessential experimental population, and they will continue their recovery as a result of the ongoing protection provided by these regulations.

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 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 emotions regarding the threat to pets, the conviction that the species should never be a target of sport hunting or trapping, and the wolf traditions of Native American tribes.

We have seen a change in public attitudes toward the wolf over the last few decades. Public attitudes surveys in Minnesota and Michigan (Kellert 1985, 1990, 1999), as well as the citizen input into the wolf management plans of Minnesota, Wisconsin, and Michigan, have indicated strong public support for wolf recovery if the adverse impacts on recreational activities and livestock producers can be minimized (MI DNR 1997, MN DNR 1998, WI DNR 1999a). This increased public acceptance of wolves during the last 25 years also has reduced illegal persecution and killing of wolves. Another public attitudes survey is being planned to assess whether attitudes have changed in Michigan as the State's wolf population has expanded (Hammill, pers. comm. 2002).

Similar national support is evident for wolf recovery and reintroduction in the northern U.S. Rocky Mountains. With the continued help of private conservation organizations, States, and tribes, we can continue to foster public support to maintain viable wolf populations in the western Great Lakes area and the West, as well as for recovery of wolves in the Southwest. We believe that the special management regulations finalized in this rule (see the *Special Regulations under Section 4(d) for Threatened Species* section below) will further enhance public support for wolf recovery by providing more effective means for dealing with wolf__human conflicts as these conflicts-both real and imagined__increase along with expanding wolf populations.

Conclusion

We recognize that large portions of the historic range, including potentially still-suitable habitat within the DPSs, are not currently occupied by gray wolves. We emphasize that our determinations are based on the current status of, and threats faced by, the existing wolf populations within these DPSs. This approach is consistent with the 9th Circuit Court's decision in *Defenders of Wildlife et al.* v. *Norton et al.*, where the Court noted that ''[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, we believe that when an endangered species has recovered to the point where it is no longer in danger of extinction throughout all or a significant portion of its current range, it is appropriate to downlist the listed species to threatened even if a substantial amount of the historical range remains unoccupied. When it is not likely to become endangered in the foreseeable future throughout all or a significant portion of its current range, it should be delisted.

The wolf's progress toward recovery in the Eastern DPS, together with the threats that remain to the wolf within the DPS, indicates that the gray wolf is not in danger of extinction in its entire range within the DPS. Moreover, the progress towards recovery of each of the two populations that comprise the metapopulation within the western Great Lakes States demonstrates that the species is not in danger of extinction in any significant portion of the range of the species within the DPS. We therefore conclude that gray wolves are no longer properly classified as endangered in the Eastern DPS. Accordingly, we have determined that the Eastern DPS deserves status as a threatened species under the Act.

We also conclude, based both on the wolf's recovery progress in the Western DPS, and on our assessment of the threats that will remain to the wolf within the DPS once the wolf is reclassified as threatened (including the continuation of the nonessential experimental population designation and its special regulations), that the gray wolf is not in danger of extinction throughout its range within the Western DPS. Because the three initially isolated populations in the Western DPS now function as a single large metapopulation, and because there is no other population of wolves within the DPS, this conclusion applies to all parts of the wolf's range in the DPS, and so we also conclude that the wolf is not in danger of extinction within any significant portion of its range in the DPS. The gray wolf therefore is no longer endangered throughout all or a significant portion of its range in the Western DPS. Accordingly, we have determined that the Western DPS deserves status as a threatened species under the Act.

In contrast, the gray wolves in the Southwest are still in the initial stage of recovery. The population's growth rate is low in comparison to the growth rates shown by the gray wolf populations in the Western Great Lakes and the Northern U.S. Rocky Mountains. However, this is expected when establishing a wild population from captive-born animals. Recent data indicate that the population growth rate will increase in the near future. Nonetheless, even with the protections of the Act, the currently small population of Mexican wolves, combined with the lack of a recovery goal or measure of sustainability, is still threatened with extinction throughout all or a significant portion of its range. Therefore, we have not reduced the protections for these wolves, and we have retained their designation as a nonessential experimental population in portions of Arizona, New Mexico, and Texas, and as endangered in those parts of the Southwestern DPS that are outside the experimental population area.

The Service intends to continue and complete its Eastern, Northern Rockies, and Southwestern gray wolf recovery programs. Furthermore, we will continue to focus our recovery activities in the current core recovery areas (*i.e.*, Minnesota, Wisconsin, Upper Peninsula of Michigan, Idaho, Montana, Wyoming, New Mexico, and Arizona). Once wolf recovery goals are achieved in the recovery areas of any one of the DPSs, we will proceed to delist the entire DPS that contains that respective recovery area, even if some of the States within the DPS lack wild gray wolves. The presence of gray wolves outside of the recovery areas is not required for the Service to reclassify or delist the entire DPS pursuant to the requirements of the Act.

Need for Immediate Implementation

The wolf population in Wisconsin and Michigan has increased by 30 percent since the publication of our July 2000 proposed rule. The number of wolves captured and translocated after depredating on domestic animals has similarly increased; finding suitable locations to release these depredating wolves has become extremely challenging in Wisconsin. The Board of Supervisors of Forest County, where WI DNR has previously translocated most of their depredating wolves, has recently passed a resolution opposing any additional WI DNR releases of known depredating wolves in that county. Local residents and officials from several other Wisconsin counties have expressed similar opposition. WI DNR has been negotiating with the Menominee Indian Reservation to release several known depredating wolves on the reservation, but a single multi-wolf release will likely exhaust the wolf carrying capacity of the reservation. Another problem is the opposition of local officials from the areas surrounding the reservation; they are concerned that the wolves will move beyond the reservation into the surrounding dairy farm area and resume their attacks on livestock.

The WI DNR has run out of suitable places to release depredating wolves, and is now having to release them in less than ideal locations (that is, too close to the capture point, too close to other livestock operations, or in areas with low deer densities from which wolf dispersal is more likely), and repeat depredations are expected to occur from these releases. Two suspected instances of depredations following translocation have already occurred. Repeat depredations following capture and translocation of known depredating wolves is not likely to be tolerated by some local residents, and State and Federal agencies may be perceived as not taking wolf-human conflicts seriously. To date, wolf recovery efforts in Wisconsin have benefitted from strong public support, and we do not want to further strain that support.

An immediate effective date for the reclassification to threatened status for the Eastern DPS, and the associated special regulations under section 4(d) of the Act, maximizes the ability of WI and MI DNRs to promptly and efficiently remove depredating wolves. Such timely and effective response will reduce the incentive for vigilante wolf killings and should help to foster public support for continuing wolf population growth.

In the Western DPS, the special rule should be made effective immediately because the wolf population in the northern Rocky Mountains is continuing to rapidly expand its numbers and distribution. The peak of wolf dispersal is in fall and early winter so immediate implementation of the rule can provide important benefits for wolf conflict reduction and conservation in northwestern Montana and in areas surrounding the two NEPs. Wolves in northwestern Montana are becoming more numerous and many of those wolves will continue to live in and around people. The special rule provides the Service with additional management tools and flexibility as additional conflicts with people develop. Continued wolf population growth will also result in an increased probability that individual wolves will disperse into neighboring States from the northern Rockies recovery areas. Those wolves may need management by the Service if they become involved in conflicts with people. The finalization of this rule took much longer than anticipated, and its conservation measures are urgently needed to help with wolf restoration efforts and should not be delayed any further.

Therefore, we find there is good cause under 5 U.S.C. 553(d)(3) to implement these rules immediately.

Gray Wolves in Captivity

We recognize that there are many gray wolves being held in captivity for a variety of reasons. Some of these are being held for research, propagation, or educational projects that are part of gray wolf recovery programs; many others are considered pets or are held for other reasons. Those captive wolves potentially can be a valuable part of the recovery program for the areas from which they originated. For example, they may become useful in genetic or taxonomic studies, or serve as a potential source of wolves that could be released into the wild. This is especially true for our gray wolf recovery program in the Southwest. Captive-rearing facilities for this recovery program exist within the geographic boundaries of all three DPSs, as well as in the area that we have now delisted. We believe those captive wolves have sufficient potential importance in our future recovery efforts so that they warrant the continued protections of the Act at the same level as their wild counterparts, regardless of the location of their captivity.

Therefore, we are linking the listing status of captive gray wolves to the listing status of their geographic origin. We have defined the three DPSs to include wild gray wolves living within the boundaries of the DPSs, as well as those captive wolves that were removed from the wild, or whose ancestors were removed from the wild, from within the geographic boundaries of a DPS, regardless of where the captive wolves may be held. If a DPS is delisted in the future, those captive wolves that originated, or whose ancestors originated, from within that DPS will also be delisted at that time.

Other Alternatives Considered

Our proposal contained discussion of several other alternative actions that we considered as we developed the proposal. Among those other alternatives were creating larger or smaller DPSs in the eastern half of the United States and including more or all States within the DPSs. In the discussion of the latter alternative, we specifically mentioned examples such as including California, Nevada, New Jersey, Massachusetts, and Kansas in a DPS, in which case they would have the same threatened or endangered classification as the rest of the DPS. We described why those alternatives were not our proposed action; however, we requested comments and other information on those alternatives, as well as on other alternatives that we might not have considered at all. We received many comments on some of these alternatives, and we have reconsidered their implementation. We will not provide further discussion of those other alternatives in this final rule, except for the aspects of those alternatives that we have incorporated into this final rule. Those discussions are found within the appropriate parts of this document.

Changes From the Proposed Rule

As a result of comments or additional data received during the comment

period, or due to additional analysis on our part, several changes were made to the DPSs and the special regulations that we proposed on July 13, 2000 (refer to Maps 2 and 3 below). Some of these changes incorporate components of several of the alternatives that were discussed in our proposal and for which we requested comments. In addition, combining two DPSs and adopting alternate DPS boundaries necessarily resulted in our consideration of including the additional areas under the coverage of the special regulations we proposed under section 4(d) of the Act. The following paragraphs discuss these changes.

Overall, this final rule results in smaller changes in the previously provided protections of the Act than we had recommended in our July 2000 proposal. The final rule contains no changes to the Act's protection of the gray wolf that are more extensive than what we had proposed.

Combining Proposed Western Great Lakes DPS and Proposed Northeastern DPS—These two proposed DPSs have been combined into a larger DPS called the Eastern Gray Wolf DPS.

At the time we proposed the listing of a Northeastern Gray Wolf DPS, we were well aware that the taxonomy of wolves in eastern North America was under scrutiny and was potentially subject to revision. We were also aware that evidence for the existence of a wolf population in the Northeast—while increasing in the 1990s—was still insufficient to conclude that a resident gray wolf population existed there. However, at that time we believed the gray wolf likely was the historical wolf in the Northeast, and we expected to receive additional information supporting its continued existence there during the comment period.

Since our proposal was developed, we have received insufficient information to substantiate that a wolf population exists in the area we proposed for a Northeastern DPS. Furthermore, recent molecular genetics work (Wilson *et al.* 2000) advances the view that the wolf currently occurring in nearby southeastern Ontario and eastward into part of Quebec is the purported new canid species *Canis lycaon* and not a gray wolf (*C. lupus*).

