

Mr. Don Morgan
Chief, Branch of Delisting and Foreign Species, Ecological Services
U.S. Fish and Wildlife Service, Headquarters Office, MS: ES
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: **Docket No. FWS-HQ-ES-2018-0097; FXES11130900000C2-189-
FF09E32000**

**Endangered and Threatened Wildlife and Plants; Removing the Gray Wolf
(*Canis lupus*) from the List of Endangered and Threatened Wildlife**

Dear Mr. Morgan:

These comments are submitted on behalf of two national conservation organizations – Project Coyote and The Rewilding Institute. We appreciate the opportunity to present our review and critique of the U.S. Fish and Wildlife Service's (USFWS) proposal to remove the gray wolf from the list of endangered and threatened species under the Endangered Species Act (ESA).

The primary author of these comments is David Parsons, a retired career wildlife biologist with the USFWS and former Mexican Wolf Recovery Coordinator from 1990-1999. Mr. Parsons has a Master of Science degree in Wildlife Ecology from Oregon State University and currently serves as a Science Advisor to Project Coyote and as the Carnivore Conservation Biologist for The Rewilding Institute.

Project Coyote is a national non-profit organization whose mission is to promote compassionate conservation and coexistence between people and wildlife through education, science and advocacy. PC representatives, advisory board members and supporters include scientists, educators, ranchers and citizen leaders who work together to change laws and policies to protect native carnivores from abuse and mismanagement, advocating coexistence instead of killing. PC seeks to change negative attitudes toward coyotes, wolves and other misunderstood predators by replacing ignorance and fear with understanding, respect and appreciation.

The mission of The Rewilding Institute is to develop and promote ideas and strategies to advance continental-scale conservation in North America, particularly the need for widely distributed and ecologically effective populations of large carnivores and effective landscape corridors for their movement. TRI offers a bold, scientifically credible, practically achievable, and hopeful vision for the future of wild Nature and human civilization in North America.

General Comments.

The Endangered Species Act establishes dual purposes of protecting species and their ecosystems.

ESA Section 2(b): *The purposes of this act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species...*

Wolves are as essential to the health of their ecosystems as they are reliant upon healthy ecosystems for their survival. When allowed to exist at ecologically effective population densities and distributions, vital services of wolves include keeping large herbivores from overgrazing/overbrowsing their habitat and limiting populations of mid-sized predators. Removal of wolves or other top carnivores from an ecosystem can unleash a cascade of responses that diminishes biodiversity and overall ecosystem health. By disproportionate predation on the sick and weak, coursing predators such as wolves, generate evolutionary selection for healthier, faster prey. With Chronic Wasting Disease rapidly infecting big game herds across the country, restoring wolves to vast areas of their former range could be an important tool for checking the spread of this devastating disease and other wildlife diseases.

This proposal to remove gray wolves, except the Mexican gray wolf, from the list of endangered species would leave approximately 90 percent of the gray wolves' historic range in the contiguous United States unoccupied by wolves forever. The delisting proposal ignores vast swaths of existing, highly suitable but unoccupied wolf habitat, which would remain forever, impoverished by reduced biological diversity and impaired ecosystem health.

The effect of this delisting proposal is the equivalent of establishing two wild zoos for gray wolves (one in the Great Lakes Region and one in the Northern Rocky Mountains Region), not the ecologically effective restoration of gray wolves to a significant portion of their historical range. Mexican wolves would also remain a small, isolated population, in the Southwest, unlikely to ever be reconnected with gray wolves to the north.

Geographic Considerations.

Figure 1 of the supplemental document *Gray Wolf Biological Report* shows the historical range of the gray wolf as including all but the southeastern-most of the lower 48 United States (portions of 42 states). Restored gray wolf populations currently occupy approximately 10 percent of their historic range in the contiguous U.S. states.

The USFWS has developed and implemented only two recovery plans for gray wolves. Implementation of the Eastern Timber Wolf Recovery Plan facilitated the reestablishment of gray wolves to portions of Minnesota, Wisconsin and the Upper Peninsula of Michigan. And implementation of the Northern Rocky Mountain Recovery Plan facilitated the reestablishment of wolves to portions of Montana,

Idaho, Wyoming and eastern Washington and Oregon. Gray wolves in the Northern Rocky Mountains (NRM) region were removed from ESA protection by federal legislation (Section 1713, Pub. L. 112-10, 125 Stat. 38 (Apr. 15, 2011)), which reinstated the 2009 delisting rule for the region (76 FR 25590, May 5, 2011).

