EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

September 10, 2012

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VIA E-MAIL AND CERTIFIED MAIL

Re: Notice of Violations of the Endangered Species Act in Delisting the Wyoming Portion of the Northern Rocky Mountain Gray Wolf DPS

Dear Secretary Salazar and Director Ashe:

On behalf of Defenders of Wildlife, Center for Biological Diversity, Natural Resources Defense Council, and the Sierra Club, we write to provide you notice, pursuant to 16 U.S.C. § 1540(g), that the U.S. Fish and Wildlife Service's ("FWS" or "Service") decision to eliminate federal Endangered Species Act protections for the portion of the Northern Rocky Mountain gray wolf distinct population segment ("DPS") that resides in Wyoming is arbitrary, capricious, an abuse of discretion, and contrary to the requirements of the Endangered Species Act ("ESA") and its regulations.[1]

The subject of this notice letter is the final rule published in the Federal Register on September 10, 2012, under the title "Endangered and Threatened Wildlife and Plants; Removal of the Gray Wolf in Wyoming from the Federal List of Endangered and Threatened Wildlife and Removal of the Wyoming Wolf Population's Status as an Experimental Population, RIN 1018-AX94" ("Wyoming Delisting Rule"). Citations to the Wyoming Delisting Rule in this letter are to the pre-publication version filed by your agency with the Federal Register on August 31, 2012.

[1] The groups listed above submitted extensive comments on FWS's proposed delisting regulation, which are attached. All comments submitted by these groups are hereby incorporated by reference.

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FWS previously delisted wolves throughout the entirety of the northern Rocky Mountains—an action that was found unlawful by the federal district court for the District of Montana based on the inadequacy of Wyoming laws and the lack of genetic exchange among the region's subpopulations. See Defenders of Wildlife v. Hall, 565 F. Supp. 2d 1160 (D. Mont. 2008). Undeterred, FWS again delisted wolves in 2009, this time removing Endangered Species Act ("ESA") protections for wolves in all portions of the Northern Rocky Mountain DPS except for Wyoming, finding that Wyoming's management framework (particularly the predator designation for wolves in nearly 90% of the state) endangered Wyoming wolves. 74 Fed. Reg. 15,123 (Apr. 2, 2009). The Montana district court again rejected FWS's delisting attempt, holding that the ESA did not allow delisting of only a portion of a DPS. See Defenders of Wildlife v. Salazar, 729 F. Supp. 2d 1207 (D. Mont. 2010). Congress revived the 2009 delisting rule through an appropriations rider, leaving wolves in Wyoming protected under the ESA but under state management throughout the remainder of the DPS. See Department of Defense and Full-Year Continuing Appropriations Act, Pub. L. 112-10, § 1713, 125 Stat. 38, 150 (2011).

In the wake of Congress's action, Secretary of Interior Salazar and FWS initiated negotiations with Wyoming's governor to develop a compromise wolf management framework for Wyoming. The resulting agreement, which formed the basis for the proposed rule to delist Wyoming wolves, reflects a political *quid pro quo* rather than a determination based upon the best available science that wolves throughout the Northern Rocky Mountain DPS no longer require the protections of the Act. See 16 U.S.C. § 1533(b)(1)(A) (requirement to use "best … available" science in listing and delisting decisions).

As outlined below and in the attached comments, FWS's Wyoming Delisting Rule does not satisfy the ESA requirements that FWS may only delist species that are fully recovered and protected by adequate regulatory mechanisms, as well as the Administrative Procedure Act ("APA") requirement that agency decisions evidence a rational connection between the facts found and the choice made. Specifically, in delisting Wyoming wolves, FWS ignores the ESA requirement that any delisting decision concerning the Northern Rocky Mountain DPS must consider the entire DPS, which encompasses wolves not only in Wyoming but also in Montana, Idaho, and portions of Washington, Oregon, and Utah. Moreover, FWS's delisting decision violates the ESA's best available science requirement by resting on an outdated demographic goal and by failing to consider a body of scientific evidence which, when applied to the Northern Rocky Mountain DPS, demonstrates that current state management of wolves in Wyoming, Idaho, and Montana will lead to genetic isolation. Finally, FWS violates the ESA requirement that delisted species must be protected by adequate regulation when it removes ESA protections for Wyoming wolves notwithstanding the fact that current regulatory mechanisms in Wyoming, Idaho, and Montana will not just fail to sustain wolf numbers that are already inadequate, but will actively reduce wolf populations below viable levels.

I. FWS MUST EVALUATE THE FIVE DELISTING FACTORS FOR THE ENTIRE NORTHERN ROCKY MOUNTAIN DPS

FWS's Wyoming Delisting Rule is arbitrary and contrary to the ESA because it fails to account for threats to wolves across the entire Northern Rocky Mountain population. While

FWS focuses on Wyoming wolves, the ESA requires FWS to analyze the five listing/delisting factors of section 4(a) as they apply to an entire DPS, which in this case includes Montana, Idaho, and portions of Washington, Oregon, and Utah. These factors are:

> (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
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> (B) overutilization for commercial, recreational, scientific, or educational purposes;
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> (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); see also 50 C.F.R. § 424.11(d) (providing grounds for delisting).

On the basis of these factors, the ESA provides that FWS must "determine whether any species is an endangered species or a threatened species." 16 U.S.C. § 1533(a) (emphasis added); see also Defenders of Wildlife v. Salazar, 729 F. Supp. 2d at 1221-22. The statute defines a species to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." 16 U.S.C. § 1532(16). Thus, "[t]he words used in the ESA make clear that 'species' excludes distinctions below that of a DPS, and this definition of 'species' applies not only when defining a species, but to all sections of the ESA." Defenders of Wildlife v. Salazar, 729 F. Supp. 2d at 1221 (citations omitted).

Here, the relevant "species" is the Northern Rocky Mountain DPS. Nonetheless, FWS's analysis of the section 4(a) listing/delisting factors focuses primarily on Wyoming. FWS undertook a cursory analysis of some factors as they apply to Montana and Idaho, but only for purposes of determining whether conditions in those states would endanger Wyoming wolves. See Wyoming Delisting Rule at 62 ("While this rulemaking focuses on Wyoming because it is the only portion of the NRM DPS that remains listed, we consider other portions of the NRM DPS as appropriate . . . Wolves in the NRM DPS outside of Wyoming are not protected under the Act; therefore there is no regulatory need to determine whether the Act's protections should be removed for these wolves.")

Even though Congress directed the reissuance of FWS's 2009 delisting rule, changing for the time being the ESA legal status of wolves in Montana, Idaho, and portions of Washington, Oregon, and Utah, it did not grant FWS the authority to do what the ESA prohibits: limit analysis of the section 4(a) listing/delisting factors to only a portion of a DPS. If wolves are endangered by any of the section 4(a) factors in any portion of the northern Rocky Mountains, then delisting the portion of the DPS that resides in Wyoming is unlawful. See Defenders of Wildlife v. Salazar, 729 F. Supp. 2d at 1221 n.6. (rejecting federal defendants' argument "that the identified species is distinct from the species to be determined endangered or threatened").

Because FWS failed to make this critical assessment, its decision to delist Wyoming wolves is arbitrary and contrary to the ESA. 16 U.S.C. § 1533(a)(1).

II. FWS'S DECISION TO DELIST THE WYOMING PORTION OF THE NORTHERN ROCKY MOUNTAIN WOLF POPULATION DESPITE SIGNIFICANT THREATS TO ITS SURVIVAL IS ARBITRARY AND VIOLATES THE ESA

Under the ESA, the Service is required to make listing and delisting determinations "solely on the basis of the best scientific and commercial data available[.]" 16 U.S.C. § 1533(b)(1)(A). In deeming the Northern Rocky Mountain gray wolf population "recovered," the Service violated this requirement, disregarding science and otherwise acting arbitrarily.

A. The Service Premised its Decision to Delist on a Biologically Inadequate Recovery Standard

FWS acted arbitrarily and contrary to the best available science in delisting Wyoming wolves on the basis of a recovery goal that is inadequate to ensure viability of the Northern Rocky Mountain wolf population for the foreseeable future. FWS continues to rely on an outdated and unscientific demographic recovery goal of "30 or more breeding pairs … comprising 300 + wolves" and state-level minimum recovery goals for Idaho, Montana, and Wyoming of "at least 10 breeding pairs and at least 100 wolves in mid-winter." Wyoming Delisting Rule at 67-68.

In order to remain genetically viable in the long term, animal populations must number in the thousands.[2] Under the internationally accepted IUCN "Red List Criteria," (previously relied upon by the Service as persuasive authority when rendering ESA listing decisions, but inexplicably disregarded by the agency here), a species must be listed as "vulnerable" when its population falls below 1,000 "mature" individuals.[3] With respect to wolves in particular, scientists have calculated that a minimum population of 2,000 to 5,000 (including both mature and immature animals) is required to ensure long-term viability.[4] Indeed, FWS requires 1,251–1,400 wolves in Minnesota and FWS's Post-delisting Monitoring Plan for western Great Lakes wolves identifies a trigger for consideration of relisting if the Minnesota winter wolf population reaches "1500 or fewer wolves." FWS, Post-Delisting Monitoring Plan for Western Great Lakes Distinct Population Segment of the Gray Wolf (Feb. 2008). The differential standards for gray wolves in the northern Rockies and the western Great Lakes cannot be justified under principles of conservation biology.

In light of well-established scientific principles calling for a higher demographic recovery standard and the differential standard FWS itself applied to Minnesota wolves, the Service's

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[2] See Jan. 12, 2012 Earthjustice Comments on Proposed Delisting Rule, 76 Fed. Reg. 61,782 (Oct. 5, 2011), at 4-5.

[3] Id. at 5.

[4] Id. at 4-5.

conclusion that a population of only 100-150 wolves in Wyoming, Idaho, and Montana is a recovered species under the ESA is arbitrary, capricious, and contrary to the best available science. 16 U.S.C. § 1533(b)(1)(A).

B. Wyoming Wolves and the Northern Rocky Mountain DPS Remain Threatened by Inadequate Genetic Connectivity

The Wyoming Delisting Rule also is arbitrary and contrary to the best available science because it fails to demonstrate that the Northern Rocky Mountain wolf population is not threatened by ongoing genetic isolation of wolves in the Greater Yellowstone Area ("GYA")—isolation that is certain to worsen under state management. FWS has acknowledged that small, isolated populations of only 100-150 wolves—as contemplated by the Delisting Rule—are not sustainable. See 74 Fed. Reg. at 15,172 (minimal recovery levels will reduce genetic exchange and are inadequate); 76 Fed. Reg. at 61,815 (minimal recovery levels will decrease dispersal). FWS has repeatedly stated that the establishment of a metapopulation dynamic among the three recovery areas and Canada is essential to the long-term viability of the Northern Rocky Mountain wolf population. See Wyoming Delisting Rule at 34-35 ("[A] well-distributed population is necessary to maintain proportionate numbers of packs and individuals in all three recovery areas"); see also Defenders of Wildlife, 565 F. Supp. 2d at 1169. While limited genetic connectivity has been demonstrated between the three subpopulations, B.M. VonHoldt et al., A Novel Assessment of Population Structure and Gene Flow in Grey Wolf Populations of the Northern Rocky Mountains of the United States, 19 Molecular Ecology 4412 (2010), the GYA subpopulation continues to be the most isolated of the three subpopulations, J.K. Oakleaf et al., Habitat Selection by Recolonizing Wolves in the Northwestern United States, 70 J. Wildlife Management 554 (2006) ("Oakleaf et al. (2006)"); Wyoming Delisting Rule at 270. Furthermore, FWS has acknowledged "past dispersal data is unlikely to be an exact predictor of future effective migration rates." Wyoming Delisting Rule at 272. Among other things, "after delisting the population will no longer be growing, the population will likely go through a period [of] reduction before leveling off, and management will likely result in higher mortality rates for both dispersers and resident wolves." Id. Now that wolf population reduction is the norm in Wyoming, Idaho, and Montana, maintaining sufficient numbers of wolves in key areas and protecting dispersal corridors will be critical to ensuring that genetic connectivity within the Northern Rocky Mountain population is maintained.

Regardless of the reasonableness of FWS's conclusion that genetic connectivity in the northern Rockies is currently adequate, FWS has failed to adequately justify its conclusion that Northern Rocky Mountain wolves will not be endangered by inadequate future genetic connectivity under state management of wolves in Idaho, Montana, and Wyoming. Indeed, genetic connectivity among the Northern Rocky Mountain' three wolf subpopulations is almost certain to diminish after Wyoming wolves are delisted for the following reasons:

- The size and range of each of the Northern Rocky Mountain wolf subpopulations will decrease under state management, inhibiting genetic connectivity and the potential for an effective metapopulation structure.

- Metapopulation connectivity is a function of both population size and distribution; connectivity is enhanced in metapopulations with shorter distances between subpopulations. State management will diminish connectivity by diminishing the wolf's range within each of the core recovery areas.

- Mortality of future dispersing wolves is certain to increase under state management. Wolves attempting to enter Wyoming from Idaho will have to run the gauntlet of the predator management area, including Wyoming's "flex zone" for more than half of the year – between March 1 and October 14. FWS acknowledges that nearly half of all dispersal events occur outside of the four months when wolf mortality will be regulated in Wyoming's flex zone and that wolves on average take more than five months to disperse from their home territory to their new range.

- Idaho and Montana have established 2012-13 wolf hunting regulations that promote far more aggressive wolf harvest—in terms of quotas, season lengths, and harvest methods—than FWS previously evaluated. See infra pp. 7 and 13. In particular, Idaho's wolf hunting regulations for areas adjacent to the Wyoming "flex zone", in combination with management of the "flex zone" itself, fail to ensure that there will be a single day of the year when a wolf can disperse across the Idaho-Wyoming border in this area without being subject to potential human-caused mortality.

While state management will make future genetic exchange even less likely, FWS nonetheless declares that essential genetic exchange will be sufficient in the wake of delisting. FWS's conclusion has four unfounded and unlawful bases: (1) FWS "conclude[d] that the overall NRM population is likely to be maintained well above recovery levels (perhaps around 1,000 wolves across the NRM DPS)," Wyoming Delisting Rule at 275; (2) FWS concluded that "[t]he management approaches of all three NRM States take into account and limit hunting impacts during important dispersal periods," id. at 276; (3) FWS observed that "[t]he Addendum to the Wyoming Gray Wolf Management Plan indicates the WGFD would strive for a minimum genetic target of ~1 effective migrant per generation … . If this minimum target is not achieved, the WGFD would first consider changes to the monitoring program, if the increased monitoring is likely to overcome the failure to document the desired level of gene flow," id. at 280-281 (citations omitted); and (4) FWS believes that "the States of Montana, Idaho, and Wyoming have committed to monitor for natural genetic connectivity, modify management as necessary to facilitate connectivity, and, if necessary, implement a human-assisted migration program to achieve at least one effective migrant per generation," id. at 283. None of these theories justifies delisting.

First, FWS's optimistic claim that the Northern Rocky Mountain wolf population is likely to remain "well above recovery levels (perhaps around 1,000 wolves[])" is unfounded. Idaho's 2002 wolf management plan (the "Idaho Plan") establishes a population objective of only 15

"packs," falling below even FWS's standard that attempts to maintain 15 breeding pairs.[5] Likewise, Montana law commits state wolf managers to maintain only 15 breeding pairs, not, as FWS claims, a number of wolves "well above" minimum recovery goals. See Mont. Admin. R. 12.9.1301(1). And Wyoming law commits to maintaining only 10 breeding pairs and 100 wolves outside of Yellowstone National Park and the Wind River Reservation, with the goal of (but not commitment to) achieving 15 breeding pairs and 150 wolves statewide, including Yellowstone. See Wyoming Plan at 1, 16; Wyo. Stat. § 23-1-304(a). No state has made any enforceable commitment to maintain a wolf population "well above" this level. Accordingly, FWS's claim that the Northern Rocky Mountain wolf population will likely be large enough to foster genetic exchange under state management is arbitrary and unfounded.

Second, as discussed thoroughly in our January 12, 2012 comments on FWS's Wyoming delisting proposal, the state wolf hunts do not adequately limit mortality of dispersing wolves. See 1/12/2012 Comments, at 12-13. To the contrary, Idaho and Montana have established aggressive hunting seasons, with total wolf quotas higher than those previously evaluated by FWS and seasons extending well into the December through April period that FWS has identified as key for wolf dispersal. 74 Fed. Reg. at 15,176. For example, Montana wildlife commissioners recently approved new wolf hunting rules that allow, for the first time, wolf trapping and the killing of up to three wolves by a single trapper. See M. Dennison, Independent Record, FWP allows trapping of wolves (July 13, 2012), available at http://helenair.com/news/local/govt-and-politics/fwp-allows-trapping-of-wolves/article_fd2d21f2-ccb1-11e1-a3ce-001a4bcf887a.html (last visited Sept. 6, 2012). Montana's wolf season will extend to February 28, 2013. See http://fwp.mt.gov/hunting/planahunt/huntingGuides/wolf/. Idaho has not established any upper limit on statewide wolf mortality and allows hunting throughout most of the state until March 31 and in key dispersal corridors until January 31 (or even later, should the Fish and Game Commission choose to extend the season). See 2012 Gray Wolf Hunting and Trapping Seasons and General Rules, available at http://fishandgame.idaho.gov/public/docs/rules/bgWolf.pdf. Furthermore, contrary to FWS's assertions, the latest science demonstrates that this hunting mortality is additive to other causes of wolf mortality. See 1/12/2012 Comments, at 12-13. These provisions, in combination with Wyoming's "flex zone" management, threaten any wolf that attempts to disperse through these corridors.

Third, FWS's goal of achieving one effective migrant per generation will not prevent genetic problems in the Northern Rocky Mountain wolf population. See 1/12/2012 Comments, at 13-14.

Fourth, FWS's continued reliance on "human-assisted" genetic exchange as a backstop mechanism is inappropriate in the delisting context. One of the primary purposes of the ESA is

[5] FWS previously rejected Wyoming's wolf management plan that had similarly expressed a management goal in terms of "packs," rather than "breeding pairs." 71 Fed. Reg. 43,410, 43,428-30 (Aug. 1, 2006) (12-month petition finding) (rejecting Wyoming's reliance on packs, not breeding pairs).

to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b) (emphasis added); see also id. § 1539(a)(2)(B)(iv) (before issuing incidental take permit, FWS must find "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild") (emphasis added); Interagency Cooperative Policy for the Ecosystem Approach to the ESA, 59 Fed. Reg. 34,273, 34,274 (July 1, 1994) (agency policy is to "[d]evelop and implement recovery plans … in a manner that restores, reconstructs, or rehabilitates the structure, distribution, connectivity and function upon which … listed species depend"). The term "conserve" means "to use … all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [by the ESA] are no longer necessary. Such methods include … transplantation … ." 16 U.S.C. § 1532(3). While translocation, genetic manipulation, and maintenance of captive populations are appropriate tools for promoting recovery of an endangered population, they are not appropriate bases upon which to determine that a species has recovered and no longer requires protections of the ESA.

Because wolves in the northern Rockies, particularly those in Wyoming, are endangered by future inadequate genetic exchange, FWS's decision to delist Wyoming wolves is arbitrary, capricious, and contrary to the best available science. 16 U.S.C. § 1533(b)(1)(A).

