

Northern California/Southwestern Oregon Gray Wolf
Designated Population Segment

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U. S. FISH AND WILDLIFE SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

Defenders of Wildlife	)	Petition to list a designated population segment
1101 14 th St. NW, Suite 1400	)	of gray wolves (16 U.S.C. § 1533 and 5 U.S.C.
Washington, D.C. 20005	)	§ 553) generally recognized as Northern
Tel: (202) 682-9400	)	California/Southwestern Oregon
	)	

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I. INTRODUCTION

Defenders of Wildlife hereby petitions the U. S. Fish and Wildlife Service to list a distinct population segment of gray wolves as endangered under the Endangered Species Act (ESA) (16 U.S.C. § 1533) and the Administrative Procedure Act (5 U.S.C. § 553). The DPS is defined in Section III but generally represents the northern California/southwestern Oregon (N. CA/SW. OR) region.

The gray wolf in this region is currently classified as “endangered” under the ESA. The FWS, however has proposed to delist the species in California and to downlist the species to “threatened” in Oregon to forgo an affirmative recovery effort in this region, 65 Fed. Reg. 43450 - 43496 (July 13, 2000).

In this petition we will present documentation of vast areas of suitable habitat and favorable conditions for the establishment of viable populations of wolves in the N. CA/SW. OR area. We present several factors that establish the significance and discreteness of this population to the conservation of gray wolves in the lower 48 states. First, feasibility studies by Wuerthner (1996) and Carroll et al. (1998, 2001) have identified several areas in Oregon and northern California that can support substantial numbers of wolves. Two of the areas, located in eastern and northeastern Oregon could probably support up to 100 wolves each while a third area in the southern Cascades and Modoc Plateau could probably support from 190 - 470 wolves. Second, the absence of a gray wolf population in the N. CA/SW. OR region constitutes a “significant gap within the historical range” of the gray wolf. This area includes over 16 million acres of federally controlled lands with substantial amounts of potential wolf habitat available. Finally we will show that the N. CA/SW. OR population qualifies as an “endangered” species under the ESA. We believe that the FWS is legally obligated to establish this new DPS and expeditiously complete and implement a recovery plan that addresses the entire geographic area encompassed by the proposed DPS.

A. The Petitioners

Defenders of Wildlife (Defenders) is a non-profit, science-based, conservation organization with more than 430,000 members and an extensive involvement in wolf restoration and protection in North America. For over 30 years Defenders has been directly involved in making gray wolf recovery a reality in the lower 48 states. Our activities in this arena include:

- < lobbying Congress and various administrations for wolf recovery actions and funding;
- < litigating on behalf of wolves as well as intervening on behalf of the government to protect the Yellowstone and Mexican gray wolf recovery efforts;
- < operating a privately funded wolf compensation trust in the northern Rockies and elsewhere since 1987;
- < offering and paying rewards for information leading to the conviction of illegal wolf killers;

- < working with current and potential cooperating tribes often providing technical training and funding for equipment or personnel;
- < funding and training field staff to manage and protect wolves in recovery areas;
- < sponsoring educational symposia and activities such as the annual North American Interagency Wolf Conference and Wolf Awareness Week to educate and organize wolf supporters and others;
- < financing and participating in numerous scientific studies to gauge habitat suitability and public support for wolf recovery, documenting wolf-related ecological phenomenon, and testing the efficacy of many management approaches and techniques;
- < providing emergency funding and staff during the government shutdown of 1996 to complete the second Yellowstone reintroduction; and
- < providing support for captive breeding facilities.

In December 1999 Defenders of Wildlife published *Places for Wolves: A Blueprint for Restoration and Long-term Recovery in the Lower 48 States* (Ferris et al. 1999) as our formal and detailed response to early drafts of the FWS reclassification proposal. This document, which was recently recognized as the Natural Resource Council of America's 1999 conservation publication of the year, lays out our science-based vision for what federally-led wolf recovery should entail.

That publication identifies several areas that offer great opportunities for wolf recovery, and among these is the N. CA/SW. OR region. To help enable wolf recovery in this area, Defenders of Wildlife has agreed to extend our wolf compensation trust to cover this region until wolves no longer require federal protection. We have also worked with a number of groups including the Klamath Center for Conservation Research, the World Wildlife Fund, Conservation Science Incorporated and the Turner Endangered Species Fund to conduct population and habitat viability analyses for the region (Wuerthner 1996, Carroll et al. 1998) and the Wildlands Project and others to complete feasibility studies for the area (Wuerthner 1996, Carroll et al. 2001ess). We've also launched a public education and outreach program together with organizations like the California Wolf Center, that includes traveling education booths, a wolf curriculum and a bi-annual international predator conference.

