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Arlington, VA 22203  
Attn: RIN 1018-AF21

Subject: Raptor Research Foundation Comments on Bald Eagle Delisting Documents

Dear Ms. Morgan:

This letter is the Raptor Research Foundation's (RRF) response to U.S. Fish & Wildlife Service's (USFWS) April 13, 2006 request for "... unpaid peer review from the RRF regarding the Service's reopening of the public comment period for the proposed delisting of the Bald Eagle, as published in the Federal Register on February 16, 2006 (71 FR 8238)." RRF is a non-profit organization comprised of approximately 900 members who are predominantly scientists who study and help manage birds of prey and their habitats. RRF was founded in 1966 and has published the scientific journal, *The Journal of Raptor Research* since that time, as well as numerous technical reports and proceedings of symposia held as part of its annual conferences. RRF's purpose is to stimulate the dissemination of information concerning raptorial birds among interested persons worldwide and to promote a better public understanding and appreciation of the value of birds of prey. USFWS's proposal to delist the Bald Eagle is of great interest to RRF's members. We are pleased to provide the following comments to assist USFWS in its decision making.

RRF's comments on the delisting documents are based upon an evaluation carried out by an expert panel of 7 scientists (all RRF members) who have extensive research and management experience with Bald Eagles. Panel members were: Robert Anthony (U.S. Geological Survey [USGS], Oregon Cooperative Fish and Wildlife Research Unit), James Bednarz (Arkansas State University), James Fraser (Virginia Polytechnic Institute & State University), Peter Nye (New York State Department of Environmental Conservation), Steven Sheffield (Bowie State University), Karen Steenhof (USGS, Snake River Field Station), and Brian Walton (Santa Cruz Predatory Bird Research Group).

The panel prepared draft comments and forwarded them to the RRF President, who edited the draft comments and submitted them to RRF's Directors for approval. These comments represent RRF's views as an organization, and do not necessarily represent the personal views of the panelists, the President, or the Directors.

Over the last three decades, Bald Eagle populations have made a remarkable recovery in the lower 48 states; the number of breeding pairs has increased dramatically, and the geographic distribution of these breeding pairs has expanded. Population increases have resulted from a combination of factors, most importantly the 1972 ban on use of DDT and protection of eagles and their habitat under the Endangered Species Act (ESA). The ESA has afforded protection to important Bald Eagle habitat on both public and private lands. This protection has allowed eagles to repopulate historical and previously unoccupied areas. In considering whether to delist eagles, it is important to consider how these habitats might change without ESA protection and whether they will continue to be suitable to support existing populations of nesting and wintering eagles.

In this letter, we outline our concerns that: 1) habitat protection measures outlined in the delisting proposal are not adequate to support current Bald Eagle populations following delisting, 2) the Southwest population appears to be less viable than populations in other parts of the country and may not warrant delisting at this time, and 3) a comprehensive, scientifically based monitoring plan will be essential to monitor changes in populations, habitats, and contaminants to ensure that populations do not decline following delisting. It is crucial that an acceptable post-delisting monitoring plan is in place when delisting occurs.

Many of the important habitats now used by Bald Eagles are sought for human development and other consumptive uses. For example, pressures to harvest coniferous trees around nest sites and in communal roosts in the western United States, particularly on private lands, are increasing. Housing developments on privately owned shoreline habitat along Chesapeake Bay are likely to increase (Fraser et al. 1996), and water developments in the Southwest threaten the foraging habitat of nesting eagles in Arizona. Although the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA) provide protection to birds, their nests, and eggs, they offer no protection to habitat. We predict that, without mandatory habitat protection measures, removing the Bald Eagle from protection under the ESA will result in a loss of habitat in these and other areas. Depending on how extensive these losses are, Bald Eagle populations could decrease soon after delisting.

### Guidelines

We commend USFWS for its efforts to provide management guidelines for Bald Eagles following delisting. We recognize that it is not easy to encompass every possible activity or set of circumstances or to predict how Bald Eagles might respond to human activity, but these guidelines are a good attempt at doing so. These management guidelines will give the general public and agencies some very useful information about managing populations and habitat for the species after delisting. Unfortunately, these guidelines are

merely recommendations that are not enforceable. This leaves much doubt concerning the extent to which these guidelines actually will be followed. In addition, they could be expanded (see below).