III. FWS'S DECISION TO DELIST THE WYOMING PORTION OF THE NORTHERN ROCKY MOUNTAIN WOLF POPULATION DESPITE INADEQUATE REGULATORY MECHANISMS IS ARBITRARY AND VIOLATES THE ESA

FWS further violated the ESA in delisting wolves notwithstanding the inadequacy of regulatory mechanisms in Wyoming, Idaho, and Montana. 16 U.S.C. § 1533(a)(1)(D). State laws not only fail to protect existing wolf populations; they ensure that the Northern Rocky Mountain population will be reduced below its already inadequate size.

A. FWS's Determination that Adequate Regulatory Mechanisms Exist in Wyoming is Arbitrary and Contrary to the ESA

Wyoming's statutes, regulations, and 2011 wolf management plan (including the 2012 addendum to that plan) fail to establish adequate regulatory mechanisms to maintain a recovered Northern Rocky Mountain gray wolf population. Under the ESA, FWS must determine whether the Northern Rocky Mountain gray wolf population remains endangered or threatened because of any of five factors, including "the inadequacy of existing regulatory mechanisms." 16 U.S.C. § 1533(a)(1)(D). FWS's own initial peer review of the Wyoming delisting proposal concluded that "there is substantial risk to the population" because "the Plan, as written, does not do an adequate job of explaining how wolf populations will be maintained, and how recovery will be maintained." FWS, Final Wyoming Gray Wolf Peer Review Panel Summary Report at 13, 15 (Dec. 2011) ("Peer Review Report"); see also 16 U.S.C. § 1533(b)(1)(A) (FWS listing decisions must be made "solely on the basis of the best scientific and commercial data available"). Because those concerns are not addressed in FWS's final Wyoming Delisting Rule, the rule is arbitrary and capricious and contrary to the ESA.

1. Failure to Ensure Genetic Connectivity

Wyoming's statutes, regulations, and wolf management plan fail to ensure genetic connectivity. Instead, they place more stress on the already tenuous link between the GYA subpopulation and the rest of the Northern Rocky Mountain gray wolf population. The GYA subpopulation is the most isolated of the three Northern Rocky Mountain gray wolf subpopulations, with Idaho and Montana having higher connectivity with one another than either area has to the GYA. See Oakleaf et al. (2006). By decreasing both the size and range of the GYA population, and by subjecting dispersing wolves to a deadly regulatory regime, Wyoming management will further erode connectivity between the GYA and the other Northern Rocky Mountain gray wolf subpopulations. See, e.g., 73 Fed. Reg. 10,514, 10,537, 10,540 (Feb. 27, 2008).

First, as the population in the GYA decreases under Wyoming's minimal population commitments (10 breeding pairs and 100 wolves outside of Yellowstone and the Wind River Reservation), the dispersal of GYA wolves to Idaho and Montana will decrease, since dispersal events most often originate from populations with higher wolf densities. See M.D. Jimenez, Wolf Dispersal in the Northwestern United States in Reintroduced and Naturally Colonizing Wolf Populations (2008) ("Jimenez et al. (2008)"). Likewise, wolf population and range contraction in Idaho and Montana will diminish the potential for wolves to migrate into the GYA. See supra p. 7. Second, as the GYA wolf range contracts to locations where hunting is regulated, dispersers will face longer travel distances—and correspondingly longer odds of survival. Third, wolves who do attempt to disperse will be forced to navigate zones that are subject to intensive predator management for more than half of the year, and will be subject to regulated hunting at all times. See Wyoming Delisting Rule at 208, 212-214. The already compromised window of opportunity provided by the half-year of regulated hunting is made even more narrow by the fact that wolves on average take more than five months to disperse and disperse at all times of year. See Jimenez et al. (2008); Wyoming Delisting Rule at 273. Finally, Wyoming's commitment to manage for one effective migrant into the GYA per generation does not offset the expected damage to genetic connectivity from population decline, range contraction, and disperser hazards. See Wyoming Plan at 28. Research demonstrates that managing for one migrant per generation is inadequate for natural populations because not all individuals are breeders; a more appropriate minimum is a range of one to ten migrants per generation. See L.S. Mills, Conservation of Wildlife Populations: Demography, Genetics, and Management (Blackwell Publishing) (2007); John A. Vucetich & Thomas A. Waite, Is One Migrant Per Generation Sufficient for the Genetic Management of Fluctuating Populations? 3 Animal Conservation 261 (2000). Thus, because Wyoming's regulatory mechanisms fail to ensure genetic connectivity through appropriate population size, range, and dispersal, FWS's decision to delist Wyoming wolves is arbitrary, capricious, and contrary to the best available science. 16 U.S.C. § 1533(b)(1)(A), (a)(1)(D) and (E).

2. Lack of an Explicit Population Buffer

Although FWS relies on a belief that states will maintain the Northern Rocky Mountain wolf population "well above" FWS's inadequate demographic recovery standard, Wyoming has

refused to commit even to an explicit population buffer to ensure continued maintenance of its share of FWS's established minimum wolf population. Indeed, this was a key issue raised in the peer review panel's initial report, as "more than one panelist believe[d] that there [was] a need for explicit buffering." Initial Peer Review Report at 13. The minority opinion of Dr. Vucetich, which was ultimately supported by the entire peer-review panel, see id. at 15, stated that "[w]ithout knowing more about the size of the buffer there is reason to be concerned that the objective of the regulated public harvest (and other plans for managing anthropogenic mortality) are inconsistent with the objectives of recovery." Id. Appx. A, Peer Report Comments at A-16. Dr. Vucetich and another reviewer, Dr. Mills, repeated these concerns following the submission of additional information by Wyoming. See FWS, Final Peer Review of Four Documents Amending and Clarifying the Wyoming Gray Wolf Management Plan, Appx. B at 64-66, 73 (May 2012) ("Supplemental Peer Review Report"). FWS's peer-review coordinator concluded that these points "have force" and are "well made." Id. at 4.

Although Wyoming produced an "Addendum" to its wolf management plan that asserts that Wyoming's approach will "maintain an adequate population buffer above minimum recovery levels," Wyoming Game and Fish Commission, Addendum: Wyoming Gray Wolf Management Plan at 4 (March 22, 2012) ("Wyoming Plan Addendum"), FWS admits that, "[r]egarding the size of the buffer, no specific number or range was offered." 77 Fed. Reg. at 25,665; Wyoming Delisting Rule at 106-107 ("We decided against requiring Wyoming to provide a specific numeric buffer above these minimum management targets."). Further, the Wyoming Plan Addendum, like Wyoming's Wolf Management Plan itself, is unenforceable and does not constitute a "regulatory mechanism" that may form the basis for FWS's delisting decisions. See 16 U.S.C. § 1533(a)(1)(D) (requiring FWS to assess "the inadequacy of existing regulatory mechanisms").

The population buffer question is critical to FWS's determination that adequate regulatory mechanisms exist to protect the Northern Rocky Mountain gray wolf population after delisting, given Wyoming's stated intent to aggressively reduce the population, starting in the 2012-13 hunting season. See Wyoming Delisting Rule at 97; see also Wyoming Plan Addendum at 6; Wyo. Stat. § 23-1-304(g), (h), (j), (m), (n). This anticipated wolf killing would play out against the backdrop of a wolf population history that saw the Yellowstone National Park wolf population decline by approximately 43 percent from 2007 to 2010 without any of the additive, human-caused mortality that Wyoming now contemplates. See Nat'l Park Serv., Yellowstone Wolf Project, Annual Report 2010 at 1 (2011). A similar decline for the portion of the population outside of Yellowstone National Park and the Wind River Reservation could quickly leave the state below agreed-upon minimums. Without any assurance as to the size of a population buffer, FWS has no basis to conclude that Wyoming's regulatory framework will prevent such a result.

Contrary to FWS's apparent conclusion, Wyoming Delisting Rule at 106-108, Wyoming's proposal to more intensively monitor the state's wolf population as it approaches minimum population objectives does not remedy this problem, and may indeed exacerbate it. As noted by Dr. Mills in the peer review of Wyoming's revised management scheme, more intensive monitoring is likely to detect a greater percentage of the population, even as the total

population declines, thereby potentially masking population declines. See Final Peer Review Report, Appx. B at 65-66.

Without any safeguards in place to guarantee an adequate buffer or even to reasonably ensure that declines in the wolf population are detected, FWS's determination that Wyoming's management scheme includes adequate regulatory mechanisms is arbitrary, capricious, and contrary to the ESA. 16 U.S.C. § 1533(b)(1)(A), (a)(1)(D).

3. Authorization of Unregulated Take

Wyoming's commitment to maintain 10 breeding pairs and at least 100 wolves in the state is further undermined by a separate statutory provision authorizing and even promoting unrestricted wolf killing: the state's "damage to private property" statute. Under Wyo. Stat. § 23-3-115, a property owner or employee or lessee of the property owner may "immediately" take and kill any gray wolf "doing damage to private property," which under the statute means attacking or threatening livestock or dogs. This provision is incompatible with a recovered wolf population suitable for delisting under the ESA. First, because it lacks an "intentional baiting" exception, Wyo. Stat. § 23-3-115 does not merely authorize but actually promotes wolf killing. As the Wyoming Game and Fish Department has advised at recent public meetings, one may lawfully bait and kill wolves in Wyoming by, for example, staking out a dog or leaving out sheep carcasses. Second, compounding the threat to a recovered wolf population, the law is not suspended even if the state's minimum wolf population objectives are approached or even breached. Without a safeguard against intentional baiting, and without a shut-off provision when the wolf population approaches or dips below the Wyoming wolf population standard, the state cannot assure compliance with its wolf population objectives. As a result, Wyoming's regulatory mechanisms are inadequate and FWS's reliance on Wyoming law to justify delisting violates the ESA. 16 U.S.C. § 1533(a)(1)(D).

4. Wyoming's Wolf Management Scheme Maintains the Critical Flaws that FWS Earlier Determined Rendered the Scheme Inadequate

FWS's Wyoming Delisting Rule arbitrarily relies on Wyoming's law and wolf management plan that maintain critical elements that FWS previously found to endanger wolves. When an agency adopts an approach that is at odds with its past approaches, the agency receives little deference. See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., 524 F.3d 917, 928 (9th Cir. 2008). Instead, an agency earns deference only if it provides a full and reasoned explanation for the change. See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 1001 (2005). In the case of wolves in Wyoming, FWS's flip-flopping cannot be explained or justified.

Almost ten years ago, FWS rejected Wyoming's 2003 wolf management plan because, among other things, the plan failed to clearly commit to managing for at least 15 breeding pairs in the state, and the predatory status of wolves under the plan did not provide sufficient management controls to assure maintenance of the wolf population above recovery levels. Defenders of Wildlife v. Hall, 565 F. Supp. 2d at 1172. Wyoming tweaked its plan in 2007, and

FWS reversed its position and approved it, notwithstanding the plan's retention of the fundamental defects FWS previously determined made Wyoming law inadequate.

When FWS subsequently removed ESA protections from Northern Rocky Mountain wolves in early 2008, conservation organizations challenged the delisting rule in federal court. In invalidating the delisting decision, the court found:

> In 2004, the Fish & Wildlife Service rejected Wyoming's 2003 wolf management plan. The Service determined the 2003 plan was inadequate to protect wolves because it permitted Wyoming state officials to classify the wolf as a predatory animal throughout the state and then failed to clearly commit the state to managing for 15 breeding pairs within its borders. Before delisting the wolf, the Fish & Wildlife Service approved Wyoming's revised 2007 plan. This revised plan suffers from the same deficiencies as the 2003 plan: it classifies the wolf as a predatory animal in almost 90 percent of the state and only commits the state to managing for 7 breeding pairs outside the national parks. In supporting its decision to approve Wyoming's 2007 plan, the Service does not offer any information not available to it when it rejected the 2003 plan. Armed with the same information, the agency flip-flopped without explanation.

Id. at 1163.

Following negotiations with FWS, the Wyoming Game and Fish Commission in 2011 adopted a revised wolf management plan for Wyoming; however, the changes in Wyoming's plan are marginal and insufficient. Wyoming's revised 2011 management plan suffers from the same fundamental problems FWS—and a federal court—previously found unacceptable. The two primary changes to the management plan are the new seasonal "flex zone" and a commitment to managing for 10 breeding pairs outside Yellowstone National Park and the Wind River Reservation (as opposed to seven breeding pairs outside both Yellowstone and Grand Teton National Parks).[6] Neither change meets FWS's previously stated desire that Wyoming commit to managing for a minimum of 15 breeding pairs and implement statewide trophy status for wolves. See 1/12/12 Comments, at 19. FWS's approval of Wyoming's laws and wolf management plan as a basis to delist wolves is an arbitrary, unexplained departure from its prior determinations. FWS's prior determinations were correct: Wyoming lacks adequate regulatory mechanisms to justify delisting Wyoming wolves. 16 U.S.C. § 1533(a)(1)(D).

[6] Wyoming also says it is "committed to coordinate with [Yellowstone National Park] and the [Wind River Reservation] to contribute to the step-down recovery target of at least 15 breeding pairs and at least 150 wolves statewide, including [Yellowstone National Park] and [Wind River Reservation]." Wyoming Gray Wolf Management Plan, at 1 (Sept. 14, 2011). Because Wyoming has no authority to manage wolves in Yellowstone National Park or the Wind River Reservation, however, this pledge of maintaining 15 breeding pairs in conjunction with Yellowstone and the Wind River Reservation is a non-enforceable promise.

B. FWS's Determination That Adequate Regulatory Mechanisms Exist in Idaho and Montana is Arbitrary and Contrary to the ESA

FWS's failure to reassess the threats posed to Northern Rocky Mountain wolves due to inadequate regulatory mechanisms in Idaho and Montana is arbitrary and capricious in light of changes to state laws and management policies that have diminished protections for wolves since FWS previously assessed the wolf management legal regimes in Idaho and Montana in 2009.

FWS delisted wolves in Idaho and Montana in 2009 on the basis of its "belief" that the states would manage wolves for numbers far above the Service's inadequate recovery standards, notwithstanding the lack of any such commitments in state laws or regulations. The state game commissions have since demonstrated the ease with which hunting seasons and quotas may be changed. For example, in 2009, Idaho's statewide wolf population target was 520 wolves. See 74 Fed. Reg. at 15,169. In 2010, Idaho dispensed with any minimum total wolf population number, committing instead to maintain only 15 "packs." Idaho Plan, at 18-19. Although FWS previously stated that significant changes in wolf management would trigger a status review for the species, FWS has not initiated a status review, nor has the Service even acknowledged the change in population commitment. See 74 Fed. Reg. at 15,169. Instead, FWS continues to rely on an unrealistically high prediction of future wolf numbers. Wyoming Delisting Rule at 159, 165, 275. FWS also referenced unenforceable state intentions with respect to genetic exchange in its 2009 rule, including alleged state commitments to promote wolf dispersal and a memorandum of understanding ("MOU") that provides for wolf translocation in the event that genetic problems ever surface. Wyoming Delisting Rule at 160-161 ("While we did not rely on the genetics MOU in reaching the above conclusion on population viability, the MOU is indicative of an intention of the States to maintain the NRM population's metapopulation structure by encouraging natural dispersal and effective migrants and implementing management practices that should foster both"). However, because the genetics MOU does not alter the statutory or regulatory responsibilities of state wildlife managers and fails to establish concrete management actions or thresholds, it too is subject to political caprice. Finally, both Montana and Idaho have established 2012-13 regulations that promote far more aggressive wolf killing than FWS previously evaluated, including hunting and trapping within the December through April period FWS previously identified as critical for wolf dispersal. See 74 Red. Reg. at 15,176. In Montana, wildlife commissioners extended the general season closing date from December 31 to February 28 and for the first time added a trapping season, in which each trapper can take three wolves. See Montana Department of Fish, Wildlife and Parks, 2012-2013 Wolf Season, Quotas and HD Boundaries—Final, available at http://fwp.mt.gov/doingBusiness/insideFwp/ commission/meetings/agenda.html?si&coversheet&itemId=27071101. In Idaho, hunting and trapping is available through March 31 in many parts of the state, and each tag holder may take up to 10 wolves—5 trapped and 5 hunted. See 2012 Gray Wolf Hunting and Trapping Seasons and General Rules, available at http://fishandgame.idaho.gov/public/docs/rules/bgWolf.pdf. FWS has failed to confront the decrease in dispersal that is likely to result from these increasingly "aggressive" hunts. See Wyoming Delisting Rule at 160 ("While State management through the population reduction phase will likely reduce gene flow from current levels, we conclude that the reduction will not compromise acceptable levels of gene flow long

term and find it very unlikely State management will negatively affect genetics to the point that this issue constitutes a threat that could warrant listing in the near, medium, or long term").

FWS's failure to reevaluate Montana and Idaho's regulatory changes, which further diminish protections for Northern Rocky Mountain gray wolves and threaten their viability, is arbitrary and contrary to the ESA. 16 U.S.C. § 1533(a)(1)(D).

CONCLUSION

For the reasons set forth above and in the attached comment letters, the Service's decision to remove ESA protections for Wyoming wolves is arbitrary, capricious, an abuse of discretion, and contrary to the ESA and its regulations. With this letter, we are notifying the Service that we will file suit to enforce the Act and thereby protect the wolves of the northern Rocky Mountains unless the Service withdraws its Wyoming Delisting Rule within sixty days.

Sincerely,

Timothy J. Preso
Jenny K. Harbine

Attachments

EARTHJUSTICE
Because the earth needs a good lawyer

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

January 12, 2012

Public Comments Processing
ATTN: FWS–R6–ES–2011–0039
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive, MS 2042–PDM
Arlington, VA 22203

RE: FWS–R6–ES–2011–0039, Comments on Proposed Rule to Remove the Gray Wolf in Wyoming From the Federal List of Endangered and Threatened Wildlife and Removal of the Wyoming Wolf Population's Status as an Experimental Population

Dear U.S. Fish and Wildlife Service:

On behalf of Natural Resources Defense Council, Sierra Club, and Center for Biological Diversity, we submit the following comments on the U.S. Fish and Wildlife Service's ("FWS") proposal to eliminate federal protections for the portion of the northern Rocky Mountain gray wolf distinct population segment ("DPS") that resides in Wyoming. See Removal of the Gray Wolf in Wyoming From the Federal List of Endangered and Threatened Wildlife and Removal of the Wyoming Wolf Population's Status as an Experimental Population, 76 Fed. Reg. 61,782 (Oct. 5, 2011).

FWS previously delisted wolves throughout the entirety of the northern Rocky Mountains—an action that was found unlawful by the federal district court for the District of Montana based on the inadequacy of Wyoming laws and the lack of genetic exchange among the region's subpopulations. See Defenders of Wildlife v. Hall, 565 F. Supp. 2d 1160 (D. Mont. 2008). Undeterred, FWS again delisted wolves in 2009, this time removing Endangered Species Act ("ESA") protections for wolves in all portions of the northern Rockies DPS except for Wyoming, finding that Wyoming's management framework (particularly the predator designation for wolves in nearly 90% of the state) endangered Wyoming wolves. 74 Fed. Reg. 15,123 (Apr. 2, 2009). The district court again rejected FWS's delisting attempt, holding that the ESA did not allow delisting of only a portion of a DPS. See Defenders of Wildlife v. Salazar, 729 F. Supp. 2d 1207 (D. Mont. 2010). Congress revived the 2009 delisting rule through an appropriations rider, leaving wolves in Wyoming protected under the ESA but under state management throughout the remainder of the DPS. See H.R. 1473, Pub. L. 112-10, § 1713.