This proposed rule seeks to ensure the continued existence of only two regional metapopulations of gray wolves in the six states of Montana, Idaho, Wyoming, Minnesota, Wisconsin, and Michigan.

Gray wolves have dispersed into states adjacent to these six states and have established some small populations. But the USFWS has determined in this proposed rule that those wolves are not essential to the continued existence of the gray wolf entity (*Canis lupus*, except *C. l. baileyi*) throughout its entire range.

This proposed rule would result in the complete removal of all gray wolves from federal protection under the Endangered Species Act based on the results of recovery programs implemented to date in the six states listed above. If this rule is adopted, management authority for all gray wolves would transfer to the states, which have shown little inclination to independently support gray wolf recovery at viable or ecologically effective levels.

To the contrary, when states are given management authority, legal and liberal wolf control and hunting programs often become the predominant management strategy, with little consideration for the wolf's important role in ecosystems. The immediate goal of most states upon the removal of ESA protections is to reduce the population of gray wolves in their state.

Because the Northern Rocky Mountain (NRM) population of gray wolves was removed from ESA protection previously, this rule proposes to delist all other extant populations of gray wolves in the lower 48 United States. The USFWS claims that the population of gray wolves currently inhabiting Minnesota, Wisconsin, and Michigan plus the NRM population are all the gray wolves necessary to ensure their continued existence in the wild. The rule acknowledges the establishment of gray wolf populations in the states of Washington, Oregon, and California and the documented dispersal of wolves into other states, but dismisses these populations as being nonessential to the continued existence of the gray wolf entity.

Essentially, this proposed rule is a replay of a previous rule issued in 2013 (78 FR 35664, June 13, 2013) that removed all gray wolves, range wide, from the list of endangered species under the ESA based on completed recovery efforts at that time. However, in 2017, the D.C. Circuit Court of Appeals vacated the 2013 rule, thus reinstating ESA protections for wolves in the western Great Lakes (WGL) region (*Humane Society v. Zinke*, 865 F.3d 585, 605). The court concluded that the USFWS acted arbitrarily when it did not properly consider the effects of delisting on the remaining gray wolf population or impacts from the loss of gray wolves' historic range. No new recovery efforts have been proposed or implemented since the court

ruling in 2017. Why should the USFWS expect a different outcome when taken to court again for recycling its fatally flawed 2013 delisting proposal?

The ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range....” The USFWS’s formally adopted definition of “significant portion of range” is as follows:

A portion of the range of a species is ‘significant’ if the species is not currently endangered or threatened throughout all of its range, but the portion’s contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range. (Federal Register/Vol. 79, No. 126/Tuesday, July 1, 2014)

This policy confirms that the USFWS is not concerned about range loss until the population of a species is reduced in distribution and abundance to the point that it barely meets the standard for not being endangered or threatened, or put another way, is on the brink of extinction. For endangered species being brought back from complete or near extirpation, the policy is even more problematic. Throughout this proposed rule the USFWS uses the term “range” to actually mean “currently occupied range” - not historical range nor existing unoccupied, but suitable, habitats within historical range. This interpretation is particularly absurd for species being restored from a critically endangered status because currently occupied range is the range that is occupied by the species through deliberate recovery efforts. When the species meets minimal numerical criteria established in a recovery plan, it becomes eligible for delisting. That is what the USFWS is proposing in this rule – the delisting of a species that is teetering on the brink of extinction in the lower 48 United States.

The USFWS policy on a significant portion of range has subsequently been rejected/vacated in at least two court decisions: *Desert Survivors v. U.S. DOI*, Case No. 16-cv- 01165-JCS (N.D. Cal. Aug. 24, 2018); *Ctr. for Biological Diversity v. Jewell*, 248 F. Supp. 3d 946, 955–58 (D. Ariz. 2017).

The proposal notes that a substantial portion of gray wolf historical range has been “lost” due primarily to anthropogenic modifications or disturbances to formerly suitable habitats for gray wolves. But the proposal conspicuously fails to mention or identify vast swaths of currently suitable habitat for gray wolves remaining, especially in the western United States (Carroll et al. 2006). Notable examples are large blocks of public lands in the states of Colorado and Utah with substantial populations of native ungulate species. Gray wolves are absent from these areas of suitable habitat because of past and ongoing human persecution and the refusal of the USFWS to propose recovery actions for these wolfless areas.

