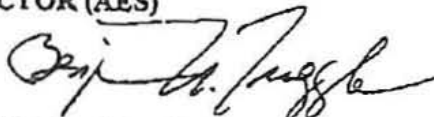


August 24, 2009

DECISION MEMORANDUM FOR THE ASSISTANT DIRECTOR (AES)

FROM: Benjamin N. Tuggle, Regional Director, Region 2 
SUBJECT: Significance of the Distinct Population Segment of Sonoran Desert Area Bald Eagle

I. INTRODUCTION

The Arizona Ecological Services Office is preparing a 12-month finding on the Sonoran Desert Area bald eagle in the U.S. and Sonora, Mexico, with the draft conclusion that the population meets the criteria in the 1996 Distinct Vertebrate Population policy (61 FR 4722) because it is discrete and significant to the taxon as a whole. The significance determination is based on its persistence in an unusual or unique ecological setting. The purpose of this briefing paper is to discuss the different interpretations of the policy for determining when a population is significant due to its persistence in an unusual or unique ecological setting.

II. BACKGROUND

In August 2006, we published a negative 90-day finding on a petition to list the Sonoran Desert bald eagle as a Distinct Population Segment (DPS) and to uplist it as endangered. The Service concluded that the bald eagle is regularly found in riparian areas, overlooked the features of the unique desert environment, and concluded that the population was not in an unusual or unique ecological setting and, therefore, was not a valid DPS. In the July 2007 rule delisting the bald eagle in the lower 48 states, the Service reiterated that the Sonoran Desert bald eagle was discrete, but was not significant using a similar argument. In March 2008, the U.S. District Court for the District of Arizona, in response to a 2007 Motion for Summary Judgment, determined that the Service should revisit the issue in a 12-month finding.

The Sonoran Desert Area evaluated in both the 90-day finding and the delisting rule was smaller than the area currently under consideration, but all other biological and ecological factors remain the same. The unique ecological setting discussion in the 90-day finding and the delisting documents focused on the similarities between bald eagles in the Sonoran Desert and other bald eagles, not on the bald eagles' response or adaptation to the uniqueness of the Sonoran Desert setting. Our current draft of the 12-month finding on the Sonoran Desert bald eagle addresses the uniqueness of the Sonoran Desert ecological setting and its significance to the species.

The Washington Office has recently stated that for a population to be considered significant under the DPS policy using the unusual or unique ecological setting criterion, we must be able to demonstrate that the population has adapted evolutionarily to the setting. Although the concept of evolutionary significance has been applied to policy for

salmonids by the National Marine Fisheries Service (52 FR 58612), it has not been adopted by the Service. Furthermore, the DPS policy does not require that it be demonstrated to support a finding of significance. A statement in the policy bears this out: "The Services continue to believe that occurrence in an unusual ecological setting is potentially an indication that a population segment represents a significant resource of the kind sought by the Act."

In an August 12, 2009, conference call with Washington and regional solicitors, they concurred that it is not required by the policy. One of the authors of the DPS policy also participated in this call, and indicated that it was not the intention of the policy, when written, to require evidence of evolutionary adaptations. There are recent examples of the Service not using such evidence. In the 2009 northern Rocky Mountain wolf delisting rule, the discussion on the unique ecological setting did not contemplate whether that population had evolved adaptations to the setting. In a case we won on the western gray squirrel, we found that there were differences in oak tree densities, but because the squirrels used the oaks in similar ways, we concluded the ecological setting was not significant to the taxon.