In the wake of Congress's action, Secretary of Interior Salazar and FWS initiated negotiations with Wyoming's governor to develop a compromise wolf management framework for Wyoming. See 76 Fed. Reg. at 61,785. The resulting agreement, which formed the basis for the proposed rule to delist Wyoming wolves, reflects a political *quid pro quo* rather than a determination based upon the best available science that wolves throughout the northern Rocky

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Mountain DPS no longer require the protections of the Act. See 16 U.S.C. § 1533(b)(1)(A) (requirement to use "best … available" science in listing and delisting decisions).

As detailed in these comments, the proposed rule does not support FWS's decision to delist Wyoming wolves. State management of the northern Rockies wolf population—which is the appropriate entity for analysis—will endanger wolves by reducing their population below sustainable levels and inhibiting genetic exchange. FWS has failed to garner commitments from Idaho, Montana, and Wyoming that future state management will conserve a recovered wolf population. In particular, FWS's compromise with Wyoming leaves wolves subject to predator status throughout the vast majority of the state—a situation FWS previously found to endanger wolves. FWS's "flex zone" approach, in which wolves will be managed as game subject to regulated hunting during four months of the year but treated as predators subject to unlimited killing the rest of the year, is inadequate to protect wolves attempting to disperse into the greater Yellowstone Area ("GYA"). These and other flaws with Wyoming's wolf management framework are compounded by inadequate protections for wolves in Idaho and Montana.

Before wolves may be delisted in Wyoming, FWS must undertake a five-factor analysis of threats to wolves throughout the DPS. All states, including Wyoming, must adopt enforceable mechanisms to maintain a sustainable northern Rockies wolf population.

I. FWS MUST EVALUATE THE FIVE DELISTING FACTORS FOR THE ENTIRE NORTHERN ROCKY MOUNTAIN DPS

While the focus of the proposed delisting rule is Wyoming wolves, the ESA requires FWS to analyze the five listing/delisting factors of section 4(a) as they apply to the entire DPS, including Montana, Idaho, eastern Washington and Oregon, and northern Utah. These factors are:

> (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); see also 50 C.F.R. § 424.11(d) (providing grounds for delisting).

On the basis of these factors, the ESA provides that FWS may "determine whether any species is an endangered species or a threatened species." 16 U.S.C. § 1533(a) (emphasis added); see also Defenders of Wildlife v. Salazar, 729 F. Supp. 2d at 1221-22. The statute defines a species to include "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature."

16 U.S.C. § 1532(16). Thus, "[t]he words used in the ESA make clear that 'species' excludes distinctions below that of a DPS, and this definition of 'species' applies not only when defining a species, but to all sections of the ESA." Defenders of Wildlife v. Salazar, 729 F. Supp. 2d at 1221 (citations omitted).

Here, the relevant "species" is the northern Rocky Mountain DPS. Nonetheless, FWS's analysis of the section 4(a) listing/delisting factors focuses nearly exclusively on Wyoming. FWS undertook a cursory analysis of some factors as they apply to Montana and Idaho, but only for purposes of determining whether conditions in those states would endanger Wyoming wolves. See 76 Fed. Reg. at 61,782 ("This rule focuses on the Wyoming portion of the Northern Rocky Mountain (NRM) Distinct Population Segment (DPS), except where discussion of the larger Greater Yellowstone Area (GYA) or NRM metapopulation … is necessary to understand impacts to wolves in Wyoming.").

Even though congressional delisting in Montana, Idaho, and portions of Washington, Oregon, and Utah has taken away FWS's discretion to consider whether to apply ESA protection to wolves in those states, Congress did not grant FWS the authority to do what the ESA prohibits: limiting analysis of the section 4(a) listing/delisting factors to only a portion of the DPS. If FWS determines that wolves are endangered by any of the section 4(a) factors in any portion of the northern Rockies at the time the delisting decision is rendered, then delisting the portion of the DPS that resides in Wyoming is unlawful. See Defenders of Wildlife v. Salazar, 729 F. Supp. 2d at 1221 n.6. (rejecting federal defendants' argument "that the identified species is distinct from the species to be determined endangered or threatened").

II. FWS'S DELISTING PROPOSAL DOES NOT PROVIDE FOR A SUSTAINABLE NORTHERN ROCKY MOUNTAIN WOLF POPULATION AFTER DELISTING

A. 300 Wolves and 30 Breeding Pairs Do Not Constitute a Recovered Wolf Population

The best available science demonstrates that FWS's northern Rockies wolf recovery standard is inadequate to ensure population viability for the foreseeable future. FWS continues to rely on an outdated and unscientific demographic recovery goal of "[t]hirty or more breeding pairs … comprising 300 + wolves" and "step-down recovery target[s]" for Idaho, Montana, and Wyoming of "at least 10 breeding pairs and at least 100 wolves." 76 Fed. Reg. at 61,719.

FWS's determination regarding the number of wolves needed for long-term recovery does not reflect adherence to the ESA's requirement that FWS use the "best … available" science. 16 U.S.C. § 1533(b)(1)(A). A viable northern Rocky Mountain wolf population requires more than FWS's 300-wolf and 30-breeding pair numeric recovery goal. FWS's minimal recovery standard originated with the 1987 recovery plan for the northern Rocky Mountain gray wolf and was reevaluated in FWS's 1994 environmental impact statement ("EIS") for wolf reintroduction. This 25-year-old standard has provided the basis for each of FWS's efforts to diminish wolf protections since at least 2002, when the paltry goal was first met. Not surprisingly, every federal court that has reviewed FWS's delisting and downlisting efforts has found them to be arbitrary and capricious. See, e.g., Defenders of Wildlife v. Salazar,

729 F. Supp. 2d 1207; Defenders of Wildlife v. Hall, 565 F. Supp. 2d 1160; Defenders of Wildlife v. Sec'y, U.S. Dep't of Interior, 354 F. Supp. 2d 1156 (D. Or. 2005); Nat'l Wildlife Fed. v. Norton, 386 F. Supp. 2d 553 (D. Vt. 2005).

Numerous peer-reviewed studies conclude that well over 1,000 wolves are necessary to maintain a viable, non-endangered wolf population. For example, Reed, et al. (2003) estimated the viable population size for over 100 vertebrate organisms, including the gray wolf. The minimum population for adult gray wolves was estimated at 1,403.[1] Similarly, Brook, et al. (2006) estimated the minimum viable population for 1,198 species, including the gray wolf, and found that the median overall estimate was 1,377 individuals. Traill, et al. (2007) conducted an analysis of minimum viable population for 212 species, including the gray wolf, and concluded that the minimum for most species will exceed a few thousand individuals. See also Fallon (2008).

Basic scientific principles of conservation biology support these conclusions. When determining minimum viable population size, conservation biologists often employ the "50/500 rule," which states that 50 breeding individuals (also called the effective population, or "N_e") are needed for a population to be ecologically viable over the short term, while 500 breeding individuals are needed for a population to be evolutionarily viable over the long term—i.e., for 100 years or more. See Fallon (2008) (citing Soule & Wilcox (1980); Frankel & Soule (1981); Soule (1986); Franklin & Frankham (1998)). Indeed, numerous studies have concluded that the number of breeding individuals should be even higher. Id. (citing Lande (1988); Lande (1995)). Becauce the effective population of most organisms is usually between ten and twenty percent of the total population, id. (citing Frankham (1995); Palstra & Ruzzante (2008)), the 500 rule translates into a total population size of 2,500 to 5,000 individuals for long-term viability. See also Defenders of Wildlife v. Salazar, Nos. CV 09-77-M-DWM, Declaration of Sylvia Fallon (D. Mont., filed Oct. 26, 2009), attached hereto.

Significant advancements have also been made in the field of conservation genetics since FWS established its recovery standard for the northern Rockies' wolves. Only a small percentage of the gray wolf population contributes to the genetic heritage of the population. Pups and one-year-old wolves, which are incapable of breeding, constitute a majority of the northern Rockies wolf population. Among adult wolves, typically only the alpha male and alpha female of a pack reproduce. In addition, wolves in Yellowstone and Idaho are almost all descendants of fewer than 100 wolves that were reintroduced in 1995 and 1996. Genetic data shows that, historically, wolves in the western United States numbered in the several hundreds of thousands. Leonard et al. (2005). Additionally, the genetic diversity of the extirpated North American gray wolves was twice that of the current population. Thus, the current assemblage of gray wolves in the northern Rocky Mountains is a profound under-representation both numerically and genetically of the original gray wolf population that once occupied the western landscape.

[1] Scientific studies referenced in this letter that are not identified in FWS's "Literature Cited" for the Proposed Rule are contained on a CD-ROM submitted with these comments.

Most recently, Traill et al. (2010) conducted the most comprehensive review of empirical and theoretical MVP estimates published over the past few decades and determined: "This literature collectively shows that thousands (not hundreds) of individuals are required for a population to have an acceptable probability of riding-out environmental fluctuation and catastrophic events, and ensuring the continuation of evolutionary processes." Furthermore, these researchers conclude, "Current evidence from integrated work on population dynamics shows that setting conservation thresholds at a few hundred individuals only is a subjective and non-scientific decision, not an evidence-based biological one which properly accounts for the synergistic impacts of deterministic threats. … Many existing conservation programs might therefore be managing inadvertently or implicitly for extinction." Based on their data, Traill et al. (2010) advocate setting conservation thresholds at 5,000 adult individuals. The use of this kind of universal threshold has been criticized by some as being overly simplistic and ignoring specific life history traits of different kinds of organisms. Flather et al. (2011). However, even these critics conclude, "We also suspect (as have others long before) that multiple populations totaling thousands (not hundreds) of individuals will be needed to ensure long-term persistence" when it comes to conservation measures for any species. Id. Current scientific literature is thus clear that a population of 300 wolves, including 30 breeding pairs, is simply inadequate to achieve minimum population viability. That was true even based on the published scientific literature available to FWS at the time these targets were set and is even clearer today.

This conclusion is consistent with the International Union for the Conservation of Nature's ("IUCN") listing standards, which require listing species as vulnerable (one step below endangered) when they fall under 1,000 mature individuals. Red List Criteria at 23. An individual is defined as "mature" if it is capable of reproducing. Id. at 10. FWS has previously recognized IUCN determinations in ESA listing decisions. See, e.g., Determination of Threatened Status for the Polar Bear (Ursus maritimus) Throughout Its Range, 73 Fed. Reg. 28,212, 28,275 (May 15, 2008). With an estimated 1,650 wolves in 111 breeding pairs, the northern Rockies wolf population is currently well below the IUCN's floor for designating a species or isolated population as "Vulnerable" due to threats to genetic diversity.[2]

Indeed, FWS's recovery criteria for northern Rockies gray wolves differs markedly from the numeric recovery criteria for the same species in the western Great Lakes. At the time wolves were listed throughout the lower-48 states, Minnesota's wolf population numbered from 736 to 950 wolves. FWS, Final Rule Revising the Listing of the Gray Wolf (Canis lupus) in the Western Great Lakes, 76 Fed. Reg. 81,666, 81,675 (Dec. 28, 2011). When Minnesota's wolves were reclassified as threatened in 1978, they numbered approximately 1,235 wolves in 138 packs. Id.; see Reclassification of the Gray Wolf in the United States and Mexico, 43 Fed. Reg. 9607 (Mar. 9, 1978). FWS's recovery plan for wolves in the western Great Lakes region established recovery criteria requiring two separate subpopulations, the first containing 1,251-

[2] The IUCN downgraded the gray wolf's threat status globally (including wolf populations in Alaska, Canada, and Europe) from "Vulnerable" to "Least Concern" in 1996. IUCN generally does not assess distinct populations of species within a particular region and therefore has no designation applicable to gray wolves in the northern Rockies. As the Red List Criteria document notes, "taxa classified as Least Concern globally might be Critically Endangered within a particular region." Red List Criteria at 8.

1,400 gray wolves and an additional, separate population of 100-200 wolves for a minimum of five consecutive years. 76 Fed. Reg. at 81,703. The FWS Post-delisting Monitoring Plan for western Great Lakes wolves restates the 1,251–1,400 Minnesota wolf population criterion, and lists a trigger for consideration of relisting if the Minnesota winter wolf population reaches "1500 or fewer wolves." FWS, Post-Delisting Monitoring Plan for Western Great Lakes Distinct Population Segment of the Gray Wolf (Feb. 2008). The differential standards for gray wolves in the northern Rockies and the western Great Lakes cannot be justified under principles of conservation biology.

FWS dismisses well-accepted scientific principles calling for a larger northern Rockies wolf population by stating that "actual wolf population persistence in small isolated situations is a better predictor of future outcomes than theoretical models." 76 Fed. Reg. at 61,817. However, the mere persistence of small wolf populations does not suggest that they are ecologically and evolutionarily viable. On Isle Royale, recent research demonstrates that nearly 60% of wolves have deformed vertebrae as a result of inbreeding depression. See Raikkonen et al. (2009); see also Final Rule to Identify the N. Rocky Mountain Population of Gray Wolf as a Distinct Population Segment, 74 Fed. Reg. 15,123, 15,177 (Apr. 2, 2009). While FWS now relies on the Isle Royale wolf population to justify its low wolf recovery standard for the northern Rockies, FWS has previously sought to distinguish the problems the Isle Royale population faces as an "extreme case" that is dissimilar to the situation facing northern Rockies wolves. 74 Fed. Reg. at 15,177. FWS also relies on an allegedly healthy, small, and isolated wolf population on Alaska's Kenai Peninsula. See 76 Fed. Reg. at 61,817. However, FWS has not provided, or apparently evaluated, any current information on the genetic status of Kenai wolves to determine whether they are suffering from the same deleterious effects of inbreeding as the Isle Royale wolf population. See id. (citing studies of Kenai wolves from 1994 and 1997).

The fitness consequences of inbreeding and loss of genetic diversity in wolves can be substantial, including reduced litter size and vertebral deformities. Fallon (2008) (citing studies). Further, a small initial population size combined with low genetic diversity makes inbred populations more susceptible to disease. In the early 1980s, the Isle Royale population of wolves crashed from 50 individuals to just 14. The crash is attributed largely to disease (canine parvovirus); however, the population's vulnerability to the disease due to low genetic diversity has been hypothesized. Wayne et al. (1991); Vucetich & Peterson (2004). In short, small, isolated populations are at increased risk of extinction due to a combination of genetic, demographic, and environmental variables. The scientific literature thus does not justify FWS's reliance on the existence of small wolf populations as a basis for concluding that only 300 wolves in 30 breeding pairs are needed to sustain a healthy northern Rocky Mountains wolf population.

At the time the gray wolf recovery plan was drafted, FWS had reason to know it was establishing inadequate population goals. Since 1987 and 1994—and even since FWS reviewed the recovery plan in 2001—the science of population biology and genetics has advanced significantly, providing further support for a wolf recovery standard in the thousands, rather than hundreds, of wolves. FWS dismissed this science, suggesting the necessity of a large wolf population as unachievable: "Clearly, finding an area to support [an effective population of] 500 of wolves in the lower 48 states is very unlikely, as this would equate to a total population in the

low thousands." See FWS, Final Environmental Impact Statement: The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho, App. 9, at 38 (Apr. 1994). Although the growth of the northern Rockies wolf population to approximately 1,650 wolves has proven the fallacy of FWS's concern, FWS has nonetheless clung to its original recovery goal, with only minimal changes, since it was first adopted.

FWS's demographic recovery goal is not consistent with the best available data and should be revised upward to appropriately reflect current scientific knowledge. See 16 U.S.C. § 1533(b)(1)(A) (requiring listing determinations to be made "solely on the basis of the best scientific and commercial data available"). The current recovery goal of only 300 wolves and 30 breeding pairs cannot form the basis for delisting Wyoming wolves.

B. Genetic Connectivity Between the GYA and the Remainder of the DPS is Inadequate

A central tenet of the NRM gray wolf recovery plan is that the three recovery areas must form a "metapopulation … with genetic exchange between subpopulations." 76 Fed. Reg. at 61,791; see also Defenders of Wildlife, 565 F. Supp. 2d at 1169. While genetic connectivity has been demonstrated between the three subpopulations, vonHoldt et al. (2010), the GYA subpopulation continues to be the most isolated of the three subpopulations, Oakleaf et al. (2006); 76 Fed. Reg. at 61,791. Furthermore, the genetic connectivity that was documented occurred east of Yellowstone National Park within the area now designated as the wolf trophy game management area. Therefore, hunting within this management area could significantly compromise the genetic connectivity of the GYA subpopulation with the rest of the NRM. Finally, the connectivity occurred during a time of rapid population expansion. Now that conditions have shifted throughout the NRM towards population reduction, maintaining sufficient numbers of wolves in key areas and protecting dispersal corridors will be critical to ensuring that genetic connectivity within the NRM population is maintained.

Research has consistently shown that the GYA population of wolves is the most isolated of the three subpopulations within the NRM gray wolf population. In an analysis of habitat corridors, colonization probabilities and dispersal patterns, for example, Oakleaf et al. (2006) found that Idaho and Montana have higher connectivity than either of these areas has to the GYA. FWS has also consistently acknowledged the pronounced isolation of the GYA subpopulation. In the current proposed rule to delist wolves in Wyoming, FWS wrote, "A large and well distributed population within the GYA is especially important because it is the most isolated recovery segment within the NRM DPS (Oakleaf et al. 2005, p. 554; vonHoldt et al. 2007, p. 19)." 76 Fed. Reg. at 61,791. Despite the detection of genetic connectivity between the three subpopulations within the NRM, the GYA remains the most isolated of the three subpopulations, and the management of wolves within this subpopulation, including Wyoming, will be critical to the overall diversity and viability of the NRM wolf population.

Further, despite the detection of limited genetic connectivity within the GYA, to date, no genetic material from the Central Idaho or Northwest Montana subpopulations has been detected in wolves within the boundary of Yellowstone National Park. vonHoldt et al. (2007), (2010). Genetic connectivity has so far only been detected in wolves that reside to the east of the park

within Wyoming's proposed trophy game management area. vonHoldt et al. (2010). As noted by FWS, "Limited social openings in YNP wolf packs … directed wolves dispersing from Idaho and Montana around YNP." 76 Fed. Reg. at 61,814.

C. Genetic Connectivity Will Decrease Under the Proposed Rule

1. State management of wolves will inhibit wolf dispersal

Genetic connectivity among the northern Rockies' three wolf subpopulations is almost certain to diminish after Wyoming wolves are delisted. A recent genetic study documented genetic exchange between the three subpopulations within the NRM DPS. vonHoldt et al. (2010). This connectivity was achieved during a period of rapid population expansion across an otherwise unoccupied landscape. The study was conducted on samples collected between 1995 and 2004 when the NRM population grew from 101 to 846, and wolves quickly moved across the landscape looking to fill unoccupied habitat. Despite this movement, however, the NRM population continued to demonstrate clear population substructuring, indicating that there is not sufficient movement of individuals to create one homogenous (or panmictic) population. Id. Furthermore, this substructuring appeared to increase over the course of the study period, id., potentially reflecting a slowing of successful dispersal events.

