



Society for Conservation Biology

The North America Section of a global community of conservation professionals

December 28, 2007

Mr. Brian Millsap
State Administrator
U.S. Fish and Wildlife Service
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, NM 87113

Dear Mr. Millsap:

On behalf of the North American Section of the Society for Conservation Biology (SCB), a global society of approximately 14,000 conservation professionals, I am pleased to submit review comments on the *Scope of the Environmental Impact Statement and Socio-Economic Assessment for the Proposed Amendment of the Rule Establishing a Nonessential Experimental Population of the Arizona and New Mexico Population of the Gray Wolf* (72 Fed. Reg. 151: 44065 (7 Aug 2007)).

The attached comments were prepared by C. Carroll, M. K. Phillips, A. Switalski, and J. Vucetich for the North American Section of SCB. The full set of comments was subjected to external peer review and was approved by the Policy Committee of the North American Section (D. DellaSala, Chair), the Policy Committee of SCB Global (L. Boitani, Chair), and the Policy Director of SCB (J. Fitzgerald), as well as myself.

We sincerely hope that our comments will assist the U.S. Fish and Wildlife Service in improving its recovery strategy and meeting its ultimate goal of recovery of the Mexican Gray Wolf. Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,

Reed F. Noss, Ph.D.
President, North American Section, SCB

**Comments on the Scope
of the
Environmental Impact Statement and Socio-Economic Assessment
for the
Proposed Amendment of the Rule Establishing a
Nonessential Experimental Population of the
Arizona and New Mexico Population of the Gray Wolf
(72 Fed. Reg. 151: 44065 (7 Aug 2007))**

Submitted by the Society for Conservation Biology – North America Section

Prepared by C. Carroll, M. K. Phillips, A. Switalski, and J. Vucetich

EXECUTIVE SUMMARY

The Society for Conservation Biology (SCB) is an international professional organization dedicated to promoting the scientific study of the phenomena that affect the maintenance, loss, and restoration of biological diversity. Our peer-reviewed journal, *Conservation Biology*, has published dozens of articles addressing both the Endangered Species Act and wolf restoration in the United States. The SCB is organized into Regional Sections, which represent the continents and ocean. The largest of these Sections is the North American, representing the United States, Canada, and Greenland. The North American section, through the SCB policy office, provides the following comments on proposed revisions

to the policies governing the Mexican Gray Wolf recovery program (50 CFR Part 17, 72 FR 44065) and on the scope of the assessment(s) of the impact of the program, and changes proposed in it. These comments draw upon fundamental principles of conservation biology and specific information on wolf biology as they apply to the scoping process and to potential revisions to the policies governing the Mexican Gray Wolf recovery program¹.

The Mexican Gray Wolf recovery program has not achieved its objective of restoring viable populations of southwestern wolves due to policy guidelines that have lacked a strong basis in wolf biology and related biological principles, imposed counterproductive restrictions on the scope of recovery actions, and failed to include recovery criteria that are consistent with the statute, case law and the spirit and intent of the Endangered Species Act². Current (2006) population levels and number of breeding pairs are significantly below (57% of and 39% of, respectively) those anticipated in the environmental impact statement for the reintroduction (USFWS 1996). Although the current scoping process relates specifically to revision of the experimental-nonessential population (Endangered Species Act section 10(j)) rule, such revision is inextricably tied to issues regarding the broader direction of the recovery program. In fact, the current rule revision process would more appropriately occur in conjunction with, rather than before, re-initiation of the recovery planning process. In order to

¹ See, 50 CFR Part 17, 72 FR 44065

² Section 4(f)(1) of the Act has since 1988 required a recovery plan for each listed species (including listed subspecies) that in turn includes site-specific management actions, objective measurable criteria for recovery and delisting, and estimates of the time and cost required to carry out the intermediate steps and to achieve the goal of recovery. Section 4(f)(3) requires the Secretary to report every two years to the authorizing committees of Congress on status of efforts to develop and implement recovery plans for all listed species. Section (h)(4) requires publication of guidelines for developing and implementing recovery plans, which according to paragraph (1)(A) must give priority to species most likely to benefit from them, particularly those in conflict with economic activities. It may be that since these are mandatory duties and since the Secretary's authority to allow regulated and permitted takings is itself subject to certain, duties, findings and conditions specified in the Act, that such takings, and the designation as non-essential itself, should be included in the scoping and assessment process and addressed in a recovery plan.