According to a review of 27 wolf habitat suitability studies by scientists at the Center for Biological Diversity, approximately 538,000 square miles of currently

suitable gray wolf habitat exist in the lower 48 states, of which approximately 171,000 square miles were occupied (Weiss et al. 2014).

This discussion points directly to an overarching problem that the USFWS refuses to acknowledge – the lack of, and need for, a national gray wolf recovery plan. Other wide-ranging species have received such consideration and have been recovered over substantial portions of historical range from which they had been extirpated (e.g. Bald Eagle, Peregrine Falcon, Brown Pelican, American Alligator).

We respectfully request that this proposed rule be withdrawn and that no further delisting proposals be considered until a national, historical range wide, gray wolf recovery plan meeting the standards of ESA Section 4(f) and using the best available science is developed and approved.

Numerical Recovery Criteria Are Not Supported by Best Science.

Recovery criteria for the Northern Rocky Mountain region require a minimum of 30 breeding pairs and at least 300 wolves distributed among the three states of Montana, Idaho, and Wyoming (USFWS 1987). To avoid relisting NRM wolves, approved state management plans are required to maintain populations of 15 breeding pairs and at least 150 wolves. Thus, under current state management, the wolf population in the NRM region can be reduced to 45 breeding pairs totaling at least 450 wolves, without invoking consideration of relisting the population as threatened or endangered under the ESA.

Recovery criteria for the western Great Lakes region require a population in Minnesota within the range of 1251-1400 wolves and a separate population of either 100 or 200 wolves depending on its proximity to the Minnesota population (USFWS 1992). Thus the minimum population requirement to avoid relisting lies within the range of 1351-1600 wolves in the three-state region. Approved state wolf management plans for Minnesota, Wisconsin, and Michigan call for minimum populations of 1600, 350, and 200, respectively, for a total minimum population of 2150 wolves among the three states.

Evidence suggests that when management authority is transferred to the states, wolf populations tend to decline.

For example, in Minnesota, when wolves are delisted, management rules will allow landowners to kill wolves to protect livestock, domestic animals, and pets; authorize the establishment of “predator control areas” with even more permissive rules for killing wolves near a livestock predation site; and authorize payments to state-certified predator controllers of \$150 for each wolf killed. When wolves were temporarily delisted, over 400 wolves were killed by hunters and trappers in the 2012-2013 hunting season in Minnesota.

In Wisconsin, a 2018 state law mandates the state DNR to allow hunting and trapping of wolves by private parties immediately upon delisting of the Great Lakes wolf population. And the wolf management plan sets a target population goal of 350 wolves for the state. When gray wolves were temporarily delisted, Wisconsin set a hunting and trapping quota of one-third of the state's wolves for the 2013-14 hunting season. Approximately 31% of the state's estimated 822 wolves were killed.

In Michigan, laws have already been passed that would liberalize wolf control and allow hunting and trapping of wolves upon delisting.

In Wyoming, the Department of Game and Fish manages wolves with dual classifications of trophy game near Yellowstone and Grand Teton National Parks and predatory animals elsewhere. The Wyoming wolf management plan establishes a goal of maintaining a population of at least 10 breeding pairs and 100 wolves outside Yellowstone National Park and the Wind River Reservation. Unlimited and unrestricted wolf killing is allowed over 80% of the state where wolves are classified as predatory animals and where the Department has no authority over these wolves (W.S. § 23-1-101(a)(viii)(B)). From 2016 to 2017 the population in the trophy wolf hunting zones decreased by 16%. The 2017 wolf-hunting season established a goal of reducing the wolf population in the trophy hunting areas by an additional 24%.

Similarly, wolf populations in Montana and Idaho are managed under approved plans that authorize annual hunting, trapping, and lethal control for livestock depredation. Both states must maintain minimum populations of at least 15 breeding pairs and 150 wolves to avoid relisting under the ESA.