The number of successfully dispersing wolves is expected to decrease in either a static or a decreasing population that is subjected to increased mortality through control actions and hunting. Thus, regardless of the reasonableness of FWS's conclusion that genetic connectivity in the northern Rockies is currently adequate, "past dispersal data is unlikely to be reflective of future effective migration rates." 76 Fed. Reg. at 61,814. Among other things, "[p]ost delisting, populations will no longer be growing, may go through a period of population reduction before leveling off, and management will likely result in higher mortality rates for both dispersers and resident wolves." Id. Similarly, vonHoldt et al. (2010) conclude, "our results … are not necessary [sic] reliable predictors of future conditions." They suggest continued genetic monitoring as well as population modeling under anticipated management regimes to predict future genetic structure and gene flow. FWS has failed to adequately justify its conclusion that northern Rockies wolves nonetheless will not be endangered by inadequate future genetic connectivity.

a. State management will decrease overall population size and range

The size and range of each of the northern Rockies wolf subpopulations will decrease under state management, inhibiting genetic connectivity and the potential for a metapopulation structure. Most of the documented dispersal from central Idaho to the GYA occurred when the central Idaho population exceeded 500 wolves. 76 Fed. Reg. at 61,814. Dispersal events most often originate from territories with higher wolf densities, Jimenez (2008), and are therefore most likely in larger populations. FWS has conceded that "[t]he delisted [northern Rockies] wolf population is likely to be reduced from its current levels … by State management." 74 Fed. Reg. at 15,177. Likewise, FWS "anticipate[s] Wyoming (like Idaho and Montana) will gradually reduce populations in the short term with moderately aggressive harvest rates." 76 Fed. Reg. at 61,803. Indeed, both Idaho and Wyoming have population targets of only 100-150 wolves.

FWS previously concluded "that a regulatory framework for wolf management at minimum recovery levels is not adequate." 74 Fed. Reg. at 15,172. FWS has also recognized the key link between population size and effective dispersal rates. "[I]f the population is maintained near the minimum recovery target of 150 wolves per State, … [FWS] would expect dispersal to noticeably decrease." 76 Fed. Reg. at 61,815; see also74 Fed. Reg. at 15,177. "Managing to minimal recovery levels [100-150 wolves per state] also increases the chances of genetic problems developing in the GYA population and would reduce the opportunities for demographic and genetic exchange in the [Wyoming] portion [of] the GYA." 74 Fed. Reg. at 15,172.

Furthermore, metapopulation connectivity is a function of both population size and range or distribution. See, e.g., 73 Fed. Reg. 10,514, 10,537, 10,540 (Feb. 27, 2008). While wolves are capable of dispersing over long distances, connectivity is enhanced in metapopulations with shorter distances between subpopulations. State management will diminish connectivity by diminishing the wolf's range within each of the core recovery areas. Specifically, within Wyoming, wolves are not expected to persist outside the trophy game management area, including the flex zone. Such range contraction will inhibit genetic connectivity. Sufficient genetic exchange is unlikely given the wolf population levels and ranges likely to occur under state management.

b. State management will increase mortality of future dispersers

Mortality of future dispersing wolves is certain to increase under state management. Wolves attempting to enter Wyoming from Idaho will have to run the gauntlet of the predator management area, including Wyoming's "flex zone" for more than half of the year – between March 1 and October 14. See 76 Fed. Reg. at 61,801. FWS has concluded that predator management "substantially increases the odds that … periodic dispersers will not survive." 76 Fed. Reg. at 61,807 (emphasis added). Further, wolf packs whose territories occupy even a portion of the predator area are not likely to persist. Id. Thus, the lethal impacts of the predator zone will extend well beyond the zone's geographic boundaries. While FWS argues that the flex zone will protect wolves in the prime dispersal corridor between the GYA and central Idaho during peak dispersal times, in fact, wolves disperse at all times of the year. See Jimenez et al. (2008) (wolves disperse in all months, with peak dispersal occurring late fall to early winter (October-January)); Boyd et al. (2007) (same). FWS acknowledges that nearly half of all dispersal events occur outside of the four months when wolf mortality will be regulated in Wyoming's flex zone and that wolves on average take more than five months to disperse from their home territory to their new range. 76 Fed. Reg. at 61,814. Moreover, even during times of the year when wolves are managed as "trophy game" in Wyoming's flex zone, they will be subjected to regulated hunting, and Wyoming has made no specific commitments—legal or otherwise—to restrict wolf hunting within its "flex zone." Id. Thus, the flex strategy is inadequate to protect wolves attempting to disperse into or out of the GYA.

Further, wolf hunting in Wyoming adjacent to Yellowstone National Park is likely to further discourage gene flow into the GYA. Yellowstone National Park appears to act as a "source" population out of which wolves disperse, but due to the density of wolves within the park, migrants have difficulty emigrating into the park. Additionally, the area surrounding the

park has acted as a "sink" in which dispersing wolves encounter higher rates of mortality due to control actions and other encounters with humans. Smith et al. (2007), (2010). Therefore, hunting around the perimeter of the park, including within the trophy game management area as proposed by Wyoming, is likely to reduce the amount of gene flow to the GYA, as the only known effective migrants reside in this area. Additionally, hunting will only further accentuate the "sink" dynamic surrounding the park, further contributing to decreasing overall genetic diversity and increasing the genetic isolation of wolves in the GYA.

Idaho and Montana are already implementing wolf management strategies, including aggressive hunts, to reduce wolf numbers. In Montana, the wolf hunt quota for the 2011-12 season is 220 wolves. See Mont. Fish, Wildlife & Parks, 2011 Wolf Hunting Guide, http://fwp.mt.gov/hunting/planahunt/huntingGuides/wolf/default.html (last visited Jan. 12, 2012). While the hunt originally was scheduled to end no later than December 31, 2011, Montana's Fish and Game Commission recently extended the hunt to February 15, 2012, to ensure that the quota is filled. See id. Idaho established a hunt with an unlimited statewide quota that lasts from August 30 until March 31 in most of the state, with hunting scheduled to end on December 31 in only a few districts. See Idaho Dep't of Fish & Game, Wolf Harvest, 2011-2012, http://fishandgame.idaho.gov/public/hunt/?getPage=121 (last visited Jan. 12, 2012). Idaho is also allowing wolf trapping in much of the state, in a season that began November 15, 2011. Id. 361 wolves have already been killed by hunters and trappers in Idaho and Montana. See id.; Mont. Fish, Wildlife & Parks, 2011 Wolf Hunting Guide, http://fwp.mt.gov/hunting/planahunt/huntingGuides/wolf/default.html (last visited Jan. 12, 2012).

Idaho has established aggressive quotas for its hunting units in the GYA. The 2011 quota for the Island Park hunting unit is 30 wolves. Ten were killed before hunting in that unit closed on December 31. See Idaho Dep't of Fish & Game, Wolf Harvest, 2011-2012, http://fishandgame.idaho.gov/public/hunt/ ?getPage=121. Based on data from Idaho's 2009 hunt, after which several packs persisted in this area, FWS postulates that hunting in Island Park will have only a minimal impact on the GYA wolf population and genetic connectivity. 76 Fed. Reg. at 61,802. The 2009 quota for the Island Park area, however, was only five wolves. Id. Accordingly, FWS's prediction based on 2009 hunting levels is arbitrary and capricious. Likewise, FWS predicts that potential impacts to the wolf population from hunting in southern Idaho, within the GYA, will be limited because of the area's small wolf population. Id. However, while southern Idaho may not host a large number of resident wolves, wolves found in this area are likely dispersers. Accordingly, any take in this area—which is unlimited between August 30 and March 31—jeopardizes genetic connectivity.

In sum, state wolf management will inhibit genetic exchange within the northern Rockies wolf population, particularly in the GYA, by decreasing the overall population size and increasing mortality rates among dispersing wolves.

2. FWS's conclusion that northern Rockies wolves will not be endangered by inadequate genetic exchange in the future is unfounded.

While state management will make future genetic exchange even less likely, FWS nonetheless declares that essential genetic exchange will be sufficient in the wake of delisting. FWS's conclusion has three unfounded and unlawful bases: (1) FWS "conclude[d] that the overall NRM population is likely to be maintained well above recovery levels (perhaps around 1,000 wolves across the NRM DPS)," 76 Fed. Reg. at 61,815; (2) FWS concluded that "[t]he management approaches of all three NRM States take into account and limit hunting impacts during important dispersal periods," id.; (3) "Recognizing there is some uncertainty concerning the level of genetic exchange that will occur post-delisting, Wyoming has agreed to monitor for gene flow and take adaptive measures, as appropriate, to achieve a long-term goal of at least one effective migrant per generation," id. at 61,816; and (4) FWS believes that "if genetic exchange drops below one effective migrant per generation, the States will implement a human-assisted migration program (i.e., translocating wolves)," id. at 61,815. None of these theories justifies delisting.

a. The states have not committed to exceeding FWS's wolf recovery levels

First, FWS's optimistic claim that the northern Rockies wolf population is likely to remain "well above recovery levels (perhaps around 1,000 wolves[)]" is unfounded. Idaho's Fish and Game Commission repealed Idaho's 2008 wolf plan. See Idaho Fish & Game Comm'n, F&G commission suspends wolf species management plan (Dec. 8, 2010), available at http://fishandgame.idaho.gov/public/media/viewNewsRelease.cfm?newsID=5692. Idaho wolf management is now guided solely by the 2002 Idaho Wolf Conservation and Management plan, which reaffirmed the state's position vis-à-vis wolves:

> The state of Idaho is on the record asking the federal government to remove wolves from the state by the adoption in 2001 of House Joint Memorial No. 5. The position reflected in House Joint Memorial No. 5 continues to be the official position of the State of Idaho.

Idaho Wolf Conservation & Management Plan (Mar. 2002), at 4. In turn, Joint Memorial No. 5 demanded "that wolf recovery efforts in Idaho be discontinued immediately and wolves be removed by whatever means necessary." The 2002 plan establishes wolf population objectives only for purposes of keeping wolves off the endangered list. Id. at 18. Rather than reflect FWS's requirement that each state maintain at least 150 wolves and 15 breeding pairs as a buffer to prevent the population from falling below FWS's minimum recovery goal, the 2002 plan establishes a population objective of only 15 "packs." FWS previously rejected Wyoming's wolf management plan that had similarly expressed a management goal in terms of "packs," rather than "breeding pairs."

Montana law commits state wolf managers to maintain only 15 breeding pairs, not, as FWS claims, a number of wolves "well above" minimum recovery goals. See Mont. Admin. R. 12.9.1301(1) (emphasis added); id. R. 12.9.1302(4) (adopting FWS definition of "breeding

pair"); see also, e.g., Mont. Code. Ann. § 87-1-217(4) (authorizing "lethal action to take problem wolves that attack livestock, so long as the state objective for breeding pairs has been met") (emphasis added); 74 Fed. Reg. at 15,168 ("when the population is above 15 breeding pairs, regulated fair chase hunting of wolves" is allowed in Montana) (emphasis added).

Likewise, if Wyoming's proposed management plan is endorsed by the state legislature, it will commit Wyoming to maintaining only 10 breeding pairs and 100 wolves outside of Yellowstone National Park and the Wind River Reservation, with the goal of achieving 15 breeding pairs and 150 wolves statewide, including Yellowstone. See Wyoming Plan at 16. Wyoming has not stated any intention to maintain a wolf population "well above" this level. Accordingly, FWS's claim that the northern Rockies wolf population will likely be large enough to foster genetic exchange under state management is arbitrary and inaccurate.

b. State hunts do not adequately limit mortality of dispersing wolves

Second, as discussed above, state management does not sufficiently limit hunting impacts to dispersers. FWS had previously concluded that the state hunting seasons would protect dispersers by "minimizing mortality between and around core recovery segments during critical wolf dispersal and breeding periods (December through April)." 74 Fed. Reg. at 15,176. However, for the current hunting season, Idaho has not established any upper limit on statewide wolf mortality and allows hunting throughout most of the state until March 31 and in key dispersal corridors until December 31 (or even later, should the Fish and Game Commission choose to extend the season). Montana established an aggressive hunting quota of 220 wolves and is allowing hunting this season through February 15, 2012. Wyoming has provided no concrete assurances that it will protect potential dispersers in the flex zone when they are classified as trophy game between October 15 and February 28, and outside of those dates, dispersing wolves will be subjected to unregulated killing. Thus, state wolf management is even less protective of potential dispersers than it was in 2008, when Montana's wolf program coordinator observed,

> [i]f [the states] were truly promoting [wolf dispersal], seasons would close by November and they don't anywhere in the three states. … And there are more things that [states] could have done to "promote" connectivity relative to public harvest and [states] did not. Lipstick on a pig—well—it's still a pig[.]

Sept. 14, 2008 email, AR 2009–005418 (emphasis in original).[3]

Furthermore, wolf mortality due to hunting is additive. Game managers historically believed that much of the human-caused wolf mortality was compensatory—meaning that most wolves killed by humans would have died due to other sources of mortality such as competition and that wolf populations could sustain high levels of hunting (from 28-47%) without causing a decline in the population. Mech (2001). Relying in part on this belief, the proposed rule states

[3] E-mail contained within the administrative record for Defenders of Wildlife v. Salazar, Nos. CV 09-77-M-DWM (D. Mont., filed June 2, 2009).

that "human-caused mortality can replace up to 70 percent of natural morality" and "wolves can maintain population levels despite sustained human-caused mortality rates of 22 to greater than 50%." 76 Fed. Reg. at 61,801. Recent research, however, has indicated that hunting wolves actually causes highly additive mortality—or mortality beyond what would otherwise occur naturally. Creel & Rotella (2010); Murray et al. (2010).

Despite citing this research, the proposed rule does not acknowledge the existence of highly additive wolf mortality attributed to hunting within the northern Rockies. Instead, FWS arbitrarily and incorrectly asserts that wolves in Wyoming can sustain levels of 36% human-caused mortality. 76 Fed. Reg. at 61,801, 61,815; see supra. Also, based on the erroneous assumption that hunting mortality is compensatory rather than additive, FWS concludes that "aggressive hunts" in all three states will not jeopardize the northern Rockies wolf population. 76 Fed. Reg. at 61,802-03. FWS's peer review of the proposed rule highlighted the arbitrariness of FWS's assumptions. As summarized by Dr. Vucetich, "anthropogenic mortality is completely compensated by other sources of mortality when the slope between [anthropogenic mortality] and [the] overall survival rate is zero, and completely additive when the slope is –1." Vucetich peer review, at 3. Furthermore, "[i]f anthropogenic mortality also has indirect effects on recruitment (e.g., through the disruption of social structure or pup survival), then the overall effect of [anthropogenic mortality] on [the annual population growth rate] would be more severe than what is indicated by this analysis of [anthropogenic mortality] and overall survival." Id.

Likewise, FWS's determination that the northern Rockies wolf population can withstand 36% mortality is arbitrary. As summarized by FWS's peer-review contractor, "all of the panelists expressed concerns with the use of a 36 percent 'acceptable' anthropogenic mortality rate. Four out of five of the panelists believed that this specific rate was inappropriate and unsubstantiated by the literature, and therefore should be removed and a range of anthropogenic mortality should be used." FWS, Wyoming Gray Wolf Peer Review Summary Report, at 6 (Dec. 2011) (footnote omitted). Dr. Vucetich noted that most of the existing literature demonstrates that the northern Rockies wolf population would decline if human caused mortality were to exceed between 22 and 29%. Vucetich Peer Review, at 1 (Oct. 24, 2011). Further, a more recent study "showed that wolves in the NRM are likely to decline at rates of anthropogenic mortality that exceed ~0.17." Id. at 2 (citing Vucetich & Carroll, unpubl. manuscript., The influence of anthropogenic mortality on wolf population dynamics). In failing to account for this science, FWS's analysis of the effect of hunting on the northern Rockies wolf population is arbitrary.

FWS's conclusion that the northern Rockies wolf population will not be endangered by hunting is not supported by the best available science. In light of recent science, it appears that genetic connectivity among northern Rockies wolves is jeopardized by the additive mortality due to aggressive hunting.

c. Managing for one effective migrant per generation is insufficient

Third, FWS's goal of achieving one effective migrant per generation will not prevent genetic problems in the northern Rockies wolf population. The proposed rule states that Wyoming will monitor and manage their wolf population "to achieve a long-term goal of at least one effective migrant per generation." 76 Fed. Reg. at 61,787, 61,816. FWS explains that "[a]s a

general rule, genetic exchange of at least one effective migrant (i.e., a breeding migrant that passes on its genes) per generation is viewed as sufficient to prevent the loss of alleles and minimize loss of heterozygosity within subpopulations (Mills 2007, p.193)." 76 Fed. Reg. at 61,814. The proposed rule, however, fails to acknowledge that the "one migrant per generation" rule is often criticized for being based on the unrealistic biological assumption that the effective population size (Ne) is equal to the total population size (N) (i.e., that all members of the population are breeders). Many critiques of this rule have argued that the necessary number of migrants will actually be between one and ten, Mills (2007), and may even be higher, Vucetich & Waite (2000), Wang (2004). Notably, in a review of the applicability of the "one migrant per generation" rule, Mills and Allendorf (1996) concluded that one migrant per generation is a "minimum, but it may be inadequate for many natural populations." Mills and Allendorf (1996) further suggest that the number of migrants per generation should be between one and ten. However, in a sample of 44 animal populations, Vucetich and Waite (2000) found that 60% of the populations required greater than 10 immigrants per generation, and 25% of the populations required greater than 20 immigrants. Therefore, Wyoming's commitment to manage for one effective migrant per generation is likely to be insufficient.

Furthermore, although the proposed rule states that Wyoming will collect and test genetic samples every three to five years in order to monitor for effective migrants, the success of detecting effective migrants will be measured over several generations from 12 to 20 years. Wyoming Plan, at 28. That is, the GYA – the most isolated subpopulation within the NRM – could be managed without the detection of any effective migrants for 20 years before any change to the state's management plan is even considered, much less implemented. vonHoldt et al. (2007) predicted that the loss of genetic diversity in a relatively small, isolated population of wolves numbering around 170 would likely lead to decreased juvenile survival within 60 years. Given that the genetic consequences of isolation can negatively affect a subpopulation's demographic parameters within the span of several decades, FWS should require an effective genetic monitoring program and prompt remedial action to correct any loss of genetic diversity before delisting.

d. FWS may not delist a species in need of indefinite genetic manipulation or migration management

Finally, FWS's continued reliance on "human-assisted" genetic exchange as a backstop mechanism is inappropriate in the delisting context. As noted by FWS peer reviewers and summarized by Atkins, FWS's peer review contractor:

> Both Dr. Mills and Dr. Vucetich strongly emphasized that human-assisted genetic dispersal is inappropriate for a recovered population and should only be utilized in emergency situations, and not to overcome anthropogenic barriers to dispersal or other human-caused threats such as management actions. Human-assisted dispersal is counter to delisting objectives and is also unnecessary and inefficient for a truly recovered population. Individuals chosen for relocation may have particularly high or low reproductive values (therefore contributing differently to the

> genetics of the local population), and may vary in diseases from the local population.

