

Emergency Petition to Relist Gray Wolves
(*Canis lupus*) in the Northern Rocky Mountains
as an Endangered or Threatened
“Distinct Population Segment”
Under the Endangered Species Act

May 26, 2021



Photo by Jim Peaco, National Park Service

Authored By:

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May 26, 2021

The Honorable Deb Haaland
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Dear Secretary Haaland and Principal Deputy Director Williams:

Pursuant to 16 U.S.C. § 1533(b)(3) of the Endangered Species Act (“ESA”) and its implementing regulations, 50 C.F.R. § 424.14, as well as section 5 U.S.C. § 553 of the Administrative Procedure Act (“APA”), the Center for Biological Diversity, the Humane Society of the United States, Humane Society Legislative Fund, and the Sierra Club hereby petition the U.S. Department of the Interior (“DOI”), and the U.S. Fish and Wildlife Service (“Service” or “FWS”), to relist the gray wolf (*Canis lupus*) in the Northern Rocky Mountains.

The states of Idaho and Montana have just passed legislation to drastically reduce their wolf populations. Hunters, trappers and private contractors in Idaho can kill up to 90% of the state’s estimated 1,500 wolves, using new—and highly effective—methods of hunting that were previously unavailable. In Montana, new rulemaking may pave the way for killing approximately 85% of the population, currently reported to be at 1,200 wolves. Unless the Service restores federal protections, the region’s wolves will soon lose decades of progress toward recovery. As such, we additionally request that the Service immediately protect gray wolves in the Northern Rockies with its emergency listing authority under the ESA. 5 U.S.C. §§ 553(e), 555(b); 16 U.S.C. § 1533(b)(7).¹ The Service itself has recognized that when states alter their wolf management approaches in a way that poses a grave threat to wolf populations in the Northern Rocky Mountains, emergency listing is warranted. 74 Fed. Reg. 15,123, 15,148 (Apr. 2, 2009).

¹ Where there is “any emergency posing a significant risk to the well-being of any species of fish or wildlife or plants,” the Service need not comply with the regular listing process including notice and comment before issuing an emergency rule, so long as the agency publishes detailed reasons why such regulation is necessary and if the regulation applies to resident species of fish or wildlife, or plants, it gives actual notice of the regulation to the State agency of each State where the species is believed to occur. 16 U.S.C. § 1533(b)(7). The emergency listing takes effect after being published in the Federal Register. *Id.* Emergency listing is a temporary measure that ensures immediate protection in an emergency, and expires 240 days following the date of publication unless the rulemaking procedures that apply for making a non-emergency listing determination were complied with during that time. *Id.*

This Petition requests one of two alternative Distinct Population Segment (“DPS”) designations: a regional DPS for the Northern Rocky Mountains or a “Western DPS” that includes the Northern Rocky Mountains, West Coast and Southern Rocky Mountains. We ask that the Service assign the status of “endangered” or “threatened” according to the best available science, as described in this Petition. A threatened listing would preserve federal oversight to ensure gray wolf conservation, as the ESA requires, while providing the Service with the regulatory flexibility under Section 4(d) to work with states to manage conflicts with wolves, including limited “taking” of wolves if consistent with the overarching conservation goals of the ESA and based on best available science. 16 U.S.C. § 1533(d).

Because this Petition responds to the immediate threats facing wolves in the Northern Rocky Mountains, it does not encompass the entire range of the gray wolf in the conterminous U.S., as requested in the December 17, 2018 Petition,² which the Service unlawfully denied. That denial is being challenged in court, along with the 2019 rule removing protections from gray wolves outside of the Northern Rocky Mountains.

It is crucial to the long-term and sustainable recovery of gray wolves, and to the integrity of the ESA and our nation’s interests in protecting against the loss of vulnerable species, that the Service show leadership in response to the horrific legislation passed in Idaho and Montana. These state laws, which include payments to wolf hunters and trappers to cover their expenses, harken back to government-funded bounty systems that contributed substantially to pushing gray wolves to the edge of extinction nationwide over a century ago. Rather than once again resort to harmful exploitation and needless persecution, the Service must commit to gray wolf conservation and recognize the incalculable value of having wolves on the landscape.

The undersigned Petitioners thereby request that the Service exercise its authority to restore federal protections to wolves in the Northern Rocky Mountains as soon as possible.

Sincerely,

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² https://www.biologicaldiversity.org/campaigns/gray_wolves/pdfs/Wolf-Petition-12-17-2018.pdf

LEGAL AND FACTUAL BACKGROUND

I. The Endangered Species Act

The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation” in the world. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). Congress enacted the ESA in 1973 “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species” 16 U.S.C. § 1531(b).

The ESA defines an “endangered species” as one “which is in danger of extinction throughout all or a significant portion of its range.” *Id.* § 1532(6). A “threatened species” is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” *Id.* § 1532(20).

For any species listed as endangered, Section 9 of the ESA makes it unlawful for any person to, among other activities, “import any such species into, or export any such species from the United States,” or to “take any such species within the United States.” *Id.* § 1538(a)(1)(A), (B). The term “take” includes “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19).

For species that are listed as threatened, rather than endangered, the Service “may,” but is not required to, extend the prohibitions of Section 9 to the species. *Id.* § 1533(d). However, for threatened species the ESA nonetheless *requires* the Service to “issue such regulations as [it] deems necessary and advisable to provide for the conservation of such species.” *Id.* § 1533(d) (noting that “the Secretary *shall* issue such regulations” (emphasis added)).

The term “conservation” is specifically defined in the ESA as “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.” *Id.* § 1532(3). The statutory definition of “conservation” further provides that “[s]uch methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.” *Id.*

The ESA provides for the listing of DPSs of vertebrate species. The Service will consider a population a DPS if it is “discrete” in relation to the remainder of the species to which it belongs and “significant” to the species to which it belongs. Policy Regarding the Recognition of Distinct Vertebrate Segments Under the Endangered Species Act (“DPS Policy”), 61 Fed. Reg. 4722, 4725 (Feb. 7, 1996).

II. The U.S. Government Persecuted and Then Protected Gray Wolves

The gray wolf once occupied the majority of North America, excluding perhaps only the driest deserts and the southeastern U.S. where the red wolf occurred. *See* 78 Fed. Reg. 35,664 (June 13, 2013). Scientists estimate that pre-European colonization as many as 2 million wolves may have lived in North America (Leonard et al. 2005).

The expanding American frontier was characterized by unrestrained hunting, including market hunting, leading to the decimation of ungulate populations on which wolves depended. In turn, wolves preyed extensively on newly present livestock which were ubiquitous on the frontier. In response, during the 19th and early 20th centuries, livestock associations, counties and states offered bounties to incentivize the killing of wolves, but with limited success. To complete wolf extermination, beginning in 1915, the U.S. Bureau of Biological Survey (predecessor of the Service) hired hundreds of trappers and poisoners, each assigned to a district, to ensure that wolves as well as other targeted wildlife would find no refuge whatsoever (Robinson 2005).

By 1967, when wolves were first federally protected under a precursor to the Endangered Species Act, they had been reduced to fewer than 1,000 wolves in northeastern Minnesota, with a very small isolated population on Isle Royale. *See* 74 Fed. Reg. 15,069 (April 2, 2009). The Service originally protected wolves as subspecies, but after recognizing the uncertain validity of these subspecific designations,³ the Service in 1978 protected the gray wolf at the single-species level in the conterminous United States as an endangered species and designated the Minnesota population as threatened.⁴

Despite the wolf's nationwide listing at the species level, the Service did not develop a nationwide gray wolf recovery plan. Instead, the Service developed separate wolf recovery plans for unrecognized entities in three recovery areas: the Northern Rocky Mountains (drafted in 1978, revised in 1987), western Great Lakes (drafted in 1978, revised in 1992 for the "eastern timber wolf") and Southwest (drafted in 1982, revised in 2017 covering what is now separately listed as the Mexican wolf). With protections in place and wolf reintroductions, including in portions of the Northern Rocky Mountains,⁵ wolves began to grow in number and expand their

³ In 1977, the Service determined that the listing of gray wolves by subspecies was "[un]satisfactory because the taxonomy of wolves [was] out of date, wolves may wander outside of recognized subspecific boundaries, and some wolves from unlisted subspecies may occur in certain parts of the lower 48 states." 42 Fed. Reg. 29,527 (June 9, 1977). The Service concluded that the species-level listing was appropriate because the gray wolf "formerly occurred in most of the conterminous United States and Mexico . . . [and because] of widespread habitat destruction and human persecution, the species now occupies only a small part of its original range in these regions." *Id.*

⁴ 43 Fed. Reg. 9607 (Mar. 9, 1978). Because the authority to list species as "distinct population segments" did not exist at the time of this action, the basis for the original split-species classification has remained unclear.

⁵ In 1994, the Service designated the Yellowstone Experimental Population Area, 59 Fed. Reg. 60,252 (Nov. 22, 1994), and the Central Idaho Experimental Population Area, 59 Fed. Reg.

range in areas covered by the recovery plans. Wolf expansion has promoted biodiversity and overall ecosystem health in these regions, as explained below (Chadwick 2010).

III. The Service's Efforts to Reduce and Remove Federal Wolf Protections

Beginning in 2000, the Service began biologically premature efforts to reduce federal protections for wolves under the ESA. 65 Fed. Reg. 43,450 (July 13, 2000) (proposed rule); 68 Fed. Reg. 15,804 (Apr. 1, 2003) (final rule). The Service's 2003 rule divided the endangered gray wolf species into three large DPSs. Two of these, an Eastern DPS and a Western DPS, the Service downlisted to threatened status. 68 Fed. Reg. 15,804. The Southwestern DPS, occupied by Mexican wolves, continued to be classified as endangered. *Id.*⁶

The 2003 rule was challenged by conservation and animal protection groups in two Federal district courts, one in Oregon and one in Vermont, both of which rejected the rule and issued orders vacating it. *Def's. of Wildlife v. Sec'y, U.S. Dep't of the Interior*, 354 F. Supp. 2d 1156 (D. Or. 2005); *Nat'l Wildlife Fed'n v. Norton*, 386 F. Supp. 2d 553 (D. Vt. 2005). The courts rejected the Service's focus on the few areas where wolves had made progress toward recovery while ignoring lost historical range. *Def's. of Wildlife*, 354 F. Supp. 2d at 1168-69; *Nat'l Wildlife Fed'n*, 386 F. Supp. 2d at 566.

Instead of taking a broader view of wolf recovery, the Service's response to these judicial rebukes was to take an even more piecemeal approach. Beginning in 2006, the Service attempted to delist wolves by drawing narrower DPS boundaries than those established in the Service's previously rejected 2003 rule. 72 Fed. Reg. 6052 (Feb. 8, 2007) (2007 Great Lakes delisting rule); 73 Fed. Reg. 10,514 (Feb. 27, 2008) (2008 Northern Rockies delisting rule); 74 Fed. Reg. 15,070 (Apr. 2, 2009) (2009 Great Lakes delisting rule); 74 Fed. Reg. 15,123 (Apr. 2, 2009) (2009 Northern Rockies delisting rule); 76 Fed. Reg. 81,666 (Dec. 28, 2011) (2011 Great Lakes delisting rule).

A series of federal court decisions rejected each of these attempts, and, although the court rulings addressed numerous different legal issues, all touched on a continuing problem: the Service has persistently relied on the progress toward recovery achieved in a fraction of the wolf's range to justify ignoring the continuing need to address remaining threats and potential for further recovery. *Humane Soc'y v. Zinke*, 865 F.3d 585, 605 (D.C. Cir. 2017) ("We hold that the Service's analysis of the status of the Western Great Lakes segment within its current range

60,266 (Nov. 22, 1994), to facilitate reintroduction of "nonessential experimental populations" of gray wolves under Section 10(j) of the ESA. *See* 16 U.S.C. 1539(j). The Service introduced more than 60 wolves to these areas between 1995 and 1996.

⁶ In a region comprised of sixteen southeastern states, the Service delisted wolves, not based on a finding of recovery or extirpation in the region, but instead based on a determination that wolves did not historically exist in that region and thus the 1978 decision to list wolves in that region was erroneous. 68 Fed. Reg. 15,804. In addition, the Service simultaneously enacted Section 4(d) regulations for the two population segments downlisted to threatened status. *Id.* The 4(d) rules were substantially similar to the 4(d) rule promulgated for wolves in Minnesota, 50 C.F.R. § 17.40(d), and these rules applied to most, but not all, of the new Eastern and Western DPSs. 68 Fed. Reg. 15,804.

wrongly omitted all consideration of lost historical range.”); *Humane Soc’y of the U.S. v. Jewell*, 76 F. Supp. 3d 69, 119 (D.D.C. 2014) (“Instead of considering the status of the listed entity, the *Canis lupus* species, as a whole, the Final Rule purposely avoids a comprehensive evaluation of this endangered species throughout its historical range, focusing solely on the viability of a single population of gray wolves in only a part of that range.”); *see also Defs. of Wildlife v. Hall*, 565 F. Supp. 2d 1160 (D. Mont. 2008); *Humane Soc’y of U.S. v. Kempthorne (I)*, 579 F. Supp. 2d 7 (D.D.C. 2008); *Humane Soc’y of the United States v. Kempthorne (II)*, Stipulated Settlement Agreement and Order, Civ. No. 09-01092-PLF, Dkt. 27 (D.D.C., J. Friedman, July 2, 2009); *Defs. of Wildlife v. Salazar*, 729 F. Supp. 2d 1207, 1228 (D. Mont. 2010); *Defs. of Wildlife v. Jewell*, 68 F. Supp. 3d 193 (D.D.C. 2014).