Given these two factors—the lack of a current wolf population and the continuing uncertainty about the identity of the historical wolf—at this time, we cannot list a separate gray wolf DPS in the Northeastern States. Because the identity of the historical wolf in the Northeast is still unresolved and the gray wolf has not been ruled out as that entity, we are taking the conservative approach and are retaining protection for any gray wolves that might remain in, or move to, the Northeastern States by combining this geographic area with the proposed Great Lakes DPS and calling it the Eastern Gray Wolf DPS. The entire Eastern DPS is listed as threatened in recognition of the ongoing successful recovery progress shown by the Midwestern wolf populations.

We will reconsider this issue when we consider any listing, reclassification, or delisting action that affects the Eastern DPS.

Delisting Only in Areas Where Previously Listed in Error—The final rule delists the gray wolf in parts or all of 16 eastern and southern States, rather than parts or all of 30 States, as proposed.

We had proposed to delist the gray wolf in parts or all of 30 States, because we believed that gray wolf restoration is not necessary and not feasible in those areas. Therefore, we believed it would be appropriate to remove the Federal regulations pertaining to gray wolves in those areas. Such a change would have no impact on our current gray wolf recovery programs, and it seemed reasonable to remove regulations from those geographic areas where they provided no foreseeable benefits to the species.

However, neither the Act nor its implementing regulations allow the delisting of a portion of a listed species' historical range because restoration is not necessary and not feasible in that area. Delisting can only occur if the listed species is recovered, if the listed species is extinct, or if the original listing was based on data, or data interpretation, that were in error (50 CFR 424.11(d)).

As described in the *Historical Range of the Gray Wolf* section above, the species' historical range did not extend into many southern and eastern States. Therefore, our 1978 listing of the gray wolf throughout the 48 States and Mexico was partially in error. This final rule corrects the 1978 error by delisting the gray wolf in all or parts of 16 southern and eastern States that were not within the species' historical range. The remaining conterminous States and Mexico will remain in one of the listed DPSs until gray wolves in that DPS are recovered, the species becomes extinct, or the area is shown to have been listed in error.

Retaining Listings for Areas Previously Proposed for Delisting—California and Nevada have been added to the Western DPS. Nebraska, Kansas, Iowa, Missouri, Illinois, Indiana, Ohio, Pennsylvania, New Jersey, Connecticut, Rhode Island, and Massachusetts have been added to the Eastern DPS (formerly the Western Great Lakes and Northeastern DPSs). Oklahoma west of Interstate 35 and Texas north of Interstate 40 have been added to the endangered Southwestern DPS that includes parts of the United States and Mexico.

Because we are delisting the gray wolf in 14 fewer States than we proposed, those 14 States must remain part of a listed entity. In general, we have added individual States to the DPS containing the core wolf population from which those States are most likely to receive dispersing gray wolves. For example, on the basis of several cases of probable Minnesota wolves dispersing into the Dakotas (including extreme western south Dakota (Licht and Fritts 1994; Straughan and Fain 2002)), and an absence of any evidence of Rocky Mountain wolves dispersing into those States, we have placed the western boundary of the Eastern DPS at the western borders of the Great Plains States.

Similarly, because of their great distance from core Midwestern wolf populations and their relative proximity to active Southwestern gray wolf recovery areas, western Oklahoma and northern Texas are included in the endangered Southwestern DPS instead of the threatened Eastern DPS. Thus, they retain their previous listing as endangered, as do those gray wolves in the Southwest United States and Mexico. While we believe there is only a low likelihood that wolves from New Mexico or Arizona will disperse to northern Texas or western Oklahoma, it is even less likely that Midwestern wolves will disperse there.

The entire States of California and Nevada have been added to the Western DPS. The northern portions of these States are a relatively short distance from the existing and expanding gray wolf populations in Idaho and Wyoming, and wolves dispersing from those populations have already moved to locations only a short distance from the California and Nevada State lines. Dispersal into California and Nevada may have already occurred, but has not yet been verified. Thus, the northern portions of these two States clearly belong in the Western DPS. While it may appear from a superficial consideration of a map and the known dispersal distances of wolves in other areas (refer to the following section for additional discussion) that Southwestern (Mexican) wolves are more likely to disperse to southern California and Nevada than are northern U.S. Rockies wolves, we do not believe this is necessarily correct. The Colorado

River will be a substantial obstacle to any wolves attempting to disperse westward from the reintroduced wolf population in Arizona, and the potential for wolves to disperse long distances across desert habitat is unknown. Therefore, we believe wolf dispersal to southern California and southern Nevada is similarly unlikely from either Arizona or the northern U.S. Rockies. Therefore, in the absence of clear biological support for either the inclusion or exclusion of southern California/Nevada in the Western DPS, we have decided to include these two States in the Western DPS for the sake of administrative convenience and to facilitate public understanding of the boundaries applicable to our new gray wolf regulations.

Therefore, as we have delineated them, the boundaries of these three gray wolf DPSs not only completely encompass the core gray wolf recovery populations and their recovery areas, but also include the known locations of all documented dispersers and the most likely locations for future dispersers from those core populations. While our Vertebrate Population Policy does not require the complete isolation of DPSs, it does require that they be ''markedly separated'' from each other and from other populations of the species. Based on documented wolf movements to date, these DPS boundary locations exceed that requirement.

Change to the Boundary Between the Western DPS and the Southwestern DPS—We proposed that the boundary between the Western DPS and the Southwestern DPS would be in northern Arizona and New Mexico, along the northern border of the experimental population area established for the nonessential experimental population of gray wolves in Arizona and New Mexico. This would have resulted in a large portion of the boundary between the Western DPS and the Southwestern DPS being less than 160 km (100 mi) from areas currently occupied by wolves in the Southwestern (Mexican) wolf recovery program, but being nearly 800 km (500 mi) from the southernmost wolf packs in the northern U.S. Rockies.

To date we have verified records of two northern U.S. Rocky Mountain wolves dispersing into northern Utah and no verified records of wolves dispersing into Colorado. Similarly, we have no verified records of Southwestern wolves dispersing into extreme northern Arizona or New Mexico, or into the southern half of Utah or Colorado. However, dispersal distance data from the Midwest and from other areas of the Rockies (Fritts 1983, Missouri Dept. of Conservation 2001, Ream *et al.* 1991) show that gray wolves disperse as far as 800 km (500 mi) from existing wolf populations. More routine long-distance movements probably are on the order of 400–480 km (250–300 mi).

Therefore, we have concluded that, in the final rule that establishes the Southwestern and Western DPSs, we should use a boundary that is more consistent with known and expected dispersal distances than was the boundary recommended in our July 13, 2000, proposed rule. U.S. Highway 50 in Utah and Interstate 70 in Colorado represent such a boundary. Furthermore, these highways are clear and convenient features on maps and on the landscape, and should facilitate implementing and enforcing these regulations on the ground. For these reasons, we are using these highways in Utah and Colorado to delineate a portion of the boundary between the Western Gray Wolf DPS and the Southwestern Gray Wolf DPS.

This boundary change also results in a larger area in which wolves will retain an endangered listing than was shown in our July 13, 2000, proposal. Gray wolves that disperse into the southern half of Utah and Colorado or into the portions of Arizona and New Mexico north of the nonessential experimental area will have entered the Southwestern DPS and will be protected as endangered wolves. However, if they are identifiable as having originated from one of the NEPs, they will be subject to the provisions for managing dispersing wolves as described in the appropriate experimental population rule at 50 CFR 17.84(i) or (k).

Changes to Proposed 4(d) Rule for the Western DPS—The conditions under which a private citizen can take a wolf in this final rule for the Western DPS are slightly more restrictive than those we proposed in July 2000. Under the proposal, a person could take a gray wolf on private land if it were seen physically attacking any domestic animal, if there was evidence of a wolf attack such as wounded domestic animals, and such taking was reported within 24 hours. In this final rule, such taking is allowed by a landowner, and without a permit, when a wolf is seen attacking any livestock (cattle, sheep, horses, or mules), livestock guarding or herding animals, or dogs on private land; such taking also can be done by permit on Federal grazing allotments. Some people commented that allowing wolves to be taken for attacking any domestic animal was too liberal and, in the case of small domestic animals, we would lack the type of documentation (physical evidence of wounds made by wolves) that would be needed to prevent abuse of this provision. Some types of domestic animals, such as rabbits or small fowl, are too small for us to be able to determine if they were attacked by wolves. In addition, since 1987, when the first wolf depredation on livestock occurred, until December 2001, only cattle (n=188), sheep (n=494), horses (n=3), llamas (n=4), and dogs (n=43) have been confirmed to have been attacked by wolves in the northern Rockies. Other types of domestic animals are extremely rare in the parts of the western United States where wolves may occur, and wolf depredation on those types of smaller animals is unlikely because they are usually kept in pens. This final rule gives private landowners or Federal grazing permittees the ability to protect the types of domestic animals that might be vulnerable to wolf depredation. The conditions under which wolves may be legally taken would minimize the number of wolves that would be killed by private citizens without reasonable cause.

Injurious harassment (that is, by using nonlethal ammunition, such as rubber bullets or bean bag projectiles issued by the Service after appropriate training) is also being allowed under Service-issued permits on public livestock grazing allotments to reduce the incidence of bold wolf behavior. Aversively conditioning wolves that have become bold or begin to closely associate with livestock could help reduce wolf-livestock conflicts and the need for subsequent agency lethal wolf control. Providing this management tool under permit for livestock producers on public land grazing allotments would allow its selective use, would prevent abuse, and is not expected to increase wolf mortality, and may decrease it.

The Service has also eliminated the 10 breeding pair per State requirement prior to allowing lethal take permits for private landowners. This was changed to increase the potential to implement this type of important wolf management tool on private lands that in the future might experience chronic depredation by wolves, especially in States adjacent to Montana, Idaho, and Wyoming. It is highly unlikely that any area or State outside of the experimental populations areas, other than Montana, will have 10 or more breeding pairs before wolves are delisted. The overall wolf reclassification and recovery goal is based upon the overall number of breeding pairs in the northern U.S. Rocky Mountains, rather than those in each State. Eliminating the 10 breeding pairs requirement will eliminate confusion over the number of wolves

per State and how wolf breeding pairs that have home ranges across State or experimental population borders might be counted.

The requirement that previously confirmed wolf-caused domestic animal depredations have occurred in the current year as well as at least one previous year within the last 10 years, or twice in the current year, has been added to demonstrate a pattern of chronic wolf depredation on that area of private property. This additional requirement will also clarify that this provision of the special rule contains the same conditions as must be satisfied for us to grant the take permits that are currently authorized in the experimental population rules for Montana, Idaho, and Wyoming at 50 CFR 17.84(i)(3)(x).

Wider Geographic Application of Proposed 4(d) Rule for the Formerly Proposed Western Great Lakes DPS—The special regulation that we proposed for the States of Wisconsin, Michigan, North Dakota, and South Dakota now applies to all States within the Eastern DPS that are west of Pennsylvania, excluding Minnesota. It does not apply to Pennsylvania and other Eastern DPS States that are east of Ohio. Individual gray wolves that might appear in these area may be important to future wolf recovery efforts in the Northeast. Minnesota wolves continue to be covered by a preexisting special regulation at 50 CFR 17.40(d).

Our proposed special regulation for the proposed Western Great Lakes DPS was primarily intended to enable States and tribes outside of Minnesota to use lethal control measures, at their discretion, in a manner that would efficiently and effectively reduce wolf depredations on domestic animals. We believe this approach is consistent with the recovery of the wolf population in Minnesota, Wisconsin, and Michigan.