FWS, Wyoming Gray Wolf Peer Review Summary Report, at 8 (Dec. 2011). While Atkins characterizes this issue as "a management and/or policy issue," rather than a scientific one, in fact, whether a population that requires perpetual human manipulation is biologically "recovered" is a question that biologists are uniquely competent to assess.

In addition to being a scientific issue, the question of whether human-assisted dispersal is consistent with recovery is a legal issue. One of the primary purposes of the ESA is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b) (emphasis added); see also id. § 1539(a)(2)(B)(iv) (before issuing incidental take permit, FWS must find "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild") (emphasis added); Interagency Cooperative Policy for the Ecosystem Approach to the ESA, 59 Fed. Reg. 34,273, 34,274 (July 1, 1994) (agency policy is to "[d]evelop and implement recovery plans … in a manner that restores, reconstructs, or rehabilitates the structure, distribution, connectivity and function upon which … listed species depend"). The term "conserve" means "to use … all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided [by the ESA] are no longer necessary. Such methods include … transplantation … ." 16 U.S.C. § 1532(3). In other words, translocation, genetic manipulation, and maintenance of captive populations may be appropriate tools for promoting recovery of an endangered population, but they are not appropriate bases upon which to determine that a species has recovered and no longer requires protections of the ESA.

Because wolves in the northern Rockies, particularly those in Wyoming, are endangered by future inadequate genetic exchange, FWS may not delist Wyoming wolves.

III. REGULATORY MECHANISMS HAVE DIMINISHED IN MONTANA AND IDAHO SINCE THE TIME FWS EVALUATED THEM

In its current rulemaking, FWS must reanalyze the adequacy of regulatory mechanisms throughout the DPS, including regulatory mechanisms in Montana and Idaho, where wolves have already been delisted. In its 2009 final rule delisting wolves in the non-Wyoming portions of the northern Rockies DPS, FWS unlawfully relied on unenforceable state expressions of intent and malleable state management plans, which are not "regulatory mechanisms" that can support delisting. See 74 Fed. Reg. at 15,166-70 (analyzing adequacy of regulatory mechanisms in Montana and Idaho); see also 16 U.S.C. § 1533(a)(1)(D) (requiring FWS to assess "the inadequacy of existing regulatory mechanisms"); Greater Yellowstone Coal. v. Servheen, 672 F. Supp. 2d 1105, 1116 (D. Mont. 2009) ("[a]n 'intention' or 'commitment' to manage [a species] a certain way is not a regulatory mechanism" that may be considered under section 4(a)(1)(D)), aff'd in part and rev'd in part on other grounds, No. 09–36100, 2011 WL 5840646 (9th Cir. Nov. 22, 2011); Fed'n of Fly Fishers v. Daley, 131 F. Supp. 2d 1158, 1164-69 (N.D. Cal. 2000) (finding voluntary and future actions to be inadequate regulatory mechanisms); Or. Natural Res. Council v. Daley, 6 F. Supp. 2d 1139, 1155 (D. Or. 1998) (state conservation plans do not

qualify as "regulatory mechanisms" under the ESA "[a]bsent some method of enforcing compliance").

Because Idaho and Montana had not made enforceable commitments to the wolf protections upon which FWS relied to justify delisting in those states—particularly commitments to maintaining population size and promoting genetic exchange—protections for wolves have diminished in Idaho and Montana since they lost their ESA safety net.

When FWS delisted the non-Wyoming portions of the northern Rockies DPS in 2009, Idaho had in place a Wolf Population Management Plan that established a statewide wolf population target of 520 wolves. See 74 Fed. Reg. at 15,169. In response to concerns that the Wolf Population Management Plan was unenforceable and could be modified or retracted at any time, FWS stated that significant changes in wolf management would trigger a status review for the species. See id. at 15,148. As discussed above, the Idaho Fish and Game Commission repealed the Wolf Population Management Plan in 2010, leaving in its place Idaho's 2002 plan, which has been endorsed by the state legislature and commits to maintaining only 15 "packs" and no minimum number of wolves. Idaho Plan, at 18-19. Not only has FWS failed to initiate a status review as a result of Idaho's reduction in wolf protections, FWS's proposed delisting rule for Wyoming wolves does not even acknowledge this change. Instead, FWS continues to rely on an unrealistically high prediction of future wolf numbers ("perhaps around 1,000 wolves across the NRM DPS") based on "management direction being employed or planned by the States, and State projections." 76 Fed. Reg. at 61,815. FWS must evaluate the adequacy of state regulatory mechanisms in light of Idaho's current management scheme and discontinue its reliance on unrealistic projections regarding the future size of the northern Rockies wolf population.

FWS also relied on unenforceable state intentions with respect to genetic exchange in its 2009 rule, including alleged state commitments to promote wolf dispersal and a memorandum of understanding ("MOU") that provides for wolf translocation in the event that genetic problems ever surface. See 74 Fed. Reg. at 15,177. In its proposal to delist Wyoming wolves, FWS continues to rely on "management approaches"—nowhere memorialized in state laws or regulations—that allegedly "take into account and limit hunting impacts during important dispersal periods," 76 Fed. Reg. at 61,815; and the genetics MOU—signed by Montana and Idaho, but not yet by Wyoming—which provides that "[h]uman-assisted migration will be used, as necessary, to maintain levels of genetic exchange and connectivity for both the GYA (including Wyoming) and the larger NRM metapopulation," id. at 61,816. However, actions by Montana and Idaho since the 2009 delisting have highlighted the unenforceable nature of these alleged commitments.

The state game commissions have demonstrated the ease with which hunting seasons and quotas may be changed, notwithstanding alleged commitments FWS thought it received when it delisted Idaho and Montana wolves. As discussed above, both states have established aggressive wolf mortality goals for the 2011-12 hunting season and allowed hunting within the December through April period FWS previously identified as critical for wolf dispersal. See supra; see also 74 Red. Reg. at 15,176. Likewise, because the genetics MOU does not alter the statutory or regulatory responsibilities of state wildlife managers and fails to establish concrete management actions or thresholds, it too is subject to political caprice. Even if translocating wolves was an

acceptable regulatory mechanism to support delisting, there is no guarantee that such actions will ever be undertaken.

In light of actions by the game commissions in Idaho and Montana and the change in Idaho's management framework, FWS must reevaluate regulatory mechanisms in those states to determine whether the entire northern Rockies DPS should be listed as an endangered or threatened species. See 16. U.S.C. § 1533(a)(1)(D).

IV. THE WYOMING PLAN IS AN INADEQUATE BASIS UPON WHICH TO DELIST WYOMING WOLVES

A. Changes to Wyoming Law are Essential

The proposed delisting rule is premised almost entirely on Wyoming's wolf management plan—a guidance document negotiated by FWS and Wyoming's governor and adopted by the Wyoming Game and Fish Commission. However, Wyoming laws and regulations—which trump the management plan—are no different today than when FWS determined in April 2009 that Wyoming's management scheme was inadequate.[4] FWS's approval of Wyoming's wolf management framework is therefore premised on future changes to Wyoming statutes and regulations.

Changes to Wyoming law are essential before Wyoming wolves may be delisted. Fed'n of Fly Fishers, 131 F. Supp. 2d at 1164-69 (finding voluntary and future actions to be inadequate regulatory mechanisms). Furthermore, FWS must evaluate those changes in the law and make its analysis available for public comment. There is no way to predict the Wyoming legislature's actions in a special session to amend Wyoming's wolf management laws. Until the public has an opportunity to review and comment on those changes and how they affect wolf conservation, FWS's delisting proposal is premature.

B. Wyoming's Wolf Management Scheme Maintains the Critical Flaws the FWS Earlier Determined Rendered the Scheme Inadequate

Wyoming's 2011 wolf management plan maintains critical elements that FWS previously found to endanger wolves. When an agency adopts an approach that is at odds with its past approaches, the agency receives little deference. See Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., 524 F.3d 917, 928 (9th Cir. 2008). Instead, an agency only earns deference if it provides a full and reasoned explanation for the change. See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 1001 (2005). In the case of wolves in Wyoming, FWS's flip-flopping cannot be explained or justified.

[4] For example, FWS concluded in 2009 that although the Wyoming wolf management plan committed to maintain genetic connectivity, State law did not give the Wyoming Game and Fish Commission the management authority to fulfill that promise. See 74 Fed. Reg. at 15,170. The situation is no different today.

Almost ten years ago, FWS rejected Wyoming's 2003 wolf management plan because, among other things, the plan failed to clearly commit to managing for at least 15 breeding pairs in the state, and the predatory status of wolves under the plan did not provide sufficient management controls to assure maintenance of the wolf population above recovery levels. Defenders of Wildlife v. Hall, 565 F. Supp. 2d at 1172. Wyoming tweaked its plan in 2007, and FWS reversed its position and approved it, notwithstanding the plan's retention of the defects FWS previously determined made Wyoming law inadequate.

When FWS subsequently removed Endangered Species Act protections from northern Rockies wolves in early 2008, 14 non-profit conservation organizations challenged the delisting rule in federal court. The conservation organizations won the lawsuit, in part due to FWS's arbitrary and capricious reversal over Wyoming's plan. The court stated:

> In 2004, the Fish & Wildlife Service rejected Wyoming's 2003 wolf management plan. The Service determined the 2003 plan was inadequate to protect wolves because it permitted Wyoming state officials to classify the wolf as a predatory animal throughout the state and then failed to clearly commit the state to managing for 15 breeding pairs within its borders. Before delisting the wolf, the Fish & Wildlife Service approved Wyoming's revised 2007 plan. This revised plan suffers from the same deficiencies as the 2003 plan: it classifies the wolf as a predatory animal in almost 90 percent of the state and only commits the state to managing for 7 breeding pairs outside the national parks. In supporting its decision to approve Wyoming's 2007 plan, the Service does not offer any information not available to it when it rejected the 2003 plan. Armed with the same information, the agency flip-flopped without explanation.

Id. at 1163.

Following negotiations with FWS, the Wyoming Game and Fish Commission in 2011 adopted a revised wolf management plan for Wyoming; however, the improvement in Wyoming's plan is marginal. Wyoming's revised 2011 management plan suffers from the same problems FWS previously found unacceptable. The two primary changes to the management plan are the new seasonal "flex zone" and a commitment to managing for ten breeding pairs outside Yellowstone National Park and the Wind River Reservation (as opposed to seven breeding pairs outside both Yellowstone and Grand Teton National Parks).[5] Neither change meets FWS's previously stated desire that Wyoming clearly commit to managing for a minimum of 15 breeding pairs and implement statewide trophy status for wolves.

[5] Wyoming also says it is "committed to manage wolves by using its statutory and regulatory authority to implement the commitments in this plan, and in cooperation with [Yellowstone National Park] and the [Wind River Reservation], to ensure the minimum recovery goals of at least 15 breeding pairs and at least 150 wolves are maintained." Wyoming Gray Wolf Management Plan, at 1 (Aug. 4, 2011). Because Wyoming has no authority to manage wolves in Yellowstone National Park or the Wind River Reservation, however, this pledge of maintaining 15 breeding pairs in conjunction with Yellowstone and the Wind River Reservation is nothing more than a non-enforceable promise.

In rejecting Wyoming's previous management plan when it removed Endangered Species Act protections from all wolves in the northern Rockies except Wyoming in 2009, FWS stated the following regarding the need for statewide trophy game management:

> We believe the entire State of Wyoming should be managed as a trophy game area. Continuation of the current regulatory framework in Wyoming would meaningfully affect the [northern Rocky Mountains DPS's] resiliency, redundancy, and representation, and decrease the ability to conserve the species. 74 Fed. Reg. at 15,183.
>
> Statewide trophy game status: Will allow Wyoming Game and Fish Department (WGFD) more flexibility to devise a management strategy, including regulated harvest, that provides for self-sustaining populations above recovery goals; prevents a patchwork of different management statutes; will be easier for the public to understand and, thus, will be easier to regulate; is similar to State management of other resources like mountain lions and black-bears; and is consistent with the current regulatory scheme in that the entire State is currently nonessential, experimental. Id. at 15,149.
>
> "Trophy game" status allows the [Wyoming Game & Fish Commission] and [Wyoming Game & Fish Department] to regulate methods of take, hunting seasons, types of allowed take, and numbers of wolves that could be killed. All other States within the [Northern Rocky Mountains Distinct Population Segment] manage wolves as a game species. Id. at 15,170.
>
> A statewide trophy game area is also advisable given the dispersal capabilities of wolves. Id. at 15,183.
>
> Furthermore, statewide trophy game status will allow more flexibility to devise a management strategy, including regulated harvest that provides for self-sustaining populations above recovery goals. Id. at 15,183.
>
> We believe that the best way for Wyoming to provide adequate regulatory mechanisms would be to develop a statewide trophy game management designation as the basis for any revised regulatory framework. At a minimum, this change would require a revision of Wyoming's wolf management law as the current law establishes the limits of the trophy game area to only 12 percent of the State. Until Wyoming revises their statutes, management plan, and associated regulations, and is again Service approved, wolves in Wyoming shall remain protected by Act. Id. at 15,149.

With respect to the inadequacy of Wyoming's commitment to manage for fewer than 15 breeding pairs outside the national parks, FWS stated:

> One flaw with Wyoming's approach is the law's dependence on the National Parks to contribute at least 8 breeding pairs toward the total goal of at least 15 breeding pairs statewide. Such dependence could lead the Wyoming wolf population to quickly slide below recovery goals. While the National Parks will maintain more than 8 breeding pairs in most years, the National Parks' population will periodically fall below 8 breeding pairs. Id. at 15,171.

Merely two years after its determination that Wyoming's wolf management plan was unacceptable, FWS has signed off on a revised Wyoming state management plan that perpetuates the same flaws. Yet again, FWS has inexcusably flip-flopped on wolf management in Wyoming.

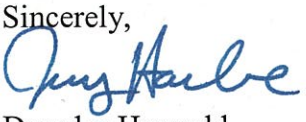
C. FWS Must Clarify Management Responsibility Within Grand Teton National Park and John D. Rockefeller Memorial Parkway

FWS must correct the vague and potentially inconsistent statements about wolf management within Grand Teton National Park and the John D. Rockefeller Memorial Parkway. For example, while Wyoming's 2011 management plan states that "[t]he Commission does not have authority to manage wolves within YNP or the boundaries of the WRR," 2011 Wyoming Plan, at 16, no similar disclaimer is made for Grand Teton National Park or the Parkway. Further, the Proposed Rule contains a statement that "No legal hunting or trapping will occur in YNP, Grand Teton National Park, or the National Elk Refuge," 76 Fed. Reg. at 61,802, but also provides that "certain parks may allow some harvest in accordance with State management plans," id. at 61,809. FWS must clearly establish that responsibility for wolf management within Grand Teton National Park and the Parkway will lie with the National Park Service, and that wolf hunting will be prohibited. Further, FWS must ensure that Wyoming does not claim management authority on these National Park Service lands.

CONCLUSION

For the reasons discussed above, FWS's proposal to remove ESA protections from the Wyoming portion of the northern Rockies gray wolf population DPS is arbitrary and capricious and violates the ESA and its implementing regulations. We respectfully urge FWS to abandon its proposal unless and until it establishes legitimate recovery standards for northern Rockies wolves and ensures that adequate regulatory mechanisms are in place throughout the northern Rockies DPS, including Wyoming, to meet those standards.

Sincerely,



Douglas Honnold
Jenny Harbine

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EARTHJUSTICE
Because the earth needs a good lawyer

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

May 16, 2012

Public Comments Processing
ATTN: FWS–R6–ES–2011–0039
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive, MS 2042–PDM
Arlington, VA 22203

RE: FWS–R6–ES–2011–0039, Supplemental Comments on Proposed Rule to Remove the Gray Wolf in Wyoming From the Federal List of Endangered and Threatened Wildlife and Removal of the Wyoming Wolf Population's Status as an Experimental Population

Dear U.S. Fish and Wildlife Service:

On behalf of the Center for Biological Diversity, Defenders of Wildlife, Natural Resources Defense Council, and the Sierra Club, we submit these additional comments on your proposal to eliminate federal Endangered Species Act protections for the portion of the northern Rocky Mountain gray wolf distinct population segment that resides in Wyoming in light of four documents recently completed by the State of Wyoming to clarify the state's approach to wolf management. See Removal of the Gray Wolf in Wyoming From the Federal List of Endangered and Threatened Wildlife and Removal of the Wyoming Wolf Population's Status as an Experimental Population, 77 Fed. Reg. 25,664 (May 1, 2012).

Your notice concerning reopening of the public comment period on this proposal discusses four documents recently issued by the State of Wyoming: revised State statutes; revised gray wolf management regulations (chapter 21); revised gray wolf hunting season regulations (chapter 47); and an addendum to the Wyoming Gray Wolf Management Plan. See id. at 25,665. Your notice states that the U.S. Fish and Wildlife Service ("FWS") has reviewed these documents and

> believe[s] Wyoming's regulatory framework would likely maintain a population of at least 10 breeding pairs and at least 100 wolves in Wyoming outside of Yellowstone National Park and the Wind River Indian Reservation at the end of the calendar year and, when considered in the context of management across the entire State and the entire Northern Rocky Mountain (NRM) region, that the regulatory framework would likely maintain Wyoming's share of a recovered NRM gray wolf population and contribute to the continued maintenance of the larger NRM gray wolf population above minimum recovery levels.

Id. at 25,667.

FWS's belief in the adequacy of Wyoming's regulatory framework to maintain at least 10 breeding pairs and 100 wolves in the specified area and to maintain Wyoming's share of a

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recovered NRM gray wolf population remains unjustified for the reasons stated in our January 12, 2012, initial comment letter on this proposal. As described in that letter, the Wyoming regulatory framework, with its "shoot-on-sight" approach to wolf management across the vast majority of the state and insufficient safeguards in other areas, threatens not only to undermine wolf recovery in Wyoming but also to impede wolf recovery throughout other parts of the West, particularly in the southern Rockies. Wyoming's newly revised documents fail to address the points stated in that letter, and those points are hereby incorporated by reference into this letter.

In addition, FWS's belief in the adequacy of Wyoming's regulatory framework is unjustified for the following reasons:

1. Failure to Establish Adequate Regulatory Mechanisms – Wyoming's revised statutes and regulations and the addendum to the state's wolf management plan fail to establish adequate regulatory mechanisms to maintain a recovered NRM gray wolf population. Under the Endangered Species Act ("ESA"), FWS must determine whether the NRM gray wolf population remains endangered or threatened because of any of five factors, including "the inadequacy of existing regulatory mechanisms." 16 U.S.C. § 1533(a)(1)(D). FWS's own initial peer review of the Wyoming delisting proposal concluded that "there is substantial risk to the population" because "the Plan, as written, does not do an adequate job of explaining how wolf populations will be maintained, and how recovery will be maintained." FWS, Final Wyoming Gray Wolf Peer Review Panel Summary Report at 13, 15 (Dec. 2011) ("Initial Peer Review Report"); see also 16 U.S.C. § 1533(b)(1)(A) (FWS listing decisions must be made "solely on the basis of the best scientific and commercial data available"). Wyoming's revised documents fail to address these concerns.

a. Lack of an Explicit Population Buffer – Wyoming continues to avoid any commitment to an explicit population buffer above specified minimums of at least 10 breeding pairs and at least 100 wolves in Wyoming outside of Yellowstone National Park and the Wind River Indian Reservation at the end of the calendar year. As set forth in our January 12, 2012, comment letter, FWS's determination regarding the number of wolves needed for long-term recovery does not reflect adherence to the ESA's requirement that FWS use the "best … available" science. 16 U.S.C. § 1533(b)(1)(A). However, even assuming for the sake of argument that Wyoming's 10 breeding pair/100 wolf minimums reflected that state's appropriate share of a recovered wolf population, Wyoming fails to commit to an explicit population buffer to ensure continued maintenance of those agreed-upon minimums.