successfully recover wolves to the southwest, the program needs to move forward based on a reinvigorated recovery planning process. Until such time as a recovery plan is completed, revised interim implementation guidelines that reduce current risks to the reintroduced wolf population would be preferable. Our suggestions as to the future direction of the recovery process can be allocated to the following specific areas **which should be addressed in the assessment(s) as categories or subcategories of proposed actions or alternatives for achieving the legal goal of recovery by attaining the delisting targets that a recovery plan would contain, based upon the Act's requirements, including delisting decisions based on the best available commercial and scientific data.**³

1. Considering the Mexican wolf population outside of captivity is significantly below anticipated numbers, the recovery planning process should be immediately reinitiated. The recovery team should involve scientists with expertise in relevant fields such as conservation planning, wolf behavior and social structure, prey population dynamics, and wolf genetics. Recovery planning should consider the large historic population level (tens of thousands) and high levels of inter-population dispersal of southwestern wolves as documented by genetic analysis. These data will aid assessment of potential goals for recovery of ecologically-effective populations of southwestern wolves.
2. Recovery of a viable wolf meta-population in the southwest requires that wolves be recovered in areas outside of the Blue Range Wolf Recovery Area (BRWRA). Administrative policies and activities that interfere with the dispersal and persistence of wolves outside the BRWRA interfere with recovery. The recovery team should address wolf recovery planning at a broad spatial scale, including the role of recovered southwestern gray wolf populations in facilitating recovery and maintenance of a viable wolf meta-population in the western US. This would

³ Ibid note, 2 and for delisting -- Section (4)(b)(1)(A).

necessarily involve consideration of suitable recovery areas outside of the Blue Range Wolf Recovery Area and what policy revisions would facilitate natural dispersal to those areas or insure success of active reintroductions.

3. In the interim period before finalization of a proper recovery plan, rule revisions should be limited to mitigating immediate threats to the current reintroduced population. Here we provide two specific examples of revisions we deem necessary. Current public lands management practices that increase potential habituation of wolves to feeding on livestock should be revised. Policies regarding thresholds for management control (either due to repeated depredation events or to non-problem dispersal outside the recovery area) should be revised to take into account the continued vulnerability of the small reintroduced population to excessive lethal control or removal levels, and restoration of core habitat should be considered.

INTRODUCTION

The gray wolf (*Canis lupus*) was extirpated from the southwestern U.S. by the 1940s and was likely extirpated from northern Mexico sometime after 1980 (Brown 1983). In 1982, the U.S. Fish and Wildlife Service (USFWS) finalized a binational recovery plan for the Mexican wolf (*C. l. baileyi*) that proposed to maintain a captive breeding program and to reestablish a population in the wild of at least 100 wolves (U.S. Fish and Wildlife Service 1982). In 1997, the USFWS finalized a reintroduction plan calling for releasing about 15 wolves annually, classified as an experimental-nonessential population, to the Blue Range Wolf Recovery Area, which encompasses around 18,000 km² of the Gila National Forest in New Mexico and the Apache National Forest in Arizona and New Mexico. Experimental-nonessential populations are designated by the USFWS per section 10(j) of the ESA to expedite recovery while minimizing conflicts with human activities resulting from endangered species reintroduction projects (Parker and Phillips 1991). The final rule (USFWS 1998) authorized the Service to initially release wolves

only in the “primary recovery zone” of the BRWRA, an area that encompasses about 2,664 km² of the Apache National Forest. The remainder of the BRWRA comprised the secondary recovery zone, where re-releases of wolves were authorized.

In April 2003, the USFWS published a reclassification rule that divided the lower 48 states into three distinct population segments (DPS). For the southwestern DPS, the USFWS retained the experimental-nonessential population area (Parsons 1998) and designated the populations with the remainder of the area as endangered. The decision to classify the southwestern DPS as endangered indicated a need for comprehensive and science-based recovery planning, including the development of downlisting and delisting criteria (USFWS 2003). This process was initiated in October 2003 but was suspended in 2005.

ISSUES RELATED TO MANAGEMENT OF THE BLUE RANGE REINTRODUCED POPULATION

In 2001, a “3-year” review of the Mexican Wolf Recovery Program (Paquet et al. 2001) noted the failure to achieve population levels anticipated in USFWS (1996) due to high levels of mortality and management removal (recapture). To address this problem the authors recommended that the recovery program should 1) reduce habituation of wolves to feeding on livestock by altering livestock management practices through better disposal of carcasses and other measures; and 2) allow natural dispersal of non-depredating wolves outside the initial primary recovery area. These two measures would reduce the level of lethal control and recapture and thus facilitate more rapid growth of the reintroduced population. Neither of these recommendations has been implemented.