Should the states choose to manage for the minimum delisting requirements, the gray wolf population could fall as low as 1900 wolves for the entire gray wolf range within the lower 48 states before triggering relisting (1600 in the Great Lakes Region plus 300 in the NRM). Given the USFWS's estimate of a population of about 1000 gray wolves at the time of listing in 1978 (Proposed Rule, Page 29), this represents a poor record of accomplishment for gray wolf recovery throughout their entire range. Leonard et al. (2005) estimated the historical population of gray wolves in the western US and Mexico to be 380,000. They add that, given the methods used, this likely represents an underestimation. It appears reasonable to assume that the historical abundance of gray wolves in the lower 48 states and Mexico was in the range of several hundred thousand to a million wolves. Seton (1929) estimated the North American population of gray wolves at about two million. Thus, delisting is being proposed for a total US population of gray wolves representing substantially less than 1% of their historical abundance.

Given that the NRM Recovery Plan was last revised in 1987 and the Eastern Timber Wolf Recovery Plan was last revised in 1992, serious concerns arise about the application of the best available science as required by the ESA.

No science-based population viability analyses are presented in the proposed rule, which accepts the antiquated recovery criteria in the recovery plans. Significant advances in our scientific understanding of population viability and extinction risk have occurred over the past three decades. For example, Traill et al. (2007) conducted a meta-analysis of 141 sources to standardize estimates of minimum viable population (“MVP”) size for 212 species, including the gray wolf. They calculated a median MVP of 4,169 individuals standardized for 99% probability of persistence over 40 generations. Reed et al. (2003) used population viability analysis to estimate MVPs for 102 species, including the gray wolf, and found mean and median MVPs of 7,316 and 5,816 respectively.

The current estimated population in the Great Lakes Region of 4,400 wolves would generally meet modern standards for a minimally viable population with a high probability of persistence for 100 years or more, if maintained at the current population level. But, the delisting standard for the region is about one-third that number. Additionally, the peer review raises questions about the accuracy of the population estimates for Minnesota and Wisconsin and suggests the actual population sizes could be significantly lower than reported by the states.

The Gray Wolf Biological Report (page 23) states that the total population of the three states in the Northern Rocky Mountain region was estimated to be about 1700 wolves in 2015. This population is well below modern standards for viable populations reported by Traill et al. (2007) and Reed et al. (2003). And the minimum recovery standard for this population of 30 breeding pairs and 300 wolves is almost certainly non-viable.

Bergstrom, et al. (2009) conducted population viability analyses using the program Vortex, for the approximate NRM population size of 1650 wolves. Data inputs to the model included proposed harvest levels of 600 wolves throughout the three-state region, and well-documented gray wolf natural history information. They varied several parameters such as age distribution, breeding pool, total percentage of breeding wolves, dispersal survival, age at mortality, and percentage dispersing between NRM and YNP from realistic and conservative values to extremely liberal (in terms of facilitating persistence) and unrealistic values. In all of 10,000 simulations of the Vortex model for all conditions, the population declined, effectively, to extinction in less than 10 years. Curiously, this highly relevant paper is not cited in either the proposed rule or the supplemental biological report.

We recommend that the proposed rule be withdrawn pending a range-wide population viability analysis using the best available scientific standards. The results of this analysis should be incorporated into the national range-wide gray wolf recovery plan recommended above.

Peer Review.

It is hard not to perceive that the proposed rule represents a political decision in search of a science-based justification, rather than a well-reasoned decision that flows from a critical application of the best available science, as is required by the ESA.

We commend the USFWS for the quality, independence, and transparency of the contracted peer review of this proposed rule. The ESA requires that decisions to list or delist a species to/from endangered status be based solely on the best available scientific data. The USFWS has taken this responsibility seriously by having this proposed rule examined by independent scientists for scientific accuracy and sufficiency in accordance with the revised formal peer review policy adopted by the USFWS in 2016. This policy entrusts the scientific evaluation of species listing and delisting determinations to an external panel of scientists who are expertly qualified to assess the scientific evidence and make a recommendation to the agency, based solely on the best scientific and commercial data available. The new policy also took additional steps to make the process more transparent by making the peer-review documents available to the public, as well as the conflicts of interest forms from the peer-review panel. As was done for this rule, it is critical that the results of the peer review be made available to the public within the open comment period. The updated policy has significantly strengthened the peer and public review processes and the ESA provision that mandates the use of the best available science in making decisions regarding the listing and delisting of threatened and endangered species.