This was a key issue raised in the peer review panel's initial report, as "more than one panelist believe[d] that there [was] a need for explicit buffering." Initial Peer Review Report at 13. Indeed, the minority opinion of Dr. Vucetich, which was ultimately supported by the entire peer-review panel, see id. at 15, stated that "[w]ithout knowing more about the size of the buffer there is reason to be concerned that the objective of the regulated public harvest (and other plans for managing anthropogenic mortality) are inconsistent with the objectives of recovery." Id. Appx. B, Review Submitted by John A. Vucetich at 7.

Despite these peer-review concerns, Wyoming continues to refuse to commit to maintaining any explicit buffer above the 10 breeding pair/100 wolf minimums. Wyoming's

revised statutes—which constitute the ultimate "regulatory mechanism" governing the state's management of gray wolves—specify only that the state shall set seasons and bag limits annually "as necessary to reasonably ensure at least ten (10) breeding pairs of gray wolves and a total of at least one hundred (100) individual gray wolves are located in this state outside of Yellowstone National Park and the Wind River Indian Reservation at the end of the current calendar year." Wyo. Stat. § 23-1-304(a). The state's revised regulations are to the same effect, providing that "[t]he Department shall make management decisions based on the most current available data and in an adaptive manner that will ensure the maintenance of at least ten (10) breeding pairs of gray wolves and a total of at least one hundred (100) individual gray wolves" within the same area. Wyo. Admin. Code GAME HUNT Ch. 21 § 4(a)(i).

While FWS cites the addendum to Wyoming's Gray Wolf Management Plan as "reaffirm[ing] Wyoming's commitment to manage the wolf population with a buffer above the agreed-upon population minimums," 77 Fed. Reg. at 25,665, the addendum primarily articulates reasons why Wyoming believes it would have an incentive to maintain such a buffer. See Wyo. Game & Fish Comm'n, Addendum: Wyo. Gray Wolf Management Plan at 3-5 (Mar. 22, 2012) ("Addendum"). The Addendum does eventually assert that Wyoming's approach will "maintain an adequate population buffer above minimum recovery levels," id. at 4, but no explicit buffer level or range is stated nor does Wyoming explain what an "adequate buffer" might be. Indeed, FWS itself admits that, "[r]egarding the size of the buffer, no specific number or range was offered." 77 Fed. Reg. at 25,665. Accordingly, the "size of the buffer"—which the peer-review panelists deemed important, see Initial Peer Review Report Appx. B—remains unknown. Under Wyoming's regulatory scheme, there is nothing to foreclose the possibility that the state's idea of an "adequate buffer" might turn out to be 10 wolves, 5 wolves, or even a lone wolf.

FWS's most recent peer review, which focused specifically on Wyoming's revised wolf management documents, noted this precise point. Dr. Vucetich stated that "Wyoming's apparent resistance to specifying the size of the buffer raises concern that the buffer will be inadequate." FWS, Final Peer Review of Four Documents Amending and Clarifying the Wyoming Gray Wolf Management Plan, Appx. B at 73 (May 2012) ("Final Peer Review Report"). Another reviewer, Dr. Mills, echoed Dr. Vucetich's concern. See id. Appx. B at 64-66. Although other reviewers reached contrary conclusions, Atkins, the peer-review coordinator, stated that Dr. Vucetich's points "have force" and are "well made." Id. at 4.

The population buffer question is critical to any determination whether adequate regulatory mechanisms exist to protect the NRM gray wolf population after delisting, given Wyoming's stated intent to reduce the population and the history of gray wolf population fluctuations in Wyoming. As FWS observes, Wyoming already plans to reduce the population to approximately 170 wolves by the end of 2012. See 77 Fed. Reg. at 25,666. Wyoming intends to further reduce the population in the future through hunting, in addition to expected mortality pursuant to the state's regulatory scheme authorizing wolf killing to address conflicts with private property, domestic livestock, and desired ungulate herd numbers. See Addendum at 6; Wyo. Stat. § 23-1-204(g), (h), (j), (m), (n). This anticipated wolf killing would play out against the backdrop of a wolf population history that saw the Yellowstone National Park wolf population decline by approximately 43 percent from 2007 to 2010 without any of the additive, human-caused mortality that Wyoming now contemplates. See Nat'l Park Serv., Yellowstone

Wolf Project, Annual Report 2010 at 1 (2011) (attached). A similar decline for the portion of the population outside of Yellowstone National Park and the Wind River Reservation from even the 170-wolf level contemplated at the end of 2012 would leave the state below agreed-upon minimums. Without any assurance as to the size of a population buffer, FWS has no basis to conclude that Wyoming's regulatory framework will suffice to prevent such a result.

Contrary to FWS's apparent conclusion, Wyoming's proffered "adaptive management approach" to population monitoring does not remedy this problem. See 77 Fed. Reg. at 25,665. Wyoming's approach calls for more intensive monitoring of the wolf population "as the population approaches minimum population objectives." Id. at 25,665-66. As noted by Dr. Mills in the peer review of Wyoming's revised management scheme, such an approach, when combined with Wyoming's reliance on "known minimum" wolf numbers to make management decisions, actually threatens to mask population declines. See Final Peer Review Report, Appx. B at 65-66. This is because more intensive monitoring is likely to detect a greater percentage of the population, even as the total population declines. The problem was described succinctly by Dr. Mills:

> As a hypothetical example, suppose in 2016 the raw count reveals 105 wolves and in 2017 the raw count reveals 115 wolves. This would be widely perceived as a 10% increase in the wolf population. However, if the 2016 survey detected only 80% of the wolves (so the actual number of wolves was 131) while in 2017 a more intensive count detected 95% of the wolves (so [the] actual wolf number was 121), then the wolf population would actually have declined by 8% from 2016 to 2017 even though the uncorrected raw count index indicated a 10% increase!

Id. Appx. B at 65. Without any safeguards in place to guarantee an adequate buffer or even to reasonably ensure that declines in the wolf population are detected, Wyoming's management scheme is insufficient to justify the proposed delisting rule.

b. Authorization of Unregulated Take – Wyoming's revised regulatory scheme authorizes unregulated take of gray wolves that threatens to create a significant new source of wolf mortality and makes it impossible for the state to guarantee adherence to agreed-upon population minimums. This issue goes unrecognized in FWS's notice announcing reopening of the public comment period concerning the Wyoming delisting proposal. In that notice, FWS devotes substantial attention to Wyoming's revised provision for issuance of lethal take permits and offers a lengthy rationale to explain why the regulatory scheme surrounding issuance of such permits "would not compromise the State's ability to maintain a population of at least 10 breeding pairs and at least 100 wolves in Wyoming outside of Yellowstone National Park and the Wind River Indian Reservation at the end of the calendar year." 77 Fed. Reg. at 25,667. Yet FWS overlooks Wyoming's separate statutory and regulatory provisions authorizing unregulated taking of gray wolves "doing damage to private property," which lack any of the safeguards that FWS relies upon to reconcile the lethal take permit provisions with delisting requirements under the ESA.

Under Wyoming's "damage to private property" statute, a property owner or employee or lessee of the property owner may "immediately" take and kill any gray wolf "doing damage to private property." Wyo. Stat. § 23-3-115(a), (c). Pursuant to this statute as it applies to gray wolves, "'doing damage to private property' means actual biting, wounding, grasping or killing of livestock or a dog, or chasing, molesting or harassing of livestock or a dog by a wolf that would indicate to a reasonable person that actual biting, wounding, grasping or killing of the livestock or dog is likely to occur at any moment." Id. § 23-3-115(c). A state regulation replicates this statutory take authorization. See Wyo. Admin. Code GAME HUNT ch. 21 § 6(a).

Importantly, these take authorizations contain no exception to disallow killing of gray wolves where they have been intentionally baited or otherwise attracted into situations where livestock or dogs are injured or threatened. See id. The absence of such an "intentional baiting" exception marks a stark departure from the regulatory scheme governing gray wolves in Wyoming under FWS's existing rule pursuant to ESA section 10(j). That 10(j) rule also authorizes taking of wolves attacking livestock or dogs, but includes a safeguard to prohibit such taking where there is "evidence of intentional baiting, feeding, or deliberate attractants of wolves." 50 C.F.R. § 17.84(n)(4)(xiii). The absence of an equivalent safeguard in Wyoming's regulatory scheme threatens to exacerbate a significant new source of wolf mortality, as Wyoming Game and Fish Department personnel have recently advised—in response to public inquiries at public meetings—that it would be lawful to, for example, stake out a dog or leave sheep carcasses in an area for the intentional purpose of attracting wolves into situations where they could be killed under Wyo. Stat. § 23-3-115.

The potential for significant wolf mortality under Wyo. Stat. § 23-3-115 is even more problematic because Wyoming's revised statutes and regulations contain no provision constraining wolf killing under this provision when the state's wolf population approaches or even drops below the agreed-upon 10 breeding pair/100 wolf minimums, let alone any population buffer above those minimums. The absence of any such feature marks a key distinction from the state's regulatory scheme governing lethal take permits that FWS examined in detail in its new comment notice. In that notice, FWS found that Wyoming had imposed "numerous safeguards … that limit" the potential for lethal take permits "to meaningfully and detrimentally impact the population." 77 Fed. Reg. at 25,666. "[M]ost importantly," FWS stated,

> State law (W.S. 23-1-304(n)) and the implementing regulation (Chapter 21, section 7(b)(iii)) clarify that existing permits would be cancelled, and issuance of new permits would be suspended, if the Wyoming Game and Fish Department determines further lethal control "could" compromise the State's ability to maintain a population of at least 10 breeding pairs and at least 100 wolves in Wyoming outside of Yellowstone National Park and the Wind River Indian Reservation at the end of the calendar year.

Id. FWS found the word "could" in these provisions to be particularly important because it "provides authority for the Wyoming Game and Fish Department to manage for a buffer above the minimum target and limit control from lethal take permits, if necessary, to maintain an adequate minimum buffer." Id.

Wyoming's "damage to private property" statute lacks any such safeguards. Under Wyo. Stat. § 23-3-115, wolves may be killed for attacking or threatening livestock or dogs—even after being intentionally baited into such conflicts—regardless of whether the wolf population outside of Yellowstone National Park and the Wind River Indian Reservation at the end of the calendar year is above or below 10 breeding pairs and at least 100 wolves. This statute likewise lacks any safeguard to constrain wolf killing in Wyoming for "damage to private property" for the purpose of managing for a population buffer above agreed-upon minimums. Accordingly, while Wyoming proposes to sequentially limit various regulated sources of wolf mortality "if the minimum population objectives are approached," 77 Fed. Reg. at 25,666; see also Addendum at 7, wolf mortality under the "damage to private property" statute may continue without any limitation even if minimum population objectives are approached or even breached. Put starkly, there is nothing in Wyoming law to prevent a landowner from intentionally baiting a wolf into conflict with livestock or a dog and then killing that wolf even if that wolf's death drops the population below agreed-upon minimums.

By itself, this prospect precludes wolf delisting pursuant to Wyoming's regulatory framework. However, the prospect of unregulated taking of wolves pursuant to Wyoming's "damage to private property" statute becomes even more problematic when viewed in combination with the absence from the state's regulatory scheme of any explicit population buffer level or range. Even assuming that Wyoming would attempt to maintain an "adequate buffer," any such effort may be undermined by unregulated taking of wolves pursuant to the "damage to private property" provisions. For this reason too, Wyoming's revised statutes and regulations fail to provide adequate regulatory mechanisms to justify FWS's delisting proposal.

c. Assertion of Authority to Allow Wolf Hunts on the John D. Rockefeller, Jr. Memorial Parkway and In-Holdings within Grand Teton National Park – The threat posed to the NRM wolf population by Wyoming's management scheme is heightened by the Wyoming Game and Fish Department's assertion of authority to allow wolf hunts on the John D. Rockefeller, Jr. Memorial Parkway and in-holdings within Grand Teton National Park. According to the Department's recent addendum to Wyoming's Gray Wolf Management Plan:

> The State of Wyoming has management authority over all wolves in Wyoming except for wolves in areas of the state where the state of Wyoming does not have jurisdiction for wildlife management. These areas are Yellowstone National Park (YNP), lands administered by the National Parks Service (NPS) within Grand Teton National Park (GTNP), National Wildlife Refuges (NWR), and lands within the Wind River Reservation (WRR) except non-indian owned fee titled lands. … The Wyoming Game and Fish Commission has management authority for wolves within the areas of the state where wolves are designated by state statute as trophy game animals, excluding wolves on the National Elk Refuge (NER) and on lands administered by the NPS within GTNP.

Addendum at 3 (emphases added).

In declaring that the National Park Service's wolf-management authority is limited to Yellowstone and those lands "administered" by the agency within Grand Teton, Wyoming appears to claim control over "all wolves" found on the John D. Rockefeller, Jr. Memorial Parkway and the numerous non-federal inholdings within Grand Teton National Park. See id. The state has no such authority. See, e.g., 16 U.S.C. § 673c(a) (authorizing only the "controlled reduction of elk in [Grand Teton National Park], by hunters licensed by the State of Wyoming and deputized as rangers by the Secretary of the Interior, when it is found necessary for the purpose of proper management and protection of the elk") (emphasis added); Pub. L. 92-404, § 3(b), 86 Stat. 619, 620 (1972) (John D. Rockefeller, Jr. Memorial Parkway enabling legislation) ("the Secretary may designate zones [within the Parkway] where, and periods when, no hunting or fishing shall be permitted for reasons of public safety, administration, or public use and enjoyment"); 36 C.F.R. § 2.2(b)(2), (g) (requiring discretionarily authorized hunting to be established by "special regulations" and providing that the National Park Service's hunting and trapping regulations "apply, regardless of land ownership, on all lands and waters within a park area that are under the legislative jurisdiction of the United States").

Moreover, because these areas are important to ensuring connectivity and genetic exchange, the prospect of a Wyoming-authorized wolf hunt on such lands poses a substantial threat to the NRM population. See generally Mont. Fish, Wildlife & Parks, Hunting Season/Quota Change Supporting Information: Gray Wolf 2012-13 Hunting Season at 11 (Fig. 2, "Map of the origin and end points of radio collared wolves dispersing in the northern Rocky Mountain federal recovery area, 1995-2005") ("FWP Supporting Information") (attached). Wyoming's amended management plan and regulations are accordingly inadequate to justify delisting.

2. Failure to Consider Impacts of Increased Wolf Killing in Montana and Idaho – While confirming the importance of "genetic interchange" to the maintenance of a recovered NRM wolf population, FWS has again failed to confront the decrease in dispersal that is likely to result from increasingly "aggressive" hunts in Montana and Idaho. See 77 Fed. Reg. 25,666.

The importance of this factor was recently underscored by Montana Fish, Wildlife & Parks' ("FWP") decision to "propos[e] a substantial liberalization of [its] wolf season framework for 2012" for the explicit purpose of "reduc[ing] the population" of wolves within the state. FWP Supporting Information at 15. Under Montana's proposal, an "increased harvest" will be promoted by "[e]xtending the general season closing date from December 31 to February 28[;]" "[a]dd[ing] a trapping season … from December 15 to February 28[;]" and, if the relevant statutes are amended, authorizing both electronic calling and a three-wolf bag limit. Id. at 1-2, 15. By FWP's own estimation, "these proposed changes are expected to increase wolf harvest levels with the intent to reduce the abundance of wolves across Montana." Id. at 3; see also FWP Commission Agenda Item Cover Sheet: 2012 Proposed Wolf Season, Quotas and WMU Boundaries at 1 ("FWP Cover Sheet") (attached). Consistent with this purpose, fixed hunting quotas are to be eliminated in all but two management units, allowing unlimited wolf killing until such time as FWP "deems monitored harvest levels excessive in any area." FWP Supporting Information at 1; see also FWP Cover Sheet at 1. In sum, FWP has failed to articulate a meaningful—and enforceable—standard by which "harvest levels" can be determined "excessive." Instead, the agency's proposal will allow for subjective judgments to replace

science-based management criteria. For these reasons, Montana's hunt threatens significant harm to the NRM wolf population.

For its part, Idaho has already authorized an increase in wolf killing during its upcoming hunting and trapping seasons. Under Idaho Fish & Game's rules, harvest limits will be established only "for some management zones[;]" hunting will be permitted between August 30 and March 31, with longer seasons in some areas; the use of electronic calls will be allowed; and hunters and trappers will be invited to purchase "up to five" gray wolf tags. See Idaho Fish & Game, Idaho Big Game Seasons & Rules 2012 at 66, 68 (attached); see also Idaho Fish & Game Commission Agenda Item for March 22, 2012: Season Setting—Big Game Species at 12 (noting the commission's recommendation for an "[i]ncrease[d] bag limit for hunting and trapping in Panhandle and Clearwater region wolf zones[;]" an "[e]xtend[ed] season on private land in Panhandle zone[;]" a new "trapping season in Units 19A and 25[;]" an "[i]ncrease[d] harvest limit in Southern Mountain zone from 25 to 30[;]" and an "[i]ncrease[d] season length in Beaverhead and Island Park zones to close on January 31") (attached).

In light of the documented relationship between wolf abundance and genetic exchange, FWS must address the impacts of aggressive state management on the viability of the NRM population. See Earthjustice Comments on Proposed Rule at 8-17 (Jan. 12, 2012) .

3. Conclusion – For these reasons, in addition to those set forth in our January 12, 2012 initial comment letter, FWS's proposal to remove ESA protections from the Wyoming portion of the northern Rockies gray wolf population DPS is arbitrary and capricious and violates the ESA and its implementing regulations. We respectfully urge FWS to abandon its proposal unless and until it establishes legitimate recovery standards for northern Rockies wolves and ensures that adequate regulatory mechanisms are in place throughout the northern Rockies DPS, including Wyoming, to meet those standards.

Sincerely,

Timothy Preso
Jenny Harbine

CENTER for BIOLOGICAL DIVERSITY

U.S. Fish and Wildlife Service January 13, 2012
Submitted online at http://www.regulations.gov
Docket number FWS–R6–ES–2011–0039

Re: RIN 1018–AX94, Proposed rule to remove the Gray Wolf in Wyoming from the Federal List of Endangered and Threatened Wildlife and Remove the Wyoming Wolf Population's Status as an Experimental Population, 76 Fed. Reg. 61782-61823 (October 5, 2011).

To Whom it May Concern,

The Center for Biological Diversity ("Center") is a non-profit conservation organization supported by over 320,000 members and on-line activists, dedicated to protecting and restoring imperiled species and their ecosystems. Since our founding in 1989, the Center has actively promoted recovery of gray wolves throughout the United States, including through submitting comments over the past decade detailing the scientific and legal flaws in the U.S. Fish and Wildlife Service's multiple, misguided proposed rules to downlist, delist and even remove significant protections from still-listed wolves in the northern Rocky Mountains. We have followed up, when necessary, by litigating final rules that would undercut recovery of gray wolves – as the present proposed rule would do if finalized.