One of the court decisions, the 2010 decision reinstating protections for wolves in the Northern Rocky Mountains, was reversed by Congress. In 2011, Congress passed, and the President signed into law, an appropriations bill that included a rider directing the Service to reissue the vacated 2009 Northern Rockies delisting rule. *See* Section 1713, Pub. L. 112-10, 125 Stat. 38 (Apr. 15, 2011). Accordingly, the Service reissued the rule removing ESA protections for the gray wolf population in the Northern Rockies (excluding Wyoming). 76 Fed. Reg. 25,590 (May 5, 2011) (2011 Northern Rockies Delisting Rule). In Wyoming, the Service issued a delisting rule, 77 Fed. Reg. 55,530 (Sept. 10, 2012), which a district court vacated and the appellate court reinstated. *Defs. of Wildlife v. Zinke*, 849 F.3d 1077, 1081 (D.C. Cir. 2017).

Thereafter, in 2013, the Service proposed the removal of federal wolf protections across the lower 48 states, except for Mexican wolves, which the Service had separately stated it would conserve at the subspecies level. 78 Fed. Reg. 35,664 (June 13, 2013). But the Service did not move forward with this nationwide delisting proposal, likely given the dissent of scientists who disagreed with its taxonomic conclusions, as explained below, and because the court reinstated protections for wolves in the western Great Lakes. *Humane Soc’y v. Zinke*, 865 F.3d 585, 605 (D.C. Cir. 2017).

In 2019, the Service again proposed nationwide removal of gray wolf protections. 84 Fed. Reg. 9648 (March 15, 2019). That rule was finalized in 2020 and became effective on January 4, 2021. 85 Fed. Reg. 69,778 (Nov. 3, 2020) (2020 Delisting Rule). The 2020 Delisting Rule eliminates ESA protections for the gray wolf throughout the contiguous United States, except for the small population of Mexican gray wolves in Arizona and New Mexico. Three lawsuits challenging that delisting rule have been consolidated and are currently pending in the U.S. District Court for the Northern District of California. *See, e.g., Defs. of Wildlife v. U.S. Fish and Wildlife Serv.*, No. 3:21-cv-344.

In summary, after multiple rounds of litigation over almost two decades, federal courts repeatedly found that the Service violated the law and failed to apply the best available science. Despite this, gray wolves across the lower 48 states – other than the Mexican wolf subspecies (*Canis lupus baileyi*)⁷ – have no federal ESA protections.

⁷ The Service has listed the Mexican wolf as a separate endangered subspecies. 80 Fed. Reg. 2488-01 (Jan. 16, 2015). The red wolf (*Canis rufus*) is also listed as a separate endangered species with experimental populations. 50 C.F.R. §§ 17.11, 17.84(c)(9).

IV. Wolf Behavior and Ecology

Gray wolves are territorial and social animals that hunt in groups and also opportunistically scavenge, normally living in packs of 7 or fewer animals (Mech 1970; Mech and Boitani 2003; Stahler et al. 2006; Vucetich et al. 2012). Typically, only the top-ranking female and male wolves in each pack will breed and reproduce (Mech and Boitani 2003). Wolves are typically but not always monogamous, become fertile as 2-year-olds and usually give birth once each spring to a litter of 2-5 pups, and may continue to produce offspring annually until they are over 10 years old (Mech 1970; Fuller et al. 2003).

Offspring usually remain with their parents for 10 to 54 months, meaning that packs may include the offspring from up to 4 breeding seasons (Mech and Boitani 2003). Crucial to maintaining the genetic diversity necessary for healthy and sustainable populations, subadult and adult wolves disperse from their natal packs. These dispersing wolves remain nomadic until they locate members of the opposite sex and move to suitable unoccupied habitats to establish new packs and claim new territories (Mech 1970; Mech and Boitani 2003).

Wolves establish home territories through urinary scent marking and howling, and by defending their territories from other wolves. Packs typically occupy and defend a territory of 33 to more than 2,600 square kilometers, with territories tending to be smaller at lower latitudes (Mech and Boitani 2003; Fuller et al. 2003). A wolf pack will generally maintain its territory, even as individual wolves occasionally disperse to form new packs, if the breeding pair is not killed (Mech and Boitani 2003). However, if one or both members of the breeding pair are killed, the remaining members of the pack may disperse, starve, or remain in the territory until an unrelated dispersing wolf arrives and mates with one of the remaining pack members to begin a new pack (Mech and Boitani 2003; Brainerd et al. 2008).

Wolf populations are self-regulating—their populations are generally limited by prey availability, but when prey availability is unusually high wolf populations are limited by density-dependent factors, such as disease, and pack stability and territoriality (Carriappa et al. 2011; Hatton et al. 2015; Lake et al. 2015).

Within the United States, studies of gray wolves in Yellowstone National Park and elsewhere demonstrate that wolves significantly shape their ecosystems, promoting biodiversity and overall ecosystem health. Wolves act as a buffer to the effects of climate change by creating more carrion for scavengers and making it available year-round, to the advantage of bald and golden eagles, brown bears, ravens, magpies, and coyotes (Wilmers and Getz 2005; Stahler et al. 2006; Constible et al. 2008).

Prey animals modify their behavior, distribution and movements in response to wolves (Ripple and Beschta 2004; White and Garrott 2005). By example, gray wolves limit overgrazing of saplings by elk in sensitive riparian environments and thereby permit other species, such as bison, beavers, birds, fish and amphibians to thrive by stabilizing riparian areas (Ripple and Beschta 2003; Chadwick 2010). Overall, native carnivores hold prey numbers at lower levels so that they do not irrupt and then subsequently die from starvation, weather or other stochastic events (Vucetich et al. 2005; Wright et al. 2006; Mitchell et al. 2015).

Wolves also have a controlling effect on other predator species, such as coyotes (Bergstrom 2017; Lennox et al. 2018), which indirectly benefits pronghorn and lynx (Berger and Gese 2007; Smith et al. 2003; Berger et al. 2008; Ripple et al. 2011). The trophic cascade of benefits provided by wolves is extraordinary, producing measurable positive effects for riparian vitality, aspen recruitment, and even down to the microbes in soil (Wilmers et al. 2005; Chadwick 2010; Estes et al. 2011; Ripple et al. 2014; Darimont et al. 2015; Boyce 2018). In short, wolves make ecosystems biologically richer and more functional.

V. Wolf Taxonomy

Numerous efforts have been made to taxonomically classify wolves in North America (e.g. Young and Goldman 1944; Hall 1959, 1981). Nowak (1995) consolidated the gray wolf into five subspecies: the arctic wolf (*C. l. arctos*); the northern timber wolf (*C. l. occidentalis*); the plains wolf (*C. l. nubilus*); the eastern gray wolf (*C. l. lycaon*); and the Mexican gray wolf (*C. l. baileyi*). The results of mitochondrial DNA testing of historic and modern specimens suggest much greater genetic diversity for historic as opposed to contemporary wolf populations, as the genetic makeup of historic populations was apparently distinctly different from today's populations in some parts of the range (Leonard et al. 2005; Leonard and Wayne 2008a, 2008b; Tomiya and Meachen 2018). Some recent studies do not find support for several of the subspecies identified by Nowak (1995), but continuing support exists for recognition of the separate Mexican wolf subspecies (*C. l. baileyi*) (Leonard et al. 2005).

Some studies have concluded that the eastern wolf (*Canus lycaon*) is a separate species (see, e.g., Wilson et al. 2000; Fain et al. 2010), but other studies have questioned this designation or do not come to the same conclusion (see, e.g., Lehman et al. 1991; Nowak 2003, 2009; Leonard and Wayne 2008a, 2008b; Koblmuller et al. 2009; vonHoldt et al. 2011; see also Randi 2007). The taxonomic identity of wolves remains controversial and uncertain (Bruskotter et al. 2014; Mech et al. 2014). And, by the Service's own admission, "*Canis* taxonomy will continue to be debated for years if not decades to come. . . ." 78 Fed. Reg. at 35,670.

Such uncertainty in wolf taxonomy prompted Congress (through the Consolidated Appropriations Act of 2018) to compel the Service to initiate a study through a qualified independent entity to determine whether red wolves are a taxonomically valid species and whether Mexican wolves are a taxonomically valid subspecies. The National Academies of Sciences, Engineering, and Medicine conducted this assessment. Their consensus was that "[a]lthough additional genomic evidence from historic specimens could change this assessment, evidence available at present supports species status (*Canis rufus*) for the extant red wolf." (National Academies of Sciences, Engineering, and Medicine, 2019, p. 5). They also concluded that "[t]he Mexican gray wolf is a valid taxonomic subspecies of the gray wolf, *Canis lupus*, with its current classification of *Canis lupus baileyi*." (*id.*, p. 3).

Absent compelling additional information, the weight of current scientific evidence strongly indicates that only one species of gray wolf exists in the United States.

JUSTIFICATION FOR LISTING GRAY WOLVES IN THE NORTHERN ROCKY MOUNTAINS AS A “DISTINCT POPULATION SEGMENT”

I. The Service Should Designate One of Two Alternative DPSs That Encompass the Northern Rocky Mountains

This Petition demonstrates that the best available science and current law supports establishing one of two listable entities for gray wolves in the Northern Rocky Mountains: 1) the “Northern Rocky Mountains DPS” (“NRM DPS”) established in the 2009 Delisting Rule (74 Fed. Reg. 15,123 (Apr. 2, 2009)), or 2) a “Western DPS” including the West Coast, Northern Rocky Mountains, and Southern Rocky Mountains regions. These alternative designations are pictured in **Figure 1**, which depicts the five regional DPSs proposed in the 2018 Petition.

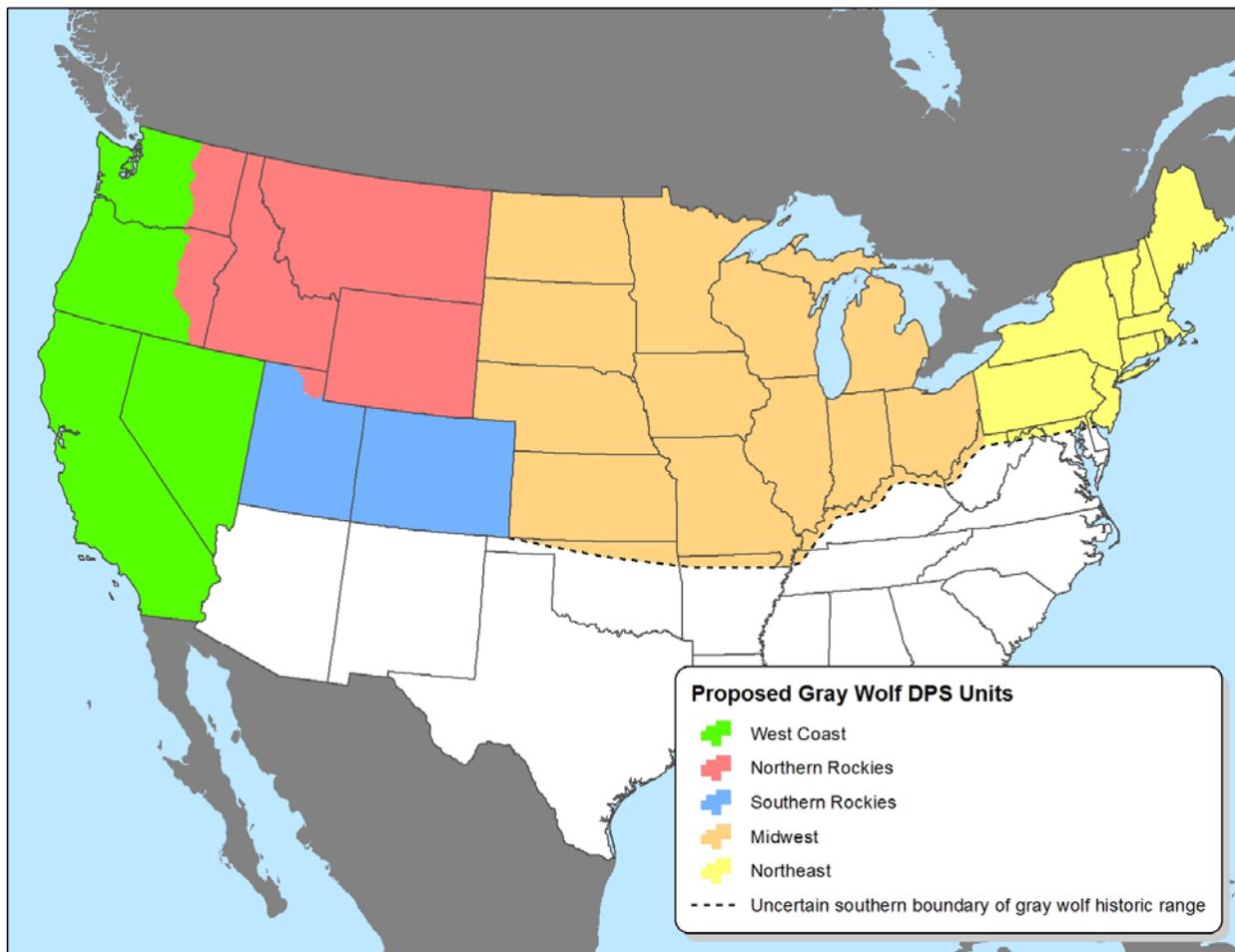


Figure 1. The five regional DPSs addressed in the 2018 Petition. This Petition proposes designation of a NRM DPS, as indicated in red, or a “Western DPS” that encompasses the West Coast (green), Northern Rocky Mountains (red) and Southern Rocky Mountains (blue). The Midwest (orange) and Northeast (yellow) regions are not addressed in this Petition.