We are now applying these regulations to most States within the Eastern DPS, on the basis of our conclusion that very few, if any, wolves will be taken in these additional States, and that such take is consistent with recovery of the wolf in the Eastern DPS.

Northeastern wild wolves should not be subject to lethal depredation control until their origin and identity has been determined, or their potential recovery role is otherwise evaluated. Therefore, we are not including the States and tribes east of Ohio in the coverage of this special regulation. However, if such wolves are determined not to be important to wolf recovery in the Northeastern United States or elsewhere, we will take appropriate action to address the depredation problem.

We have also added wording to this 4(d) rule to clarify that wolves that threaten human safety may be taken, not only by employees of certain Federal, State, and tribal agencies, but also by agents of those agencies who have been designated in writing for that purpose. The phrase ''demonstrable but nonimmediate'' has been added to further specify the form of threat to human safety that could trigger such a taking. These additions ensure consistency with the similar regulation for endangered species at 50 CFR 17.21(c)(3)(iv).

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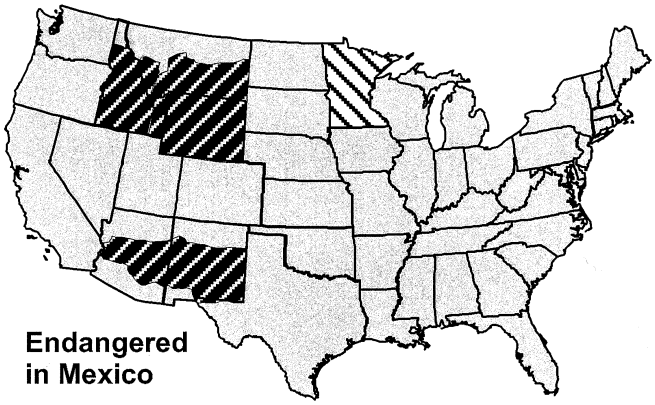
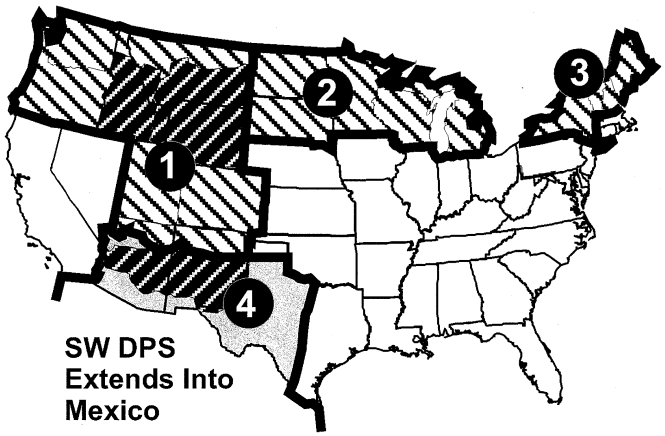
Map 1 - Previous Listing



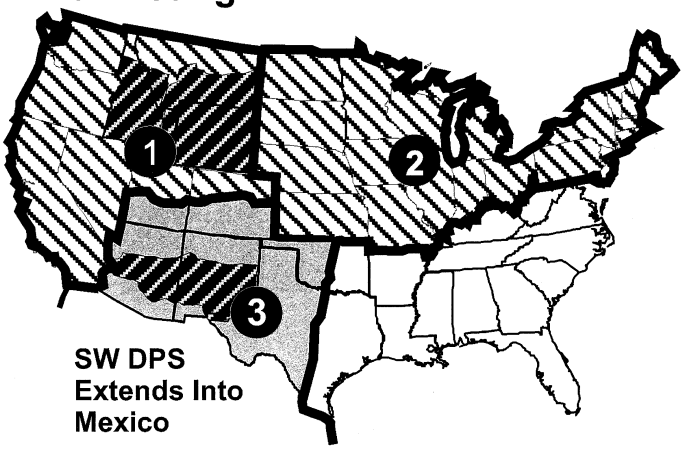
Map 2 - Proposed Listing

1. Western Distinct Population Segment
2. Western Great Lakes Distinct Population Segment
3. Northeastern Distinct Population Segment
4. Southwestern Distinct Population Segment (includes Mexico)



Map 3 - Final Listing

1. Western Distinct Population Segment
2. Eastern Distinct Population Segment
3. Southwestern Distinct Population Segment (includes Mexico)



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Critical Habitat

Critical habitat is defined in section 3 of the Act as: (i) The specific areas within the geographical area occupied by a species at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary. Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, we designate critical habitat at the time we list a species.

Critical habitat was designated for the gray wolf in 1978 (43 FR 9607, March 9, 1978). That rule (50 CFR 17.95(a)) identifies Isle Royale National Park, Michigan, and Minnesota wolf management zones 1, 2, and 3, as delineated in 50 CFR 17.40(d)(1), as critical habitat. Wolf management zones 1, 2, and 3 comprise approximately 3,800 sq km (9,800 sq mi) in northeastern and north-central Minnesota. This rule does not affect those existing critical habitat designations.

The Endangered Species Act amendments of 1982 specified that, for any critical habitat designation for a species already listed as threatened or endangered at the time of enactment of the 1982 amendments, the procedures for revisions to critical habitat would apply (Pub. L. 97–304, section 2(b)(2)). Consequently, designation of critical habitat for the gray wolf is subject to the procedures for revisions to critical habitat. As such, it is not mandatory for the Service to designate critical habitat for the gray wolf. Section 4(a)(3)(B) provides that the Service ''may'' make revisions to critical habitat ''from time-to-time * * * as appropriate'' (16 U.S.C. 1533(a)(3)(B)). The Service has determined that there currently are no likely benefits to be derived from additional critical habitat designations, and it therefore is not appropriate to designate additional critical habitat. Wolf populations in both the Eastern and Western DPSs are at their numerical recovery goals as a result of past and current protections, but the currently designated critical habitat played a negligible role in wolf recovery. This is attributable to the fact that gray wolves are habitat generalists, and their numbers and range are not limited by a lack of suitable habitat or by any degradation of any essential habitat features. Designating critical habitat would be an inappropriate use of our limited listing funds if done for a species that is successfully recovering without such designation, and at a time when we have determined that it is more appropriate to reduce, rather than increase, the Federal protections for the species.

It should also be noted that the Act (section 10(j)(2)(C)(ii)) prohibits us from designating critical habitat for the nonessential experimental populations established in the Western and Southwestern DPSs. Furthermore, 50 CFR 424.12(h) prohibits the designation of critical habitat in foreign countries.

Special Regulations Under Section 4(d) for Threatened Species

General

The Act and its implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import, export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to our agents and agents of State conservation agencies.

Section 4(d) of the Act provides that whenever a species is listed as a threatened species, we shall issue regulations deemed necessary and advisable to provide for the conservation of the species. Section 4(d) also states that we may, by regulation, extend to threatened species the prohibitions provided for endangered species under section 9. The implementing regulations for threatened wildlife under the Act incorporate the section 9 prohibitions for endangered wildlife (50 CFR 17.31), except when a special regulation promulgated pursuant to section 4(d) applies (50 CFR 17.31(c)).

With this final rule we are retaining the special regulation under section 4(d) of the Act that has been crucial to conserving the gray wolf in Minnesota, and we are implementing a similar special regulation to provide similar authority for lethal control of depredating wolves in most of the Eastern DPS.

We are also implementing a special regulation to assist in managing the rapidly expanding gray wolf population in the Western DPS. It applies to wolves outside the boundaries of the currently designated nonessential experimental population areas. The existing 10(j) special regulations for the currently designated nonessential experimental populations in Montana, Idaho, and Wyoming will remain in effect.

The existing special regulation for the gray wolf nonessential experimental population in portions of Arizona, New Mexico, and Texas also remains unchanged.

Continuation of Existing Special Regulations for Minnesota Gray Wolves

In 1978 we developed special regulations under section 4(d) of the Act for gray wolves in Minnesota in order to reduce the conflicts between gray wolves and livestock producers. These regulations were modified in 1985 (50 FR 50792; December 12, 1985; 50 CFR 17.40(d)) and remain unchanged. The regulations divided the State into five management zones and established the conditions under which certain State or Federal employees or agents may trap and kill wolves that are likely to continue preying on lawfully present domestic animals. The intent of these regulations was to provide an effective means to reduce the economic impact of livestock losses due to wolves. We believed that by reducing these impacts, private citizens would have less incentive to resort to illegal and excessive killing of problem wolves, and that consequently the recovery of the wolf would be hastened in Minnesota.

We operated this Minnesota Wolf Depredation Control Program from 1976 into 1986. Congressional action in 1986 transferred the Animal Damage Control Program to the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA/APHIS). In 1997 the Animal Damage Control program was renamed ''Wildlife Services.'' USDA/APHIS-Wildlife Services continues to operate the Wolf Depredation Control Program in Minnesota. This final rule will not change the special regulations that authorize these wolf depredation control activities in Minnesota.

New Special Regulations

Special regulations are being implemented for the gray wolf populations in the Western DPS and in much of the Eastern DPS (excluding Minnesota and States east of Ohio).

These special regulations are intended to be consistent with the conservation of the gray wolf in those areas by reducing actual and perceived conflicts with human activities, thus reducing the likelihood and extent of illegal killing of wolves.

In the case of the Western Gray Wolf DPS, the new section 4(d) regulation will apply only to wolves outside of the nonessential experimental population areas. The existing 1994 special regulations that apply to the two nonessential experimental population areas (50 CFR 17.84(i)) will remain in effect. The new special regulations finalized in this rule will allow similar, but increased, management flexibility for problem wolves in all areas of the Western DPS that are outside of the boundaries of the two experimental population areas. The existing experimental population special regulations will remain in effect.

New Western Gray Wolf DPS Special Regulations Under 4(d) (Refer to the following table for a comparison of these new regulations with the continuing regulations for the experimental population areas.)

The new 4(d) rule will expand the situations in which wolves that are in conflict with human activities may be taken by the Service or by private individuals. The Service is doing this to increase human tolerance of wolves in order to enhance the survival and recovery of the wolf population. The special rule for managing the threatened wolf population allows wolf control and management in a very similar manner to that allowed under the special regulations for the two nonessential experimental population areas in Montana, Idaho, and Wyoming. Those regulations have been in place since 1995, and have helped the wolf population grow rapidly to recovery levels with a low level of conflict with humans.

Any wolf that poses an immediate threat to human safety may be taken by anyone at that time and without any special permit. Any wolf that is a demonstrable but nonimmediate threat to human safety may be taken by us, by a Federal land management agency, by a State or tribal conservation agency, or by agents designated by these agencies. These types of taking are already generally permitted under 50 CFR 17.21(c) and 17.31(a) of the regulations implementing the Act, but are specifically mentioned again as being permitted by this rule for clarification. Such taking must be reported immediately (within 24 hours), and the wolf carcass must not be disturbed.

The new 4(d) rule allows private landowners and livestock grazing permittees to harass wolves in a noninjurious manner at any time and for any reason. In addition, landowners and grazing permittees on Federal lands, in certain conditions, may receive permits and training from the Service (or Service-authorized agencies or individuals) to intentionally harass wolves in a nonlethal but injurious manner, such as by rubber bullets or other Service-issued projectiles designed to be less-than-lethal to large mammals.