B. Current Legal Status

Under provisions of the Endangered Species Act, 43 Fed. Reg. 9607-9615 (March 9, 1978), all gray wolves south of the United States-Canada border (including Mexico) are listed as endangered, except in Minnesota where they are listed as threatened and in the three non-essential and experimental areas of Yellowstone, central Idaho and Arizona. The FWS has proposed a reclassification of gray wolves under the ESA that would establish 4 distinct population segments (DPS) covering all or parts of 19 states and Mexico. These proposed DPS's are: Western Gray Wolf DPS (threatened status, WA, OR, ID, MT, WY, UT, CO, northern NM, northern AZ); Southwestern Gray Wolf DPS (endangered status, southern AZ, southern NM, west TX, Mexico); Western Great Lakes Gray Wolf DPS (threatened status, ND, SD, MN, WI, MI); and Northeastern Gray Wolf

DPS (threatened status, NY, VT, NH, ME). Gray wolves would lose ESA protection (i.e. be delisted) in 29 states, including California, if this rule were promulgated as proposed. Additionally, gray wolves could be delisted (with no or non-viable populations) in Oregon, Washington, Utah, Colorado, northern Arizona, and northern New Mexico once delisting recovery goals established in the *Northern Rocky Mountain Wolf Recovery Plan* (1987) are met. Recovery goals for the proposed Western DPS are expected to be attained soon and a delisting proposal for that area is expected within the next 3-5 years. Under the proposed rule gray wolves could lose ESA protections when populations are reestablished in portions of no more than 12 of the 48 conterminous states. Additionally, populations of wolves in those few remaining states would probably be maintained at minimum levels.

C. DPS and ESA Criteria

Under the FWS DPS policy, 61 Fed. Reg. 4722-25 (Feb. 7, 1996), three elements are considered in a decision whether to list a DPS as threatened or endangered under the ESA. First the population must be discrete based on one of the following criteria: (1) the population is markedly separated from other populations of the same taxon, or (2) it is delimited by international governmental boundaries. Second, a population's significance can be established based on one of the following factors: (1) persistence of the DPS in an ecological setting unusual or unique for the taxon, (2) evidence that loss of the DPS would result in a significant gap in the range of the taxon, (3) evidence that the DPS represents the only surviving natural occurrence of a taxon within its historic range, or (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics. Lastly, if a population is determined to be both discrete and significant and therefore a "species" under the ESA, its status as endangered or threatened is then evaluated. The standard for listing species under the ESA is fairly straight forward, 16 U.S.C. § 1533 (a)(1); 50 C.F.R. § 424.11. The ESA requires the Secretary to determine, "solely on the basis of the best scientific and commercial data available..." whether a species is endangered or threatened based on any one or a combination of five factors: 1- the present or threatened destruction, modification, or curtailment of its habitat or range; 2 - overutilization for commercial, recreational, scientific, or educational purposes; 3 - disease or predation; 4 - the inadequacy of existing regulatory mechanisms; and 5 - other natural or manmade factors affecting its continued existence..

D. Overview and Current Issues

One of the significant changes made in the FWS's 1978 reclassification document (43 Fed. Reg. 9607, March 9, 1978) was to give the gray wolf ESA protection south of the US-Canada border. Preparers of that document recognized that wolves wandering out of delineated recovery areas deserved and needed protection. The current reclassification proposal divorces itself from that thinking and delists gray wolves in a total of 29 states with no scientific justification or analysis of the ESA's five listing factors.

To be sure, we agree with the FWS that many areas within the historic range of the gray wolf in the lower 48 states may no longer be suitable for restoration of the species because of landscape-scale, irreversible habitat alterations. It may therefore be justified to delist wolves in these areas where wolf recovery is simply not "feasible or potentially feasible"

(65 Fed. Reg. 43474, July 13, 2000). Any such determination, however, must be based on an analysis of the best available scientific data. The FWS's broad delisting of gray wolves in 24 states within their historic range (Young and Goldman 1944) with no scientific documentation or analysis of the presence or absence of suitable gray wolf habitat is unacceptable. Indeed, we will document the existence of scientific data which demonstrates the presence of potentially suitable gray wolf habitat within the northern California/southwestern Oregon region, though the two states are designated for either delisting (CA) or downlisting (OR) without any extant wolf populations (see Section III.).

Although Defenders supports downlisting the Yellowstone, central Idaho, and northern Rocky Mountain wolf populations in accordance with the 1987 *Northern Rocky Mountain Wolf Recovery Plan* goals, this support only applies to those areas for which the plan was developed, i.e. the northern Rocky Mountains (western Montana, central Idaho and northwest Wyoming). We cannot support the downlisting of the entire Western DPS as described in the FWS proposed rule. The proposed Western DPS includes regions for which no recovery plans have been developed even though significant amounts of potential wolf habitat are available. Examples of such areas, in addition to the northern California/southwestern Oregon area, are western Washington with over 9 million acres of federally controlled lands and the southern Rocky mountain region with over 30 million acres of federal lands.