We endorse both of these recommendations. Allowing natural dispersal of non-problem wolves is important both for improving the prospects for establishing new populations without the need for expensive active reintroduction efforts, and for facilitating expansion of the Blue Range population to a size where it will be more resilient to factors reducing viability of small, isolated populations (e.g.,

environmental stochasticity, loss of genetic diversity, human-caused mortality, disease, and climate change (Frederickson et al. 2007, Frankham 2007). Much suitable habitat exists adjacent to the BRWRA but outside the current recovery zone boundaries (Sneed 2000, CBSG 2000, Carroll et al. 2005, Carroll et al. 2006). The experience with wolf reintroduction in the Northern Rocky Mountains, where no artificial geographic limits were placed on wolf dispersal, suggests that lack of such restrictions is important for rapid success of reintroduction efforts (USFWS et al. 2006).

Set higher population goals before increasing control efforts

In late 2005, the Mexican wolf recovery oversight committee completed a “5-year” review of the program (AMOC 2005) and recommended several modifications. The AMOC review suggested allowing wolves to disperse beyond the current Blue Range Wolf Recovery Area, in order to facilitate establishment of a metapopulation. However, the review suggested coupling this with an expansion of the “experimental non-essential population area” (MWEPA) where wolves are managed under rules that allow more frequent removal and lethal control (Recommendation 5; AMOC 2005). Once the wolf population in this larger experimental population area reached 125 animals, it was recommended that policy permit killing of wolves in a wide variety of situations (livestock depredation, attacks on pets, desire to increase game populations)(Recommendations 10 and 11; AMOC 2005). Additionally, AMOC (2005) explicitly states that revised livestock management guidelines such as carcass management guidelines will not be implemented (Recommendation 12b and 29; AMOC 2005).

As southwestern wolf populations grow, it is logical to reduce protections on wolves. However, especially if the experimental population area is expanded to encompass a large portion of Arizona and New Mexico, the population goal of 125 is not scientifically justifiable and is far too low to trigger an increase in lethal control. Wolf density is approximately 3 wolves per 1,000km² in the BRWRA (AMOC 2005). While it is unknown what historical density of Mexican wolves was (but see Leonard et al 2005),

this is a significantly lower wolf density than recovering wolf populations in the U.S. Northern Rockies (USFWS et al. 2006). This latter recommendation is thus inconsistent with principles regarding conservation management of small populations, and with the results of studies that highlight the vulnerability of southwestern wolf populations due to fragmented habitat (Carroll et al. 2005, Carroll et al. 2006). Expansion of the MWEPA might in principle be supported as encouraging additional reintroduction efforts to suitable habitat areas outside of the BRWRA. However, in practice, when coupled with recommendations that would be expected to result in unsustainable levels of mortality, this measure would so reduce protection for wolves within the expanded MWEPA as to constitute a setback for recovery efforts.

The effect that current management control has had in preventing population growth demonstrates that restrictions on recapture, killing, or harassment should be increased rather than relaxed, as the small reintroduced population is still vulnerable to excessive mortality levels. In particular, the recent increase in management control actions related to livestock depredation may be attributed to the low threshold for such actions under Standard Operating Procedure 13 (SOP13). SOP13 should be revised, taking into account the vulnerability of the small BRWRA wolf population, to set a higher threshold before recapture or lethal control actions can occur.

Lethal control decisions must also be made based upon wolf population structure: wolves are social animals and the viability of their population(s) depends not just on the number of wolves. One therefore cannot treat all wolves as equal. If those killed are alpha wolves or disproportionately of one sex or age cohort, etc. the agency must first consider what removal will do to wolf viability, behavior, and recovery.

ISSUES RELATED TO THE LARGER DIRECTION OF THE RECOVERY PROGRAM

Conduct planning at a regional spatial scale

The Endangered Species Act mandates recovery of populations that are both viable and geographically well-distributed within their historic range (Vucetich et al. 2006). Thus management of the BRWRA wolf population should be embedded within a planning process that considers recovery issues at a larger spatial scale throughout the southwestern and western US. Both historical genetic data (Leonard et al. 2005) and evaluations of current habitat condition (Carroll et al. 2006) may aid in this effort. Recently, Carroll et al. (2006) modeled current and future habitat suitability in the southwestern U.S. and identified four potential reintroduction sites (the Grand Canyon and Mogollon Rim in Arizona, Colorado's San Juans, and the Carson National Forest in northern New Mexico) in addition to the BRWRA. These studies suggest that the White Sands (New Mexico) candidate recovery area has low habitat suitability and thus does not merit substantial recovery efforts. However, because this area could function as stepping stone habitat to more suitable areas, the recovery program could encourage natural dispersal and colonization there.