The value and strength of the peer review process is realized only if the USFWS uses the results to correct scientific flaws, deficiencies, and omissions in its analyses and revise the proposed rule accordingly. The official peer review for this proposal to delist all gray wolves in the lower 48 United States (except for the separately listed Mexican gray wolf) concluded that the proposal contained several scientific errors, omissions, and/or misinterpretations rendering the proposed action inconsistent with the ESA mandate for use of the best available scientific and commercial data.

We see no need to repeat the peer review findings in detail here. Below is an incomplete summary of some of the significant findings from the official peer review:

- ❖ The treatment of “range” in the proposed rule is markedly inconsistent with how range is treated for other species that have been delisted or proposed for delisting under ESA. The definition and description of the “range” of the gray wolf are limited to areas within or adjacent to “currently occupied range” and omit large swaths of highly suitable habitats within the historical distribution of gray wolves, for example, the entire states of Utah and Colorado. This confuses and renders invalid assessments by the USFWS regarding the endangerment of gray wolves “throughout all or a significant portion” of their range as required by the ESA.
- ❖ The proposed rule lacks detail and rigor in the treatment of genetic and long-term population viability issues. Numerical standards for recovery and the

- relisting threshold are well below accepted thresholds for population persistence of 100 years or more.
- ❖ Nascent recovering populations of gray wolves, especially in the states of Washington, Oregon, and California, are deemed non-essential to recovery of the “gray wolf entity” and are not protected under the proposed rule. The future contributions of these recovering populations are not considered. Their complete extirpation would apparently be of no concern to the USFWS.
 - ❖ The claim and assumption that gray wolves form an undifferentiated continent-wide metapopulation rendering all gray wolves outside current populations residing in Idaho, Wyoming, Montana, Minnesota, Wisconsin, and Michigan as inconsequential to recovery of gray wolves in the lower 48 United States is not supported by the preponderance of the scientific literature regarding the existence and importance of gray wolf ecotypes and the process of evolutionary adaptation to the wide variety of habitat types/ecosystems that gray wolves currently occupy or have historically occupied.
 - ❖ The significance of human-caused mortality as a past, current, and ongoing risk factor for gray wolf recovery is largely ignored, inadequately analyzed, and misunderstood by the USFWS in the proposed rule and the accompanying biological report. This important risk factor must be rigorously reassessed in light of the substantial scientific information contained within the peer review report.
 - ❖ The biological report is wholly lacking in pertinent, vital, and accurate information on human attitudes and behavior as they relate to human-caused mortality in wolves.
 - ❖ The Gray Wolf Biological Report also contains scientific flaws and omissions and, therefore, is not sufficient in providing the basis for determining the best available science for the proposed rule to delist the gray wolf. Proper sequencing of the delisting proposal and the peer review process would have been to submit the Biological Report to peer review before using it to inform the “best science” for the proposal to delist gray wolves.
 - ❖ The proposed rule and biological report contain demonstrable errors of scientific fact, interpretation, and logic.

The peer review recommendations leave the USFWS with two options: 1) produce a proposal that is consistent with the best available science as informed by the independent peer reviewers, or 2) retract the proposal altogether. Ignoring the peer review findings and recommendations in part or in whole will be met with public outcry and most likely litigation.

Effects on Future Recovery of the Mexican Gray Wolf.

The proposed rule includes the following disclaimer regarding its effect on the Mexican gray wolf (*Canis lupus baileyi*): “This proposed rule does not have any effect on the separate listing of the Mexican wolf (*Canis lupus baileyi*) as endangered under the Act.” We disagree.

The Mexican gray wolf suffers from current and looming effects related to a severe population bottleneck resulting in the entire subspecies (both wild and captive populations) being saved from near certain extinction by the breeding of only 7 surviving founders in captivity. The wild population is further compromised by the USFWS's failure to transfer genetically valuable animals from the captive to the wild population, such that on average the 131 wild Mexican wolves in the wild population are as related to each other as full siblings (Declaration of Philip W. Hedrick, Ph.D.; Case 4:15-cv-00019-JGZ Document 221-1 Filed 07/20/18).

Hedrick et al. (2010) and Hendricks et al. (2016) acknowledge the importance of the potential for future genetic exchange between Mexican wolves and northern gray wolves for maintaining the genetic health and adaptive potential of Mexican wolves, especially in light of future range shifts induced by climate change effects on the distribution of favorable habitats for Mexican wolves.