Delisting of California or downlisting Oregon would leave a straight-line distance of about 300 miles from the existing gray wolf populations of central Idaho to suitable habitat in the N. CA/SW. OR region. The N. CA/SW. OR region includes at least 16 million acres of federally controlled lands in an area that is about 150-200 miles in breadth and would represent a significant gap in the historic range of the species. Gray wolves are unlikely to recolonize this area on their own without specific recovery plans and federal protection because of the distance (about 300 miles) and anthropogenic barriers (highways, farmland, development) between this area and wolf populations in the Northern Rockies. In short, delisting will remove federal protection for gray wolves and virtually eliminate the possibility for California and Oregon to again have wolves as a viable members of their ecosystems.

Given the general make-up of Fish and Game Commissions and their oversight role for both the California and Oregon wildlife departments, it is very unlikely that they will initiate independent actions to recover gray wolves. Commissioners formulate general state programs and policies concerning management and conservation of fish and wildlife resources and establish seasons, methods and bag limits for recreational and commercial take. State management of wildlife has traditionally focused on game species such as deer and elk, as well as cougar, black bear and bobcats. These species are the subject of hunting regulations while other species, such as coyotes, have no protection and can be killed in unlimited numbers. It will likely be up to the politically appointed game commissioners, in the face of intense political opposition to wolves, to determine the level of "management" given to wolf populations in that state.

The gray wolf is currently listed as “Endangered” by Oregon State laws well as the federal ESA and is not listed in any manner whatsoever under California State law. Should the proposed FWS reclassification of the gray wolf be approved, California and Oregon would lose all federal protection. Should California and Oregon follow the lead of South Dakota, which recently repealed hunting restrictions on wolves (S.D. Laws 1999, ch. 209, sec.1), protection could be non-existent. Many of the western states have also shown an inability or an unwillingness to recover or protect wolves within their boundaries. Other states retain legal bounties on gray wolves. In Colorado, for example, a state law offering a \$2 bounty for each wolf killed remains on the books, despite threats of a lawsuit over the law (Co. Rev. Stat. sec. 35-40-107). Montana law also provides a bounty of up to \$100 for each wolf killed; \$20 for each wolf pup (Mont. Stat. sec. 81-7-202). Most states have failed to demonstrate either their willingness or capability to protect wolves and it remains to be seen what direction California and Oregon are willing to go.

Little can be done to significantly increase the amount of suitable habitat available for wolf recovery. Consequently, the best that can be done for the wolf is to make the most use of what habitat remains. The only way to maximize the species chances of long-term survival are to utilize remaining habitat to the extent possible to restore populations that can provide adequate representation, resiliency, and redundancy (Shaffer and Stein 2000).

Representation refers to establishing populations across the full array of appropriate potential habitats. Resiliency refers to maintaining populations in each habitat at levels large enough to survive any negative consequences of demographic stochasticity and inbreeding. Redundancy refers to providing several populations in each habitat type as a hedge against extreme environmental events (Shaffer and Stein 2000). Wolf populations should be established in remaining habitat based on these principles in order to maximize the long-term viability of the gray wolf in the lower 48 states. In practice, the above would call for a minimum of two (preferably three or more) populations of not less than several hundred wolves in each ecologically or environmentally distinct area of its former range.

With these conditions in mind we feel that the only solution for recovery of a viable long-term population of gray wolves is through continued federal oversight and the establishment of a northern California/southwestern Oregon Gray Wolf DPS. The FWS should develop a comprehensive recovery plan for this region and follow it up with whatever steps are deemed necessary to encourage the restoration of this species. Defenders is willing to continue to support the FWS in this process and will continue our long tradition of wolf education and advocacy as well as payment of livestock depredation claims arising from wolves.

II. NATURAL HISTORY

A. Description of the Species

Physical description.— Gray wolves (*Canis lupus*) are the largest member of the family *Canidae* (Mech 1970) and resemble some large breeds of domestic dogs, such as Alaskan malamutes and German shepherds. Female average weights ranges from 80 - 85

pounds and males average from 95 - 100 pounds (Mech 1970), though considerable clinal variation in size exists from the Arctic to central Mexico (Young and Goldman 1944). The heaviest recorded wolf was a 175 pound male from east-central Alaska, though males seldom exceed 120 pounds and females are seldom over 100 pounds (Mech 1970). Winter pelage of wolves that historically inhabited the N. CA/SW. OR region is described by Young and Goldman (1944 - page 456) as follows: *“Upper parts in general usually suffused with ‘cinnamon’ or ‘cinnamon-buff,’ the top of the head and entire back profusely overlaid with black; under parts varying from ‘cinnamon-buff’ to ‘pinkish cinnamon,’ becoming white in some specimens on inguinal region; chin blackish; outer surfaces of fore and hind legs ranging from ‘cinnamon-buff’ to rich ‘cinnamon,’ becoming somewhat paler on feet; ears externally suffused with ‘cinnamon’ or ‘cinnamon-buff,’ the hairs tipped with black; inner surfaces of ears more thinly clothed with ‘cinnamon-buff’ hairs; tail above ‘cinnamon’ or ‘cinnamon-buff,’ overlaid with black; tail below whitish or ‘pinkish buff’ near base, passing gradually to ‘cinnamon-buff’ overlaid with black toward tip which is black all around, as usual in the group.”*