According to the DPS Policy, a population must be both discrete and significant. 61 Fed. Reg. 4722, 4725. A population is “discrete” if it is “markedly separated from other populations” because of “physical, physiological, ecological, or behavioral factors” or it is “delimited by

international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4 (a) (1) (D).” *Id.* A population need not have “absolute reproductive isolation” to be recognized as discrete. 61 Fed. Reg. at 4724. The discreteness standard is “simply an attempt to allow an entity given DPS status under the Act to be adequately defined and described,” and the DPS Policy makes clear that it “does not require absolute separation of a DPS from other members of its species.” *Id.* Instead, it “allows for some limited interchange among population segments considered to be discrete.” *Id.* The DPS Policy emphasizes that the test for distinctiveness should not be “unreasonably rigid.” *Id.*

A population is considered “significant” based on, but not limited to, the following factors: 1) “persistence of the discrete population in an unusual or unique ecological setting;” 2) “loss of the discrete population would result in a significant gap in range;” 3) the population “represents the only surviving natural occurrence of an otherwise widespread population that was introduced;” or 4) the population “differs markedly in its genetic characteristics.” 61 Fed. Reg. at 4725.

A. The Northern Rocky Mountains DPS is a Listable Entity

The proposed NRM DPS is delineated in the 2009 Delisting Rule, which includes the eastern one-third of Washington and Oregon, a small part of north-central Utah, and all of Montana, Idaho, and Wyoming. 74 Fed. Reg. 15,123 (Apr. 2, 2009). Although wolves from the Northern Rocky Mountains have served as an important source of wolves recolonizing the Cascades and the Southern Rocky Mountains, the DPS policy does not require complete reproductive isolation. 61 Fed. Reg. at 4724.

Discrete from Canada. The northern boundary of the NRM DPS is the international boundary with Canada. The DPS Policy allows the Service to use international borders to demonstrate “discreteness” and delineate the boundaries of a DPS, even if the current distribution of the species extends across that border. 61 Fed. Reg. at 4725. Here, the United States-Canada border can be used to mark the northern boundary of the NRM DPS due to the difference in exploitation, conservation status and regulatory mechanisms between the two countries. As the Service previously found, wolf populations are generally more numerous and wide-ranging in Canada, not protected by federal laws in Canada and publicly trapped in most Canadian provinces. 68 Fed. Reg. 15,804 (Apr. 1, 2003) (2003 final rule downlisting Eastern and Western DPSs); 76 Fed. Reg. 81,666, 81,672 (Dec. 28, 2011) (2011 Western Great Lakes DPS delisting rule). That same reasoning applies here and demonstrates that the U.S.-Canada border can be used to demonstrate discreteness of the NRM DPS.⁸

⁸ Differences in laws protecting wildlife and their habitats prompted the Service to use the U.S.-Canada international boundary in several other DPS determinations. 65 Fed. Reg. 16,052, 16,060 (Mar. 24, 2000) (Canada lynx); 69 Fed. Reg. 18,770, 18,769 (Apr. 8, 2004) (Pacific fisher). The Service has also used differences in wildlife abundance to justify use of this international border in other DPS determinations, including for Steller’s eider, peninsular

Discrete from the West Coast. Habitat modeling by Carroll et al. (2006) shows that substantial areas of non-habitat separate wolf habitat in the Cascades and Sierra Nevada from habitat in the northern Rocky Mountains (see **Figure 2**). Carroll et al. (2006) identified the “Pacific states” as an area that “could serve as the basis” for a DPS, and specifically noted that “[e]cological barriers, such as expanses of unsuitable habitat” were an appropriate basis for delineating DPSs.

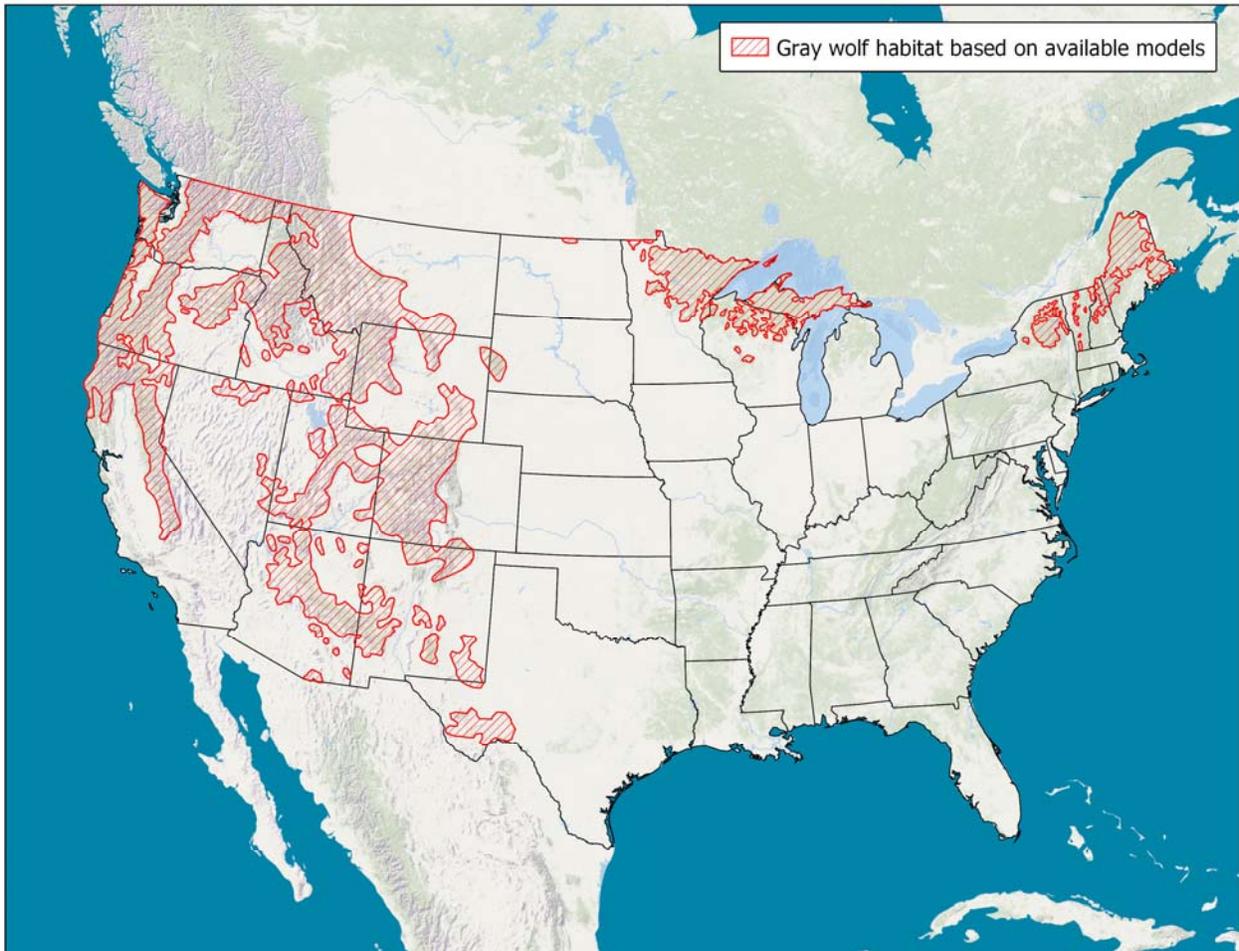


Figure 2. Map of best wolf habitat based on available habitat models. (We have submitted the scientific studies used to develop this map with this Petition.) These predictive models include screening parameters such as road density, human population density, prey density, and land cover/use. Wolves could utilize many other areas – if protected from persecution and with access to adequate prey – because they are habitat generalists and long-range dispersers (e.g. Mech and Boitani 2003; Jimenez et al. 2017).

bighorn sheep, and cactus ferruginous pygmy owl. *See, e.g.*, 62 Fed. Reg. 31,748, 31,752 (June 11, 1997) (Alaska DPS of Steller’s eider).

Discrete from the Midwest. Wolf populations in the Northern Rocky Mountains are physically separated from wolves in the Midwest by vast areas of non-habitat. 76 Fed. Reg. at 81,672.

Discrete from the Southern Rocky Mountains. The NRM DPS is separated from the Southern Rocky Mountains by the Red Desert and dry plains of southwestern and central Wyoming, and by extensive areas of agriculture and human development across southern Idaho. Although wolves have occasionally dispersed from the NRM DPS into this region, the DPS Policy does not require absolute isolation. Moreover, dispersing wolves are important to help repopulate the region.

Even if the Service were to conclude that designation of the NRM DPS would not fully comport with the DPS Policy, it is still a listable entity. The Act of Congress directing the Service to reissue this delisting rule does not prohibit the Service from issuing a separate rule re-listing or otherwise revising the status of the NRM DPS. Section 1713, Pub. L. 112-10, 125 Stat. 38 (Apr. 15, 2011). The Service's 2009 Delisting Rule specified conditions that would trigger a status review, relisting, or emergency relisting of the NRM DPS. 74 Fed. Reg. 15,123, 15,186 (Apr. 2, 2009). After that rule was vacated, Congress directed the Service to reissue it in its entirety, including its commitments to reconsider relisting the NRM DPS if those triggering conditions were met. *See* P.L. 112-10, § 1713 (“[T]he Secretary of the Interior shall reissue the final rule published on April 2, 2009 (74 Fed. Reg. 15123 et seq.)[.]”); 76 Fed. Reg. 25,590 (May 5, 2011) (reissuing 2009 Delisting Rule). As a result, the Service's commitments to reviewing and relisting the NRM DPS under those circumstances are of the nature of a judicially reviewable statutory mandate. *See All. for the Wild Rockies v. Salazar*, 672 F.3d 1170, 1175 (9th Cir. 2012) (“[T]he 2009 [Delisting] Rule does provide standards by which the agency is to evaluate the continuing viability of wolves in Montana and Idaho...[Judicial] [r]eview of any regulations issued pursuant to the Rule or of agency compliance with the standards, does not appear to be restricted.”). Even if the Service determines that the NRM DPS is no longer a listable entity under the DPS Policy, it must nevertheless comply with Congress' mandate by reviewing and relisting Montana and Idaho's wolf populations either as part of a NRM DPS or, in the alternative, as part of a broader Western DPS.

Significance of the Northern Rocky Mountains DPS. The NRM DPS is significant for the reasons described in the 2009 Delisting Rule. 74 Fed. Reg. 15,123, 15,129 (Apr. 2, 2009). Specifically, the Northern Rocky Mountains has amongst the highest diversity of large predators and native ungulate prey species, resulting in complex ecological interaction. *Id.* And the loss of the NRM wolf population would represent a significant gap in the species' Holarctic range in that this loss would create a 15-degree latitudinal loss or over 1,600 km. *Id.*

B. Alternatively, the Western DPS is a Listable Entity

The Service could instead designate a large DPS that comprises the entire interconnected wolf population in the western U.S., namely, a “Western DPS.” We recognize that two courts vacated the 2003 Final Rule that previously designated the Eastern and Western DPSs. *Defs. of Wildlife v. Sec'y, U.S. Dep't of the Interior*, 354 F. Supp. 2d 1156 (D. Or. 2005); *Nat'l Wildlife Fed'n v. Norton*, 386 F. Supp. 2d 553 (D. Vt. 2005). But the Oregon court did not criticize the

application of the DPS Policy in designating those DPSs; rather the court rejected the Service's focus on the few areas where wolves had made progress toward recovery while ignoring lost historical range. *Def's. of Wildlife*, 354 F. Supp. 2d at 1172 ("To summarize, FWS created three large DPSs, and downlisted the Eastern and Western DPSs based on the success of the core recovery areas. The Final Rule is arbitrary and capricious because FWS downlisted major geographic areas without assessing the threats to the wolf by applying the statutorily mandated listing factors.").

To be sure, the Vermont court rejected the approach of combining the Northeast and the Western Great Lakes into one large Eastern DPS as a misapplication of the DPS Policy. *Nat'l Wildlife Fed'n*, 386 F. Supp. 2d at 564 ("By combining the Northeastern DPS with the Western Great Lakes DPS, two admittedly distinct gray wolf populations, FWS appears to be classifying the gray wolf based upon geography, not biology."). But the Vermont court's primary objection was the Service's myopic focus on the status of the core population in the Western Great Lakes while ignoring lost historical range. *Id.* at 566 ("The Final Rule makes all other portions of the wolf's historical or current range outside of the core gray wolf populations insignificant and unworthy of stringent protection. The Secretary's conclusion is contrary to the plain meaning of the ESA phrase 'significant portion of its range,' and therefore, is an arbitrary and capricious application of the ESA.").