Carroll et al. (2006) predicted that southwestern wolves were vulnerable to development trends associated with the region's expected rapid human population growth over the next few decades. At current levels of development, their results predicted a 40% decline regionally in carrying capacity by 2025, with two-thirds of this due to development on private lands. Habitat in New Mexico and Colorado was most vulnerable due to more fragmented wolf habitat and rapid human population growth there. Other areas of the region had threat levels similar to the northern Rockies, about a 25% decline in carrying capacity over 25 years. These findings, rather than foretelling failure for southwestern wolf recovery, can help land managers and non-governmental organizations (e.g., land trusts) target restoration and protection towards areas with habitat that can be secured from developments detrimental to wolf recovery. Restoration (road removal/closure) and protection of core wolf habitat should be used to help mitigate other threats to Mexican wolf populations.

Although all four candidate US reintroduction sites identified in Carroll et al. (2006) had high enough potential to be included in further wolf recovery planning, the vulnerability to landscape change of the Mogollon Rim and San Juans sites and the relative isolation of the Carson site from the bulk of wolf habitat in the region suggested pairing any of these with a second site to ensure the establishment of a well-distributed, viable population. The Grand Canyon site had higher potential, similar to that of the Blue Range. This is because 1) northern Arizona and southern Utah hold large areas with low development threat, 2) the national park itself, like the Yellowstone reintroduction area in the northern Rockies, excludes livestock and firearms, and 3) sufficient prey inhabit the less arid portions of the area such as the Kaibab plateau. The Grand Canyon forms a key link in a band of suitable habitat stretching across Utah and Arizona from the Wasatch Ranges of Utah to the Blue Range of Arizona and New Mexico, and southward to the Sierra Madre of Mexico (Carroll et al. 2006). Reintroduction there would thus be a key step towards fulfilling the goal of reestablishing a connected population of wolves from Canada to Mexico. This goal is particularly important in light of climate change. In addition, Carroll et al. (2006) identified several suitable habitat areas spanning the U.S./Mexico transboundary region, such as the San Luis range and Big Bend/Madre del Carmen areas. This emphasizes the urgent need for greater coordination with Mexican recovery efforts.

Consider historic population levels and inter-population dispersal

Historical genetic data are an important source of information for establishing recovery goals. Recent genetic analysis of museum specimens of southwestern wolves (Leonard et al. 2005) suggests two findings that provide key context for recovery efforts: 1) historic population levels of southwestern wolves were in the ten of thousands, and 2) levels of genetic interchange between regional populations were relatively high, with alleles typical of *Canis lupus baileyi* being found intermixed through a much broader area than encompassed by a subspecies boundary based on morphological data (Bogan and

Mehlhop 1983, Nowak 1995). Reestablishment of such dispersal may be necessary, not only to facilitate natural recolonization of vacant but suitable habitat, but also to maintain and enhance genetic diversity within the southwest population. and ensure connectivity with adjacent regional populations in Colorado and the Northern U.S. Rocky Mountains.

The Mexican wolf recovery program has never adopted formal recovery criteria. The initial plan was published 25 years ago (USFWS 1982) and only suggested establishment of a wild population of 100 wolves. Inexplicably, a new recovery plan has never been developed. Current conservation science strongly suggests that one small and isolated population involving 100 wolves would have too low a chance of long-term survival for the species to be considered recovered (Lande 1995, Soulé et al. 2005, Vucetich et al. 2006). Recovery goals should incorporate new information regarding restored wolf population numbers in the southwest and beyond (Leonard et al. 2005). Furthermore, setting such low population goal would not result in an “ecologically effective” population and many of the ecological services of wolves might not be realized (Soulé et al. 2005). To achieve long-term recovery of wolves in the southwest, the program should first establish strong source populations through several well-distributed reintroductions in protected core areas, and then allow natural dispersal by wolves to establish peripheral populations in poorer habitat and link the initial reintroduction sites. Reestablishing a connected metapopulation would not only increase the population’s chances of persistence. It would also begin to restore the ecological role wolves once played as a keystone species in the southwest (Brown 1983).

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