Wolves’ acute hearing and exceptional sense of smell - up to 100 times more sensitive than that of humans - make them well-adapted to their surroundings and to finding food (Mech 1970). In addition, researchers estimate that a wolf can run as fast as 40 miles an hour thus enabling them to catch much of the prey they find. Wolves have been known to travel 120 miles in a day, but they usually travel an average of 10 to 15 miles a day (Mech 1970).

Pack Behavior.— Wolves live, travel, and hunt in packs averaging from four to seven animals, consisting of an alpha, or dominant pair, their pups, and several other subordinate or young animals. The alpha female and male are the pack leaders, tracking and hunting prey, choosing den sites, and establishing the pack's territory (Mech 1970). Wolves prey mainly on ungulates, such as deer, elk, moose, caribou, bison, bighorn sheep and muskoxen. They also eat smaller prey such as snowshoe hare, beaver, rabbits, opossums and rodents. Wolves also prey on livestock, although wild prey are their preferred food (Mech 1970).

Wolf pups romp and play fight with each other from a very young age. Scientists think that even these early encounters establish hierarchies that will help determine which members of the litter will grow up to be pack leaders. All adults share parental responsibilities for the pups. They feed the pups by regurgitating food for them from the time the pups are about four weeks old until they learn to hunt with the pack. Pups remain with their parents for at least their first year, while they learn to hunt. During their second year of life, when the parents are raising a new set of pups, young wolves can remain with the pack, or spend periods of time on their own. Frequently, they return in autumn to spend their second winter with the pack (Mech 1970).

By the time wolves are two years old, however, they generally leave the pack permanently to find mates and territories of their own. Not all the pups in a litter live to the age of dispersal, of course. Biologists have determined that only one or two of every five pups born live to the age of 10 months, and only about half of those remaining survive to the time

when they would leave the pack and find their own mates. Adult wolves, on the other hand, have fairly high rates of survival. A seven year old wolf is considered to be pretty old, and a maximum life span is about 16 years (Young and Goldman 1944).

Reproduction.— The alpha pair mate in January or February and the female gives birth in spring, after a gestation period of about 65 days. Litters can contain from one to nine pups, but usually consist of around six. Pups have blue eyes at birth and weigh about one pound. Their eyes open when they are about two weeks old, and a week later begin to walk and explore the area within the den. Wolf pups grow rapidly, reaching 20 pounds at two months. A wolf pup is the same size as an adult by the time he or she is about a year old, and reaches reproductive maturity by about two years of age (Mech 1970).

Communication.— Wolves communicate through facial expressions and body postures, scent-marking, growls, barks, whimpers and howls. Howling can mean many things: a greeting, a rallying cry to gather the pack together or to get ready for a hunt, an advertisement of their presence to warn other wolves away from their territory, spontaneous play or bonding. Pups begin to howl at one month old. The howl of the wolf can be heard for up to six miles. When wolves in a pack communicate with each other, they use their entire bodies: expressions of the eyes and mouth, set of the ears, tail, head, and hackles, and general body posture combine to express excitement, anxiety, aggression, or acquiescence.

Wolves wrestle, rub cheeks and noses, nip, nuzzle, and lick each other. They also leave "messages" for themselves and each other by urinating, defecating, or scratching the ground to leave scent marks. These marks can set the boundaries of territories, record trails, warn off other wolves, or help lone wolves find unoccupied territory. No one knows how wolves get all this information from smelling scent marks, but it is likely that wolves are very good at distinguishing between many similar odors.

B. Taxonomy

According to Young and Goldman (1944) and Hall (1981) the northern parts of California as well as western Oregon and western Washington were historically occupied by *Canis lupus fuscus*, which Goldman referred to as the "Cascade Mountains Wolf." The same authors considered the wolves distributed along the eastern border of California to be *C. l. youngi*, that was found throughout Nevada, Utah and parts of Colorado. Both of these supposed sub-species are considered extinct. However, using multivariate analysis of several hundred skulls, Nowak (1995) presented a significant revision to gray wolf taxonomy which reduced the 24 formerly recognized subspecies in North America to 5 currently recognized subspecies. According to Nowak's (1995) revised classification, the gray wolf subspecies that formerly occupied northern California and southwestern Oregon was *probably C. l. nubilus*. This subspecies currently exists in the wild in northern Minnesota, northern Michigan, and northern Wisconsin (USA) and Ontario, northeastern Manitoba, and northern Quebec (Canada). Other extant subspecies near the western Washington region are *C. l. occidentalis* in northwestern Montana (naturally occurring),

central Idaho (re-introduced from Canada), and northwestern Wyoming (re-introduced from Canada).