Carroll et al. (2013) produced a data-driven model for an interconnected metapopulation structure that connects northern gray wolves with Mexican gray wolves throughout the interior West. Nodes 4 and 5 (see their Figure 4 below) were recommended as two additional locations for establishing populations of Mexican gray wolves in a 2012 draft recovery plan recommended by a panel of independent scientists appointed by the USFWS to the Science and Planning Subgroup of the Mexican Wolf Recovery Team.

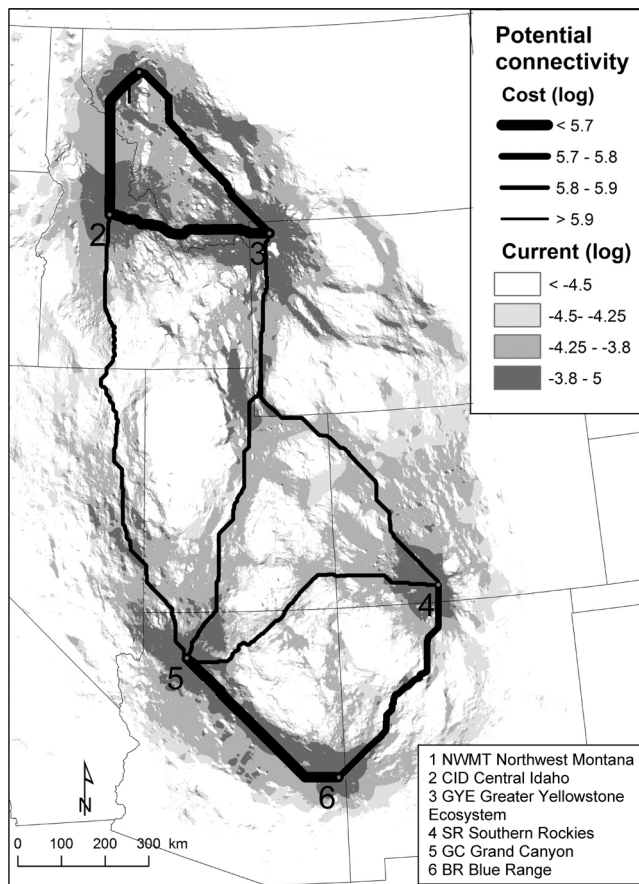


Figure 4. Potential habitat linkages between 6 existing or potential wolf-population core areas in the western United States (thickest lines, linkages with lowest least-cost distance; darkest gray shading, areas with highest importance for connectivity based on the resistance distance model; abbreviations for core areas correspond to labels in Appendix S3 in Supporting Information).

Carroll et al. (2013) suggested that dispersal between the northern gray wolves in habitat nodes 1, 2, and 3 and Mexican gray wolves in nodes 4, 5, and 6 may be sufficient for maintenance of adaptive connectivity, with occasional dispersal maintaining a regional cline in genetic structure similar to historic conditions (Leonard et al. 2005). They recommended that “recovery plans for formerly widely distributed species should consider how such broad-scale genetic structure can be restored via conservation of interregional linkages and stepping-stone habitat (Franklin & Frankham 1998).”

A metapopulation comprised of 3 subpopulations of Mexican gray wolves with a total population of at least 750 wolves, shown as habitat nodes 4, 5, and 6 above, was recommended by the USFWS-appointed Science and Planning Subgroup in 2012, but was rejected by USFWS. Under heavy political pressure from the four Southwestern states of Utah, Colorado, Arizona, and New Mexico, the USFWS opted for limiting the recovery of Mexican gray wolves in the United States portion of their

range to areas in Arizona and New Mexico south of Interstate 40 (see Figure 1. From the proposed rule below; see also USFWS 2015). This decision rendered the areas depicted as habitat nodes 5 and 6 per Carroll et al. (2013) off limits to habitation by Mexican wolves.