We hope that the Fish and Wildlife Service ("Service") will consider our comments below, and the comments submitted for us by Earthjustice, in good faith as an antidote to the politically-conceived and ill-considered rush to dispense with wolf conservation in the northern Rocky Mountains and indeed throughout almost the entirety of the United States. Wolves have re-established but a tenuous paw-hold on less than five percent of their original range in the 48 contiguous states, and the proposed delisting is misguided and premature.

Please consider these comments in addition to those submitted by Earthjustice on our behalf and that of the Sierra Club and Natural Resources Defense Council.

Wolf recovery in the northern Rocky Mountains, including in Wyoming, has until recently been a tremendous, ongoing but as-yet-incomplete success. The delisting by congressional rider of wolves in Idaho, Montana, Utah, Oregon and Washington is already undermining that success, and delisting wolves in Wyoming now will further jeopardize the long-term persistence of wolves in Yellowstone National Park and even throughout the northern Rockies, threaten the recovery of wolves in other states such as Colorado, potentially jeopardize the recovery of the unique Mexican gray wolf subspecies, and cut short the nascent recovery of the gray wolf's degraded ecosystems.

Introduction. The proposed rule is fatally flawed in concept and inception.

The early delineation of a northern Rocky Mountains (NRM) distinct population segment (DPS) of gray wolves for the purpose of delisting (71 Fed. Reg. 6634-6660, Feb. 8, 2006) was based on political rather than biological factors, as was the Fish and Wildlife Service's judgments, repeatedly struck down in federal court, that the wolf population within those DPS

boundaries was recovered and ready for delisting. The Service's decidedly non-Solomonic solution of splitting the northern Rockies wolf DPS into recovered and non-recovered (Wyoming) segments (74 Fed. Reg. 15123-15188, April 2, 2009), which though struck down was resurrected via a congressional rider on a must-pass budget bill in 2011, leaves this proposal to delist Wyoming's wolves particularly untenable. That is because the DPS includes vast lower elevation grassland and shrubland habitats that are an important ecosystem for gray wolves in dispersal as well as for the species' long-term adaptability and resilience, that have few wolves surviving on them, and the proposed rule would ensure these wolves' destruction and undermine conservation of these ecosystems.

The 1978 switch from listing wolf subspecies to the entire gray wolf species was intended to maintain protection of subspecies but ended up undercuttiing consideration of their adaptations to specific habitats. The proposed rule summarizes previous federal actions in a manner that, unfortunately, obscures how arbitrary was the delineation of DPS boundaries in relation to the number and geographic extent of wolves planned to be recovered within the DPS:

> Due to questions about the validity of subspecies classification at the time and issues associated with the narrow geographic scope of each subspecies, we published a rule reclassifying the gray wolf as endangered at the species level (*C. lupus*) throughout the coterminous 48 States and Mexico (43 FR 9607, March 9, 1978). The exception was Minnesota, where the gray wolf was reclassified to threatened. This rule also provided assurance that this reclassification would not alter our intention to focus recovery on each population as separate entities. Accordingly, recovery plans were developed for: The Great Lakes in 1978 (revised in 1992) (Service 1978, entire; Service 1992, entire); the NRM region in 1980 (revised in 1987) (Service 1980, entire; Service 1987, entire); and the Southwest in 1982 (Service 1982, entire). A revision to the southwest recovery plan is now under way. [76 FR 61783]

To add clarity, we note that the 1978 rule did not question the validity of gray wolf subspecies, but instead committed to recovery of valid subspecies. In response to comments by the U.S. Forest Service, which had "requested assurance that biological subspecies would continue to be maintained and dealt with as separate entities" (43 Fed. Reg. 9609, March 9, 1978), and by the North American Wolf Society which also questioned the elimination of subspecific differentiation in listings, the 1978 rule stated: "The Service, however, can offer the firmest assurance that it will continue to recognize valid biological subspecies for purposes of its research and conservation programs" (43 Fed. Reg. 9610).

Neither did the 1978 rule commit to recovery of populations as separate entities, as stated in the present proposed rule. Rather, the Service's focus on conservation of populations arose a decade later at the expense of range-wide planning for the listed gray wolf species, and also at the expense of recovery planning for valid subspecies, despite the Service's "firmest assurance" offered in 1978.

The actual reason the Service advanced for its 1978 rule-making was as follows:

> This listing arrangement [i.e. according to subspecies] has not been satisfactory because the taxonomy of wolves is out of date, wolves may wander outside of recognized

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subspecific boundaries, and some wolves from unlisted subspecies may occur in certain parts of the lower 48 States. In any case, the Service wishes to recognize that the entire species *Canis lupus* is Endangered or Threatened to the south of Canada, and considers that this matter can be handled most conveniently by listing only the species name." [43 Fed. Reg. 9607][1]

The reference to "recognized subspecific boundaries" acknowledged that subspecies were originally tied to historic ranges. The extermination of wolves over vast areas had led to surviving, lone wolves traveling outside their subspecies' historic ranges in searches for mates. However, the switch from planning to recover subspecies to instead working to recover populations enabled the Service to defer, and eventually announce as irrelevant, consideration of a subspecies' historic range in determining recovery goals.

<u>The definition of "range" for wolves in the northern Rockies region has expanded or been rendered meaningless, though demographic recovery targets remain the same</u>. The Endangered Species Act's definition of an endangered species, subspecies or population as one "in danger of extinction throughout all or a significant portion of its range" begs the question of what is *range* and how to judge its significance. The 1987 Northern Rocky Mountain Wolf Recovery Plan sought to recover the subspecies *C.l. irremotus*, the Northern Rocky Mountain wolf, and defined its range according to Hall and Kelson (1959), shown in the following map:

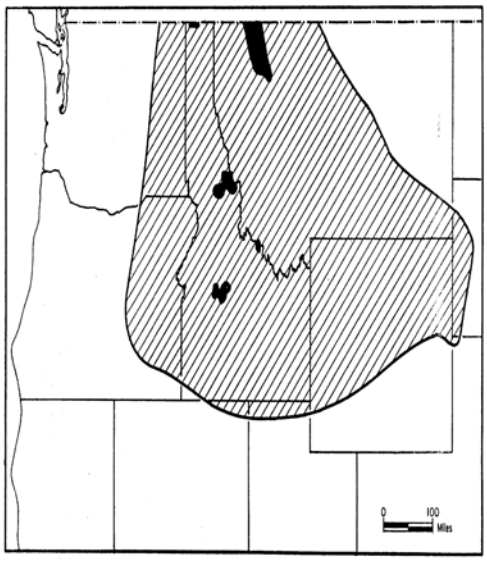

Figure 1. Historical distribution of the northern Rocky Mountain wolf (Canis lupus irremotus) in the United States according to Hall and Kelson (1959). The black areas represent the current approximate distribution of wolves in the northern Rocky Mountains of the contiguous 48 states.

[1] The 1987 Northern Rocky Mountain Wolf Recovery Plan further clarifies that gray wolves were re-listed at the species level in 1978 "based on the probability of enforcement problems and because the trend among taxonomists was to recognize fewer subspecies of wolves" (p. 1).

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

Within that range, according to the 1987 recovery plan, a minimum of ten breeding pairs of wolves were to be secured and maintained within each of three recovery areas over a minimum of three successive years, as criteria for recovery. (U.S. Fish and Wildlife Service 1987, p. v)

In 1995, the same year that reintroduction of wolves was authorized into Yellowstone National Park and central Idaho, Nowak revised the classification of North American gray wolves from the 24 subspecies recognized by Goldman (Young and Goldman 1944) and Hall (1959, 1981), into five subspecies, as shown below:

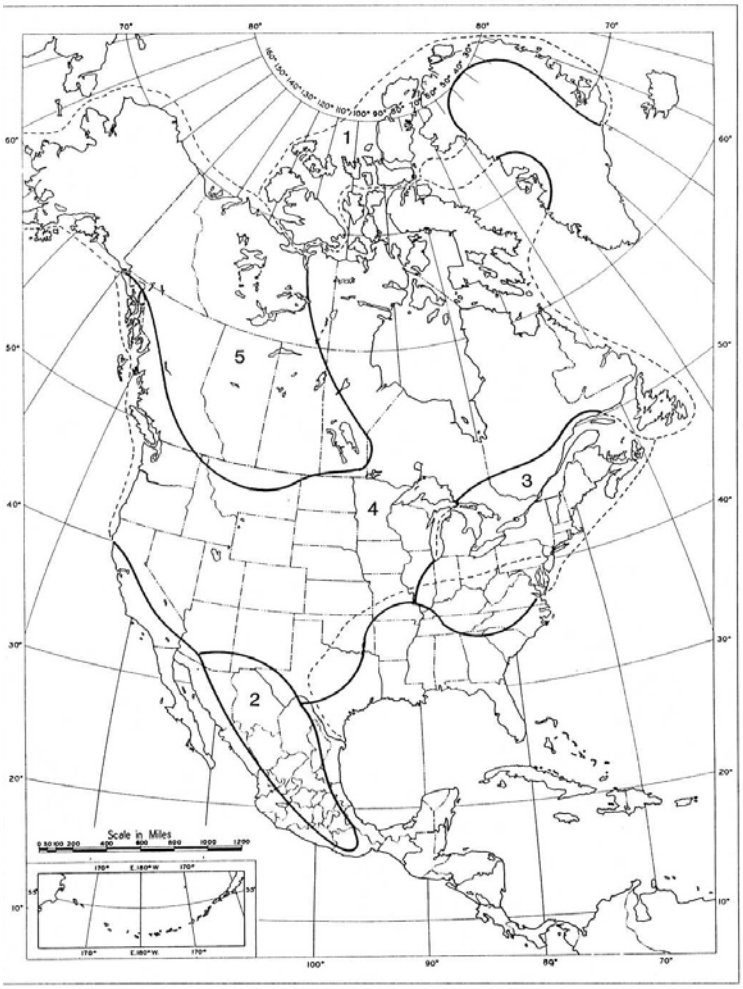

Fig. 20. *Original geographical distribution of wolves in North America, showing the five subspecies of* ***Canis lupus*** *recognized by this study: 1)* ***arctos****, 2)* ***baileyi****, 3)* ***lycaon****, 4)* ***nubilus****, 5)* ***occidentalis****. The red wolf (****Canis rufus****) occupied the southeastern quarter of the continent, the approximate northern and western limits of its range being marked by the dashed line on the mainland.*

Nowak synonymized *C.l. irremotus* with *C.l. nubilus*, for which he claimed a much broader range encompassing almost the entire western United States except for the southwestern borderlands range of the Mexican gray wolf, *C.l. baileyi* (Nowak, 1995). Nevertheless, recovery goals for wolves in the northern Rocky Mountains were kept essentially unchanged.

In 2007, the Solicitor of the Department of the Interior issued a memorandum opinion entitled "The Meaning of 'In Danger of Extinction Throughout All or a Significant Portion of Its Range'" (March 16, 2007), which defined the word "range" in the phrase "significant portion of

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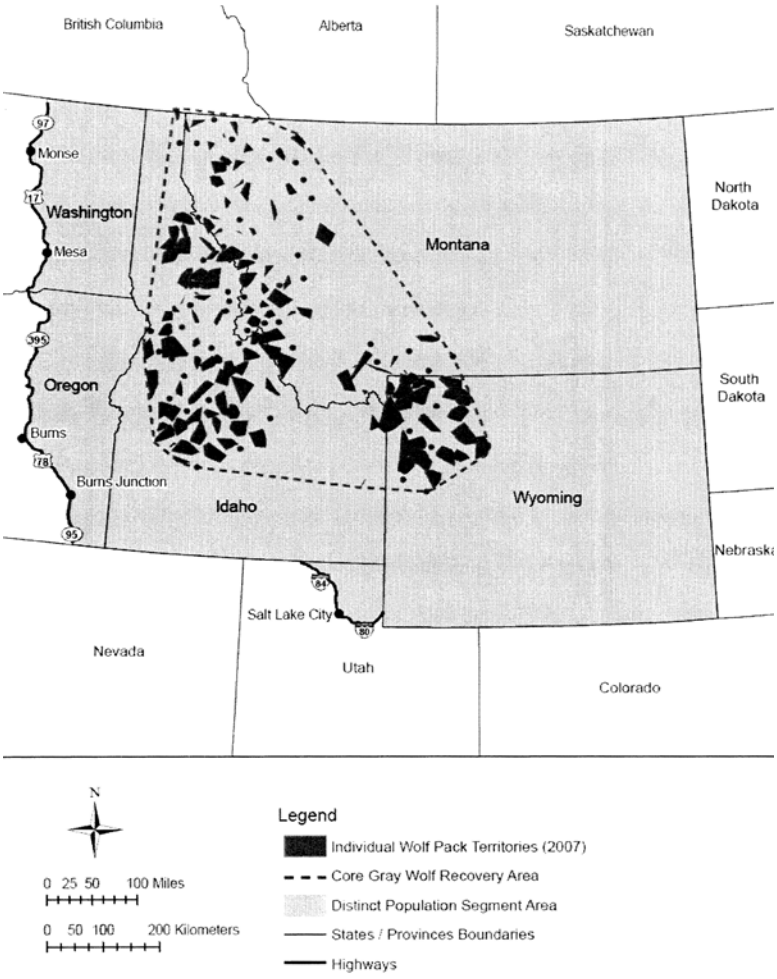
P.O. Box 1727
Silver City, NM 88062

its range," to refer to "the range in which a species currently exists, not to the historical range of the species where it once existed." As such, range could only be considered "significant" insofar as it was necessary to sustain extant members of threatened or endangered species.

Twice invalidated in court orders, the opinion was rescinded in 2011. Nevertheless, its illogic informs the NRM DPS boundaries, shown below, and the present proposed rule's ahistorical whittling down of "suitable habitat" described within those boundaries, to justify the post-delisting annihilation of wolves over 83% of Wyoming.

Figure 1: Northern Rocky Mountain Gray Wolf Distinct Population Segment Area Including Individual Wolf Pack Territories.



The 25-year carry-over (1987 – 2012) of demographic recovery criteria amounting to a minimum of 30 breeding pairs was accompanied by a tremendous increase in the region over which that minimal number of breeding pairs was to certify recovery. The added area is important to wolves, but in Wyoming is relegated to the predator zone where no wolves will be permitted to survive.

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P.O. Box 1727
Silver City, NM 88062

Instead, gray wolves in those areas deserve continued protection to help ensure the survival of their species and conservation of their ecosystems. The 1978 switch from listing the various gray wolf subspecies to the entire species *Canis lupus,* and subsequent delisting according to population, should not facilitate the threats that brought wolves to the brink of extinction, namely unlimited persecution, to imperil wolves once again.

The Wyoming Gray Wolf Management Plan's delineation of 83% of the state as a zone of unregulated wolf killing conflicts with the Endangered Species Act and irrationally reverses Fish and Wildlife Service's previous position.

The Wyoming Gray Wolf Management Plan divides the state into three zones for the purpose of wolf management: (1) A Wolf Trophy Game Management Area (WTGMA) throughout most of which wolves will be subject to public hunting and to agency killing, but also including Yellowstone National Park (and smaller National Park Service units) in which human-caused take is generally prohibited; (2) a predator area in which take of wolves is not regulated and in which wolves may be killed by any means; and (3) a flex-zone in which management and wolves' status varies seasonally between trophy big game management and predator designation.

The flex zone comprises 1.3% of Wyoming, the trophy game area 15.7%, and the predator zone 83%. The Fish and Wildlife Service projects that no wolves will persist in the predator zone (76 Fed. Reg. 61807). Within the WTGMA area, as few as 10 breeding pairs may be left alive outside of Yellowstone National Park. The flex zone is intended to facilitate dispersal and genetic connectivity to wolves in Idaho and Montana. As explained further on, it is unlikely to do so.

The vast predator zone conflicts with the intention of the Endangered Species Act. The designation of 83% of Wyoming as an area where wolves will not be allowed to persist conflicts on its face with the first stated purpose of the Endangered Species Act, "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved."

Wolves profoundly influence and in fact conserve their ecosystems in a variety of ways (Miller et al. 2001, Ray et al. 2005). Wolves create stronger ungulate herds by preying on vulnerable ungulates, which allows greater numbers of healthier, more robust, and more alert animals to survive and pass on genes. Wolves may also prevent the spread of epizootic diseases among prey species by culling sick animals before they infect others. Prey animals also modify their behavior, distribution and movements in response to wolves (Ripple and Beschta 2004, White and Garrott 2005). For example, in Yellowstone National Park, reintroduced wolves have led elk (*Cervus elaphus*) to spend less time in low-visibility areas where they are more vulnerable to surprise attack, such as in valleys with steep embankments, and this has resulted in recruitment and growth of riparian trees that previously were eaten as saplings; such localized reduction in elk herbivory has provided trees for food and dams for beavers (*Castor canadensis*), and those dams have, in turn, increased riparian extent (Ripple and Beschta 2003, 2004). Bird numbers have also increased as a result of the re-growth of trees along stream banks, and fish have benefited from beavers' transformation of hydrology of creeks and streams and from the trees' shading of streams (Berger et al. 2001, Hebblewhite et al. 2005). Wolves have also created a decline in coyote densities, which led to increases in foxes and increased survival of

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P.O. Box 1727
Silver City, NM 88062

pronghorn fawns due to reduced predation by coyotes (Berger and Gese, 2007; Smith et al., 2003, Berger et al. 2008).

The 83%-swath of Wyoming in which wolves will not be allowed to persist, as well as much of the remaining 17% of the state in which wolf numbers and distribution will be greatly reduced, should not be deprived of the myriad ecological benefits that wolves bring and that the Endangered Species Act intended to conserve through conserving the wolf.

The predator zone includes areas that Fish and Wildlife Service previously flagged as potentially important for dispersal, and likely to require regulation. The Fish and Wildlife Service suggests that the predator area consists of unsuitable habitat, a premise which we deconstruct below. However, even if that were true, in rule-making in 2009, the Service admitted that such habitat could help support the crucial biological function of dispersal, which is integral to natural genetic connectivity:

> To the extant that the ability to traverse these areas may play a role in the conservation of the species, all wolves in these areas will be regulated by the States as a game species. Violation of game rules will be subject to prosecution. We believe this is an appropriate level of protection for these largely unsuitable habitats and the same level of protection recommended for southern and eastern Wyoming. We have determined that these areas are insignificant to maintaining the NRM wolf population's viability as they make only minor contributions to the species' representation, resiliency, or redundancy. These contributions are not at a level that meaningfully impacts the ability to conserve the species. To the extant that the ability to traverse these areas may play a role in the conservation of the species, they will be appropriately regulated. (74 FR 15184, April 2, 2009)

Yet the proposed rule, with no evidence, now dismisses these areas' importance for wolf dispersal and genetic connectivity.