Confusion and disagreement exists over North American gray wolf taxonomy (Brewster and Fritts 1995). However, most gray wolf taxonomists agree that the boundaries between ranges of adjacent gray wolf subspecies were zones of intergradation where genetic mixing between subspecies occurred, rather than distinct lines on a map (Young and Goldman 1944; Mech 1970; Brewster and Fritts 1995). The width of these zones relate to the ability of wolves to disperse. Wolves are capable of dispersing hundreds of kilometers, with the longest known dispersal exceeding 550 miles (Fritts 1983). Gese and Mech (1991) found that the mean dispersal distance for 316 dispersing gray wolves was 48 miles, with a range of 5-220 miles. Thus for gray wolves, zones of intergradation were likely hundreds of miles wide. The narrow zone where the gray wolf population genome was supposedly represented by approximately equal contributions from adjacent subspecies would be impossible to delineate without very large samples of DNA material, which do not exist.

Because of the fluid nature of gray wolf taxonomy and a desire to afford protection to all gray wolves south of the U.S.-Canada border, the FWS listed all gray wolves as threatened (Minnesota) or endangered (remaining 47 states and Mexico) at the species (*Canis lupus*) level in 1978, 43 Fed. Reg. 9607-9615 (March 9, 1978). In its most recent proposal to reclassify gray wolves by distinct population segments, the FWS states: "We recognize that gray wolf taxonomy at the subspecies level is subject to conflicting opinions and continuing modification. For this reason, we will not base our gray wolf recovery efforts on any particular portrayal of gray wolf subspeciation. Instead we have identified geographic areas where wolf recovery is occurring or is feasible, and we will focus recovery efforts on those geographic entities, regardless of the subspecific affiliation of current or historical gray wolves in those areas," 65 Fed. Reg. 43451-43452 (July 13, 2000).

C. Historical Distribution in Northern California/Southwestern Oregon

Schmidt (1987, 1991) thoroughly reviews the historical record of California back to the 1750s and documents the occurrence of wolves throughout California though details on densities are unclear. Young and Goldman (1944) report the appearance of wolves as fairly rare in both California and Nevada based on observations dating back to 1827, about 75 years after Schmidt's early records. This probably already reflects the growing intensity of persecution of wolves by the growing human population. Jameson and Peeters (1988) report that the wolf historically occurred along the eastern edge of the state and in the central valley (See also distribution map in Hall 1981, pg. 932). They also cite the frequent references to wolves in the 1850 diary of gold miner J. Goldsborough Bruff and how he clearly distinguished wolves from coyotes (Bruff 1949 cited in Jameson and Peeters 1988). They report that the last wolf was taken in California in 1924, the last from Nevada in 1923, and the last from Oregon in 1974. Ingles (1965), in writing his key to mammals of the Pacific Northwest, identified a wolf specimen killed in 1962 near Sequoia National Park (later identified as an Asian species and probably an escaped or

released exotic) with the last previous observation in California in 1924. He reports the last record of an Oregon wolf was from 1927 when government hunters killed a wolf east of Fort Klamath.

A recent review by Geddes-Osborne and Margolin (2001) illustrates how wolves may have been much more widespread throughout California prior to the time of the first European exploration in 1769. Anthropological studies of native languages, both extant and extinct showed that the wolf had a central place in their languages and belief systems and was probably present throughout the California territory (Geddes-Osborne and Margolin 2001).

III. NORTHERN CALIFORNIA/SOUTHWESTERN OREGON GRAY WOLF DPS PETITION PROPOSAL

A. Description

The northern California/southwestern Oregon Distinct Population Segment can be roughly defined by the following highways. In Oregon, going from west to east, the DPS can be delineated by east of Hwy 101; south of Hwy 126 until it meets Hwy 20, south of Hwy 20 until it meets US 97; west of US 97 until it meets Hwy 31; south of Hwy 31 until it meets I-395; then west of I-395 until reaching the Nevada border. In California the area is bounded by Hwy 101 on the west and Hwy 20 to the south, until reaching the Nevada border. The described DPS would encompass 15.3 million acres of all or parts of 15 National Forests located in the region. Additionally there are 637,084 acres of National Parks, National Monuments, or National Recreation Areas within the DPS boundary. Together, these represent over 16 million acres of federally managed lands including approximately 1.8 million acres of designated wilderness areas (Appendix 1).