Petitioners do not object to designation of a Western DPS if the Service assesses the impact of lost historical range, including in the Southern Rocky Mountains, when determining the status of the DPS as either endangered or threatened.

Boundaries. To establish the boundaries of the Western DPSs, the Service could use the approach taken in the 2003 Final Rule. Specifically, the Western DPS could encompass "States of California, Idaho, Montana, Nevada, Oregon, Washington, Wyoming, Utah north of U.S. Highway 50, and Colorado north of Interstate Highway 70." 68 Fed. Reg. 15,804 (Apr. 1, 2003). That approach relies on the northern boundary of the previously designated Southwest DPS to establish the southern boundary of the Western DPS. But Petitioners instead suggest use of the southern boundary of Utah and Colorado because those state boundaries more closely approximate the historical zone of intergradation between Mexican gray wolves and northern gray wolves than does I-70, and because those boundaries would fully address the inadequacy of regulations to conserve wolves in Utah. Additionally, it would make management of wolves to be reintroduced in Colorado uniform throughout the state and therefore more straightforward. Alternatively, the Service might choose to use Interstate 40 in Arizona and New Mexico, as in the Mexican Wolf Special Rule, 50 C.F.R. § 17.84(k)(3).

The Service may exclude areas if it reasonably finds that the gray wolf did not historically occupy those areas; however, it may not exclude states on political grounds.

Discreteness. The Western DPS is discrete for the reasons provided in the 2003 Final Rule. 68 Fed. Reg. at 15,818-19. Specifically, the international boundary with Canada can be used based on the differences in exploitation, regulatory mechanisms and conservation status. Gray wolf populations in the Western DPS are separated from gray wolf populations in the eastern U.S. "by large areas that are not occupied by breeding populations of resident wild gray wolves." *Id.* at 15,819. That remains true today. 85 Fed. Reg. at 69,789.

Regarding the adjacent recovery area for Mexican wolves, the Western DPS is discrete due to the physiological, ecological, and behavioral factors that prompted the Service to separately list the Mexican wolf subspecies. 80 Fed. Reg. 2488-01 (Jan. 16, 2015). The Service described the best available science on the historical range of the Mexican wolf in the listing rule. 80 Fed. Reg. at 2491. Physical separation exists with Mexican wolves, as gray wolves from populations within the Western DPS do not regularly disperse into Mexican wolf territory and vice versa.

Overall Significance of the Western DPS. The Western DPS is significant for the reasons provided in the 2003 Final Rule. 68 Fed. Reg. at 15,819. The best available science strongly suggests that wolves in the western U.S. “are separate reservoirs of diversity that differ from [wolves in the eastern U.S.] and therefore are significant to the species.” *Id.* Moreover, loss of the Western DPS “would clearly produce huge gaps in current gray wolf distribution in the 48 States.” *Id.*

Wolves in the Western DPS also persist in a unique ecological setting when compared to wolves in Canada and the eastern U.S. Specifically, the Western DPS contains a wide variety of cover types and fire regimes that are uncommon elsewhere within the wolf’s range, including montane grasslands (Snyder 1991; Innes 2010). The ecological role played by wolves varies in extraordinary ways depending on the ecological setting. For example, Wilmers and Schmitz (2016) examined effects of gray wolf-induced trophic cascades on ecosystem carbon cycling and found an increase in net ecosystem productivity in boreal systems but that productivity decreases in grassland systems.

Wolves in the Western DPS also differ markedly from other wolf populations in genetic characteristics. Although scientists do not agree on the taxonomy of North American wolves, the best available science shows that the Western DPS includes *C. l. nubilus* and *C. l. occidentalis* (Goldman 1944). The genetic diversity in the Western DPS is unique and may contain unique admixtures of other subspecies as well.⁹ Based on an examination of the limb morphology of the fossil and modern North American gray wolves, Tomiya and Meachen (2018) concluded that protection of the severely diminished *C. l. nubilus* is an essential step toward restoring the ecophenotypic as well as genetic diversity of the species and, with it, its evolutionary potential.

In addition, the Western DPS is significant because each of the three encompassed regions – Northern Rocky Mountains, West Coast and Southern Rocky Mountains – are individually significant. Each of these regions is addressed below.

Significance of the Northern Rocky Mountains Portion

As explained above, the Northern Rocky Mountains portion of the Western DPS is significant because of the unique ecological setting and because loss of NRM wolves would create a significant gap in the range. 74 Fed. Reg. at 15,129.

⁹ A map of historical and current ranges of gray wolf subspecies can be found here: [https://commons.wikimedia.org/wiki/File:North_American_gray_wolf_subspecies_distribution_according_to_Goldman_\(1944\)_%26_MSW3_\(2005\).png](https://commons.wikimedia.org/wiki/File:North_American_gray_wolf_subspecies_distribution_according_to_Goldman_(1944)_%26_MSW3_(2005).png).

Significance of the West Coast Portion

The West Coast portion of the Western DPS is significant because its loss would result in a significant gap in range, wolves persist in a unique ecological setting there, and existing wolves are markedly genetically different from wolves elsewhere.

The Pacific Northwest contains extensive habitat for wolves (Carroll et al. 2006, **Figure 2**; see also WDFW 2011; Weiss et al. 2014; Defenders of Wildlife 2006, 2013; California Dept. of Fish and Wildlife 2016b; Wolf and Ripple 2018). Carroll et al. (2006) identified habitat in the West Coast that could support an estimated wolf population of more than 600 wolves. Habitat capable of supporting viable wolf populations was found on the Olympic Peninsula, Oregon Cascades, northern California, and the Sierra Nevada, with the Oregon Cascades providing the largest and most viable core habitat. Olympic National Park has been identified as a large area with suitable wolf habitat and a candidate for wolf reintroduction (Wolf and Ripple 2018). The southern Washington Cascades was not identified by Carroll et al. (2006) as having viable wolf populations based on current habitat conditions, but a follow-up analysis by Carroll (2007) that also considered habitat in Canada found that the southern Washington Cascades could support a viable population with immigration across the border. The Center for Biological Diversity digitized maps from Carroll et al. (2006) and Carroll (2007) and determined that wolf habitat comprises approximately 280,000 km² (nearly 70 million acres) in Oregon, Washington, California and Nevada. In Oregon, state agency scientists identified suitable habitat totaling 106,853 km² – wolves currently occupy just 12% of this area (Oregon Dept. Fish and Wildlife 2015). California Department of Fish and Wildlife identified 60,088 km² (23,200 mi²) in northern California (north of I-80) (CDFW 2016). Given the abundance of suitable habitat in the region, the loss of this habitat would create a significant gap in range for the gray wolf taxon.

The Pacific Northwest also qualifies as a unique ecological setting for wolves. The U.S. Forest Service has created a hierarchical classification system that divides the U.S. into ecoregions based on vegetation and climate with the highest level of classification being domains, followed by divisions and provinces (McNab and Avers 1995). Under this system, the Pacific Northwest has a different domain (humid temperate domain), different divisions (marine and Mediterranean), and different provinces (Cascade Mixed Forest--Coniferous Forest--Alpine Meadow and Sierran Steppe--Mixed Forest--Coniferous Forest--Alpine Meadow Provinces) from any other wolf population in the lower 48 states (*id.*). Overall, differences in vegetation and climate in these areas include dense coniferous forests, abundant precipitation both as rain and snow, and mild temperatures (*id.*). The Pacific Northwest also includes a unique prey base made up of white-tailed deer, mule deer and Roosevelt elk. Wolves in coastal British Columbia tend to be smaller than wolves in the eastern U.S., likely in response to the generally smaller prey base. In addition, coastal wolves of British Columbia feed on fish, an adaptation not known from other regions, and such adaptations were likely once common in wolves that roamed the coasts all the way down to California in its former temperate rain forests (Stronen et al. 2014).

Finally, evidence indicates that wolves in the Pacific Northwest differ markedly in their genetic characteristics. vonHoldt et al. (2011) found that wolves in the British Columbia coast formed a distinct genetic grouping, stating: “Other genetic partitions were defined in North America as well, including distinct populations on the British Columbian coast, Northern

Quebec, and interior North America.” Recent genetic studies conclude that the Pacific Northwest wolf populations of Washington and Oregon were “likely founded by two phenotypically and genetically distinct wolf ecotypes: Northern Rocky Mountain (NRM) forest and coastal rainforest” (Hendricks et al. 2018). It is likely that genetically significant wolves from the British Columbia coast will continue to be a source of wolves moving into the West Coast states.

Significance of the Southern Rocky Mountains Portion

Carroll et al. (2006) identify Colorado as one of the states (along with Montana, Idaho and Wyoming) capable of supporting “the largest potential wolf populations,” and estimate the state could support nearly 1,000 wolves with Utah being able to support more than an additional 600 wolves (*see also* Bennett 1994; Miller et al. 2003). As such, the Southern Rockies can support substantial wolf populations, whose loss would create a significant gap in range.

The Southern Rocky Mountains also qualifies as significant because it has a unique ecological setting for wolves. As explained above in the section on the West Coast portion, the U.S. Forest Service has created a hierarchical classification system that divides the U.S. into ecoregions based on vegetation and climate (McNab and Avers 1995; McNab et al. 2007). Under this system, the Southern Rocky Mountains includes the Colorado Plateau Semidesert Province, unlike any other region or wolf population in the lower 48 states (McNab et al. 2007). Wolf prey in this unique ecological setting would differ from the wolf prey in other parts of the lower 48 states. Specifically, wolves in this cold desert region would have heavier reliance on smaller mammals, such as jackrabbits. Indirect evidence of the significance of the southern Rockies for gray wolves is suggested in the original identification of a now-extinct gray wolf subspecies, *Canis lupus youngi*, the southern Rocky Mountain wolf (described in Goldman 1944).

II. Gray Wolves Face Continued Threats to their Survival

While the Service and society at large originally made significant progress to ameliorate threats to the gray wolf in the first decades after its original listing, newly intensified threats to the gray wolf are inadequately addressed in both occupied and unoccupied portions of the range. The ESA requires the Service to list based on the following five factors:

- (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) overutilization for commercial, recreational, scientific, or educational purposes;
- (C) disease or predation;
- (D) the inadequacy of existing regulatory mechanisms; or
- (E) other natural or manmade factors affecting its continued existence.

16 U.S.C. § 1533(a)(1). This is a disjunctive list and if the species is imperiled by any one factor, listing is required. 50 C.F.R. § 424.11(c); *see also Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000).

Although additional threats to wolves exist, the discussion below focuses on the key threats of overutilization, inadequate state regulatory mechanisms, disease, and reduced genetic

diversity. When analyzing the threat of habitat loss, the Service should consider that many formerly ideal areas of wolf habitat have been degraded through roadbuilding and other development (**Figure 2**).

A. Overutilization and Inadequate State Regulatory Mechanisms

Several states have made no secret of their intentions to drastically reduce wolf numbers and gravely constrict wolf distribution. Moreover, in most areas, the primary threat to wolf populations is a high rate of human-caused mortality (Bruskotter et al. 2014). As such, overutilization and the inadequacy of state regulatory mechanisms in both occupied and unoccupied areas remain current threats to the gray wolf's survival.

Recent studies demonstrate that hunting and trapping may have an additive or even super-additive effect on wolf mortality through the additional loss of dependent offspring or by disrupting pack structure (Murray et al. 2010; Creel and Rotella 2010; Ausband et al. 2015; Borg et al. 2015). Brainerd et al. (2008) addressed the issue of breeder loss in wolf packs through an analysis of pooled data, finding among other consequences that the loss of one or more breeders led to dissolution of groups and territory abandonment in 38% of cases. Further, Rutledge et al. (2010) concluded that human predation could affect evolutionarily important social patterns in wolves and that intense exploitation appeared to increase the adoption of unrelated wolves into disrupted packs. Hochard and Finnoff (2014) found that the effects of wolf hunting depend, in part, on the resulting change in wolf pack size. Similarly, Bryan et al. (2014) found that hunting wolves can change their reproductive and breeding strategies as well as create chronic stress for them, with potentially detrimental effects on the fitness of individuals, changes to packs' evolutionary potential, and increased risk for population extinction (*see also* Rick et al. 2017). Ausband et al. (2017) found that breeder turnover had marked effects on the breeding opportunities of subordinates and the number and sex ratios of subsequent litters of pups. The wolf researchers concluded that seemingly subtle changes to groups, such as the loss of one individual, can greatly affect group composition, genetic content, and short-term population growth when the individual who is lost is a breeder.

Moreover, several studies have indicated that a wolf population can only be sustained if mortality rates are less than 30%, so long as normal pack dynamics have not been altered (Adams et al. 2008; Creel and Rotella 2010; Sparkman et al. 2011; Vucetich 2012). Yet, as explained below, some management plans allow for mortality rates that far exceed 30%. Indeed, absent federal protections for wolves, state management has put wolves at risk of high levels of human-caused mortality, which can significantly affect wolf population levels and stymie recovery (Fuller et al. 2003; Creel and Rotella 2010; Creel et al. 2015).