Under the final 4(d) rule, landowners on their private land may take a wolf that is observed in the act of physically attacking (biting, grasping, etc.) livestock (defined to include cattle, sheep, horses, mules, and livestock guarding or herding animals) and dogs. Such takings must be reported immediately, and evidence of a wolf attack must be present. Grazing permittees on Federal leases may receive a permit from us to take wolves in the act of attacking livestock or livestock herding or guarding animals after we have confirmed wolf depredation on their allotment.

In situations on private land where there have been repeated confirmed wolf depredations on livestock and dogs, private landowners may receive a permit from the Service to shoot a wolf or wolves on sight. The Service or Service-authorized agencies may remove wolves that attack livestock or other domestic animals.

In cases where the State or tribal wildlife management agency or the Service can reasonably demonstrate that wolf predation is having an unacceptable effect on big game herds, the Service can authorize wolf relocation to reduce predation by wolves.

The Service may also issue written permits for take of wolves as specified under 50 CFR 17.32, and we may also designate other agencies to take wolves under a variety of specific circumstances and conditions including for scientific purposes; to avoid conflict with human activities; to improve wolf survival and recovery; to aid or euthanize sick, injured, or orphaned individuals; to salvage specimens; and to aid law enforcement. The Service may also authorize agencies to take any wolf or wolf-like canid it determines is showing abnormal behavioral or physical characteristics.

TABLE 1.—COMPARISON OF THE NEW SPECIAL RULE FOR THE WESTERN GRAY WOLF DPS AND THE CONTINUING EXPERIMENTAL POPULATION SPECIAL RULES

[Refer to the regulations in 50 CFR for the complete wording and reporting requirements.]

Provision:	Experimental Populations Special Rules 50 CFR 17.40(n):	New Section 4(d) Special Rule 50 CFR 17.40(n):
Geographic area	This special rule applies only to wolves within the areas of two Nonessential Experimental Populations (NEP), which together include Wyoming, the southern portion of Montana, and Idaho south of Interstate 90.	This special rule will apply to any gray wolves that occur in those parts of the Western DPS (WDPS) that are outside of the NEP areas: Washington, Oregon, California, Nevada, northern Idaho, northern Montana, northern Utah, and northern Colorado.
Interagency Coordination (Sec. 7 consultation).	Federal agency consultation with the U.S. Fish and Wildlife Service on agency actions that may affect gray wolves is not required within the two NEPs, unless those actions are on lands of the National Park System or the National Wildlife Refuge System.	Federal agency consultation with the Service on agency actions that may affect gray wolves is required, but will not result in land-use restrictions on Federal land unless needed to avoid take at active den sites between April 1 and June 30, except in National Parks or National Wildlife Refuges where other restrictions may be applied.
Take in self defense	Any person may take a wolf in self defense or in defense of others.	Same as the current experimental population special rules.
Protection of human life and safety.	The Service, or agencies authorized by the Service, may promptly remove (that is, place in captivity or kill) any wolf determined by the Service or authorized agency to be a threat to human life or safety.	Similar to the current experimental population special rules, but applies to the Service, other Federal land management agencies, and State or tribal conservation agencies.

TABLE 1.—COMPARISON OF THE NEW SPECIAL RULE FOR THE WESTERN GRAY WOLF DPS AND THE CONTINUING EXPERIMENTAL POPULATION SPECIAL RULES—Continued

[Refer to the regulations in 50 CFR for the complete wording and reporting requirements.]

Provision:	Experimental Populations Special Rules 50 CFR 17.40(n):	New Section 4(d) Special Rule 50 CFR 17.40(n):
Opportunistic harassment	Landowners and grazing allotment holders can opportunistically harass gray wolves in a noninjurious manner without a Service permit.	Same as the current experimental population special rules.
Intentional harassment Permits.	No specific provision for intentional harassment permits	The Service can issue a 90-day permit to private landowners or to livestock producers for use on public grazing allotments after verified persistent wolf activity on their private land or public grazing allotment; permit would allow intentional and potentially injurious, but nonlethal, harassment of wolves.
Taking wolves ''in the act'' on PRIVATE land.	Livestock producers on their private land may take a gray wolf in the act of killing, wounding, or biting livestock. Injured or dead livestock must be in evidence to verify the wolf attack.	Similar to the current experimental population special rules, but this provision is broadened to also apply to gray wolves attacking dogs and livestock herding and guarding animals.
Permits for taking persistent problem wolves ''in the act'' on PUBLIC land.	If six breeding pairs of wolves are established in an NEP area, livestock producers and permittees with current valid livestock grazing allotments on public land can get a 45-day permit from the Service or other agencies designated by the Service, to take gray wolves in the act of killing, wounding, or biting livestock. The Service must have verified previous attacks by wolves, and must have completed agency efforts to resolve the problem.	Same permits are available, but they can be issued regardless of the wolf population level. ''Livestock'' is defined to also include herding or guard animals. ''Public land'' is defined to include Federal land and any other public land designated in State and tribal wolf management plans.
Permits for additional taking by private citizens on their PRIVATE land for chronic wolf depredation.	No specific provision for such permits. However, see provision below for ''Permits for recovery actions that include take of gray wolves''.	If we confirm two separate depredation incidents on livestock or dogs on the subject private property or on an adjacent private property and we have confirmed that wolves are routinely present on the subject property and present a significant risk to livestock or dogs, a private landowner may receive a permit from the Service to take those wolves, under specified conditions.
Government take of PROBLEM WOLVES.	The Service or agencies designated by the Service may take wolves that attack livestock or that twice in a calendar year attack domestic animals other than livestock. When six or more breeding pairs are established in an NEP, lethal control of problem wolves or permanent placement in captivity may be authorized by the Service or agency designated by the Service. When five or fewer breeding pairs are established in an NEP, taking may be limited to nonlethal measures such as aversive conditioning, nonlethal control, and/or translocating wolves. If during depredation control activities on Federal or other public lands, prior to six breeding pairs becoming established in an NEP and prior to October 1, a female wolf having pups is captured, the female and her pups will be released at or near the site of capture. All problem wolves on private land, including female wolves with pups, may be removed (including lethal control) if continued depredation occurs. All chronic problem wolves (wolves that depredate on domestic animals after being moved once for previous domestic animal depredations) will be removed from the wild (killed or placed in captivity).	''Problem wolves'' is defined to have the same meaning: wolves that (1) attack livestock or (2) twice in a calendar year attack domestic animals other than livestock. Criteria to determine when take will be initiated are similar to those for the NEP: (1) evidence of the attack, (2) reason to believe that additional attacks will occur, (3) no evidence of unusual wolf attractants, and (4) any previously specified animal husbandry practices have been implemented, if on public lands. No numerical threshold applies, so all control measures, including lethal control, can be used regardless of the number of breeding pairs in a State. No upper threshold of six breeding pairs limiting protection of females and their pups applies. Thus, females and their pups will be released if captured on public lands as defined above, prior to October 1, unless depredation continues. [Note: This is more restrictive than the experimental population regulations.] All problem wolves that attack domestic animals more than twice in a calendar year may be moved or removed from the wild, including females with pups.
Govt. translocation (capture and moving) of wolves to reduce impacts on wild ungulates.	States and tribes may capture and translocate wolves to other areas within the same NEP area, if the gray wolf predation is negatively impacting localized wild ungulate populations at an unacceptable level, as defined by the States and tribes. State/tribal wolf management plans must be approved by the Service before such movement of wolves may be conducted, and the Service must determine that such translocations will not inhibit wolf population growth toward recovery levels.	Similar to the current experimental population special rules, but moved wolves may be released to other areas within the Western DPS. Additionally: After 10 breeding pairs are established in the State, we, in cooperation with the States and tribes, may move wolves that we determine are impacting localized wild ungulate populations at unacceptable levels.
Incidental take	Any person may take a gray wolf if the take is incidental to an otherwise lawful activity, and is accidental, unavoidable, unintentional, and not resulting from negligent conduct lacking reasonable due care, and due care was exercised to avoid taking the wolf.	Similar to the current experimental population special rules.

TABLE 1.—COMPARISON OF THE NEW SPECIAL RULE FOR THE WESTERN GRAY WOLF DPS AND THE CONTINUING EXPERIMENTAL POPULATION SPECIAL RULES—Continued

[Refer to the regulations in 50 CFR for the complete wording and reporting requirements.]

Provision:	Experimental Populations Special Rules 50 CFR 17.40(n):	New Section 4(d) Special Rule 50 CFR 17.40(n):
Permits for recovery actions that include take of gray wolves.	Available for scientific purposes, enhancement of propagation or survival, zoological exhibition, educational purposes, or other purposes consistent with the Act (50 CFR 17.32).	Same as the current experimental population special rules.
Additional taking provisions for agency employees.	Any employee or agent of the Service or appropriate Federal, State, or tribal agency, who is designated in writing for such purposes by the Service, when acting in the course of official duties, may take a wolf from the wild, if such action is for: (A) Scientific purposes; (B) to avoid conflict with human activities; (C) to relocate a wolf within the NEP areas to improve its survival and recovery prospects; (D) to return wolves that have wandered outside of the NEP areas; (E) to aid or euthanize sick, injured, or orphaned wolves; (F) to salvage a dead specimen which may be used for scientific study; or (G) to aid in law enforcement investigations involving wolves.	Similar to the current experimental population special rules, except it has additional provisions that allow such take of wolves for ''disposing of a dead specimen''; and for ''preventing wolves with abnormal physical or behavioral characteristics, as determined by the Service, from passing on those traits to other wolves.''
Land-use restrictions on Federal lands.	When five or fewer breeding pairs of wolves are in an experimental population area, temporary land-use restrictions may be employed on Federal public lands to control human disturbance around active wolf den sites. These restrictions may be required between April 1 and June 30, within 1 mile of active wolf den or rendezvous sites, and would only apply to Federal public lands or other such lands designated in State and tribal wolf management plans. When six or more breeding pairs are established in an experimental population area, no land-use restrictions may be employed on Federal public lands outside of National Parks or National Wildlife Refuges, unless that wolf population fails to maintain positive growth rates for two consecutive years.	Land-use restrictions may be employed for wolf recovery purposes on National Parks and National Wildlife Refuges. Between April 1 and June 30 land-use restrictions may be employed to prevent take of wolves at active den sites on Federal lands.

Under the new section 4(d) rule, landowners will be allowed to harass wolves from areas where potential conflicts are of greatest concern, such as private property and near grazing livestock. In addition to the authority for landowners and livestock producers to opportunistically harass gray wolves in a noninjurious manner (as already allowed by the current special regulations within the two experimental populations), the new 4(d) rule will allow us to issue temporary permits for deliberate harassment of wolves in an injurious manner under certain situations, as is also allowed under the experimental population rules. Harassment methods that will be allowed under this provision include rubber bullets and other specially designed less-than-lethal munitions. Since all such harassment would be nonlethal, and most is expected to be noninjurious to wolves, no effect on wolf population growth is expected to occur. This provision could make wolves more wary around people and human activity areas, reducing the potential for livestock depredations and subsequent agency control actions. Increased wariness and avoidance of humans could also possibly preclude the opportunity for people to illegally kill wolves. Fewer wolf depredations on livestock and pets should result from more focused and more unpleasant harassment of the problem wolves. Fewer depredations will result in fewer control actions, and consequently fewer wolves will be killed by management agencies. This provision allows us to work closely with the public to avoid conflicts between wolves and livestock or dogs, thereby reducing the need for wolf control. Because we will have to confirm persistent wolf activity, and each intentional harassment permit will contain the conditions under which such harassment could occur, there should be little potential for abuse of this management flexibility.