Suitability of N. CA/SW. OR for Gray Wolf Restoration.— Dietz (1993) initially identified areas of northeastern California and southwestern Oregon as being suitable for wolf reintroduction even though the area was isolated from other wolf populations. The abundance of quality habitat and an adequate prey base, enabled him to estimate a minimum of 200 wolves could exist there as an ‘island’ population (Dietz 1993). A feasibility study by Wuerthner (1996) revealed three areas in Oregon thought to provide suitable conditions for reestablishment of wolves. Another feasibility study by Carroll et al. (1998, 2001) illustrated areas of potential wolf habitat throughout the entire region, and identified southwestern Oregon and northern California as a prime candidate for the reestablishment of wolves because the area has sufficient amounts of habitat, an adequate prey base, and few human impacts. The habitat itself is more arid and may only support wolves at moderate densities when compared to areas of northeastern and eastern Oregon. However, the habitat available in this proposed DPS is greater and with fewer potential human conflicts, thus can ultimately support more wolves. Carroll and his colleagues predict that once wolves establish themselves in the southern Cascades and Modoc Plateau that this area could become the largest population of wolves in the Pacific coastal states with an estimate of 190 - 470 wolves (Carroll et al. 2001). Their modeling further predicts that the coastal regions may be able to support smaller populations of wolves but that smaller

areas of core habitat, only partially offset by higher prey densities, make the persistence of these populations less probable. Likewise further south in the central and southern Sierra Nevada region, low prey density, rugged terrain, and long distances from other wolf populations, make these areas unlikely to have a persistent wolf population despite their large core habitats.

Human Attitudes.—A review of public opinion polls by Buckley (2000) clearly shows a national trend of growing support for restoration of viable wolf populations. In April of 1999 A statewide poll conducted by Defenders of Wildlife and other regional environmental organizations indicated that 70 percent of Oregonians support the return of wolves to the state.

We also have strong indications of widespread support in California where over 400 letters from various areas of the state were submitted to the Governor in support of “Wolf Awareness Week.” Another indication of the popularity of wolves with Californians is represented by the visitor figures of the California Wolf Center. They have 1-2 tours of their facility on weekends and report over 300 visitors per month. Additionally they present programs at 20 - 25 schools per month and have request for at least ten times that number (Nancy Weiss Pers Comm.). Several native American organizations have expressed their support for wolf restoration in California.

Ecosystem Impacts.— The impacts of wolves in ecosystems have never been comprehensively studied, due to the difficulty of establishing controls and replication (Smith et al. 1999). It has been noted, however, that removal of large predators releases herbivores and mesopredators, causing overgrazing, vegetation recruitment failure, decreases in ground-nesting birds, and in general, ecosystem simplification, extinctions, and decreased biodiversity. (Terbough et al. 1999). Wolf effects on their herbivore prey species, as well as the resultant vegetation response, have been investigated. In three-level trophic systems, wolves are responsible for maintaining vegetation levels; for instance, on Isle Royale in Lake Superior, predation by wolves releases balsam fir (*Abies balsamea*) from browsing by moose (McLaren and Peterson 1994). The interruption of these trophic cascade interactions have been speculated as the cause of the decline of Aspen (*Populus*) trees in Yellowstone National Park following wolf extirpation in the 1920s. However, it is too soon to determine if there has been a vegetation recruitment response since wolf reintroduction (Ripple and Larsen 2000).

Estimates based on population size indicate that wolf presence in the Park will triple available carrion (Garton et al. 1990), with potentially positive effects for a wide range of scavenging species, including foxes, bears, weasels and raptors (Crabtree & Sheldon 1999). Wolves have killed at least 24 coyotes in Yellowstone and altered coyote behavior and home ranges (Crabtree and Sheldon 1999). Releasing the ecosystem from un-naturally high levels of coyote and ungulate pressure might result in increased numbers of ground squirrels, pocket gophers, pronghorn, beaver, moose, hawks, owls, eagles, songbirds, wetlands, aspen and willows (Fischer 1998, Wilkinson 1997).

B. Qualifications of the northern California / southwestern Oregon Wolf

Population as a DPS

The ESA'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, the FWS adopted the "Vertebrate Population Policy" governing the recognition of distinct population segments (DPSs) for purposes of listing, reclassifying, and delisting vertebrate species under the ESA, 16 U.S.C. § 1532 (15). To be recognized as a DPS, a group of vertebrate animals must be both "discrete" and "significant."

Discreteness.—The N. CA/SW. OR DPS is separated from the central Idaho wolf population by about 200 miles (about 4 times the average dispersal distance for gray wolves) which contains an area of relatively heavy agricultural use and limited habitat that could act as a barrier to dispersal. The N. CA/SW. OR DPS would also be separated from wolves in western Washington, should they be restored, by at least 100 miles (about 2 times the average dispersal distance for gray wolves) and the geographic barrier of the Columbia River. These factors make it clear that the population would indeed be distinct from other population segments or potential segments.