The management guidelines suggest that state laws may be more restrictive than the federal management guidelines; however, few states have laws that specifically protect Bald Eagles. Once eagles are federally delisted, many states may remove eagles from protection under their endangered/threatened species statutes. For example, the Oregon Board of Forestry, comprised of industry representatives and private landowners, oversees habitat guidelines for listed species in Oregon. The Oregon Department of Forestry has informed us that the Board will likely re-evaluate its habitat guidelines for Bald Eagle nesting habitat and may weaken those guidelines once the species is delisted. Further, federal agencies have no specific mandates to protect habitat for delisted species. The commercial value of trees in nesting areas and communal roosts on private and federal lands in the coniferous tree zones of the western United States is so high that there will no doubt be efforts to harvest these trees after delisting.

We recognize that USFWS has attempted to improve the definition of "disturb" and thereby broaden the "take" definition in the BGEPA, but this new definition falls short of the type of protection that most biologists consider necessary. While, the BGEPA and MBTA protect this species from direct harm or take; neither addresses habitat loss. Further, the proposed definition requires proof of outcomes as severe as "causing injury, death, or nest abandonment," which will be extremely difficult to document. There would almost always be a substantial measure of uncertainty about whether or not injury, death, or nest abandonment was the result of a disturbance or some other factor. We suggest that the proposed definition of the term "disturb" as used in the BGEPA be amended to end at "... that interferes with or interrupts normal breeding, feeding, or sheltering habits." and that the phrase "causing injury, death, or nest abandonment" be dropped. Even with this change, however, this new proposed definition of "disturb" will not protect Bald Eagle nesting, wintering, and foraging habitat following delisting. We recommend that the definition include a measure of habitat protection, so that nesting and wintering habitat will be secure after delisting.

We have the following specific comments on the guidelines:

1) The Management Guidelines indicate that alternate nest trees do not warrant protection after they have not been used for 5 years. In fact, nest trees and breeding territories have been reoccupied by Bald Eagles after being unoccupied for over 10 years and even as long as 45 years in New Hampshire (P. Nye, pers. comm.). We recommend that this 5-year window of non-use be increased to at least 10 years to protect nesting habitat. Similarly, we question the guidelines to remove protection for nest trees from which nests have blown out after 3 years. We are aware of nest trees being used for nesting many years after nests have blown out. This window on non-use should be increased to at least 10 years as well.

2) The recommendation to "avoid clear-cutting within 330 feet of the nest at any time"

does not fully express the type of habitat protection that is needed near nest trees. Any harvest system or silvicultural regime that removes a large proportion of the overstory trees--not just clearcutting--would negatively affect habitat suitability. Removal of overstory trees near the existing nest tree could eliminate alternate nesting and roosting trees and render the existing nest tree subject to wind throw and mortality. This is the kind of habitat degradation that the species experienced prior to listing, and there are many situations where this type of timber harvesting has rendered nest stands unsuitable for nesting. Accordingly, we recommend that this recommendation be changed to read, "avoid removal of overstory trees within 330 feet of the nest at any time." Any removal of intermediate and understory trees within 330 feet of the nest tree should be done with the objective of improving long-term habitat integrity, outside of the eagle breeding season.

3) The guidelines do not adequately address foraging habitat and communal night roosts. These are important habitat features that should be recognized in the management guidelines with emphasis equal to that given to nesting habitat. RRF would be pleased to help in developing guidelines for managing foraging and roosting habitat, or undertake an independent peer-review of such guidelines when they are completed.

4) Under "Additional Recommendations for protecting Bald Eagles", we recommend: increase the distance to 1320 feet in #6; add "nest sites" to the recommendation to "site wind turbines and power lines away from communal roosts"; drop the term "waterfowl" in the first sentence, and consider specifically adding "shooting preserves" in #16; and add a #17 that states "do not use open-bait sets when trapping."