Appendix A includes a table that provides a state-by-state analysis of laws pertaining to wild populations of wolves covered by this Petition, and we submit with this Petition the documents used to inform this analysis. Within the proposed Western DPS or NRM DPS, only California, Colorado and Washington protect wolves as a state endangered or threatened species. While some states lack any plan for wolves that enter their borders, other states seek to actively prevent recovery of the species. By example, Utah requires state wildlife officials to capture and kill any wolf that comes into the state to prevent the establishment of a viable wolf pack. Utah Code § 23-29-201. Other states within the proposed DPSs have classified wolves as furbearers or

game animals and have allowed hunting and trapping and/or livestock predation control since removal of federal protections, including Idaho, Montana, Nevada, Oregon, Washington, and Wyoming.

Regional analyses of state regulatory mechanisms are provided immediately below.

Inadequate State Regulatory Mechanisms in the Northern Rocky Mountains. Newly enacted laws in Idaho and Montana remove nearly all limits on killing wolves, with the clear intention of drastically reducing wolf numbers. Such aggressive livestock predation control and hunting under state management puts the population at risk and severely constrains the ability of wolves in that region to serve as a source population, as they once did.

Idaho’s Senate Bill 1211 (amending Idaho Code §§ 22-5304, 36-1107) authorizes the killing of more than 1,300 of the state’s wolves, out of an estimated population of approximately 1,500. To reduce the population, the bill drastically increases ways in which individuals can kill wolves, allowing a tag holder to trap and snare wolves on private property year-round, hunt them from all-terrain vehicles, and use bait and hunt at night. And, a tag holder can kill an unlimited number of wolves. Additionally, the act permits the hiring of private contractors to kill wolves and increases funding to the Idaho Wolf Depredation Control Board to kill wolves.¹⁰ The Idaho Department of Fish and Game opposed the legislation, which supersedes its authority to manage these ecologically important carnivores (Ridler 2021).¹¹

In line with Idaho’s wolf-destruction bill, Montana’s legislature passed several bills with the same goal of annihilating the wolf population. Senate Bill 314 instructs Montana’s Fish and Wildlife Commission to reduce the wolf population “to a sustainable level, but not less than the number of wolves necessary to support at least 15 breeding pairs.”¹² The bill asks the Commission to authorize the killing of an unlimited number of wolves by the holder of a single hunting or trapping license, use of bait while hunting or trapping, and hunting of wolves on private land at night using artificial light or night vision scopes. In addition to this bill, Montana’s legislature also passed bills that expand the trapping season by four weeks, permit snaring, and offer “reimbursements”—also known as bounties—for costs incurred in hunting or trapping wolves.¹³

¹⁰ Senate Bill 1211, available at <https://legislature.idaho.gov/sessioninfo/2021/legislation/S1211/>.

¹¹ Proponents of the legislation stated that unlimited killing addresses wolf predation on livestock and the elk population. However, wolves are responsible for killing an annual average of just 0.0004% of Idaho’s 2.5 million cattle and 230,000 sheep (U.S. Department of Agriculture, National Agricultural Statistics Service 2021a, 2021b). For example, in 2018, there were 113 confirmed wolf kills of livestock, in 2019 there were 156, and in 2020 there were just 102 (Wallace 2020; Russel 2021). Similarly, in 2020 IDFG reported that elk populations were meeting or exceeding populations goals in most zones across the state (Idaho Fish & Game 2020b).

¹² Senate Bill 314, available at <https://leg.mt.gov/bills/2021/billpdf/SB0314.pdf>.

¹³ House Bill 225, available at <https://leg.mt.gov/bills/2021/billpdf/HB0225.pdf>; House Bill 224, available at <https://leg.mt.gov/bills/2021/billpdf/HB0224.pdf>; Senate Bill 267, available at <https://leg.mt.gov/bills/2021/billpdf/SB0267.pdf>.

Even prior to the passage of the new wolf extermination legislation in Idaho and Montana, wolf population numbers in these states have suffered from high levels of human-caused mortality under management plans that call for livestock predation control, hunting and trapping (Idaho Legislative Wolf Oversight Committee 2002; Montana Fish Wildlife & Parks 2004).

Montana had 653 wolves at the time of removal of federal protections in 2011; the population thereafter declined to 536 wolves in 2015 (Mech 2017). The most recent annual report indicates that 833 wolves lived in the state in 2019 (Montana Fish Wildlife and Parks 2019), although recent news articles suggest the numbers may be higher. Regulated public hunting and trapping of wolves in Montana has removed an average of 22% (range: 10–31%) of Montana’s minimum known wolf population, and the minimum known number of wolves in Montana also declined as regulations became less restrictive with the objective of reversing wolf population growth in Montana. 85 Fed Reg. at 69,802.

1,556 wolves are estimated to live in Idaho, as of August 2020 (Idaho Dept. of Fish and Game 2021a). When Idaho’s wolves lost federal protections in 2011, Idaho had approximately 746 wolves (Idaho Dept. of Fish and Game 2012). Following delisting Idaho made annual regulatory changes to increase the potential to kill wolves, and by the end of 2013 the population had declined to 659 wolves. 85 Fed. Reg. at 69,798-99. Following the end of the U.S. Fish and Wildlife Service’s federal post-delisting monitoring period in 2016, Idaho stopped providing minimum counts of known wolves and stopped issuing annual reports with estimated population numbers. *Id.* at 69,800. Idaho now uses remote cameras and a modeling framework to estimate the wolf population. *Id.* On average, hunting has removed approximately 21% of Idaho’s known wolf population annually between 2009 and 2015. 85 Fed. Reg. at 69,799. And predator control killing, such as killing of wolves for livestock conflict, was approximately 7% of the minimum known population during that period. *Id.* at 69,800.

In Wyoming, the Department of Game and Fish manages wolves with dual classifications of trophy game and predatory animals (Wyoming Game and Fish Dept. 2012). State managers allow unrestricted wolf killing (no limit on numbers of wolves taken, no specificity as to the methods of take, and no requirement to obtain a hunting license) in over 80% of the state where wolves are classified as predatory animals. W.S. § 23-1-101(a)(viii)(B). Even wolves in the trophy game area face high levels of exploitation. In 2017, the state instituted a wolf hunting season with the biological objective to reduce the wolf population in the trophy game areas by approximately 24%, and the end of year wolf population decreased 16% from 2016 to 2017 (Wyoming Game and Fish Dept. 2017). In 2020, Wyoming estimated that it had just 327 wolves (Wyoming Game and Fish Dept. et al. 2021). State management resulted in an overall negative growth rate for the wolf population in Wyoming, and the Service has cautioned that continued high rates of juvenile mortality of Wyoming wolves could affect recruitment. 85 Fed. Reg. at 69,805. With populations declining within the state, Wyoming cannot be expected to serve as a secure source of dispersing wolves.

Inadequate State Regulatory Mechanisms in the West Coast states. In Oregon, wolves are no longer protected as a state endangered species. OAR 635-100-0125. State agents kill wolves nearly every year for livestock predation control under the state’s inadequate

management plan (Oregon Dept. Fish and Wildlife 2019). The recolonization of wolves in western Oregon has been slow, and the killing of wolves since federal delisting must be considered a threat as it hinders the ability of wolves to disperse and repopulate unoccupied areas. Oregon also has experienced high levels of wolf poaching in recent years, particularly in southwestern Oregon as dispersing wolves have tried to reach suitable habitat in the region. Oregon's current wolf population is estimated at only 173 wolves in 22 packs with 17 successful breeding pairs (Oregon Dept. Fish and Wildlife 2021). 20 of the packs are in eastern Oregon, while 2 packs are in western Oregon (*id.*).

Washington wolves remain classified as an endangered species under state law (WAC 220-610-010), but state managers nevertheless kill wolves for livestock predation control (Washington Dept. Fish & Wildlife 2011, 2017). More than 30 wolves have been removed by WDFW due to conflicts with livestock between 2008, when wolves were first documented in the State, and 2019. 85 Fed. Reg. at 69,808. Washington's current wolf population is estimated at 132 wolves in 24 packs with 13 successful breeding pairs (Washington Dept. Fish & Wildlife 2021). 18 of the packs are in eastern Washington, while 6 packs are in central Washington.

The Confederated Tribes of the Colville Reservation estimated 46 wolves in 5 packs on their reservation lands in eastern Washington (Washington Dept. of Fish & Wildlife 2021). In 2019, the CTCR adopted wolf hunting regulations that allowed for year-round hunting with no bag limits (CCT Code Title 4 Natural Resources and Environment, Chapter 4-1, and Resolution 2019-255). Such limitless killing occurs on tribal grounds on the reservation (the South Half) and off the reservation where the Tribes retain treaty rights (the North Half). Trapping is also permitted, and seasons begin on November 1 and close February 28 with no bag limits on amount of take.

California protects wolves within its borders as endangered (California Dept. of Fish and Wildlife 2016, 2021), but wolves still face high risk of human-caused mortality as they can be shot by hunters targeting coyotes, for example, or incidentally injured or killed in lethal traps and snares set for other species. California's first known wolf pack in more than 100 years, the all-black, seven-member Shasta pack, disappeared within a few months of the pack's discovery in 2015, following two incidents of conflicts with livestock and openly hostile threats of "shoot, shovel and shut-up" posted on social media (Keartes 2017; Fimrite 2018). While no direct evidence exists that poachers illegally killed the pack, threats of violence towards wolves in California continue to appear on media outlets. A lone wolf from Oregon that entered California in December 2018 was illegally killed within a week and the case is still under investigation. A yearling female from California's only existing pack was found dead in September 2018 and another lone Oregon wolf, OR-54, was found dead in California in February 2020; both deaths remain under investigation. California has only 10 confirmed wolves, which includes six in the Lassen pack, the Whaleback pair, and two known dispersing collared Oregon wolves (the far-ranging lone wolf OR-93 and lone wolf OR-103) (California Dept. of Fish and Wildlife 2021).

Inadequate State Regulatory Mechanisms in the Southern Rockies. The fact that nearly all wolves that have dispersed into the Southern Rocky Mountains have been killed by humans shows that they face significant threats. Indeed, Utah passed a law in 2010 that aims to prevent establishment of wolves by requiring state managers to seek immediate removal of any wolves entering the state, Utah Code § 23-29-201, even though nearly three-quarters of Utah

residents surveyed have positive attitudes toward wolves (Bruskotter et al. 2007). Arizona has no protections in place for wolves and no plan to aid gray wolf recovery. Only Colorado and New Mexico protect wolves as endangered under state law. In Colorado, in November 2020 voters passed Proposition 114, now codified as C.R.S. 33-2-105.8, which requires the Parks and Wildlife Commission to take specified “steps necessary to begin reintroductions of gray wolves by December 31, 2023.” The Commission has approved additional steps not required by law including formation of stakeholder advisory group to help draft the required wolf restoration and management plan (Colorado Parks & Wildlife 2021). The Commission is additionally considering a request to create a local government advisory group that likewise would play a role in creating the plan. The stakeholder group alone or in concert with a local government group are likely to be populated by adamant opponents of wolves, who are already hinting at enacting a draconian management plan that would designate only a small area for wolf habitation, kill wolves outside of this zone, and thereby isolate the as-yet-to-be-reintroduced population and leave it forever vulnerable to extirpation.

B. Disease and Other Threats to Wolves

Disease. Disease has long been a serious threat to the gray wolf (Mech 2009). *See also* 75 Fed. Reg. 55,734. Wolf pathogens include canine parvovirus, canine distemper virus, mange, blastomycosis, Lyme disease, anaplasmosis, canine ehrlichiosis and heartworm (Stenglein and Van Deelen 2016).

Canine parvo virus has affected wolf recovery, killing 40-60% of wolf pups in Minnesota (Mech et al. 2008). And because it is young wolves that disperse, reduced pup survival may cause reduced recolonization of unoccupied but suitable habitat (*id.*). Sarcopic mange has also slowed recovery in Michigan and Wisconsin, and the Service recognizes it as a continuing issue. 75 Fed. Reg. 55,734. Mange may increase wolf susceptibility to other diseases. For example, oral papillomatosis was diagnosed in a Minnesota gray wolf with sarcopic mange (Knowles et al. 2017). Jara et al. (2016) found a high proportion of Wisconsin wolves were exposed to the agents that cause Lyme disease (65.6%) and anaplasma (47.7%), with a smaller proportion to ehrlichiosis (5.7%) and infected with heartworm (9.2%). In studies of disease in wolves in Yellowstone National Park, canine distemper virus (CDV) outbreaks and the presence and prevalence of mange are correlated with reduced pack growth rates. One has acute impacts on pup survival, while the other is linked to reduced pup survival and increased adult morbidity and mortality (Almberg et al. 2012).

As the population density of wolves increases, prevalence of disease is likely to increase. Global warming also increases the risk of disease outbreaks (Harvell et al. 2002). Studies reveal that warming temperatures can increase pathogen development, survival rates, and disease spread, with deleterious effects on host populations (Wilmers et al. 2006; USGS 2010). Parasites, such as the parasites that cause mange, may increase in many places, affecting more wildlife.