Under the new special regulation for the Western DPS, landowners will be allowed to take (kill or injure) wolves actually seen attacking their livestock on private land (as currently allowed by the existing special regulations for the two experimental populations). The new special regulation will also expand this provision so that it applies to wolves attacking livestock herding or guard animals or dogs on private land outside of the experimental areas. Furthermore, the new special regulation will allow us to issue permits to take wolves seen attacking livestock and livestock guard or herding animals on federally managed land. (The special regulations that will continue to apply to the two experimental population areas do not allow such permits to be issued for attacks on guard or herding animals, and do not allow such permits to be issued if there are fewer than six breeding pairs of wolves in the experimental population area.) Because such take has to be reported and confirmation of livestock attacks must be made by agency investigators, we anticipate that no additional significant wolf mortality will result from this provision. However, those few wolves that are killed will be animals with behavioral traits that were not conducive to the long-term survival and recovery of the wolf in the northern Rocky Mountains. The required confirmation process will greatly reduce the chances that wolves that have not attacked these types of domestic

animals will be killed under this provision. Once a depredating wolf is shot, no further control on the pack will be implemented by the agencies unless additional livestock are attacked. This could result in even fewer wolves being taken in agency control actions, because the wolf that is killed will be the individual most likely to have been involved in the actual attack on livestock.

The new special regulation will allow us or other agencies and the public to continue to take wolves in the rare event that they threaten human life or safety. While this is a highly unlikely situation, and one that is already addressed by the Act and the current special regulation, emphasizing the Act's provision to defend human life and safety should reduce the public's concern about human safety.

The new special regulation will allow government agencies to remove problem wolves (wolves that attack livestock or twice in a year attack other domestic animals) outside the experimental areas using lethal methods regardless of the number of breeding pairs present in the area. (The previous special regulations that will continue to apply within the two experimental population areas allow lethal methods only if there are six or more breeding pairs present in that experimental population area.)

Prior to October 1 of each year, the new special regulation will require the release of trapped female wolves with pups that are involved in livestock depredations for the first time, regardless of the number of breeding pairs on federally managed land. (The previous special regulations that will continue to apply within the two experimental population areas require the release of such female wolves with pups only if there are fewer than six breeding pairs present in that experimental population area.)

The new special regulation will allow us to issue permits for private landowners to take wolves on their private lands if we have determined that wolves are routinely present on that land and present a significant risk to livestock, herding or guard animals, and dogs. (The previous special regulations that will continue to apply within the two experimental areas have no specific provision for this type of permit to take wolves, but such permits can potentially be issued under 50 CFR 17.32.)

The new special regulation addresses public concerns about the presence of wolves disrupting traditional human uses of Federal land. Except for within National Parks and National Wildlife Refuges, the only potential restrictions on federally managed lands may be seasonal restrictions to avoid the take of wolves at active den sites. These seasonal restrictions will likely run from April 1 to June 30 of each year and apply to land within one mile of the active den site. Our experience since 1987 with managing wolves in the northern Rocky Mountains has shown that successful wolf recovery does not depend upon land-use restrictions due to the wolves' ability to thrive in a variety of land uses. We believe there is little, if any, need for land-use restrictions to protect wolves in most situations, with the possible exception of temporary restrictions around active den sites on federally managed lands. Additionally, the public is much more tolerant of wolves if restrictive government regulations do not result from the presence of wolves. While the threatened status of wolves will require Federal agencies to consult under section 7, the new special regulation will simplify that process by stating that no land-use restrictions are likely to be required except to protect wolves at active den sites on federally managed lands, as described above.

Other provisions of the new section 4(d) special regulation for the Western DPS are identical or very similar to the previous special regulations that will continue to apply to the two nonessential experimental populations in the northern U.S. Rocky Mountains.

Prior to this rule, any western gray wolves that lived outside of, or dispersed beyond, those experimental areas were protected under the Act as endangered gray wolves; thus, wolves in and around Glacier National Park in northwestern Montana were endangered wolves. In contrast, the new reclassification to threatened status and the new section 4(d) special regulation will apply a degree of greater management flexibility across the rest of the area defined as the Western DPS, which includes all of seven States and portions of two others.

In conclusion, the new 4(d) rule for the Western Gray Wolf DPS will continue to protect wolves from human persecution outside of the two experimental population areas, but will improve and expand the management options for problem wolves. By focusing management efforts on the occasional problem wolf, we believe that the public will become more tolerant of nondepredating wolves. On the basis of our experience with wolf recovery in Minnesota, Michigan, Wisconsin, Montana, Idaho, and Wyoming, we expect this increased public tolerance to result in fewer illegal killings of Western DPS wolves and more opportunity for us to work with local agencies and the public to find innovative solutions to potential conflicts between wolves and humans. Overall, we believe that this new special regulation is consistent with the conservation of the gray wolf and that it will speed the species' recovery in the northern U.S. Rocky Mountains. Therefore, we find that this special rule is necessary and advisable to provide for the conservation of the Western DPS of the gray wolf.

New Special Regulations for Most of the Eastern DPS

The former endangered status of gray wolves restricted depredation control activities throughout the eastern half of the United States (except Minnesota) to capturing depredating wolves and releasing them at another location in the respective State. Wolves released in this manner may return to the vicinity of their capture and resume their depredating habits, begin pursuing domestic animals at their new location, or be killed by resident wolf packs in the release area. Thus, in order for translocation to have a reasonable probability of assisting wolf recovery, there must be unoccupied wolf habitat available within the State, but at a great distance from the depredation incident site, in order for the translocated wolf to survive and reproduce without causing additional depredation problems.

As the Michigan and Wisconsin wolf populations expand in number and range, the frequency of depredation incidents is increasing, yet there are fewer suitable release sites available. Releases of depredating wolves at marginal locations (that is, near existing wolf packs or too close to their capture site) are likely to fail. For example, a depredating wolf recently released into the Nicolet National Forest in Wisconsin at a location 46 miles from his initial capture had returned to within 23 miles of his capture location where he was mistaken for a coyote and shot only 13 days after his release. Further compounding the problem of successfully moving and releasing depredating wolves is the local opposition that has recently arisen to such releases in some Wisconsin counties, with at least one county board passing a resolution opposing releases by the DNR.

Similar problems with relocating depredating wolves have occurred in northwestern Montana. Between 1987 and the end of 2001, 117 wolves were relocated because of conflicts with livestock. Few of these wolves contributed toward wolf recovery and many often caused additional livestock depredations or did not survive long

enough to reproduce. A review of wolf relocation as a means of reducing depredations on livestock in northwestern Montana concluded that relocation should be discontinued and that both livestock losses and depredation control costs could be reduced by killing, instead of relocating, depredating wolves (63 FR 20212, April 23, 1998; Bangs 1998; Bangs *et al.* 1998).

This new special regulation allows us, the Michigan and Wisconsin DNRs, the wildlife management agencies of North Dakota, South Dakota, Nebraska, Kansas, Iowa, Missouri, Illinois, Indiana, and Ohio, or tribes within these States, or the designated agents of these agencies and tribes to carry out the full spectrum of depredation control actions, from nonlethal opportunistic harassment to lethal control of depredating wolves. The restrictions for lethal depredation control actions will be similar to those used for the Minnesota wolf depredation control program since 1985: (1) Wolf depredation on lawfully present domestic animals must be verified, (2) the depredation is likely to be repeated, (3) the taking must occur within one mile of the depredation site in Michigan and Wisconsin, and within 4 miles of the depredation site in other area of the Eastern DPS that are west of Pennsylvania, (4) taking, wolf handling, and euthanizing must be carried out in a humane manner, which includes the use of steel leghold traps, and (5) any young of the year trapped before August 1 must be released.

Lethal depredation control has been successful in reducing conflicts between the recovering wolf population and domestic animals in Minnesota. It resolves the immediate depredation problem without the removal of excessive numbers of wolves, and avoids removing any wolves when the depredation was not verified as being caused by wolves or is not likely to be repeated. It is significantly less expensive, less labor-intensive, and more effective than translocating such problem wolves, and thus is more appropriate for the rapidly expanding wolf populations that now exist in Michigan and Wisconsin.

Based upon Minnesota wolf depredation control data from the early 1980s when the wolf population was probably less than 1,500 animals, we estimate that a maximum of about 2 to 3 percent of Wisconsin and Michigan wolves will be taken annually under the provisions of this special regulation. At current population levels this will be about 6 to 9 wolves per State. This level of take should not appreciably affect the wolf population or its continued expansion in either of these States. As their wolf populations already exceed the Federal numerical delisting criterion, this take will have no effect on the recovery of wolves in the Eastern DPS. The level and effects of this take will be closely monitored by continuing the annual monitoring of wolf populations in these States and the required reporting of the lethal take within 15 days under this special regulation.

These new depredation control activities will be limited to an area within one mile of the depredation site in Wisconsin and Michigan. Because wolf pack territories are large (in Wisconsin and Michigan they range from 52 to 518 sq km (20 to 200 sq mi), and the locations of Wisconsin and Michigan wolf packs are much more precisely known (due primarily to the high percentage of radio-tracked packs in these States) than is the case for Minnesota wolf packs, it will be possible for depredation control actions to be directed at only the depredating pack. Thus, the one-mile limit is sufficiently large to enable depredation control trappers to focus their trapping within the activity areas of the target pack without being so large that it results in a significant risk of accidentally trapping wolves from nearby nondepredating packs.

The situation in North Dakota and South Dakota is quite different from that in Michigan or Wisconsin. Wolves that appear in North Dakota and South Dakota are dispersing individuals from Minnesota and Canada, or rarely may be from a pair or small pack along North Dakota's border with Canada. None of our recovery plans or recovery programs recommends actions to promote gray wolf restoration in either of these two States, and we do not believe the Act requires or encourages such recovery actions. We also recognize that, due to the more open landscape of these States, and the high likelihood that dispersing wolves will encounter livestock, wolves are more likely to become involved in depredations on domestic animals. Therefore, we believe we should provide a mechanism for prompt control of depredating wolves in these States. Because there are very few or no established wolf packs in these States, and there are very few wolves dispersing into these States, we believe there is minimal risk, when taking control actions under this special regulation, of accidentally trapping or shooting wolves from a nearby nondepredating pack or dispersers that are not involved in the depredation. For this reason, as well as recognition that the much more open landscape of North Dakota and South Dakota means that depredating wolves are likely to travel a greater distance from the depredation site to secure cover, we will allow lethal depredation control actions to be undertaken up to 4 miles from the depredation site.

The other Eastern DPS States that are west of Pennsylvania, and thus are subject to this special regulation, have had few reports of wolves in the last 100 years. The number of gray wolves that will be taken under its provisions will be very small, and will be of no consequence to ongoing wolf recovery programs. In the event that a gray wolf disperses into one of these States and attacks domestic animals, it will be important for the State or tribe to have this lethal control authority, because most of these areas have no suitable locations to release a depredating wolf. Due to the extremely low probability that a nondepredating wolf will be mistakenly taken instead of the depredating wolf, we are applying the 4-mile limit in these States, as well.