The solicitors cautioned that we should clearly identify how bald eagles in the Sonoran Desert use that unique ecological setting, and not merely demonstrate the setting's ecological uniqueness. In the draft 12-month finding, we describe the strategies the bald eagles use to persist in the Sonoran Desert Area. Hunt (in Glinski 1998) noted the uniqueness of the ecological setting of bald eagles in the Sonoran Desert Area stating that "Among the most unusual nesting habitats occupied by the species are those in Arizona, where many of the nests, though near water, are in open desert under conditions of high heat and low humidity that are far from typical of Bald Eagle habitat." Daily high temperatures average 100 degrees in June, often exceeding 110 degrees, and rainfall is near nonexistent from April to July (AGFD 2008). In contrast, in areas used by bald eagles elsewhere, temperatures rarely exceed 100 degrees, and rainfall is typically abundant in comparison to the desert. Sonoran Desert Area bald eagles have an early breeding chronology compared to most other bald eagles, beginning courtship between October and November, with eggs laid from December to March. This is early compared to bald eagles in more northerly areas (AGFD 2008; Stalmaster 1987), although similar to bald eagles in southern areas. AGFD (2008) and Hunt *et al.* (1992) indicate that this may be a behavioral adaptation so that eaglets can avoid the extreme desert heat of midsummer and adults can take advantage of food resources for the rearing of eaglets. With the climate predicted to be more arid in the southwestern U.S. and northwestern Mexico in the foreseeable future (Seager *et al.* 2007), the bald eagle's ability to persist in a hot, dry climate likely will be significant to the species as a whole.

Bald eagles in the Sonoran Desert Area show a preference for cliff ledges for nest placement. Where both cliff and tree nests were available, cliff nests were selected 73 percent of the time, which is atypical for the species in other portions of its range. Bald eagles in the Sonoran Desert Area have been documented nesting in columnar cactus in Sonora, Mexico, and there is a report of eagles nesting in saguaro cactus in Arizona in the 1930s. Bald eagles in the Sonoran Desert Area also nest in riparian habitat that consists

of isolated groups of 1 to 10 cottonwood trees surrounded by areas with cacti, creosote, palo verde, and mesquite trees. In contrast, riparian areas used by bald eagles across the nation consist of continuous stands of deciduous riparian vegetation surrounded by forests of deciduous trees or pines, grasslands, or agricultural fields.

Finally, the bald eagle in the harsh environment of the Sonoran Desert Area may represent a resilient population, capable of withstanding catastrophic events due to its unique adaptations, which benefits the taxon as a whole. In the face of potential future impacts, whether the result of climate change or contaminants, their persistence in the Sonoran Desert Area is valuable in that they may serve as a place of safe refuge following a catastrophic event that causes the decline of eagles elsewhere in their range. One such example of this occurred during the nationwide decline of eagles and other raptors associated with the use of DDT, whereby the Sonoran Desert population was one of only five "strongholds" in the continental U.S. that survived in meaningful numbers.

III. POSITION OF INTERESTED PARTIES

Arizona Game and Fish Department has stated that they believe bald eagles in the Sonoran Desert Area warrant recognition as a DPS, but should not be listed as threatened or endangered. Several Native American Tribes strongly support recognition of a DPS along with continued protection of the Sonoran Desert bald eagle under the Endangered Species Act. The Center for Biological Diversity and Maricopa Audubon Society (our plaintiffs) clearly want us to list it as a DPS.

IV. POTENTIAL ISSUES

Plaintiffs and amici (Tribes) will certainly challenge any finding that does not result in recognition of the Sonoran Desert bald eagle as a DPS and its continued protection under the ESA. Although the previous remand was on procedural grounds rather than the merits of our finding, the language of the order strongly hints that another negative finding on significance will be scrutinized closely by the court.

V. DECISION OPTIONS

Listing decisions will continue to be problematic without clarity of the appropriate use of the DPS Policy. If absolute information on evolutionarily adaptation is required for a finding of significance based on unique or unusual ecological settings, formal guidance to that effect should be provided and we will reevaluate our draft finding as appropriate and consistent with this new guidance.

VI. RECOMMENDATION

We recommend that the Sonoran Desert Area bald eagles be considered significant since we believe the discrete population persists in an ecological setting that is unique and unusual for the taxon, as described in the DPS policy.

LITERATURE CITED

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VII. ASSISTANT DIRECTOR'S DECISION

_____ APPROVE

_____ DISAPPROVE

_____ COMMENTS