Reduced Genetic Diversity and Allee Effects. Isolation and small population size are threats facing recolonizing wolves. Leonard (2014) concluded that cycles of repeated isolation and extinction has led to the observed low level of genetic diversity for gray wolves. Impacts of isolation and small population size can be compounded when those populations face other threats, like disease. Stenglein and Van Deelen (2016) found that a population also affected by

pathogens may be more prone to extinction than a population suffering from effects of small population alone, and that these effects can be more pronounced in social species, like wolves.

Moreover, existing wolf populations in the U.S. are below what scientists consider to be viable. For example, Traill et al. (2007) standardized estimates of minimum viable population (“MVP”) size for 212 species, including the gray wolf, and documented a median MVP of 4,169 individuals with a 95% confidence interval of 2,261 to 5,095. Likewise, Reed et al. (2003) used population viability analysis to estimate MVPs for 102 species, including the gray wolf, and found mean and median MVPs of 7,316 and 5,816, respectively. No region of the U.S. has wolf populations exceeding the thresholds established by Reed et al. (2003). Wolves remain at risk until existing populations are connected through dispersal and satisfy the conservation biology principles of representation, resiliency, and redundancy—the three Rs—for reducing extinction risk and maintaining self-sustaining populations (Shaffer et al. 2000).

In sum, overutilization and inadequacy of state regulatory mechanisms and other threats – in both occupied and unoccupied areas – continue to threaten the species’ existence. *See* 16 U.S.C. § 1533(a)(1).

III. The Gray Wolf Qualifies as Endangered or Threatened in the Northern Rocky Mountains DPS or the Western U.S. DPS

A. Wolf Extermination Legislation Recently Passed in Idaho and Montana Triggers Relisting of the Northern Rocky Mountains DPS

Congressional Adoption of Triggers for Relisting. Congress directed reissuance of the 2009 Delisting Rule as to the parts of the NRM DPS outside of Wyoming, but it did not prohibit the Service from extending ESA protections to wolves in the NRM DPS in the future. 76 Fed. Reg. 25,590 (May 5, 2011); 77 Fed. Reg. 55,530 (Sept. 10, 2012); P.L. 112-10, § 1713. In fact, because Congress instructed the Service to reissue the 2009 Delisting Rule in its entirety, the Service remains bound by its commitments in that final rule to consider relisting the NRM DPS if certain triggering events occur. *See* P.L. 112-10, § 1713 (“[T]he Secretary of the Interior shall reissue the final rule published on April 2, 2009 (74 Fed. Reg. 15123 et seq.)[.]”); 76 Fed. Reg. 25,590 (reissuing 2009 Delisting Rule); *All. for the Wild Rockies v. Salazar*, 672 F.3d 1170, 1175 (9th Cir. 2012) (“[T]he 2009 [Delisting] Rule does provide standards by which the agency is to evaluate the continuing viability of wolves in Montana and Idaho.”). The Ninth Circuit Court of Appeals has indicated that the Service’s failure to comply with these standards is judicially reviewable. *All. for the Wild Rockies*, 672 F.3d at 1175 (“[Judicial] [r]eview of any regulations issued pursuant to the [2009 Delisting] Rule or of agency compliance with the standards, does not appear to be restricted.”).

Specifically, the Service is required “to initiate a status review and analysis of threats to determine if relisting [i]s warranted” when any of the following three events occur:

- (1) If the wolf population falls below the minimum NRM wolf population recovery level of 10 breeding pairs of wolves and 100 wolves in either Montana or Idaho at the end of the year; (2) if the wolf population segment in Montana or Idaho falls below 15 breeding pairs or 150 wolves at the end of the year in any

one of those States for 3 consecutive years; or (3) if a change in State law or management objectives would significantly increase the threat to the wolf population.

74 Fed. Reg. 15,123, 15,186 (Apr. 2, 2009). The Service’s inclusion of the third criterion makes clear that significant changes in a state’s regulation of wolves can trigger consideration of relisting, even if wolf populations do not fall below the thresholds identified in the first two criteria.

The Service must consider relisting the NRM DPS relative to the definition of “threatened” or “endangered,” considering the five factors outlined in Section 4(a)(1) of the ESA. *Id.* at 15,155. Further, the Service is required to use the best available science and commercial data to assess whether relisting is needed and should invoke its emergency listing authority when doing so is necessary to address an urgent threat to the population. *Id.* at 15,185 (“We will base any analysis of whether a status review and relisting are warranted upon the best scientific and commercial data available regarding wolf distribution, abundance, and threats in the NRM DPS.”); *id.* at 15,155 (“If, at any time, data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, *including, if appropriate, emergency listing.*” (emphasis added)).

These triggers were not limited to the five-year, post-delisting monitoring window. Rather, “meaningful changes in State law or management objectives that would significantly increase the threat to the wolf population could lead to reconsideration of listing . . . at any point.” *Id.* at 15,148. And the Service has recognized the importance of citizen petitions—like this one—in ensuring that the NRM DPS is protected as required by the ESA. *Id.* (“[A]s an additional layer of protection, the Act allows for citizen petitions to consider relisting should the population’s status change.”).

Significantly Increased Threat from Changes in State Law. With respect to the third event that could trigger consideration of relisting—changes at the state level that significantly increase the threat to the NRM DPS—the Service has been explicit that certain scenarios merit *immediate* intervention. Specifically, the 2009 Delisting Rule made clear that “if a State changed their regulatory framework to authorize the unlimited and unregulated taking of wolves . . . emergency listing would be immediately pursued.” 74 Fed. Reg. at 15,148. As discussed above, because Congress instructed FWS to readopt the 2009 Delisting Rule, the Service remains bound by the standards it set out in that rule. Thus, if a state authorizes “the unlimited and unregulated taking of wolves . . . emergency listing [must] be immediately pursued.” *Id.*

The changes in Idaho law authorize such “unlimited and unregulated taking,” so emergency listing is necessary. Senate Bill 1211 dramatically alters the state’s regulation of the hunting and trapping of wolves. First, it resets the parameters for hunting in the state by permitting hunters to kill an unlimited number of wolves and stripping the Idaho Fish and Game Commission of its authority to set individual tag limits.¹⁴ Further, Senate Bill 1211 authorizes the

¹⁴ Senate Bill 1211, § 4 (“All Idaho wolf tags will be valid for hunting, trapping, and snaring in any unit when seasons are open at the time of take. There *shall be no limit* to the

hunting of wolves in new—and highly effective—ways because it allows wolves to be taken using methods available to kill “predatory wildlife.”¹⁵ This change flouts the state’s classification of wolves as “big game animals,” which FWS relied upon in the 2009 Delisting Rule. 74 Fed. Reg. at 15,168. And it means wolves in Idaho can be hunted using motorized vehicles, with dogs, and with bait.¹⁶ These changes to the limits and methods of taking wolves are especially alarming given that Idaho’s 2021-2022 wolf hunting season runs all year in many hunting areas, and for eleven months in others (Idaho Dept. Fish & Game 2021b). In short, Idaho is poised to begin a nearly yearlong—or, in many areas, a yearlong—hunting season with myriad hunting methods available and tag holders permitted to take as many wolves as they wish.

The second major change in Idaho law relates to trapping on private property. Senate Bill 1211 *requires* wolf trapping to be open year-round on private land.¹⁷ This—coupled with Senate Bill 1211’s requirement that the Commission issue an unlimited number of wolf tags to individuals—strips the Commission of its authority to limit the timing or number of wolves an individual can trap on private land. Again, this amounts to an authorization of unregulated and unlimited taking of wolves on private land using traps.

The Service has long recognized that this sort of no-holds-barred approach to wolf “management” can devastate wolf populations. *See, e.g.*, 71 Fed. Reg. 43,410, 43,428 (Aug. 1, 2006) (explaining that “[w]olves are unlike coyotes in that wolf behavior and reproductive biology results in wolves being extirpated in the face of extensive human-caused mortality” and determining Wyoming wolves were unlikely to persist in areas where they could be taken at any time, by any means, by anyone, and without limit); 74 Fed. Reg. at 15,170 (same). *See also* 68 Fed. Reg. 15,804, 15,831 (Apr. 1, 2003) (“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.”). And recent history validates the Service’s concerns. For instance, when wolves in Wyoming lost ESA protection, and were subsequently subjected to unregulated taking in some areas of the state, “most of the wolves in

number of wolf tags that an individual can purchase.” (emphasis added)), available at <https://legislature.idaho.gov/sessioninfo/2021/legislation/S1211/>.

¹⁵ Senate Bill 1211 provides that “any method utilized for the take of any wild canine in Idaho *shall* be available for the taking of wolves.” Senate Bill 1211, § 3 (emphasis added). Under state law, coyotes are classified as predatory wildlife, and wolves have historically been categorized as big game animals. *See* Idaho Code Ann. § 36-201 (defining predatory wildlife to include coyotes); Idaho Admin. Code r. 13.01.06.100 (defining “big game animals” to include gray wolves).

¹⁶ New methods authorized include but are not limited to: (1) hunting with bait, *compare* Idaho Admin. Code r. 13.01.08.410 (prohibiting taking of big game with bait, except for bears and gray wolf *trapping*) *with* Idaho Admin. Code r. 13.01.16.400 (not prohibiting hunting of predatory wildlife with bait); (2) hunting using dogs, *compare* Idaho Admin. Code r. 13.01.08.410 (prohibiting taking of big game with dogs, except for black bears and mountain lions) *with* Idaho Admin. Code r. 13.01.15.100 (“A dog may be used for . . . taking unprotected and predatory wildlife.”); and (3) hunting from or by the use of motorized vehicle, *see* Idaho Code Ann. § 36-1101(b) (prohibiting the hunting of “game animals,” but not predatory wildlife, “from or by the use of any motorized vehicle”).

¹⁷ Senate Bill 1211, § 3.

[those] area[s] were killed within a few weeks of losing the Act’s protection (17 of at least 28).” 74 Fed. Reg. at 15,170. Additionally, in Wisconsin’s first wolf hunting season after federal delisting, the state grossly exceeded its quotas, largely because of the use of hounds to hunt wolves (Wisconsin Green Fire 2021). 86% of the wolves killed during the February 2021 hunt were taken by hunters using dogs (Wisconsin Green Fire 2021).

Idaho’s authorization of unregulated and unlimited taking is not the only change in state law that poses a grave threat to wolves in the NRM DPS. Senate Bill 1211 also permits the hiring of private contractors to kill wolves and increases funding to the Idaho Wolf Depredation Control Board to kill these animals.¹⁸ Further, the law authorizes the killing of more than 1,300 of the state’s estimated 1,500 wolves—or *roughly 90% of the population*.¹⁹

The threats posed to the NRM DPS by changes in Idaho law are further compounded by significant changes in Montana law, which are being implemented at the same time. Senate Bill 314 directs the Montana Fish and Wildlife Commission to establish wolf hunting and trapping seasons “with the intent to reduce the wolf populations in th[e] state to a sustainable level, but not less than the number of wolves necessary to support at least 15 breeding pairs.”²⁰ If the state manages down to the 15 breeding pairs/150 wolves floor, it will kill about 85% of the wolves within its borders. Indeed, with an eye toward drastically reducing the wolf population in the state, Senate Bill 314 further authorizes the Commission to establish “the most liberal harvest regulations . . . in regions with the greatest number of wolves.”²¹ It also urges the Commission to authorize (1) the killing of an unlimited number of wolves by the holder of a single hunting or trapping license, (2) the use of bait while hunting or trapping, and (3) the hunting of wolves on private land at night using artificial light or night vision scopes.²² Other recent legislation in Montana requires wolf trapping seasons to include the use of snares, expands the trapping season by four weeks, and authorizes “reimbursements” for costs incurred hunting or trapping wolves—more plainly, it permits bounties.²³

Given the dramatic change in the regulatory landscape in Idaho, which as discussed above amounts to authorization of unlimited and unregulated taking of wolves, emergency listing is warranted. *See* 74 Fed. Reg. at 15,148. But, even if the Service disagrees with Petitioners on this point, these new Idaho and Montana wolf management laws “significantly increase the threat to the wolf population,” and therefore at least trigger a status review. *See id.* at 15,1555. The changes in both states make it easier to kill wolves, incentivize their killing, and provide opportunities for individual hunters to take an unlimited number of animals. Idaho and Montana are moving forward with efforts to exterminate wolves in huge numbers even though recent studies demonstrate that hunting and trapping may have an additive or even super-additive effect on wolf mortality through the additional loss of dependent offspring or by disrupting pack

¹⁸ Senate Bill 1211, §§ 1, 2, 5.

¹⁹ Senate Bill 1211, § 5.

²⁰ Senate Bill 314, § 1, available at <https://leg.mt.gov/bills/2021/billpdf/SB0314.pdf>.

²¹ Senate Bill 314, § 1.

²² Senate Bill 314, § 1.