### Southwest Population

We continue to be concerned about the viability of the Southwest population of Bald Eagles based on the low number of breeding pairs, relatively low productivity, relatively high adult mortality, and threats of habitat alteration and human disturbance.

We are not aware of any data showing a clear, long-term increase in the Southwest Bald Eagle population (Arizona, New Mexico, and Mexico). The delisting proposal notes that there were 46 occupied breeding territories in Arizona and New Mexico in 2003, and that Arizona's 41 pairs produced an estimated 0.75 young/pair in 2004. This is a relatively small population for such a large geographic area, and productivity is lower than in any other part of the eagle's range. Coupled with relatively low productivity, adult mortality is relatively high: 12-16% of the breeding population per year (Arizona Game and Fish Department 1999). In most eagle populations, natural mortality of adults is usually less than 10% (McCullough 1986, Wood 1992, Bowman et al. 1995). Since 1983, the Arizona Nest Watch Program has been involved in the rescue of more than 50 nestlings and eggs. If the nest watch program is discontinued, productivity likely will fall below that needed to maintain a stable or increasing population.

Compounding conservation difficulties posed by low numbers, lower productivity, and higher adult mortality, the Southwest population is faced with a variety of threats related

to rapidly increasing human populations. For example, in 1996 and 1997, almost 14,000 human activities and nearly 4,000 gunshots were recorded within 1 km of 13 different nests in Arizona (Arizona Game and Fish Department 1999). The most productive eagle breeding areas in the Southwest population are in the Salt and Verde drainages in or adjacent to Maricopa County. The human population in this area is projected to double to 6 million people within the next 30 years (Arizona Game and Fish Department 1999). Significant threats to Arizona Bald Eagles include human developments, recreational disturbance, fishing-line entanglement, and habitat modification due to grazing and flood control (Arizona Game and Fish Department 1999). In summary, we do not believe that the Southwest Bald Eagle population is secure, and we question whether even current numbers can be sustained without active management and habitat protection. USFWS may wish to reconsider the possibilities of designating the Southwest recovery region as a Distinct Population Segment (DPS) and deferring delisting of the Southwest population until data are available that demonstrate the population is sufficiently large and self-sustaining.

### Post-delisting Monitoring Plan

A comprehensive post-delisting monitoring plan for the Bald Eagle is critical to the success of the proposed delisting effort. With or without additional habitat protection, a scientifically-based monitoring plan, as required by the ESA when any species is delisted, will be the only way to objectively evaluate the effects of removing the Bald Eagle from ESA protection. Protection under the ESA has been a key factor that has facilitated recovery of eagles; removing this protection is likely to reverse population trends to some degree. Populations, habitats, and contaminants need to be monitored so that any problems that may arise post-delisting are quickly detected and can be corrected before their impacts on eagle populations become severe. Ultimately, monitoring is necessary to determine whether eagle populations remain recovered or decline to levels at which relisting may be warranted.

We are pleased that USFWS plans to extend monitoring beyond the 5 years required by the ESA; we recommend a minimum of 20 years based on the species' longevity and age at first breeding. However, we are concerned that the delisting proposal only commits to monitoring the number of occupied breeding areas. Effective monitoring must also include productivity, the status of wintering populations, the habitats that eagles depend on, and major threats to those habitats including threats from environmental contaminants in specific areas. We also are concerned that USFWS will rely on the states to monitor nesting populations. We question whether, without additional funding, states will continue their commitments to monitoring once delisting has occurred. We note that many states have eliminated or reduced their monitoring and will likely cut back more in the future.

Monitoring productivity provides more immediate information on how eagles might be responding to environmental threats. There will be an approximate 10-year lag if any future decline in number of eagles is linked to poor reproductive performance. Such a lag was clearly documented both in the decline and recovery periods related to impacts of

DDT (Bednarz et al. 1990). By the time we are able to detect a change in number of breeding pairs, it may be too late to take steps to reverse population declines. Productivity should be evaluated in relation to scientifically based estimates of what is necessary for population stability. We do not support Sprunt et al.'s (1973) assertion that minimum productivity to maintain a stable population is 0.7 young per nesting pair per year. Moreover, there is no computer model of Bald Eagle populations that substantiates this level of productivity as being high enough to maintain stable eagle populations.