Significance.—The absence of a gray wolf population in the N. CA/SW. OR DPS would constitute a significant gap within the historical range of the gray wolf. The area includes over 16 million acres of federally controlled lands with substantial amounts of potential wolf habitat available. This area has an approximate breadth that is 300 miles across (6-7 times greater than the average dispersal distance for gray wolves [Gese and Mech 1991]). The fact that such a "significant gap" exists is evidence enough to meet the test of significance under the DPS policy. At this time there are no wolves present in northern California or southwestern Oregon. The feasibility study of Carroll et al. (2001) indicates that the habitat with its lack of extensive human activity could support a persistent population of as many as 470 wolves. This number of wolves would contribute significantly to the genetic diversity of the gray wolf. Additionally the population would be restored to an area that historically supported populations of wolves that extended to the southwestern limits of their range. As a species evolves the individuals that occur on the extremes of the range are of great interest both scientifically and genetically because of their capacity to adapt to an environment at the limits of their tolerance thresholds. Because of these reasons, and the potential numeric contribution as well, the N. CA/SW. OR DPS would certainly contribute significantly to the recovery of the gray wolf.

C. Conservation Status of the northern California / southwestern Oregon DPS

If a population is determined to be discrete and significant (i.e., a Distinct Population Segment), the FWS must then determine whether it meets the definition of an endangered or threatened species under the ESA. That determination must be based solely on an evaluation of the best available scientific information and the ESA's five listing factors. Currently gray wolves in Oregon and California are federally listed as endangered. Before the FWS can legally downgrade the gray wolf in this region, it must demonstrate that progress has been made toward recovery, and that threats to its continued existence have been reduced or removed. While there have recently been several

observations of individual wolves appearing in eastern Oregon including one radio-collared female (later trapped and returned to Idaho) and two gray wolf carcasses, there are no stable populations of wolves in California or Oregon. This, despite vast areas of suitable habitat and several feasibility studies that indicate the potential for successful restoration. An analysis of the ESA's five listing factors and the best available scientific evidence both support retaining an endangered classification for the Northern California / southwestern Oregon DPS.

a. The present or threatened destruction, modification, or curtailment of its habitat or range.

Northern California and southwestern Oregon represent an expanse of suitable habitat that may provide an excellent opportunity to restore significant wolf numbers and range. However the availability and utilization of that existing range is jeopardized by a number of factors. As in most regions, increasing urbanization and human populations are reducing the amount of suitable wolf habitat. Farms and ranches are being sold and converted into developments at an alarming rate. In addition, recreational development in and around federal forest lands severely diminishes the value of these lands for wolf recovery. There are also geographical and legal barriers that prevent wolf recolonization from adjacent areas. The end result of these barriers is that available habitat is not being used and constitutes a significant curtailment of gray wolf range.

b. Overutilization for commercial, recreational, scientific, or educational purposes

Commercial or recreational take of wolves is currently illegal, though should wolves lose their ESA protection it could become a significant factor in preventing the reestablishment of wolves within this region. The amount of poaching for commercial purposes is unknown but will be totally dependant upon the regulatory status of the gray wolf (i.e. protected or not). For example, bounties still exist on the books in some states that could make harvesting wolves profitable. Recreational take is also dependant upon the regulatory status of the wolf. Currently, hunting is restricted in Oregon though in anticipation of the removal of federal protection the Oregon legislature has begun the process to re-classify the gray wolf as a pest species with unlimited take. In California the wolf is not mentioned under any management classification and should wolves make their way into the state there would be no existing management protections. We would expect a few research-related mortalities (capture and handling mortality) though it is unlikely that these will present any significant impact on the population. All these issues indicate the need for continued federal protection under the ESA, and the need for implementing a recovery plan that can monitor and regulate the take from the above factors and make management adjustments accordingly.

c. Disease or predation

Many diseases and parasites are found among the canids and some of these can create significant problems in wolf recovery, and require monitoring and appropriate treatment to ensure that they do not spread and impact the entire population. While some individuals may die from diseases, they generally are not considered a significant problem

to wolf recovery. Most wolves in North America have had regular exposure to many of the canine diseases over the years and survive. Of course, any gray wolves that become reestablished in the N. CA/SW. OR DPS should be monitored for disease or parasite problems and treated as necessary. Were wolves to be reintroduced they would be vaccinated or treated for canine diseases and parasites.

Natural mortality from other wolves, bears, mountain lions, and the defensive tactics of prey species is relatively rare and would not be expected to significantly affect gray wolf recovery. However, the risk of human-caused predation can be substantial even while under federal management and protection (64% - 96% of all mortality among the reestablished wolves in the Western US, 65 Fed. Reg. 43467). Wolf populations in California and Oregon were extirpated largely due to human-caused mortality and there continues to be a high level of malevolence towards the wolf from relatively small elements in the private and state government sectors. Clearly the threat of human predation has not been reduced or eliminated in any substantive way, therefore we must have the continued presence of federal management and ESA protection until wolves have achieved some recovery goal as defined by a N. CA/SW. OR recovery plan.