Therefore, because of the anticipated low level of additional mortality that will result from this special regulation, and the likely larger increase in illegal wolf killing and loss of public support for wolf recovery that we expect to be prevented by this 4(d) rule, we find that this special rule is necessary and advisable to provide for the conservation of the Eastern DPS of the gray wolf.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Most of these measures have already been successfully applied to gray wolves in the conterminous 48 States.

Under this final rule, the protections of the Act will continue to apply to the gray wolves in the endangered Southwestern Gray Wolf DPS, to the threatened Eastern and Western Gray Wolf DPSs, and to the gray wolves in the three nonessential experimental populations. The protections of the Act are removed only from parts or all of 16 States where gray wolves did not historically occur. This final rule does not modify or withdraw the existing

special regulations or the nonessential experimental population designations for the reintroduced gray wolf populations in Idaho, Montana, Wyoming, Arizona, New Mexico, and Texas, nor does it make any changes to the threatened classification and existing section 4(d) special regulation for gray wolves in Minnesota. Similarly, the existing critical habitat designations for portions of Minnesota and Michigan will remain unchanged, and will continue to be considered during consultations with other Federal agencies under section 7 of the Act. This final rule does not affect the listing or protection of the red wolf (*Canis rufus*).

The protection required of Federal agencies and the prohibitions against taking and harm are discussed in the *Summary of Factors Affecting the Species* section, factor D, *The adequacy or inadequacy of existing regulatory mechanisms*, above.

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of any species listed as endangered or threatened, or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with us. If a Federal action is likely to jeopardize a species proposed to be listed as threatened or endangered or destroy or adversely modify proposed critical habitat, the responsible Federal agency must confer with us.

Federal agency actions that may require consultation or conferencing, as described in the preceding paragraph, include activities by the U.S. Forest Service, the National Park Service, the U.S. Geological Survey, USDA/APHIS-Wildlife Services, the Bureau of Land Management, the U.S. Department of Transportation, the U.S. Environmental Protection Agency, and activities that we may undertake.

However, under section 10(j)(2)(C) of the Act, for those three areas currently designated as nonessential experimental populations in Montana, Idaho, Wyoming, Arizona, New Mexico, and Texas, for the purpose of interagency consultation under section 7 of the Act the gray wolf will continue to be considered a species proposed for listing under the Act, except where the species occurs on an area within the National Wildlife Refuge System or the National Park System. For all other purposes of the Act, gray wolves that are currently designated as experimental populations shall continue to be treated as a threatened species. Furthermore, the existing special regulations found in 50 CFR 17.84(i) and 17.84(k) regarding the taking of wolves depredating on livestock in these experimental population areas continue to apply.

The Act and implementing regulations set forth a series of general prohibitions and exceptions that apply to endangered and threatened wildlife. The prohibitions codified at 50 CFR 17.21 and 17.31 in part make it illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce, any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies. Additionally, as discussed above, special regulations promulgated under sections 4(d) and 10(j) of the Act provide additional exceptions to these general prohibitions for the gray wolf.

It is our policy (59 FR 34272; July 1, 1994) to identify, to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of the listing on proposed and ongoing activities within a species' range. Activities that we believe could potentially harm or kill the gray wolf in the area where it will remain listed as threatened or endangered and may result in a violation of section 9 include, but are not limited to:

(1) Taking of gray wolves by any means or manner not authorized under the provisions of the existing special regulation established for the designated nonessential experimental population in Arizona, New Mexico, and Texas as long as that designation and special regulation remain in effect;

(2) Taking captive Southwestern (Mexican) gray wolves unless such taking results from implementation of husbandry protocols approved under the Mexican Wolf Species Survival Plan or are otherwise approved or permitted by the Service;

(3) Taking of gray wolves within the Western DPS in a manner not authorized under the provisions of the 4(d) special regulations finalized by this document, or in a manner not authorized under the existing experimental population regulations which will continue to apply to gray wolves in Wyoming and in parts of Idaho and Montana;

(4) Taking of gray wolves within the Eastern DPS in a manner not authorized in the existing section 4(d) special regulation for Minnesota, in the section 4(d) special regulation finalized by this document for other States in this DPS that are west of Pennsylvania, or in 50 CFR 17.31 for the Eastern DPS States east of Ohio;

(5) Intentional killing of a live-trapped wild canid that is demonstrably too large to be a coyote (that is, greater than 27 kg (60 lb)) in the Northeastern States that are included in the Eastern DPS; or

(6) Killing or injuring of, or engaging in the interstate commerce of, captive gray wolves which originated from, or whose ancestors originated from, the areas included within the Western, Eastern, or Southwestern DPSs, unless authorized in a Service permit.

We believe, based on the best available information, that the following actions will not result in a violation of section 9:

(1) Taking of a gray wolf in defense of human life, or a taking by designated agency personnel in response to a demonstrable, but nonimmediate threat to human safety;

(2) Taking of wild gray wolves in the 16–State area where we have delisted the gray wolf;

(3) Taking of gray wolves under the provisions of the existing special regulations established for the three designated nonessential experimental populations in Arizona, New Mexico, Texas, Wyoming, Idaho, and Montana as long as those designations and special regulations remain in effect;

(4) Taking of gray wolves under the provisions of the special regulations under section 4(d) of the Act, as finalized at this time for threatened gray wolves in the Western DPS or the Eastern Gray Wolf DPS States which are west of Pennsylvania and excluding Minnesota;

(5) Taking of gray wolves under the provisions of the existing special regulation at 50 CFR 17.40(d) for Minnesota wolves; or

(6) taking of captive Southwestern (Mexican) gray wolves in accordance with husbandry protocols approved under the Mexican Wolf Species Survival Plan or other approvals or permits issued by the Service.

Permits may be issued to carry out otherwise prohibited activities involving endangered and threatened wildlife under certain circumstances. Regulations governing permits are at 50 CFR 13, 17.22, 17.23, and 17.32. For endangered species such permits are available for scientific purposes, to enhance the propagation or survival of the species, for incidental take in connection with otherwise lawful activities, and/or for economic hardship. For threatened species such permits are also available for zoological exhibition, educational purposes, and/or for special purposes consistent with the purposes of the Act, but not for economic hardship.

Questions regarding whether specific activities may constitute a violation of section 9 should be directed to the nearest regional or Ecological Services field office of the Service. Requests for copies of the regulations regarding listed species and inquiries about prohibitions and permits may be addressed to any Service Regional Office or to the Washington headquarters office. The location, address, and phone number of the nearest regional or Ecological Services field office may be obtained by calling us at 703–358–2171 or by using our World Wide Web site at: *http://www.fws.gov/where/index.html.*

This final rule is not an irreversible action on our part. Reclassifying either or both of the Eastern and Western DPSs back to endangered status is possible, and will be considered, should changes occur that alter the species' status or significantly increase the threats to the survival of either of these DPSs. Because changes in status or increases in threats might occur in a number of ways, it is unwise at this point to specify criteria that would trigger a reclassification proposal.

Required Determinations

Regulatory Planning and Review, Regulatory Flexibility Act, and Small Business Regulatory Enforcement Fairness

This rule was subject to Office of Management and Budget review under Executive Order 12866. Because this regulation is not expected to have a significant economic effect, only a qualitative assessment of the potential costs and benefits is included. Because of the added management flexibility provided by the 4(d) regulations, this regulation is expected to result in a small economic gain to some livestock producers within the wolf range.

Currently the vast majority of wolves that occur in the western Great Lakes area are found in the State of Minnesota where they are listed as threatened. A special regulation exists for Minnesota wolves that allows the Service, the MN DNR, other designated agencies, and their agents to manage wolves to ensure minimal economic impact. That current special regulation allows some direct ''take'' of wolves. A State program compensates livestock producers up to full market value if they suffer confirmed livestock losses by wolves. The value of the confirmed livestock losses amounted to an annual average of about $64,000 over the last five years (Paul 2001). Because this new regulation does not affect the existing special regulations for Minnesota wolves, there will be no resulting economic effect on livestock producers or other economic activities in Minnesota.

This regulation reclassifies wolves in Michigan and Wisconsin from endangered to threatened and provides special regulations similar to those already existing for Minnesota, as described above. Thus, specified State, tribal, and Federal agencies and their designated agents will be allowed to kill wolves that have been verified as killing or attacking domestic animals. Under the normal protections of the Act, that is, without the benefit of these special regulations for Michigan and Wisconsin, permits would be required. This special regulation benefits the small percentage of livestock producers in wolf range in Michigan and Wisconsin that experience wolf attacks on their animals. Since only about 1.2 percent of livestock producers in nearby Minnesota, where the wolf population is much greater (Minnesota contains more than 2,500 wolves, while Wisconsin and Michigan have 323 and 278 wolves, respectively), are adversely affected annually by wolves, the potential beneficial effect to livestock producers in Michigan and Wisconsin is small, but it may be important to a few producers. In addition, State programs in Michigan and Wisconsin compensate livestock producers if they suffer confirmed livestock losses by wolves. In Wisconsin, compensation is paid at full market value. Until recently, MI DNR provided partial compensation, but now is paying full compensation with the assistance of the International Wolf Center, Defenders of Wildlife, and other private funding sources. The net effect of the reclassification and 4(d) rule to livestock producers in Michigan and Wisconsin is that the control of depredating wolves will become more efficient and effective, thus reducing the economic burden of livestock producers resulting from wolf recovery in those States. Similar positive, but geographically scattered and minor, economic benefits will occur for livestock producers in the other Eastern DPS States west of Pennsylvania where this new 4(d) rule will also apply.

The majority of wolves in the West are protected under nonessential experimental population designations that cover Wyoming, most of Idaho, and southern Montana and that treat wolves as threatened species. A smaller, but naturally occurring population of about 84 wolves is found in northwestern Montana. The wolves with the nonessential experimental population designations were reintroduced into these States from Canada. Special regulations exist for these experimental populations that allow government employees and designated agents, as well as livestock producers, to take problem wolves. Because this final rule does not change the nonessential experimental designation or associated special regulations, it will have no economic impact on livestock producers or other entities in these areas. However, the naturally occurring wolves in northwestern Montana (outside of the nonessential experimental population areas) and wolves that may occur in other western States are now reclassified from endangered to threatened status. Under normal protections of the Act, that is, without the benefit of special regulations hereby put into place for the western States not included in the nonessential experimental designation, permits would be required for nearly all forms of take of these wolves. For example, prior to this final rule a private landowner on his or her own land in northwestern Montana could not take a wolf in the act of attacking livestock. This final rule allows such take without a permit. The reduction of the restrictions on taking problem wolves will make their control easier and more effective, thus reducing the economic losses that result from wolf depredation on livestock and guard animals and dogs. Furthermore, a private program compensates livestock producers if they suffer confirmed livestock losses by wolves. Since 1996, average compensation for livestock losses has been slightly over $10,000 in each recovery area per year. The potential effect on livestock producers in western States outside of the experimental population is small, but more flexible wolf management will be entirely beneficial to their operation.

