

United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 FAX: (602) 242-2513

In Reply Refer To:
AESO/SE
22410-2006-F-0371

June 22, 2007

Ms. Nora B. Rasure
Forest Supervisor
Coconino National Forest
1824 South Thompson Street
Flagstaff, Arizona 86001-2529

RE: Elk Park Fuels Reduction Project

Dear Ms. Rasure:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated February 7, 2007, and received by us on February 9, 2007. This consultation concerns the effects of the proposed Elk Park Fuels Reduction Project, Coconino County, Arizona, on the threatened bald eagle (*Haliaeetus leucocephalus*) and the threatened Mexican spotted owl (*Strix occidentalis lucida*) (MSO) and its critical habitat.

This biological opinion is based on information provided in the February 2007, Biological Assessment and Evaluation (BAE), February 2007 Environmental Assessment (EA), the June 30, 2006, field trip, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the MSO, the bald eagle, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

CONSULTATION HISTORY

Details of the consultation history are summarized in Table 1.

Table 1. Summary of Consultation History

<i>Date</i>	<i>Event</i>
March 2006	FWS and Forest Service staff began discussing and planning aspects of the Elk Park Fuels Reduction Project as it related to MSO habitat.
June 30, 2006	FWS, Forest Service, and Arizona Game and Fish Department staff visited the Clark MSO PAC to discuss potential fuels reduction treatments.
October 11, 2006	The Forest Service requested comments on the Elk Park Fuels Reduction Project Proposed Action.
November 14, 2006	We provided comments on the proposed action.
February 9, 2007	We received your request for consultation on the Elk Park Fuels Reduction Project. You determined that the project “may affect, is likely to adversely affect” the bald eagle and “may affect, is not likely to adversely affect” the MSO and its critical habitat.
February 21, 2007	We received the EA for the Elk Park Fuels Reduction Project.
March 19, 2007	We sent your staff an email explaining why we could not concur with a “may affect, not likely to adversely affect” determination for the MSO. If the Forest Service agreed with our reasoning, we offered to document the change to the determination in our 30-day letter.
March 22, 2007	Forest Service staff responded to our email and agreed to change the determination for the MSO.
March 29, 2007	We acknowledged your request for formal consultation with a 30-day letter.

BIOLOGICAL OPINION

DESCRIPTION OF THE ACTION

The Elk Park Fuels Reduction Project area is located approximately six miles southeast of Flagstaff, Arizona adjacent to and surrounding the entire community of Elk Park Meadows, west of Forest Highway 3 (Lake Mary Road). The project area consists of a total of 6,886 acres (6,731 acres of National Forest System land and 155 acres of private land). Approximately 6,485 acres consist of pure ponderosa pine and ponderosa pine/Gambel oak forest and the remaining 246 acres are dry mountain meadows. The project area is located within all or in portions of Township 19 North, Range 7 East, Sections 1 and 12-13; Township 19 North, Range 8 East, Sections 3-9 and 15-20; Township 20 North, Range 7 East, Section 36; and, Township 20

North, Range 8 East, Sections 31-33. For this consultation, we are defining the action area as the entire Elk Park Fuels Reduction analysis area, including all haul routes to and from the project area. The project area includes the area that will receive either thinning or burning treatments.

The goal of the proposed action is to utilize an ecosystem restoration approach to create a more open, groupy, uneven-aged forest with interspaces and openings which more closely resembles the forest structure that existed prior to the interruption of the historic fire regime, and reduce the risk of severe wildfire to the community of Elk Park Meadows. Pre-settlement tree evidence, primarily old stumps and logs, will be used to determine how many trees remain following thinning. Only ponderosa pine trees will be targeted for removal; modeling estimates that over 90% of the trees targeted for removal will be 1 to 16 inches dbh and that less than 5% of trees greater than 18 inches dbh will be removed. The following actions would be implemented in order to achieve these goals:

- Uneven-aged harvesting and thinning on approximately 4,700 acres of ponderosa pine forest;
- Prescribed burning on approximately 6,400 acres of ponderosa pine forest to reduce fuel loads and reintroduce low- to moderate-intensity surface fires; and,
- Constructing approximately four miles of temporary roads and rerouting and resurfacing approximately one mile of road (Forest Service Road [FSR] 132 B).