²³ House Bill 224, §1, available at <https://leg.mt.gov/bills/2021/billpdf/HB0224.pdf>; House Bill 225, §1, available at <https://leg.mt.gov/bills/2021/billpdf/HB0225.pdf>; Senate Bill 267, §1, available at <https://leg.mt.gov/bills/2021/billpdf/SB0267.pdf>.

structure (Murray et al. 2010; Creel and Rotella 2010; Ausband et al. 2015; Borg et al. 2015). These changes in state law, then, could extend to the loss of many wolves beyond those directly killed. In other words, these changes—especially as they are rolled out simultaneously—threaten to lead to a population crash.

Further, these new state laws demonstrate both Idaho and Montana’s intention to drive wolf populations down to the floor of 15 breeding pairs/150 wolves in each state.²⁴ Yet, in the 2009 Delisting Rule, the Service repeatedly justified delisting the NRM DPS by highlighting that these states would likely be managing well above those levels.²⁵ In fact, in the 2009 Delisting Rule, the Service estimated that the combined wolf populations in Idaho and Montana would “be managed for around 673 to 1,002 wolves in 52 to 79 breeding pairs.” 74 Fed. Reg. at 15,174. FWS acknowledged there are risks associated with managing wolves at the 15/150 floor, explaining that “[i]f the population is managed to the minimum recovery target of 150 wolves per State, dispersal would be noticeably impacted, which could require costly and intensive management to mitigate.” *Id.* at 15,142. Neither state has indicated the capacity, funding, or intent to take such management actions to mitigate the inevitable impact of these legislative changes on dispersing wolves. In fact, these changes to state law represent a legislatively mandated *withdrawal* from management practices the Service has deemed necessary to protect connectivity—such as limiting hunting seasons to maintain “relatively high wolf numbers” and “protect dispersing wolves from harvest during peak dispersal,” and restricting “problem wolf control” to “recent depredation events.” 74 Fed. Reg. 15,176. And, as outlined below, the risks of managing to these levels threaten to push wolves *below* minimum recovery levels, particularly when coupled with the other changes being made to expand hunting methods and remove individual limits on hunting and trapping. For all these reasons, the relisting of wolves is warranted under the factors identified in Section 4(a)(1) of the ESA and because significant portions of the gray wolf’s historical range in the western United States lack viable wolf populations.

Threat of Populations Falling Below Minimum Recovery Levels. The Service must initiate a status review and relisting proceedings “[i]f the wolf population falls below the minimum NRM wolf population recovery level of 10 breeding pairs of wolves and 100 wolves in either Montana or Idaho at the end of the year” or “if the wolf population segment in Montana or Idaho falls below 15 breeding pairs or 150 wolves at the end of the year in any one of those

²⁴ Montana Senate Bill 314, § 1; Idaho Senate Bill 1211, § 5.

²⁵ *See, e.g.*, 74 Fed. Reg. at 15,140 (“States . . . have agreed to manage for a wolf population at least 50 percent above minimum recovery levels and will likely manage for a population of over 1,000 wolves, well above even this level.”); *id.* at 15,142 (“We and our State partners recognize that all wildlife populations, including wolves, can fluctuate widely over a relatively short period of time. By managing for at least 50 percent above the minimal recovery levels, and likely for over one thousand wolves, State and Federal management provide an adequate safety margin.”); *id.* at 15,177 (“[W]olf populations in the three States containing most of the occupied and most of the suitable habitat in the NRM DPS will be managed for at least 15 breeding pairs and at least 150 wolves so that the population never goes below recovery levels. State projections indicate they will manage the population at least two to three times this minimal recovery level and likely over 1,000 wolves.”).

States for 3 consecutive years.” 74 Fed. Reg. at 15,186.²⁶ The best available information shows that the changes to Idaho and Montana state law will drive populations below these minimum thresholds, and strip state agencies of their already limited capacity to maintain populations above these levels. Rather than wait for state wolf populations to fall below minimum recovery levels, the Service should proactively reinstate federal protections.

As discussed above, Idaho and Montana’s legislatures have effectively imposed a mandate to drive their respective state wolf populations down to the 15 breeding pairs/150 wolves floor. Idaho Senate Bill 1211, for example, newly authorizes the killing of wolves by private contractors and state agents in response to predation on wildlife populations at any time when the wolf population “has exceeded the recovery goals of the Idaho wolf conservation and management plan,”²⁷ *i.e.*, any time there are more than 15 wolf packs in the state. (Idaho Legislative Wolf Oversight Committee 2002). Montana Senate Bill 314 directs the Montana Fish and Wildlife Commission to establish wolf hunting and trapping seasons “with the intent to reduce the wolf populations in th[e] state to a sustainable level, but not less than the number of wolves necessary to support at least 15 breeding pairs,”²⁸ and urges the Commission to authorize “the most liberal harvest regulations . . . in regions with the greatest number of wolves.”²⁹ Notwithstanding these laws’ gestures toward minimum population levels, management under the new regimes in both states is likely to push wolf populations *below* those thresholds for several independent reasons.

First, state managers lack the ability to accurately and timely detect a threatening decline in wolf populations. Creel *et al.* (2015) documented that Idaho and Montana changed their counting methods since delisting, severely undermining the veracity of their population estimates biased toward inflated population numbers. After 2016, Idaho ceased releasing population estimates altogether for four years before implementing, for the first time, a new and experimental population estimator in 2020. The accuracy of Idaho’s new methodology remains uncertain, and in any case, Idaho has neglected to “recalibrate” its minimum population goals, which were established by reference to a different estimator; because the new estimator tends to produce higher estimates. Additionally, Idaho now counts its wolves during the summer, when annual wolf numbers peak, even though population estimates were previously based on midwinter surveys, when wolf numbers are lower. The resulting “illusory increase in population” could risk take of wolves beyond minimum population thresholds. *Crow Indian Tribe v. United States*, 965 F.3d 662, 680 (9th Cir. 2020). Even assuming Montana and Idaho’s annual population censuses are accurate, they are too infrequent to detect the swift decline below minimum thresholds threatened by the extraordinary volume of killing newly authorized by the states. Idaho Senate Bill 1211 compounds this problem by extending the reporting window for wolves taken for livestock depredation control from ten to thirty days, and establishing a thirty

²⁶ These criteria operate independently of the Service’s separate obligations, discussed above, to conduct a status review when “a change in State law or management objectives would significantly increase the threat to a wolf population,” *id.*, and to immediately relist wolves on an emergency basis if either state allows “the unlimited and unregulated taking of wolves.” 74 Fed. Reg. at 15,148.

²⁷ Senate Bill 1211, § 5.

²⁸ Senate Bill 314, § 1.

²⁹ Senate Bill 314, § 1.

day reporting requirement for wolves killed pursuant to SB 1211’s new authorization for wildlife predation control.³⁰ This represents a major departure from the 72-hour reporting requirement in place at the time of delisting for both hunting and defense-of-property kills, and will severely impair IDFG’s ability to monitor and timely respond. 74 Fed. Reg. at 15,169, 15,150 (at the time, wolf reporting was “more stringent than for bears and lions”). Recent experience in Wisconsin, where even a 24-hour reporting window “contributed to the department’s inability to act quickly enough to close the season before [wolf] harvest quotas were exceeded” by more than 80%, underscores the threat posed by delayed reporting windows, especially where highly effective methods of take like hounding, snaring, and aerial gunning are allowed (Wisconsin Green Fire 2021).

Second, these changes to state law strip state agencies of key authorities that both the Service and state management plans consider necessary to maintaining populations above minimum recovery levels. At the time of delisting, the Service relied on the authority and expertise of state agencies to conclude that Idaho and Montana would be able to maintain wolf populations above minimum recovery goals in accordance with their management plans. *See* 74 Fed. Reg. at 15,169-70. Even if that conclusion were justified at the time, it rested on assumptions that are no longer true. As to Idaho, for example, the Service determined that Idaho Department of Fish and Game’s classification of wolves as “a big game animal” would allow the agency to regulate human-caused mortality including by setting hunting quotas, legal methods of take, and other parameters. *Id.* at 15,169. Idaho’s wolf management plan similarly provides that “[i]n order to protect wolf populations by enforcing regulations....and by limiting and regulating legal take, wolves will be classified as either a big game animal, furbearer, or special classification of predator that provides for controlled take after delisting, at the discretion of the Idaho Fish and Game Commission.”³¹ But Idaho Senate Bill 1211 overrides IDFG’s discretion to regulate the take of wolves, superseding the agency’s authority to limit killing by: setting tag limits,³² limiting trapping season lengths,³³ and restricting manner and methods of take.³⁴ It also eliminates IDFG’s ability to counterbalance the impact of depredation and defense-of-property removals by imposing these sorts of limits on hunting seasons. *Id.* at 15,169. Without these fundamental levers available, IDFG will be unable to make the “adaptive management” adjustments to hunting and trapping seasons that the Service assumed would exist as a safety net to prevent populations from falling below minimum thresholds. *Id.* Indeed, the Idaho Fish and Game Commission opposed the bill precisely because it hamstring[s] the agency’s discretion to manage wolves, testifying before a state senate committee that it “represent[s]... a significant downside to the state’s ability to manage our wildlife responsibly” (Blanchard 2021).

³⁰ Senate Bill 1211, § 5.

³¹ Idaho Legislative Wolf Oversight Committee 2002, at 4; *see also id.*, at 20 (“The designation of the wolf as a big game species... provides legal authorization for Idaho Department of Fish and Game to manage the species.”).

³² Senate Bill 1211, § 4 (“There shall be no limit to the number of wolf tags that an individual can purchase.”).

³³ *Id.*, § 3 (“Wolf trapping season shall be open year-round on all private property...”).

³⁴ *Id.* (“[A]ny method utilized for the take of any wild canine in Idaho shall be available for the taking of wolves.”).

Third, new legislative mandates to reduce state wolf populations down to management plan minima will eliminate the buffer needed to prevent lethal depredation removals from causing populations to decline below minimum recovery thresholds. At the time of delisting, the Service correctly recognized that landowners or their agents³⁵ may kill wolves “molesting or attacking livestock or domestic animals” under Idaho’s depredation control law without any permit or prior authorization. Idaho Code Ann. § 36-1107(c).³⁶ The Service concluded that this liberal depredation law did not threaten wolves because the “Idaho management plan is designed to maintain the Idaho wolf population at over 500 wolves in midwinter,” a level at which “it would be impossible for [] Idaho’s defense of property regulations to significantly affect the overall rate of wolf mortality in Idaho.” 74 Fed. Reg. at 15,169. The Service can no longer rely on Idaho’s decades-old commitment to maintaining a population of over 500 wolves in midwinter; because as discussed above, management under Senate Bill 1211 indicates Idaho’s intent to drive the state population down to minimum population goals. As a result, lethal depredation removals by landowners, government agents, and private contractors—which are guaranteed by statute, and not subject to IDFG regulation—present a source of mortality that risks pushing the population below minimum recovery thresholds, especially accounting for the additive or super-additive mortality effects caused by these kills (Murray et al. 2010; Creel and Rotella 2010; Ausband et al. 2015; Borg et al. 2015).

In sum, changes to state law in Idaho and Montana authorize extreme levels of mortality calibrated to reduce state wolf populations to minimum levels and upend the regulatory framework the Service previously relied on to conclude that the states could maintain wolf populations above minimum recovery thresholds. These laws risk causing state wolf populations to decline below minimum recovery thresholds, and at the same time limit state agencies’ authority to take regulatory action to prevent such a crash. The Service must comply with its stated commitment to initiate the status review and relisting process.

B. Current Numbers of Wolves in the Northern Rockies and the Rest of the Western U.S.

As noted above, gray wolves previously inhabited most of North America, likely excluding only portions of the driest deserts and portions of the southeastern coastal plain of the United States, which is the historical range of a separate canid species, the red wolf (*Canis rufus*). See 78 Fed. Reg. 35,664 (June 13, 2013). Scientists estimate that before European colonization as many as 2 million wolves may have lived in North America with at least several hundred thousand in the western U.S. (Leonard et al. 2005). Today, wolf population numbers in the western U.S. total less than 3,500 individuals, although the states with approximately two-thirds of this population – Idaho and Montana – intend to reduce their populations by 80-90%.

Current Status in Idaho, Montana, and Wyoming. At the end of 2020, Idaho had 1,556 wolves (Idaho Dept. of Fish and Game 2021a). Montana has not estimated its wolf population since 2019, when it had 833 wolves (with a confidence range of 665 to 1021 wolves).

³⁵ Idaho Senate Bill 1211 expands this authorization to include private contractors and federal and state agents. Senate Bill 1211, § 5.

³⁶ Montana also allows any person to kill or attempt to kill wildlife that is “attacking, killing, or threatening to kill” livestock. MCA 87-6-106; see also MT ADC 12.9.1305(10).

But recent news articles report that the Montana population may now be closer to 1,200 (Eggert 2021; Robbins 2021). At the end of 2020, Wyoming reported just 327 wolves (Wyoming Game and Fish Dept. et al 2021).

Current Status in Washington, Oregon, and California. At the end of 2020, Oregon was home to just 17 known breeding pairs with a total minimum of 173 wolves (Oregon Dept. Fish and Wildlife 2021). However, most of these wolves live in the eastern half of the state that lost federal protection with delisting of the NRM DPS. Wolf breeding outside of that portion was first documented in 2014 by the Rogue Pack (Oregon Dept. Fish and Wildlife 2015). Currently there is only one pack in western Oregon with a successful breeding pair, the White River pack (Oregon Dept. Fish and Wildlife 2021).