We have delisted the gray wolf in all or parts of 16 States in this final rule, because this area is outside of the historical range of the gray wolf. These areas currently contain no wolves, and

they should not have been included in the original listing of the species. Current regulations that protect wolves there are unnecessary and inappropriate. Livestock producers and other economic activities in these States have not been affected by the gray wolf and will not be affected by the actions in this final rule, because we are simply removing the current regulations which have no effect on landowners.

a. This regulation does not have an annual economic effect of $100 million or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. As explained above, this regulation will result in only minor positive economic effects for a small percentage of livestock producers.

b. This regulation will not create inconsistencies with other agencies' actions. This regulation reflects continuing success in recovering the gray wolf through long-standing cooperative and complementary programs by a number of Federal, State, and tribal agencies.

c. This regulation will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

d. This regulation raises novel legal or policy issues, and for this reason, OMB has reviewed this rule.

This regulation will not have a significant economic effect on a substantial number of small entities as defined under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). As stated above, this regulation will result in minor positive economic effects for a very small percentage of livestock producers. Only 1.2 percent of the livestock producers are affected annually in Minnesota by the preexisting regulations, and a smaller number are expected to be affected by these new regulations in the other States.

This regulation will not be a major rule under 5 U.S.C. 801 *et seq.*, the Small Business Regulatory Enforcement Fairness Act.

a. This regulation will not produce an annual economic effect of $100 million. The majority of livestock producers within the range of the wolf are small family-owned dairies or ranches and the total number of livestock producers that may be affected by wolves is small. (For example, only about 1.2 percent of livestock producers in Minnesota is affected annually by wolves where the largest wolf population, by far, exists.) The finalized take regulations will further reduce the effect that wolves will have on individual livestock producers by reducing or eliminating permit requirements. Compensation programs are also in place to offset losses to individual livestock producers. Thus, even if livestock producers affected are small businesses, their combined economic effects will be minimal and the effects are a benefit to small business.

b. This regulation will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions.

c. This regulation will not have a significant adverse effect on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501, *et seq.*):

a. The Service has determined and certifies pursuant to the Unfunded Mandates Reform Act, 2 U.S.C. 1502 *et seq.*, that this rulemaking will not impose a cost of $100 million or more in any given year on local or State governments or private entities. As stated above, this regulation will result in only minor positive economic effects for a very small percentage of livestock producers.

b. This regulation will not produce a Federal mandate of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. This regulation will not impose any additional wolf management or protection requirements on the States or other entities.

Takings Implications Assessment

In accordance with Executive Order 12630, this regulation will not have significant implications concerning taking of private property by the Federal Government. This regulation will reduce regulatory restrictions on private lands and, as stated above, will result in minor positive economic effects for a small percentage of livestock producers.

Federalism Assessment

In accordance with Executive Order 13132, this regulation will not have significant Federalism effects. This regulation will not have a substantial direct effect on the States, on the relationship between the States and the Federal Government, or on the distribution of power and responsibilities among the various levels of government.

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and 512 DM 2, we have coordinated this rule with the affected tribes. Throughout development of this rule, we endeavored to consult with Native American tribes and Native American organizations in order both to provide them with a complete understanding of the proposed changes and also to enable ourselves to gain an appreciation of their concerns with those changes. We fully considered all of their comments on the proposed gray wolf reclassification and delisting submitted during the public comment period and have tried to address those concerns to the extent allowed by the Act, the Administrative Procedures Act, and other Federal statutes.

Civil Justice Reform

In accordance with Executive Order 12988, this regulation does not unduly burden the judicial system.

Paperwork Reduction Act

This regulation does not contain any new collections of information other than those permit application forms already approved under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, and assigned Office of Management and Budget clearance number 1018–0094.

Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires Federal agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

National Environmental Policy Act

We have analyzed this rulemaking in accordance with the criteria of the National Environmental Policy Act and 318 DM 2.2(g) and 6.3(D). We have 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 regulations adopted pursuant to section 4(a) of the Act. A notice outlining our reasons for this determination was published in the

Federal Register on October 25, 1983 (48 FR 49244).

Section 7 Consultation

We do not need to complete a consultation under section 7 of the Act for this rulemaking. The actions of listing, delisting, or reclassifying species under the Act are not subject to the requirements of section 7 of the Act. An intra-Service consultation is completed prior to the implementation of recovery or permitting actions for listed species.

References Cited

A complete list of all references cited in this document is available upon request from the U.S. Fish and Wildlife Service Region 3 Office at Ft. Snelling, Minnesota (see **FOR FURTHER INFORMATION CONTACT** section).

Author

The primary author of this rule is Ronald Refsnider, U.S. Fish and Wildlife Service, Ft. Snelling, Minnesota Regional Office (see **ADDRESSES** section). Substantial contributions were also made by Service employees Michael Amaral (Concord, New Hampshire), Ed Bangs (Helena, Montana), Brian Kelly (Albuquerque, New Mexico), and Paul Nickerson (Hadley, Massachusetts).

Regulation Promulgation

■ Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulation, 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.

■ 2. Section 17.11(h) is amended by removing the first two entries for the gray wolf (*Canis lupus*) under MAMMALS in the List of Endangered and Threatened Wildlife and adding in their place the following three entries, while retaining the current final two entries for the gray wolf, which designate nonessential experimental populations in Wyoming, Idaho, Montana, Arizona, New Mexico, and Texas:

§ 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	Southwestern Distinct Population Segment-U.S.A. (AZ, NM, CO south of Interstate Highway 70, UT south of U.S. Highway 50, OK and TX, except those parts of OK and TX east of Interstate Highway 35; except where listed as an experimental population); Mexico.	E	1, 6, 13, 15, 35, 631, 735.	NA	NA
Do	do	do	Eastern Distinct Population Segment—U.S.A. (CT, IA, IL, IN, KS, MA, ME, MI, MN, MO, ND, NE, NH, NJ, NY, OH, PA, RI, SD, VT, and WI)	T	1, 6, 13, 15, 35,735.	17.95(a)	17.40(d) 17.40(o)
Do	do	do	Western Distinct Population Segment—U.S.A. (CA, ID, MT, NV, OR, WA, WY, UT north of U.S. Highway 50, and CO north of Interstate Highway 70, except where listed as an experimental population).	T	1, 6, 13, 15, 35, 561, 562, 735.	NA	17.40(n)
*	*	*	*	*	*		*

■ 3. The Service amends § 17.40 by adding new paragraphs (n) and (o) to read as follows:

§ 17.40 Special rules—mammals.

* * * * *

(n) Gray wolf (*Canis lupus*) in Washington, Oregon, California, Idaho, Nevada, Montana, Utah north of U.S. Highway 50, and Colorado north of Interstate Highway 70, except where listed as an experimental population.

(1) *Application of this special rule to the experimental populations located in Idaho, Montana, and Wyoming.* Paragraphs (n) (2) through (6) of this section do not apply to gray wolves within the experimental populations areas in Idaho, Montana, and Wyoming established under section 10(j) of the Act and delineated in § 17.84(i).

(2) *Definitions of terms used in paragraph (n) of this section.*

(i) *Active den site.* A den or a specific aboveground site that is being used on a daily basis by wolves to raise newborn pups during the period April 1 to June 30.

(ii) *Breeding pair.* An adult male and an adult female wolf that, during the previous breeding season, have produced at least two pups that survived until December 31 of the year of their birth.

(iii) *Domestic animals.* Animals that have been selectively bred over many generations to enhance specific traits for their use by humans, including use as pets. This includes livestock (as defined below) and dogs.

(iv) *Livestock.* Cattle, sheep, horses, mules, and herding or guard animals (llamas, donkeys, and certain special-use breeds of dogs commonly used for guarding or herding livestock) or as otherwise defined in State and tribal wolf management plans as approved by the Service. This excludes dogs that are

not being used for livestock guarding or herding.

(v) *Noninjurious.* Does not cause either temporary or permanent physical damage or death.

(vi) *Opportunistic harassment.* Harassment without the conduct of prior purposeful actions to attract, track, wait for, or search out the wolf.

(vii) *Problem wolves.* Wolves that attack livestock, or wolves that twice in a calendar year attack domestic animals other than livestock.

(viii) *Public land.* Federal land and any other public land designated in State and tribal wolf management plans as approved by the Service.

(ix) *Remove.* Place in captivity or kill or release in another location.

(x) *Wounded.* Exhibiting torn flesh and bleeding or other evidence of physical damage caused by a wolf bite.

(3) *Allowable forms of take of gray wolves.* The following activities, only in the specific circumstances described in paragraph (n) of this section, are allowed: opportunistic harassment; intentional harassment; taking on private land; taking on public land; taking in response to impacts on wild ungulates; taking in defense of human life; taking to protect human safety; taking by government agents to remove problem wolves; incidental take; taking under permits; and taking per authorizations for agency employees. Other than as expressly provided in this rule, all the prohibitions of § 17.31(a) and (b) apply, and all other take activities are considered a violation of section 9 of the Act. Any wolf, or wolf part, taken legally must be turned over to the Service unless otherwise specified in paragraph (n) of this section. Any taking of wolves must be reported to the Service as outlined in paragraph (n)(6) of this section.

(i) *Opportunistic harassment.* Landowners on their own land and livestock producers or permittees who are legally using public land under valid livestock grazing allotments may conduct opportunistic harassment of any gray wolf in a noninjurious manner at any time. Opportunistic harassment must be reported to the Service within 7 days as outlined in paragraph (n)(6) of this section.

(ii) *Intentional harassment.* After we or our designated agent have confirmed persistent wolf activity on privately owned land or on a public land grazing allotment, we may, pursuant to § 17.32, issue a 90-day permit, with appropriate conditions, to any landowner to harass wolves in a potentially injurious manner (such as by projectiles designed to be nonlethal to larger mammals). The harassment must occur as specifically identified in the Service permit.

(iii) *Taking by landowners on private land.* Landowners may take wolves on privately owned land in the following two additional circumstances:

(A) Any landowner may take a gray wolf that is in the act of biting, wounding, or killing livestock or dogs, provided that the landowner provides evidence of animal(s) freshly (less than 24 hours) wounded or killed by wolves, and we or our designated agent are able to confirm that the animal(s) were wounded or killed by wolves. The taking of any wolf without such evidence may be referred to the appropriate authorities for prosecution.

(B) A private landowner may be issued a limited duration permit pursuant to § 17.32 to take a gray wolf on the landowner's private land if:

(1) This private property or an adjacent private property has had at least two depredations by wolves on livestock or dogs that have been confirmed by us or our designated agent; and

(2) We or our designated agent have determined that wolves are routinely present on that private property and present a significant risk to the health and safety of livestock or dogs. The landowner must conduct the take in compliance with the permit issued by the Service.

(iv) *Take on public land.* Under the authority of § 17.32, we may issue permits to take gray wolves under certain circumstances to livestock producers or permittees who are legally using public land under valid livestock grazing allotments. The permits, which may be valid for up to 45 days, can allow the take of a gray wolf that is in the act of killing, wounding, or biting livestock, after we or our designated agent have confirmed that wolves have previously wounded or killed livestock, and agency efforts to resolve the problem have been completed and were ineffective. We or our designated agent will investigate and determine if the previously wounded or killed livestock were wounded or killed by wolves. There must be evidence of livestock freshly wounded or killed by wolves. The taking of any wolf without such evidence may be referred to the appropriate authorities for prosecution.