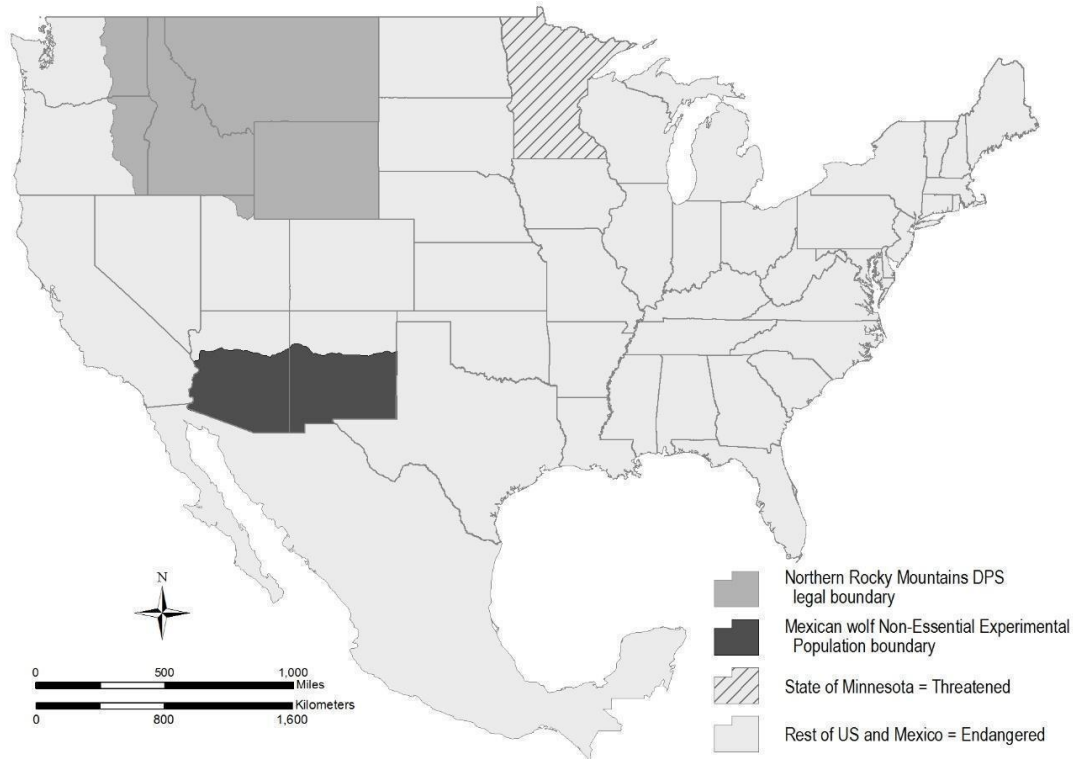


Figure 1: Current legal status of *C. lupus* under the Act. Northern Rocky Mountains DPS and Mexican wolf Non-Essential Experimental Population are not part of the listed entities. All map lines are approximations; see 50 CFR 17.11 and 17.84(k) for exact boundaries.

The stark contrast between Figure 1 from the Proposed rule and Figure 4 from Carroll et al. (2013) cannot be overlooked. It dramatically shows the difference between science-based and politically motivated recovery planning.

A special rule revising the regulations for the nonessential experimental population of Mexican wolves (USFWS 2015) established Interstate 40 as the legal northern limit of the distribution of Mexican wolves in the US Southwest. The special rule also set a cap of no more than 325 wolves within the US portion of the Mexican wolf's range – the area shaded black in Figure 1 above. Thus, the officially adopted 2017 Mexican wolf recovery plan (USFWS 2017) and the 2015 special rule (USFWS 2015) limit Mexican wolves to habitats south of Interstate 40 in Arizona and New Mexico and limit the recovered population in the U.S. to no more than 325 wolves. These rules and policies for Mexican wolves combined with the proposed delisting

of the gray wolf entity leaves a more than 500 mile wide wolfless gap between southern boundary of the Northern Rocky Mountain Gray Wolf DPS and the northern boundary of the Mexican wolf experimental population area at Interstate 40 (Figure 1 above). This would preclude any potential genetic mixing between Mexican wolves and northern gray wolves through natural range expansions of these two populations for the foreseeable future.

Both the Mexican wolf recovery plan (USFWS 2017) and the special rule (USFWS 2015) governing management of the wild population are the subject of ongoing litigation. On March 31, 2018, the United States District Court for the District of Arizona found that “the 2015 10(j) rule fails to further the conservation of the Mexican wolf.” The Court ruled that the 2105 special rule was arbitrary and capricious and remanded the regulation to be revised to address specific issues identified by the Court, including the USFWS’s failure to consider the best available science.

This opens the possibility that the hard boundary prohibiting Mexican wolf dispersal north of Interstate 40 in Arizona and New Mexico and the population cap of 325 Mexican wolves in the US portion of its range may be removed in the revision of the rule.