Washington had at least 132 wolves in 24 wolf packs with a total of 13 successful breeding pairs in 2020, but again most of these live in the eastern portion (Washington Dept. Fish & Wildlife 2021). An additional 46 wolves in five packs are reported to live on the Confederated Tribes of the Colville Reservation in Washington (*id.*).

In California, the most recent data shows just one pack in the state (California Dept. of Fish and Wildlife 2021). The breeding animals of that pack, known as the Lassen Pack, have successfully reproduced each year from 2017 through 2020 with at least two pups from each litter surviving to the end of their first year (*id.*).

Current Status in Colorado and Utah. No breeding population of wolves has been yet documented in the Southern Rocky Mountains. But wolves have dispersed into the region on several occasions. In 2002, a wolf was trapped in northeastern Utah (southwest of Ogden), and the Service released the wolf into Grand Teton National Park, where it likely originated (USFWS 2002). The Service explained that “[s]ubsequent reports have indicated that more wolves are present in northeast Utah” (*id.*). In 2004, a wolf died after being struck by a car on I-70 about 30 miles west of Denver (USFWS 2004). In 2006, a black canid that appeared to be a wolf was videotaped in northern Colorado (Gonzales 2006). In 2009, a wolf was poisoned by Compound 1080 south of Meeker, Colorado (USFWS 2011). In 2010, two wolves were shot and killed in Utah in Cache and Rich counties (Love 2010). In December of 2014, a coyote-hunter shot and killed a wolf in west-central Utah; she had previously been seen on the Grand Canyon’s North Rim and named “Echo” (Ketcham 2015). In April 2015, a wolf was mistaken for a coyote and shot and killed in northwestern Colorado (Padilla 2016). In January of 2020, Colorado Parks and Wildlife personnel confirmed the presence of a group of at least six wolves in extreme northwest Colorado. Three of those animals were later reported but not confirmed as having been killed in Wyoming (Finley 2020). The status of the other animals is not known. In early 2021, two additional wolves with radio collars were traveling together in north-central Colorado (Colorado Parks & Wildlife 2021).

C. Significant Portions of the Wolf’s Range in the Western U.S. Lack Viable Wolf Populations

Breeding populations of gray wolves remain absent from vast swaths of their historical range in the western United States. Numerous cases hold that a species is considered absent “throughout . . . a significant portion of its range” “if there are major geographical areas in which

it is no longer viable but once was.” *Def. of Wildlife v. Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001) (flat-tailed horn lizard).³⁷ As such, due to the loss of historical range, wolves in the Western DPS qualify as an “endangered” or “threatened” species.

Indeed, given the statutory definitions of “endangered” and “threatened,” 16 U.S.C. § 1532(6), (20), and the numerous court decisions interpreting them, gray wolves must be federally protected unless they are recovered in “all” “significant portions of their range.” *See, e.g., Humane Soc’y of the United States v. Jewell*, 76 F. Supp. 3d 69, 130 (D.D.C. 2014) (rejecting 2011 WGL DPS delisting rule); *Defenders*, 354 F. Supp. 2d at 1167, n.8 (rejecting 2005 downlisting rule). The Service cannot rely on its flawed interpretation of “significant portion of its range” to ignore wolf status outside of core population areas given that its “SPR Policy” has been vacated. *Desert Survivors v. U.S. DOI*, Case No. 16-cv-01165-JCS (N.D. Cal. Aug. 24, 2018); *see also Ctr. for Biological Diversity v. Jewell*, 248 F. Supp. 3d 946, 955–58 (D. Ariz. 2017) (rejecting SPR Policy in case involving the cactus ferruginous pygmy owl).

Moreover, scientists have identified extensive wolf habitat in areas where wolves have not yet recovered (*see, e.g.,* Mladenoff et al. 1995; Carroll et al. 2006; Morell 2008). In the western United States, this includes the Central and Southern Rocky Mountains in both Colorado and Utah, the Olympic Peninsula in Washington, the Cascade Mountains in Washington, Oregon and California, and the Sierra Nevada in California. Thousands of additional wolves could likely populate the Southern Rockies and West Coast, increasing the existing populations and creating a network of interconnected populations bolstering genetic security (Weiss et al. 2014). Because these “significant portions” of the wolf’s range lack viable wolf populations, the Western DPS qualifies for ESA protections.

Even the Service has determined that wolves remain unrecovered in areas that could support them. 65 Fed. Reg. at 43474 (noting that “there is certainly habitat that could support wolves” in western states such as Oregon, Utah, and Colorado); 68 Fed. Reg. at 15,814 (explaining that the Pacific Northwest contains “suitable habitat and prey conditions” and anticipating “additional movement . . . into western Washington and Oregon and into the Cascade Range”); 78 Fed. Reg. at 35,680 (describing areas within the historical wolf range that lack “robust” wolf populations as the “Southern Rocky Mountains and Colorado Plateau, northern California, western Oregon, and western Washington.”); 78 Fed. Reg. at 35,685, 35,712 (discussing protected lands in Oregon and Washington where wolves could recolonize); 85 Fed. Reg. at 69,822 (discussing wolves in Colorado and their proximity to and possible use of

³⁷ *See also Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870, 877 (9th Cir. 2009) (holding that the Service must “develop some rational explanation” for why lost and at-risk portions of a species’ range are not significant); *Colo. River Cutthroat Trout v. Salazar*, 898 F. Supp. 2d 191, 202-03 (D.D.C. 2012) (adopting and applying “the Ninth Circuit’s approach of requiring that the Service provide some reasoning for why a historical contraction in range does not reflect a ‘risk of extinction throughout . . . a significant portion of its range’”); *WildEarth Guardians v. Salazar*, 741 F. Supp. 2d 89, 100-01 (D.D.C. 2010) (vacating and remanding FWS finding where agency had not explained why 87% range reduction for the Utah prairie dog was not significant portion of species’ range); *Def. of Wildlife v. Norton (Lynx I)*, 239 F. Supp. 2d 9, 21 (D.D.C. 2002) (vacated in part on other grounds).

available habitat in Utah). For example, model predictions indicate that Colorado could support an estimated 1,305 wolves with nearly 87% of wolves occupying public lands. 85 Fed. Reg. at 69,817. The Service has explained that the entirety of Utah could likely support over 700 wolves. *Id.* The best available science shows overwhelming agreement that large tracts of suitable wolf habitat remain present in the Western DPS.

Importantly, areas of unoccupied but suitable wolf habitat could be reoccupied. Wolves are long-range dispersers, capable of traveling for hundreds of miles in search of mates, adequate prey base, and suitable colonizing locations (Linnell et al. 2005). Experience shows that with federal protections, wolves expand their range (e.g., dispersal of wolves from Minnesota to Wisconsin and Michigan; from the Northern Rocky Mountains to the Pacific Northwest; from the Northern Rocky Mountains to the Southern Rocky Mountains; from the Pacific Northwest to California). Over the years, dispersing wolves have been detected in all States within historical gray wolf range west of the Mississippi River except Oklahoma and Texas. 85 Fed. Reg. at 69,855.

The fact that wolves could – through dispersal or reintroduction – reoccupy presently unoccupied but suitable wolf habitat provides additional reasons why these “significant portions” cannot be reasonably ignored when determining whether wolves in the western U.S. continue to meet the definitions of endangered and threatened species. Conversely, the severe exploitation of wolves authorized in the Northern Rocky Mountains, as explained above, risks impairing dispersal to and restoration of wolves to additional areas. *See also* 85 Fed. Reg. 69,795 (citing Webb 2011).

In sum, significant portions of the wolf’s range in the western U.S. lack viable wolf populations or contain wolf populations that are at risk of extinction or endangerment and thus qualify for protections under the ESA. Moreover, recent changes to Montana and Idaho law significantly increase the threat to the gray wolf population in the Northern Rocky Mountains and risk causing state populations to fall below minimum recovery thresholds, triggering the Service’s obligation to conduct a status review and relist the population. Especially because changes in Idaho law authorize unlimited and unregulated taking, the Service is bound by its commitment in the 2009 Delisting Rule to initiate emergency rulemaking. The Service must act swiftly to address these grave threats.

IV. Listing as “Threatened” Allows Regulatory Flexibility

With a “threatened” listing, the Service could approve state officials to use lethal control to deal with bona fide wolf conflicts where consistent with the best available science and the overarching conservation goals of the ESA. The Section 4(d) rule that previously applied to wolves in Minnesota could be instructive, as it narrowly allows for livestock predation control “within one-half mile of the place where such depredation occurred,” performed “in a humane manner” and with mandatory release of “any young of the year taken on or before August 1.” 50 C.F.R. § 17.40(d).³⁸

³⁸ Under the existing Section 4(d) rule for Minnesota, “[d]esignated employees or agents of the Service or the Minnesota Department of Natural Resources” may kill gray wolves in

Another important feature of the Minnesota rule is provision of refugia in northeastern Minnesota (“Zone 1”) where the prohibition on take applies without any allowance for livestock predation control. *Id.* We ask the Service to identify similar refugia for any Section 4(d) rule that it may promulgate for any threatened DPSs proposed in response to this Petition. Indeed, scientists have documented the importance of such protected areas (Sazatornil et al. 2016; Barber-Meyer et al. 2021). For example, Sazatornil et al. (2016) recommends that managers provide wolves shelter from human interference to provide ideal breeding sites.

With adoption of the Petition, the Service should also craft a national recovery plan for the gray wolf—something it has never done before (Robinson and Greenwald 2010).

CONCLUSION

For all the reasons explained above, the Service must immediately reinstate federal protections for gray wolves in the Northern Rocky Mountains. Specifically, Petitioners request that the Service exercise its authority to list – on an emergency basis – gray wolves in the NRM DPS or a Western DPS and assign threatened or endangered status consistent with the best available science, as detailed above.³⁹

response to attacks on domestic animals. 50 C.F.R. § 17.40(d)(2)(i)(C). Petitioners request that any future Section 4(d) rule clarify that “agents” must be government employees.

³⁹ Petitioners believe that gray wolves throughout the Lower 48 warrant federal protections under the ESA. As explained in the 2018 Petition, gray wolves could be listed as threatened in a Lower 48 DPS, or the Service could list two or more smaller DPSs that encompass the entire range of the gray wolf in the coterminous U.S. This framework is not the subject of this Petition, however, because Petitioners seek redress through their ongoing litigation over the Service’s unlawful denial of the 2018 Petition and their litigation over the 2019 Delisting Rule.

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Appendix A -- State Summary for Western U.S.

STATE WITH FEDERAL PROTECTIONS	EXTANT GRAY WOLF POPULATION?	ESTIMATED STATE POPULATION?	DOCUMENTED DISPERSERS?	STATE PROTECTIONS?	STATE PLAN?	STATE WOULD ALLOW HUNTING OR DEPREDAATION CONTROL OF POPULATION?
Arizona (portion outside of Mexican Wolf range)	(Mexican wolf) N/A		Y, died in Utah	N	N	Not prohibited
California	Y	CDFW 2021: 10 confirmed wolves	Y	Y, State Listed	California 2016 Wolf Plan	N
Colorado	Unknown	CPW 2021: Two wolves travelling together in north-central Colorado	Y	Y, State Listed	Colorado 2004 Wolf Recommendations	Maybe, as suggested in recommendations
Idaho	Y	IDFG 2021a: 1,556 wolves	Y	Nearly limitless hunting/trapping and depredation control	Idaho 2002 wolf plan	Y
Montana	Y	Montana FWP: 833 wolves (with a confidence range of 665 to 1021 wolves) in 2019 but may now be closer to 1,200	Y	Nearly limitless hunting/trapping and depredation control	Montana final amended wolf ROD May 2004	Y
New Mexico (portion outside of Mexican Wolf range)	(Mexican wolf) N/A		Likely, given black pelage	State listed as endangered	N	N
Nevada	N	N/A	Y	Y, Game animal with closed season	N	Likely given game status
Oregon (outside NRM)	Y	ODFW 2021: Just 17 known breed	Y	Special status game mammal with regulated depredation control	Oregon Revised 2019 Plan	Y

Appendix A -- State Summary for Western U.S.

STATE WITH FEDERAL PROTECTIONS	EXTANT GRAY WOLF POPULATION?	ESTIMATED STATE POPULATION?	DOCUMENTED DISPERSERS?	STATE PROTECTIONS?	STATE PLAN?	STATE WOULD ALLOW HUNTING OR DEPREDAATION CONTROL OF POPULATION?
Utah (outside NRM DPN)		N/A	Y	N. Utah Code § 23-29-201 provides killing wolves to prevent reestablishment	Utah 2005 Wolf Plan	Y for depredation control
Washington (outside NRM DPN)		WDFW 2021: 132 wolves in 24 wolf packs, with an additional 46 wolves in five packs on the Confederated Tribes of the Colville Reservation in Washington	Y	Yes, state listed. But still have regulated depredation control	Washington 2011 Plan	Y
Wyoming	Y	WGFD 2021: 327 wolves	Y	Regulated hunting/trapping and depredation control in some portions, open season elsewhere	Wyoming 2011 wolf plan with 2012 addendum	Y