(v) *Take in response to wild ungulate impacts.* If wolves are causing unacceptable impacts to wild ungulate populations, a State or tribe may capture and move wolves to other areas within the States identified in paragraph (n) of this section or experimental populations areas in Idaho, Montana, and Wyoming established under section 10(j) of the Act and delineated in § 17.84(i). In order for this provision to apply, the States or tribes must define in their wolf management plan such unacceptable impacts, describe how they will be measured, and identify possible mitigation measures. Before wolves can be captured and moved, we must approve these plans and determine that such actions will not inhibit wolf population growth toward recovery levels. In addition, if, after 10 breeding pairs are established in the State, we determine that wolves are causing unacceptable impacts to wild ungulate populations, we may, in cooperation with the appropriate State fish and game agencies or tribes, capture and move wolves to other areas within the States identified in paragraph (n) of this section or experimental populations areas in Idaho, Montana, and Wyoming.

(vi) *Take in defense of human life.* Any person may take a gray wolf in defense of the individual's life or the life of another person. The unauthorized taking of a wolf without an immediate and direct threat to human life may be referred to the appropriate authorities for prosecution.

(vii) *Take to protect human safety.* We or a Federal land management agency or a State or tribal conservation agency may promptly remove any wolf that we or our designated agent determines to be a demonstrable but nonimmediate threat to human life or safety.

(viii) *Take of problem wolves by Service personnel or our designated agent.* We or our designated agent may carry out aversive conditioning, nonlethal control, relocation, permanent placement in captivity, or lethal control of problem wolves. If nonlethal depredation control activities occurring on public lands result in the capture, prior to October 1, of a female wolf showing signs that she is still raising pups of the year (*e.g.*, evidence of lactation, recent sightings with pups), whether or not she is captured with her pups, then she and her pups may be released at or near the site of capture. Female wolves with pups may be removed if continued depredation occurs. Problem wolves that depredate on domestic animals more than twice in a calendar year, including female wolves with pups regardless of whether on public or private lands, may be moved or removed from the wild. To determine the presence of problem wolves, we or our agents will consider all of the following:

(A) Evidence of wounded livestock or other domestic animals or remains of a carcass that shows that the injury or death was caused by wolves;

(B) The likelihood that additional losses may occur if no control action is taken;

(C) Any evidence of unusual attractants or artificial or intentional feeding of wolves; and

(D) Evidence that, on public lands, if animal husbandry practices were previously identified in existing approved allotment plans and annual operating plans for allotments, they were followed.

(ix) *Incidental take.* Take of a gray wolf is allowed if the take was accidental and incidental to an otherwise lawful activity and if reasonable due care was practiced to avoid such taking. Incidental take is not allowed if the take is not accidental or if reasonable due care was not practiced to avoid such taking; we may refer such taking to the appropriate authorities for prosecution. Shooters have the responsibility to identify their target before shooting. Shooting a wolf as a result of mistaking it for another species is not considered accidental and may be referred to the appropriate authorities for prosecution.

(x) *Take under permits.* Any person with a valid permit issued by the Service under § 17.32 may take wolves in the wild, pursuant to terms of the permit.

(xi) *Additional taking authorizations for agency employees.* When acting in the course of official duties, any employee of the Service or appropriate Federal, State, or tribal agency, who is designated as an agent in writing for such purposes by the Service, may take a wolf or wolf-like canid for the following purposes; such take must be reported to the Service within 15 days as outlined in paragraph (n)(6) of this section and specimens may be retained or disposed of only in accordance with directions from the Service:

(A) Scientific purposes;

(B) Avoiding conflict with human activities;

(C) Improving wolf survival and recovery prospects;

(D) Aiding or euthanizing sick, injured, or orphaned wolves;

(E) Disposing of a dead specimen;

(F) Salvaging a dead specimen that may be used for scientific study;

(G) Aiding in law enforcement investigations involving wolves; or

(H) Preventing wolves with abnormal physical or behavioral characteristics, as determined by the Service, from passing on those traits to other wolves.

(4) *Prohibited take of gray wolves.*

(i) Any manner of take not described under paragraph (n)(3) of this section.

(ii) No person may possess, sell, deliver, carry, transport, ship, import, or export by any means whatsoever, any wolf or wolf part from the State of origin taken in violation of the regulations in paragraph (n) of this section or in violation of applicable State or tribal fish and wildlife laws or regulations or the Act.

(iii) In addition to the offenses defined in paragraph (n) of this section, we consider any attempts to commit, solicitations of another to commit, or actions that cause to be committed any such offenses to be unlawful.

(iv) *Use of unlawfully taken wolves.* No person, except for an authorized person, may possess, deliver, carry, transport, or ship a gray wolf taken unlawfully.

(5) *Federal land use.* Restrictions on the use of any Federal lands may be put in place to prevent the take of wolves at active den sites between April 1 and June 30. Otherwise, no additional land-use restrictions on Federal lands, except for National Parks or National Wildlife Refuges, will be necessary to reduce or prevent take of wolves solely to benefit gray wolf recovery under the Act. This prohibition does not preclude restricting land use when necessary to reduce negative impacts of wolf restoration efforts on other endangered or threatened species.

(6) *Reporting requirements.* Except as otherwise specified in paragraph (n) of this section or in a permit issued under § 17.32, any taking of a gray wolf must be reported to the Service within 24 hours. We will allow additional reasonable time if access to the site is limited. Report wolf takings, including opportunistic harassment, to U.S. Fish and Wildlife Service, Western Gray Wolf Recovery Coordinator (100 N. Park, #320, Helena, MT 59601; 406–449–5225 extension 204; facsimile 406–449–5339), or a Service-designated representative of another Federal, State, or tribal agency. Unless otherwise specified in paragraph (n) of this section, any wolf or wolf part, taken legally must be turned over to the Service, which will determine the disposition of any live or dead wolves.

(o) Gray wolf (*Canis lupus*) in North Dakota, South Dakota, Nebraska, Kansas, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, and Ohio.

(1) *Definitions of terms used in paragraph (o) of this section.*

(i) *Domestic animals.* Animals that have been selectively bred over many generations to enhance specific traits for their use by humans, including use as pets.

(ii) *Livestock.* Cattle, sheep, horses, and mules or as otherwise defined in State and tribal wolf management plans.

(2) *Allowable forms of take of gray wolves.* The following activities, in certain circumstances as described below, are allowed: Take in defense of human life; take to protect human safety; take to aid, salvage, or dispose; take for depredation control; take under cooperative agreements; and take under permit. As stated in § 17.31(c), the provisions of this paragraph (o) contain all the applicable take prohibitions and exceptions; all other take activities in these States are considered a violation of section 9 of the Act. Any wolf, or wolf part, taken legally must be turned over to the Service unless otherwise specified in paragraph (o) of this section. Any taking of wolves must be reported to the Service as outlined in paragraph (o)(4) of this section.

(i) *Take in defense of human life.* Any person may take a gray wolf in defense of the individual's life or the life of another person. The unauthorized taking of a wolf without an immediate and direct threat to human life may be referred to the appropriate authorities for prosecution.

(ii) *Take to protect human safety.* We or a Federal land management agency or a State or tribal conservation agency, or an agent of one of these agencies who is designated in writing for such purpose, may promptly remove any wolf that the agency determines to be a demonstrable but nonimmediate threat to human life or safety.

(iii) *Allowable take for aiding, salvaging, or disposing of specimens.* When acting in the course of official duties, any authorized employee or agent of the Service, any other Federal land management agency or the wildlife conservation agency of a State or of a federally recognized Native American tribe, who is designated by his/her agency for such purposes, may take a gray wolf in the person's area of jurisdiction without a Federal permit if such action is necessary for the following purposes; such take must be reported to the Service within 15 days as outlined in paragraph (o)(4) of this section, and specimens may be retained or disposed of only in accordance with directions from the Service:

(A) Aiding a sick, injured, or orphaned specimen;

(B) Disposing of a dead specimen; or

(C) Salvaging a dead specimen that may be useful for scientific study or for traditional cultural purposes by Native American tribes.

(iv) *Allowable take for depredation control.* When acting in the course of official duties, any authorized employee or agent of the Service, of the wildlife conservation agency of a State, or of a federally recognized Native American

tribe, who is designated by his/her agency for such purposes, may take a gray wolf or wolves within the person's State or, in the case of a tribal employee, within that person's Reservation boundaries, in response to depredation by a gray wolf on lawfully present livestock or domestic animals. However, such taking must be preceded by a determination by one of the agencies listed in paragraph (o) of this section that the depredation was likely to have been caused by a gray wolf and depredation at the site is likely to continue in the absence of a taking. In addition, such taking must be performed in a humane manner and occur within 1 mile of the place where the depredation occurred if in Michigan or Wisconsin, and within 4 miles of the place where the depredation occurred if in the remaining area covered by paragraph (o) of this section. Any young of the year taken by trapping on or before August 1 of that year must be released. Any take for depredation control must reported to the Service within 15 days as outlined in paragraph (o)(4) of this section. The specimen may be retained or disposed of only in accordance with directions from the Service.

(v) *Take under section 6 cooperative agreements.* When acting in the course of official duties, any authorized employee or agent of the State wildlife conservation agencies in the area covered by paragraph (o) of this section, who is designated by his/her agency for such purposes under a cooperative agreement under section 6 of the Act, may take a gray wolf in his/her respective State to carry out scientific research or conservation programs. Such takings must be reported to the Service as specified in the reporting provisions of the cooperative agreement.

(vi) *Take under permit.* Any person who has a permit under § 17.32 may carry out activities as specified by the permit with regard to gray wolves in the area covered by paragraph (o) of this section.

(3) *Prohibited take of gray wolves.*

(i) Any form of taking not described in paragraph (o)(2) of this section is prohibited.

(ii) *Export and commercial transactions.* Except as may be authorized by a permit issued under§ 17.32, no person may sell or offer for sale in interstate commerce, import or export, or, in the course of a commercial activity, transport or receive any gray wolves from the States, or portions thereof, covered by paragraph (o) of this section.

(iii) In addition to the offenses defined in paragraph (o) of this section, we consider any attempts to commit, solicitations of another to commit, or actions that cause to be committed any such offenses to be unlawful.

(iv) *Use of unlawfully taken wolves.* No person, except for an authorized person, may possess, deliver, carry, transport, or ship a gray wolf taken unlawfully in the area covered by paragraph (o) of this section.

(4) *Reporting requirements.* Except as otherwise specified in paragraph (o) of this section or in a permit issued under § 17.32, any taking must be reported to the Service within 24 hours. Report wolf takings in North Dakota, South Dakota, Nebraska, and Kansas to 303–236–7540, and in Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, and Ohio to 612–713–5320, or a Service-designated representative of another Federal, State, or tribal agency. (Individuals who are hearing-impaired or speech-impaired may call the Federal Relay Service at 1–800–877–8337.) Unless otherwise specified in paragraph (n) of this section, any wolf or wolf part, taken legally must be turned over to the Service, which will determine the disposition of any live or dead wolves.

(5) *Take regulations for States in the Eastern Gray Wolf Distinct Population Segment (DPS) not covered by this paragraph (o).* This special rule does not apply to the States of Minnesota, Pennsylvania, New Jersey, New York, Massachusetts, Connecticut, Rhode Island, Vermont, New Hampshire, and Maine. While these States are included in the Eastern DPS, this special regulation does not apply to the entire DPS, and it specifically does not apply to these 10 States. Gray wolves in these States, other than Minnesota, are covered by the prohibitions of § 17.31(a) and (b), which apply to all threatened species that are not subject to a special regulation. Gray wolves in Minnesota are covered by a separate special regulation in paragraph (d) of this section.

Dated: March 17, 2003.

Steve Williams,

Director.

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