The biological report and the delisting rule must acknowledge the possible impacts to Mexican gray wolves of cutting off the potential for reestablishing historical gene flow along a north-south continuum of connected gray wolf populations in the interior West as illustrated in Figure 4 of Carroll et al, (2013).

We conclude that gray wolves will continue to face significant threats throughout historical and currently occupied portions of their range and that their survival and recovery will be jeopardized if this rule is adopted as proposed.

We oppose the delisting of any gray wolf population until gray wolves are fully recovered throughout a significant portion of remaining suitable habitats within their historical range.

Respectfully Submitted,

A handwritten signature in blue ink that reads "David R. Parsons". The signature is written in a cursive, flowing style.

David R. Parsons

Science Advisor
Project Coyote

Literature Cited:

Bergstrom, B. J., Vignieri, S., Sheffield, S. R., Sechrest, W., and Carlson, A. A. 2009. The northern rocky mountain gray wolf is not yet recovered. *BioScience*, Volume 59, Issue 11, December 2009, Pages 991–999.

Carroll, C, R.J. Fredrickson, R.C. Lacy. 2013. Developing Metapopulation Connectivity Criteria from Genetic and Habitat Data to Recover the Endangered Mexican Wolf. *Conservation Biology* 28(1).

Carroll, Carlos, Phillips, M.K., Lopez-Gonzales, C.A. and Nathan H. Schumaker. 2006. Defining recovery goals and strategies for endangered species using spatially-explicit population models: the wolf as a case study. *Bioscience* 56:25-37.

Franklin, I. R., and R. Frankham. 1998. How large must populations be to retain evolutionary potential? *Animal Conservation* 1:69–70.

Hedrick, P.W., and R. Fredrickson. 2010. Genetic rescue guidelines with examples from Mexican wolves and Florida panthers. *Conservation Genetics* 11:615–626

Hendricks, S.A., P.R. Sesink Clee, R.J. Harrigan, J.P. Pollinger, A.H. Freedman, R. Callas, P.J. Figura, and R.K. Wayne. Re-defining historical geographic range in species with sparse records: Implications for the Mexican wolf reintroduction program. *Biological Conservation* 194 (2016) 48–57.

Leonard, J.A., C. Vilà, and R.K. Wayne. 2005. Legacy lost: genetic variability and population size of extirpated US grey wolves (*Canis lupus*). *Molecular Ecology* 14:9–17.

Reed, D. H, J. J. O’Grady, B. W. Brook, J. D. Ballou and R. Frankham. 2003. Estimates of minimum viable population sizes for vertebrates and factors influencing those estimates. *Biological Conservation* 113: 23-34.

Seton ET (1929) *Lives of Game Animals*, Vol. 1: Cats, wolves, and foxes. Doubleday and Doran Co., New York.

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Traill, L. W., Corey J. A. Bradshaw, and Barry W. Brook. 2007. Minimum viable population size: a meta-analysis of 30 years of published estimates. *Biological Conservation* 139: 159-166.

U.S. Fish and Wildlife Service. 1987. Northern Rocky Mountain Wolf Recovery Plan. USFWS, Denver, CO.

U.S. Fish and Wildlife Service. 1992. Recovery plan for the eastern timber wolf. Twin Cities, MN.

U.S. Fish and Wildlife Service. 2012. Draft Mexican Wolf Revised Recovery Plan. Region 2, Albuquerque, New Mexico, USA.

U.S. Fish and Wildlife Service. 2015. Revision to the Regulations for the Nonessential Experimental Population of the Mexican Wolf. 50CFR 17.84(k)(9)(iii).

U.S. Fish and Wildlife Service. 2016. Memorandum regarding peer Review Process, available at:
https://www.fws.gov/endangered/improving_ESA/pdf/Final%20peer%20review%20policy%20061995%20Signed.pdf

U.S. Fish and Wildlife Service. 2017. Mexican Wolf Recovery Plan, First Revision. Region 2, Albuquerque, New Mexico, USA.

U.S. Fish and Wildlife Service. 2018. Gray Wolf Biological Report. October 31, 2018. 38 pp.

Weiss, A. et al. 2014. Making Room for Wolf Recovery, available at
https://www.biologicaldiversity.org/campaigns/gray_wolves/pdfs/Making_Room_for_Recovery_print.pdf