The project is described in detail in the February 2007 EA and BAE. These documents are included herein by reference.

Conservation Measures

Bald eagle

- Prescribed burning will not occur within a 2-mile radius of an occupied nest.
- Individual pile burning may not occur within one mile of an active breeding area or nest. Individual piles of logging slash or harvest residue will be lined so that fire is not permitted to creep beyond the individual pile.
- Log hauling and commercial traffic will not be allowed within 0.25 mile of an active breeding or nesting area. This will preclude the use of FSR 296 as a haul route during the breeding season.
- No jake brake use by log trucks will be allowed and a 20-mile-per-hour speed limit will be maintained within 0.25 mile of any winter roost site.

Mexican spotted owl

- MSO restricted habitat within the project area will be surveyed either the year before or the year of project implementation prior to fuels reduction activities occurring.
- In protected and restricted habitat where treatments are planned, pre- and post-microhabitat monitoring will be conducted.
- Mechanical harvesting and all prescribed fire activities, including lining of snags and logs, line prep, layout, and broadcast burning, will not occur during the MSO breeding season (March 1 through August 31) in the Clark PAC.
- No mechanical harvest prescribed burning will be conducted in the 100-acre core area for the Clark PAC.
- No mechanical harvesting, hauling, or prescribed burning will occur in any other known PACs within the project area, or within 0.5 mile of nests and roosts during the MSO breeding season.
- The public will not be allowed to use the temporary roads within the Clark PAC during harvesting and all temporary roads within the Clark PAC will be rehabilitated and closed when mechanical treatments are completed.

STATUS OF THE SPECIES

Bald eagle

The bald eagle south of the 40th parallel was listed as endangered under the Endangered Species Preservation Act of 1966, on March 11, 1967 (USFWS 1967), and was reclassified to threatened status on July 12, 1995 (USFWS 1995). No critical habitat has been designated for this species. The bald eagle was proposed for delisting on July 6, 1999 (USFWS 1999) and the comment period for delisting was re-opened on February 16, 2006 (USFWS 2006a). The Center for Biological Diversity (Silver 2004) petitioned the FWS in October 2004, to determine that the Sonoran Desert nesting bald eagle was a distinct population segment, up-list the population to endangered status, and designate critical habitat. The FWS responded to the petition on August 30, 2006 (USFWS 2006b). We found that the petition provided substantial information for discreteness, but did not provide substantial information with respect to significance or threats (USFWS 2006b).

The bald eagle is a large bird of prey that historically ranged and nested throughout North America except extreme northern Alaska and Canada, and central and southern Mexico. The bird occurs in association with aquatic ecosystems, frequenting estuaries, lakes, reservoirs, major rivers systems, and some seacoast habitats. Generally, suitable nesting habitat for bald eagles includes those areas which provide an adequate food base (quantity, quality, continuity, accessibility) (Stalmaster 1987) of fish, waterfowl, and/or carrion, with large trees for perches

and nest sites. In winter, bald eagles often congregate at specific wintering sites that are generally close to open water and offer good perch trees and protected night roosts (USFWS 1995). Bald eagles will lay between one to three eggs, typically fledging one to two eaglets. Three eaglet broods occur (i.e. Lake Mary breeding area in 2006), but are not typical.

Since listing, bald eagles have increased in number and expanded in range due to the banning of DDT and other persistent organochlorine compounds, habitat protection, and additional recovery efforts. Surveys in 1963 indicated 417 active nests in the lower 48 states with an average of 0.59 young produced per nest. Surveys in 1974 resulted in a population estimate of 791 occupied breeding areas in the lower 48 states (USFWS 1999). In 1994, 4,450 occupied breeding areas were reported with an estimated average of 1.16 young produced per occupied nest (USFWS 1995). We estimated that the breeding population exceeded 5,748 occupied breeding areas in 1998 (USFWS 1999) and may be closer to 10,000 territories in 2007 (G. Beatty, FWS, pers. comm.).