At the time when delisting occurs, there should be a baseline assessment of eagle numbers to use as a benchmark for future monitoring. Because USFWS has not assembled comprehensive data on nesting numbers or productivity throughout the lower 48 states since 2000, a new survey should be conducted in all states at the time of delisting to obtain the necessary baseline information.

We believe that the annual midwinter survey represents a unique source of long-term, baseline data about eagles in habitats they use for almost half the year. Unlike nesting surveys, it provides information on both breeding and non-breeding segments of the population at a potentially limiting time of year. It also provides an opportunity to monitor habitat threats (e.g., alterations, human disturbances) at important wintering areas. Monitoring eagles on standard survey routes can identify local and regional problems at an early stage. In some areas, wintering habitat is being altered more rapidly than nesting habitat. Winter monitoring is both feasible and economical; extensive baseline data and a framework for monitoring are already in place. The USGS protocol for conducting and analyzing winter count data is clearly outlined in Steenhof et al. (2002), and 15 years of data are currently available on a web site (<http://ocid.nacse.org/qml/nbii/eagles>).

Evidence suggests that contaminants continue to pose more of a threat to Bald Eagles than suggested in the delisting proposal. PCBs, DDE, and mercury are still major concerns in many locations across the United States; there are many areas in which these substances are still concentrated in sediments and eagle prey. Generally, the concern with these chemicals is not one of acute lethality but of continuing sublethal effects such as reproductive impairment, and nervous-, immune-, and endocrine-system impacts. In addition, dioxins, furans, PBDEs, phthalates, PFOSs, and other lipophilic chemicals have been shown to bioaccumulate in eagles and can have negative effects on eagle reproduction. Due to their lipophilic nature, these chemicals readily bioaccumulate in eagle prey in close proximity to aquatic systems; they tend to biomagnify in the food web, exposing Bald Eagles to toxic levels of these contaminants.

Contaminant levels should be monitored periodically in areas where chemicals are known to have impaired Bald Eagle reproduction, particularly in coastal areas of Maine, the Great Lakes states, the lower Columbia River, Puget Sound, and the Channel Islands off the California coast. These areas should be monitored every 10-15 years to ascertain if contaminants are continuing to affect eagle reproduction. Likewise, discovery of low reproductive rates in any part of the species range should trigger an investigation into possible effects of environmental contaminants.

RRF believes that development and implementation of a post-delisting monitoring plan is crucial to the Bald Eagle's future. We believe that lack of such a plan is the most serious deficiency in USFWS's delisting proposal. Without a monitoring plan in place when delisting occurs, it will be impossible to evaluate the success or failure of other regulatory mechanisms in accomplishing habitat protection previously afforded by the ESA, or to manage any of the other risks and uncertainties inherent to such a major change in conservation protection for a vulnerable species. RRF would be pleased to help in developing this plan or undertake an independent peer-review of the post-delisting monitoring plan when it is completed.

In conclusion, RRF applauds the resurgence of the Bald Eagle throughout most of its range in the conterminous United States. Many private, state, and federal cooperators deserve credit for contributing to the massive effort that has been required. However, RRF believes that long-term conservation will not be achieved until it is clearly demonstrated that the appropriate resource management agencies have planned and accepted responsibility for the eagle's future. Specifically, we believe further attention to the following issues is needed: 1) protection of habitat, which will require improvements to the proposed management guidelines, and protecting foraging and roosting habitat as well as nesting sites; 2) status of the small Southwest population in light of lower productivity and higher adult mortality than other Bald Eagle populations, and growing threats related to human development; and 3) development and funding of a post-delisting monitoring plan to track breeding populations, breeding habitat, and wintering eagles, and to spot-check contaminants. On behalf of RRF, I thank you for the opportunity to provide this peer review. RRF welcomes the opportunity to work with USFWS to help address these outstanding issues.

Sincerely,

Leonard Young, President  
Raptor Research Foundation, Inc.

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