d. The inadequacy of existing regulatory mechanisms

The proposed N. CA/SW. OR DPS contains over 16 million acres of federal lands whose management agencies have not yet addressed wolf management issues adequately. There is no recovery plan in place for gray wolves, nor does FWS intend to develop a specific plan for this discrete area. Instead, the FWS proposes to completely delist gray wolves from California, even without an extant population, and to downlist them in Oregon based on the attainment of existing goals under the Northern Rockies Gray Wolf Recovery Plan (USFWS 1987). Gray wolf recovery in neither California nor Oregon is addressed in that plan, even though the region is geographically and ecologically discrete. Any move to downlist gray wolves in this area in the absence of a scientifically credible recovery plan for that area, and demonstrable progress toward the attainment of recovery goals established under such a plan, is inappropriate. The proposed Western DPS, aside from ignoring California completely, will do nothing to encourage recovery in southwestern Oregon either, as its regulatory influence will stop as soon as the wolf populations in the northern Rockies have recovered sufficiently to delist (possibly within 3-5 years). Without a coordinated recovery plan that involves all the lands controlled by the Forest Service and Park Service, it appears highly unlikely that management plans for the National Forests, National Parks, and National Recreation Areas will adequately address wolf conservation. All this indicates the need for continued federal management in this area with a specific recovery plan and continued protection under the ESA until viable wolf populations are established in these areas.

e. Other natural or manmade factors affecting its continued existence

Within California and Oregon there is a substantial livestock industry that has historically dealt with increased predation through extirpation of the predator. Government-sponsored trapping and hunting of wolves was instrumental in driving the gray wolf towards extinction and the chief reason that the gray wolf was listed as an endangered

species. Obviously such depredation control actions can severely affect the population, dependant upon what conservation status that population has. With good federal control and a responsive management plan, these impacts can be small. Without adequate federal controls and protection, the individual states and agricultural interests appear ready and willing to again extirpate the wolf. The threat from unrestricted wolf control clearly represents a present and ongoing threat to the recovery of the gray wolf and requires continued federal management in northern CA and southwestern OR, with a specific recovery plan and continued protection under the ESA.

IV. SUMMARY AND CONCLUSIONS

The ongoing restoration of gray wolves in the lower 48 states is one of the most important conservation success stories of this and the last century. While much progress has been made, there still remain significant gaps in the historical distribution of gray wolves. While some of these areas are lost forever to development and degradation, others still contain vast tracts of land that contain suitable wolf habitat. Northern California/southwestern Oregon, with its relatively low human population density, high proportions of federal lands and abundant prey populations, is one area where tremendous potential exists to restore this important ecological actor. Unfortunately that potential will not be realized under existing plans or proposals.

In this document and others cited in this text, Defenders of Wildlife has presented evidence that wolves existed at one time in northern California and southwestern Oregon and that they can be returned to this area again. In addition, we have provided materials that indicate that wolves will benefit ecosystems in this region, that they have provided economic benefit in other areas, and that well-managed wolf recovery is supported by a majority of the region's citizens. All these arguments indicate that wolves should be restored to N. CA/SW. OR.

We also demonstrated that the N. CA/SW. OR wolf population meets the definition of a DPS under the ESA. We have clearly shown that this eco-region and its wolves are discrete from both the Northern Rockies and proposed western Washington recovery areas. We have also demonstrated that this discrete region constitutes a significant portion of the species' historic range.

Lastly and perhaps most importantly, we've demonstrated that no measure of wolf recovery will occur in this region without federal leadership. The current proposed reclassification rule would inevitably end federal involvement in northern California and southwestern OR. That will leave the few naturally recolonizing wolves in the future, assuming any were allowed to do so, with no recovery plan and little chance of survival. Moreover, these wolves would be wandering into an area where the federal government has done little or nothing to alleviate threats to the animals or to encourage their recovery.

For all of the above reasons, the N. CA/SW. OR wolf must be designated as a distinct population segment whereby the FWS, in consultation with a recovery team, draws up a recovery plan and takes the steps necessary to restore this animal to its important

ecological role in this region.

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Appendix I. Areal coverage of federally managed lands that fall within our recommended Distinct Population Segments. All of the land areas listed will not necessarily provide wolf habitat.

Northern California / Southern Oregon DPS

<u>National Forests</u>	<u>Acres</u>
Deschutes NF (½ of 1 600 000)	800 000
Winema NF	1 100 000
Siuslaw NF (a of 630 395)	210 131
Willamette NF(b of 1 600 00)	1 066 666
Fremont NF	1 198 301
Umpqua NF	984 882
Rogue River NF	630 000
Siskiyou NF	1 163 484
Six Rivers NF	1 000 000
Klamath NF	1 700 000
Shasta NF	1 071 535
Trinity NF	1 058 389
Modoc NF	1 654 392
Mendocino NF	1 000 000
Lassen NF	778 350
<u>National Parks/Monuments/Recreation Areas</u>	<u>Acres</u>
Lassen Volcanic NP	106 000
Lava Beds NM	46 560
Crater Lakes NP	183 224
Smith River NRA	305 337
Whiskeytown NRA	42 503
DPS TOTAL	16 099 754