Hunt *et al.* (1992) summarized the earliest records from the literature for bald eagles in Arizona. Coues noted bald eagles in the vicinity of Fort Whipple (now Prescott) in 1866, and Henshaw reported bald eagles south of Fort Apache in 1875. The first bald eagle breeding information was recorded in 1890 near Stoneman Lake by S.A. Mearns. Additionally, Bent (1937) reported breeding eagles at Fort Whipple in 1866 and on the Salt River Bird Reservation (since inundated by Roosevelt Lake) in 1911. Additionally, there are reports of bald eagles along rivers in the White Mountains from 1937, and reports of nesting bald eagles along the Salt and Verde Rivers as early as 1930. However, the historical distribution and abundance of bald eagles in Arizona is largely unknown (Hunt *et al.* 1992).

The 43 occupied bald eagle breeding areas in Arizona (Driscoll *et al.* 2006) are now predominantly located in the upper and lower Sonoran life zones. The Luna Lake Breeding Area, and recently discovered Crescent Lake, Canyon de Chelly, Lynx Lake and reoccupied Lake Mary Breeding Areas, are the few territories in Arizona where eagles have been found nesting and foraging in coniferous forests or high elevations, as opposed to the majority of breeding areas where Sonoran vegetation communities are part of their territories. Nearly all breeding areas in Arizona are located in close proximity to a variety of aquatic habitats including reservoirs, regulated river systems, and free-flowing rivers and creeks. The alteration of natural river systems has had both beneficial and detrimental affects to the bald eagle. While large portions of riparian forests were inundated or otherwise destroyed following construction of dams and other water developments, the reservoirs created by some of these structures enhanced habitat for the waterfowl and fish species (often nonnative species) on which bald eagles prey.

Bald eagles in Arizona consume a diversity of food items. However, their primary food is fish, which are generally consumed twice as often as birds, and four times as often as mammals. Bald eagles are known to catch live prey, steal prey from other predators (especially osprey), and use carrion. Carrion constitutes a higher proportion of the diet for juveniles and subadults than it does for adult eagles. Diet varies depending on what species are available locally. This can be affected by the type of water system on which the breeding area is based (Hunt *et al.* 1992).

The Arizona Game and Fish Department (AGFD) (1999) concluded that:

“Evidence from the banding and identification of breeding adults defends the theory that Arizona’s breeding population is not supported or maintained by immigration from other states or regions. Because adults return to the vicinity of their natal origin to breed, the large distance between small populations in the Southwest decreases the chance for movement between neighboring populations. Probably most convincing are the results from banding 256 nestlings over 20 years and identifying 372 breeding adults over 8 years. Only one individual from out-of-state entered the breeding population and one left. Additionally, the proportion of breeding adults with color bands (placed on as nestlings in Arizona) has steadily increased, while the presence of unmarked eagles has decreased. Thus, continued attention to the survivorship of all Arizona bald eagles is vital to the maintenance of our breeding population. We can not depend on immigration to Arizona from nearby states to make up for poor management in Arizona.”

A demographic analysis based upon banding of Arizona eagles and productivity of eagle territories projects future declines in the Arizona bald eagle population ranging from 3.6 to 5.5 percent annually (Allison *et al.* 2003).

In addition to breeding bald eagles, Arizona provides habitat for wintering bald eagles, which migrate through the state between October and April each year. Bald eagles can be found statewide, and unlike some other states or areas, Arizona does not tend to have traditional concentrations of hundreds of bald eagles annually. Rather, concentrations tend to be smaller and less predictable, occurring in areas like Mormon Lake/Lake Mary, San Carlos Lake, or the Black River. The average number of wintering bald eagles counted along standardized routes since 1995 is 332 birds (Jacobsen *et al.* 2005). In 2005, the standardized statewide Arizona winter count totaled 224 bald eagles (Jacobsen *et al.* 2005).

Since 2001, nine Federal agency actions have undergone (or are currently under) formal section 7 consultation in Arizona that resulted in incidental take (Appendix A).

Mexican spotted owl

The MSO was listed as a threatened species in 1993 (USFWS 1993). The primary threats to the species were cited as even-aged timber harvest and stand-replacing wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The Fish and Wildlife Service appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan for the Mexican Spotted Owl (Recovery Plan) in 1995 (USFWS 1995).

A detailed account of the taxonomy, biology, and reproductive characteristics of the MSO is found in the Final Rule listing the MSO as a threatened species (USFWS 1993) and in the Recovery Plan (USFWS 1995). The information provided in those documents is included herein by reference. Although the MSO’s entire range covers a broad area of the southwestern United States and Mexico, the MSO does not occur uniformly throughout its range. Instead, it occurs in

disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Surveys have revealed that the species has an affinity for older, uneven-aged forest, and the species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico.