"Suitable habitat" as used in the proposed rule is not based on biological standards, but rather on economic, social, regulatory and political exigencies. The proposed rule's assessment of destruction, modification, or curtailment of habitat or range includes a flawed analysis of "suitable habitat" (76 Fed. Reg. 61796-61800), and that analysis also rationalizes the vast predator zone as well as management within the WTGMA that will reduce wolf range drastically within that 15.7% of Wyoming. (The same analysis underlies an exclusionary definition of significant portion of range in the April 2, 2009 wolf delisting rule.) The analysis is based primarily on a study, Oakleaf et al (2006), that incorporates human land-use and policy decisions into criteria for habitat suitability. Since supposed habitat unsuitability now informs a proposal that would annihilate wolves in 83% of Wyoming, it is vital that the judgment on habitat suitability conform to the intent of the Endangered Species Act and applicable regulations. But the non-biological considerations in Oakleaf et al do not conform to the scientific standards of the law.

In Oakleaf *et al*, the term "suitable habitat" makes a brief appearance in the Abstract and then reappears without definition near the end of the paper, used in the same context as the paper's terms "available wolf habitat," "high quality wolf habitat," and "preferred habitat." All four phrases mean

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

the areas where wolves are predicted to be able to survive based on their similarities with places in which wolves do in fact survive (and overwhelmingly constituting the very same places). Although the Oakleaf *et al* paper's objectives include determining "the patterns of habitat selection of wolves in the northern Rockies," *selection* in this case represents the same misnomer as *preferred habitat*, since neither the wolves' selection of habitat nor their preferences play the predominant role in determining their persistence in any area. Rather, factors that in large part properly fall under the category of regulatory mechanisms (or the lack thereof) determined wolf survival, and among the most influential was density of domestic livestock.

Oakleaf et al assessed 12 factors for their potential contribution to wolf persistence: ecoregions, road density, human density, protection status, land ownership, slope, elevation, land cover, ungulate density, cattle density, sheep density and wolf home ranges. They found that forest cover and elk density were positively correlated to wolf presence, and human and livestock densities were negatively correlated. (Of course, the presence and numbers of livestock would have significantly influenced elk distribution and density through competition for forage and through state game department hunting and depredation rules intended to minimize competition with livestock.) Thus, much of the determinant of wolf persistence boils down to the presence of livestock.

Oakleaf et al attribute the negative correlation with livestock to "lethal control of individual wolves following depredation events . . . thus preventing pack formation in these areas." Indeed, the presence of livestock is large part has determined the likelihood that the Fish and Wildlife Service would authorize the killing of wolves. And it is that agency killing that most directly causes any given area not to be occupied by wolves.

Thus, regulatory, sociological, economic and political factors largely determine wolf persistence, not biological factors. Most of Wyoming and the NRM DPS as a whole constitute public lands, upon which regulations determine whether and in what numbers livestock will be placed. Many of the private lands that are grazed are part of a ranch unit whose economic viability depends on grazing on the associated public land. Thus, the decision on whether cattle and sheep will be found (and in what numbers) on private lands is also significantly affected by the federal government's regulations and decisions.

Furthermore, the decision to kill wolves that do come into conflict with livestock is also by its nature regulatory and governmental. Only 7% of wolf control is carried out by private individuals (and even they have been permitted to do so by government). The other 93% is carried out by the USDA Wildlife Services agency and the U.S. Fish and Wildlife Service. Thus, the presence of domestic animals and the decision to kill depredating wolves is not an essential attribute of the landscape but rather the result of agency decisions.

Colloquially, *suitable habitat* suggests the places where an animal finds the natural features that support its existence and persistence. Oakleaf *et al* found that "Core use areas [within home ranges] differed significantly from [other portions of] home ranges for slope and elevation variables, with core use areas being characterized by lower elevation and slope." Under such colloquial usage, such lower elevation and lower slope areas would be considered suitable habitat. However, since these are precisely the regions most heavily stocked with cattle and sheep, they are considered unsuitable.

Similarly, Forbes and Boyd (1997) found that "The mountainous character of the study area [i.e. the northern Rocky Mountains] fragments the landscape into patches of suitable wolf habitat, usually centered around lower elevation valleys, in a matrix of unsuitable habitat" (p. 1230).

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P.O. Box 1727
Silver City, NM 88062

Though wolves may preferentially utilize lower elevation and more gentle terrain in the northern Rocky Mountains, in large part these habitats are considered unsuitable and relegated to the predator zone, and thus made unavailable to wolves.

Preventing wolf recovery in prairie, grassland, shrubland and desert ecosystems conflicts with the Fish and Wildlife Service's joint policy with the National Marine Fisheries Service on recognition of distinct vertebrate population segments under the Endangered Species Act, defining significance of a population in part on "an ecological setting [that is] unusual or unique for the taxon" (61 Fed. Reg. 4722, Feb. 7, 1996).

The proposed rule states:

> While human caused mortality, including both illegal killing and agency control, has not prevented population recovery, it has affected NRM wolf distribution (Bangs *et al.* 2004, p. 93) preventing successful pack establishment and persistence in open prairie or high desert habitats (Bangs *et al.* 1998, p. 788; Bangs *et al.* 2009, p. 107; Service *et al.* 1989–2011, Figure 1). [76 Fed. Reg. 61806; see also 71 Fed. Reg. 43419, Aug. 1, 2006]

The distinctiveness of open and lower elevation habitat led to differentiation of the wolves that originally lived there and in the southern Rocky Mountains of Colorado, from those in the mountains, as delineated in the supposed subspecies described by Goldman (Goldman & Young 1944) and affirmed by Hall (1959, 1981). For example, our analysis shows that the historic range of *C.l. irremotus* identified in the 1987 recovery plan based on Hall and Kelson (1959) contains approximately 102 million acres of grasslands, shrublands and savannas; the area encompassed within the NRM DPS includes almost a third more such habitats: 33 million acres. That is almost twice as big a gain in acreage, by percent, as that experienced by forest habitat in a comparison of the purview of the 1987 plan to the eventual DPS boundaries. Mountainous and forested areas typified *C.l. irremotus* range much more than they did *C.l. nubilus* range.

Nowak (1995) applied multivariate analysis to lump the original wolves in the northern Rocky Mountains and Great Plains together as the subspecies *Canis lupus nubilus*. Leonard et al's (2004) genetic analysis suggests the broad relatedness of the original wolves in the West: "[H]aplotypes lu50 and lu51 are found in historic samples of grey wolves from Utah to Nebraska and are intermixed with haplotypes common in northern grey wolves."

Even not considered as subspecies, the genetic differences underlying the long-observed morphological differences between wolves result from a combination of isolation of populations and adaptive divergence in response to different ecological features. In the case of wolves, which through dispersal can surmount significant barriers and overcome isolation, originally derived genetic differences largely reflect ecological differences (Geffen & Wayne 2004; Wayne et al, 1992).

Such questionable gray wolf subspecies may still be considered as populations that represented significant evolutionary divergence. The morphological differences that defined and identified *C.l. nubilus*, *fuscus*, *youngi* and *irremotus* correlate with significant differences in their respective habitats. *C.l. irremotus* did not extend to the southern third of Wyoming nor to the northeastern third of Montana. These areas were habitat for *C.l. youngi*, the southern Rocky Mountain wolf, and *C.l. nubilus*, the Great Plains wolf, instead, and in Wyoming, these areas would be part of the predator zone. Denying wolves' these areas would further reduce the species' genetic

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

diversity. Leonard et al found that "the high diversity of historic wolf sequences suggests that the mtDNA diversity of the eradicated western cUS grey wolf population was more than twice that of the extant population. Modern wolves are a depauperate subset of the historic population." Further loss of genetic diversity that developed in disparate ecosystems would likely undermine the wolf's adaptation to future threats such as disease or changes in prey density and distribution in response to global warming.

Rule-making to delist wolves in Wyoming based on a DPS configuration that is at odds with the 1996 policy's standards for identifying significant portions of the wolf's range, must ensure that wolves can persist in those ranges. The proposed rule would ensure the opposite – wolves' permanent exclusion from unique habitats and ecosystems that helped shape the gray wolf and that are necessary for the wolf's continued adaptability and resilience.

The predator zone will slow or halt the dispersal of wolves to other states, such as Colorado, in which wolves are still endangered but are not covered by recovery plans.

The Endangered Species Act requires development and implementation of recovery plans for all listed species, but there is no national wolf recovery plan and regional plans do not cover all significant wolf habitats, including those in Colorado and other states directly abutting Wyoming.

Particularly in the absence of the protections that a recovery plan would precipitate, the proposed rule's allowance of the destruction of all wolves in the 83% of the state excepting the northwestern corner, thereby diminishing or curtailing dispersal, would greatly affect if not destroy the prospects for wolf recovery in states in which the species is still listed as endangered.

That effect may extend to the Mexican gray wolf, whose reintroduced U.S. population in Arizona and New Mexico is at risk of failure, in part due to inbreeding depression (U.S. Fish and Wildlife Service 2010, pp. 58-62). Ongoing recovery planning for the Mexican wolf is likely to rely on establishing some level of genetic connectivity to northern Rocky Mountain wolves. But any such potential connectivity would likely be severed by post-delisting Wyoming wolf mortality, particularly in the predator zone.

Despite assurances, wolves in the Greater Yellowstone Ecosystem are unlikely to maintain natural genetic connectivity with wolves elsewhere after delisting, and relying upon translocation to ensure vital genetic connectivity attests to the wolves' continued endangered status.

The Fish and Wildlife Service arbitrarily proposes to reverse its judgment from April 2009 that "all of Wyoming should be managed as a trophy game area" (74 FR 15183, April 2, 2009). The agency explained its position then:

> The record demonstrates that wolves are unlikely to survive where they are classified as predatory animals. Thus, the current regulatory framework is problematic for the reasons outlined below. First, the current regulatory framework limits natural genetic connectivity. The GYA is the most isolated core recovery area within the NRM DPS (Oakleaf *et al.* 2005, p. 554; vonHoldt *et al.* 2007, p. 19). Wolf dispersal patterns indicate that dispersing wolves moving into the GYA from Idaho or Montana are

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

likely to move through the predatory area (Boyd *et al.* 1995). Physical barriers (such as high-elevation mountain ranges that are difficult to traverse in winter) appear to discourage dispersal through the National Parks' northern and western boundaries. Limited social openings in the National Parks' wolf packs also direct dispersing wolves from Idaho and Montana toward the predatory area portions of Wyoming. Finally, Wyoming's winter elk feeding grounds attract and could potentially hold dispersing wolves in the predatory area. Thus, we believe dispersal is more likely to lead to genetic exchange if dispersers have safe passage through the predatory area. While natural connectivity is not and has never been required to achieve our recovery goal, we believe it should be encouraged so as to minimize the need for agency-managed genetic exchange. Because exact migratory corridors are not known, WGFD should be given regulatory authority over the entire State to adaptively manage this issue as new information comes to light over time. A statewide trophy game area is also advisable given the dispersal capabilities of wolves. Wolves have large home ranges (518 to 1,295 km2 (200 to 500 mi2)) with average long-distance dispersal events of 97 km (60 mi) (Boyd and Pletscher 1997, p. 1094; Boyd *et al.* 2007; Thiessen 2007, p. 33), unusually long-distance dispersal events of 290 km (180 mi) (Jimenez *et al.* 2008d, Figures 2 and 3), and dispersal potential of over 1,092 km (680 mi). Some of these wolves may disperse and return to the core of suitable habitat. A statewide trophy game status will allow for routine and unusual dispersal events without near certain mortality (although pack establishment in areas of unsuitable habitat is extremely unlikely). Furthermore, statewide trophy game status will allow more flexibility to devise a management strategy, including regulated harvest that provides for self-sustaining populations above recovery goals. For example, having management authority over the entire State could allow for strategic use of all suitable habitat if necessary during years of disease outbreak. Such an approach could also allow managers to strategically shift wolf distribution and densities in response to localized impacts to native ungulate herds and livestock. Additionally, we believe statewide trophy game status prevents a patchwork of different management statuses; will be easier for the public to understand and, thus, will be easier to regulate; is similar to State management of other resources like mountain lions and black bears; and is consistent with the current regulatory scheme in that the entire State is currently nonessential, experimental. Finally, maintenance of the Act's protections Statewide will assist Service Law Enforcement efforts that might otherwise be difficult if predatory animal status was allowed in portions of Wyoming. We believe the entire State of Wyoming should be managed as a trophy game area. Continuation of the current regulatory framework in Wyoming would meaningfully affect the DPS's resiliency, redundancy, and representation, and decrease the ability to conserve the species. For the purposes of this rule, the entire State shall be considered a significant portion of the range with the understanding that different portions of the range contribute different biological benefits. This boundary: Encompasses the area where threats are sufficient to result in a determination that a portion of a DPS' range is significant, and is endangered or threatened; clearly defines the portion of the range that is specified as threatened or endangered; and does not circumscribe the current distribution of the species so tightly that opportunities to maintain recovery are

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

> foreclosed. Retaining the Act's protections Statewide also is inclusive of the area where a lack of threat management results in biological differences in status (i.e., it covers the State's entire predatory animal area). By identifying the entire State as a significant portion of the range we are not suggesting wolves could or should reoccupy or establish packs in unsuitable habitat. (74 FR 15183, 4/2/2009)

The proposed rule does not substantially address these deficiencies. It does not explain why, for example, different portions of the range are no longer seen to contribute different biological benefits; nor why law enforcement could no longer be handicapped in addressing illegal aerial gunning or poisoning within the WTGMA if such means were to become commonplace for killing wolves in the predator area. (Wolves could be killed by poisons authorized for other species, whereas such authorization is presently not permitted where it may affect listed wolves.) The predator area as proposed now is only slightly smaller than it was in 2009 – a drop of from 89% to 83% of the state's territory, and with an additional 1.3% representing the seasonal flex-zone.

<u>Dispersal and genetic connectivity occurring at present does not indicate such connectivity will persist under state management</u>.

The proposed rule notes that vonHoldt et al (2010) found past and likely current migration between subpopulations. Even so, vonHoldt found connectivity may be tenuous:

> We found that wolves in the NRM do not represent a panmictic population, and instead corroborated previous findings of genetic subdivision among wolf populations on a regional scale (Roy et al. 1994; Musiani et al 2007; Carmichael et al. 2008; Aspi et al. 2009). If populations experienced substantial gene flow, then divergence and genetic partitioning were expected to decrease (Hartl & Clark 1997; Pritchard et al 2000). Despite close proximity of regional subpopulation cores (~200 km apart) within established dispersal capabilities of wolves (Mech 1987; Gese & Mech 1991; Mech & Boitani 2003), population divergence appeared to have increased towards the end of the study period (Fig. 2).
>
> In addition to the biological and environmental effects on population structure common to North American wolf populations (Roy et al. 1994; Geffen et al. 2004; Musiani et al. 2007; Carmichael et al. 2008; Munoz-Fuentes et al. 2009), genetic differentiation in NRM wolves may be influenced by anthropogenic factors and studies done over the first decade of re-introduction have documented similar effects (Oakleaf et al. 2006; Murray et al. 2010; Smith et al. 2010). For example, while high-quality core habitat exists for wolves throughout much of the NRM study area, high human and livestock densities, as well as greater human access, characterize the areas surrounding and connecting each recovery area (Oakleaf et al. 2006). In an analysis of the habitat linkage and colonization probabilities between the three recovery areas, Oakleaf et al. (2006) found that Idaho and Montana have higher connectivity than either of these areas has to the GYA. This finding was corroborated by dispersal patterns of radio-collared wolves as greater dispersal occurred between Idaho and Montana than between either of these areas and GYA (Oakleaf et al. 2006). Further, regional-scale patterns of survival and mortality (Murray et

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

> al. 2010; Smith et al. 2010) for NRM wolves during the first decade of recovery showed increased mortality risk and lower survival for yearlings, dispersers, and wolves living in areas of overlap with private land and livestock. These demographic and spatial dynamics, which are largely driven by anthropogenic factors, may be critical to metapopulation dynamics of NRM wolves as they influence the rates of natural dispersal and genetic connectivity between recovery areas. Applying a landscape genetic approach that integrates spatially explicit genetic data with information on natural (e.g. topography, habitat type) and anthropogenic landscape features (e.g. livestock, private land, road density) is one method that could be used to evaluate the factors influencing gene flow in this region (Manel et al. 2003). [vonHoldt et al 2010, p. 4421]

VonHoldt et al also flagged additional reasons for caution: "High wolf densities and territory saturation in Yellowstone during the height of this study probably limited the ability of individuals to effectively disperse into this core area." (p. 4422). And: "Importantly, dispersal and genetically effective migration are two different entities; the former generally being higher than the latter if migrants are incapable of reproducing because of social strife, lack of breeding positions, or decreased survival" (p. 4422). Finally, the study warns that "our results through 2004 are not necessary [sic] reliable predictors of future conditions" (p. 4423).

In reviewing vonHoldt et al, Hebblewhite et al 2010 wrote: "In conclusion, concerns that this highly vagile and fecund species might suffer negative affects of genetic isolation between the 3 established wolf subpopulation have been effectively laid to rest by vonHoldt et al.'s (2010) exhaustive work. Such connectivity may or may not be maintained in years to come, as more liberal management is expected for wolves living outside protected core areas."

The proposed rule notes:

> [W]olves dispersed in all directions (19 percent of dispersers traveled east as would be necessary to get from central Idaho to the GYA); dispersal occurred year round, but peaked in winter (more than half of all dispersal occurred in the 4 months of November through February); dispersal was a long, meandering process (dispersal events averaged 5.5 months); disperser survival rates were lower than for resident wolves (70 versus 80 percent); [76 Fed. Reg. 61814]

This suggests that few dispersers will survive and reproduce if 83% of the state is made inimical to them. The fact that dispersals lasted so long and occurred year round also suggests the limited utility of the seasonal flex-zone. The proposed rule also admits that if all three states reduce wolf numbers to their permitted minimums, dispersal would "noticeably decrease":

> Overall, we believe State management of population levels alone is unlikely to reduce the overall rate of natural dispersal enough to threaten adequate levels of effective migration. However, if the population is maintained near the minimum recovery target of 150 wolves per State, a scenario we view as extremely unlikely, we would expect dispersal to noticeably decrease. As discussed below, if genetic exchange drops below one effective migrant per generation, the States will implement a human-assisted migration program (*i.e.*, translocating wolves). [76 Fed. Reg. 61815]

Center for Biological Diversity
P.O. Box 1727
Silver City, NM 88062

Of course, a noticeable decrease or even entire curtailment of natural dispersal could occur even with wolf numbers somewhat higher than these minimums.

Reliance on translocation of wolves to ensure genetic connectivity turns the definition of an endangered species on its head. After multiple assurances of Wyoming wildlife authorities' good intentions to maintain natural connectivity (though many years they will likely manage for just 10 breeding pairs), the proposed rule and the Wyoming management plan propose as a last resort translocation of wolves to ensure genetic connectivity and thereby persistence of the Wyoming subpopulation. However, because the other assurances of natural connectivity are unlikely to be fulfilled, this last resort would likely end up as standard procedure.

The proposed reliance on translocation illustrates in part why wolves must still be considered endangered in Wyoming. The Endangered Species Act defines recovery as "the point at which the measures provided pursuant to this Act are no longer necessary" -- and one of those measures is translocation. Unless wolves can be shown to be genetically viable under state management with no resort to future translocation, Wyoming's wolves cannot be delisted.

For these reasons, the gray wolf in Wyoming must stay on the endangered species list at this time.

Thank you for your consideration.

Sincerely,

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