The U.S. range of the MSO has been divided into six recovery units (RU), as discussed in the Recovery Plan. The primary administrator of lands supporting the MSO in the United States is the Forest Service. Most owls have been found within Forest Service Region 3 (including 11 National Forests in Arizona and New Mexico). Forest Service Regions 2 and 4 (including two National Forests in Colorado and three in Utah) support fewer owls. According to the Recovery Plan, 91 percent of MSO known to exist in the United States between 1990 and 1993 occurred on lands administered by the Forest Service.

Historical and current anthropogenic uses of MSO habitat include both domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development. These activities have the potential to reduce the quality of MSO nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season. Livestock and wild ungulate grazing is prevalent throughout Region 3 National Forest lands and is thought to have a negative effect on the availability of grass cover for prey species. Recreation impacts are increasing on all forests, especially in meadow and riparian areas. There is anecdotal information and research that indicates that owls in heavily used recreation areas are much more erratic in their movement patterns and behavior. Fuels reduction treatments, though critical to reducing the risk of severe wildfire, can have short-term adverse effects to MSO through habitat modification and disturbance. As the population grows, especially in Arizona, small communities within and adjacent to National Forest System lands are being developed. This trend may have detrimental effects to MSO by further fragmenting habitat and increasing disturbance during the breeding season. West Nile Virus (WNV) also has the potential to adversely impact the MSO. The WNV has been documented in Arizona, New Mexico, and Colorado, and preliminary information suggests that owls may be highly vulnerable to this disease (Courtney *et al.* 2004). Unfortunately, due to the secretive nature of owls and the lack of intensive monitoring of banded birds, we will most likely not know when owls contract the disease or the extent of its impact to MSO range-wide.

Currently, high-intensity, stand-replacing fires are influencing ponderosa pine and mixed conifer forest types in Arizona and New Mexico. Uncharacteristic, severe, stand-replacing wildfire is probably the greatest threat to MSO within the action area. As throughout the West, fire severity and size have been increasing within this geographic area. Table 2 shows several stand-replacing fires that have had a large influence on MSO habitat in the Upper Gila Mountain RU in the last decade. The information in Table 2 is not a comprehensive analysis of fires in the Upper Gila Mountains RU or the effects to MSO. However, the information does illustrate the influence that stand-replacing fire has on current and future MSO habitat in this RU. This list of fires alone estimates that approximately 11% of the PAC habitat within the RU suffered high-to-moderate-intensity, stand-replacing fire in the last 11 years.

Table 2. Some recent influential fires within the Upper Gila Mountains Recovery Unit, approximate acres burned, number of PACs affected, and PAC acres burned.

Fire Name	Year	Total Acres Burned	# PACs Burned	# PAC Acres Burned
Rhett Prescribed Natural Fire	1995	20,938	7	3,698
Pot	1996	5,834	4	1,225
Hochderffer	1996	16,580	1	190
BS Canyon	1998	7,000	13	4,046
Pumpkin	2000	13,158	4	1,486
Rodeo-Chediski	2002	462,384	55	~33,000
TOTAL		525,894	84	~43,645

A reliable estimate of the numbers of owls throughout its entire range is not currently available (USFWS 1995) and the quality and quantity of information regarding numbers of MSO vary by source. USFWS (1991) reported a total of 2,160 owls throughout the United States. Fletcher (1990) calculated that 2,074 owls existed in Arizona and New Mexico. However, Ganey *et al.* (2000) estimates approximately $2,950 \pm 1,067$ (SE) MSOs in the Upper Gila Mountains RU alone. The FS Region 3 most recently reported a total of approximately 1,025 PACs established on NFS lands in Arizona and New Mexico (B. Barrera, pers. comm. June 18, 2007). Based on this number of MSO sites, total numbers in the United States may range from 1,025 individuals, assuming each known site was occupied by a single MSO, to 2,050 individuals, assuming each known site was occupied by a pair of MSOs. The FS Region 3 data are the most current compiled information available to us; however, survey efforts in areas other than NFS lands have resulted in additional sites being located in all Recovery Units.

Researchers studied MSO population dynamics on one study site in Arizona (n = 63 territories) and one study site in New Mexico (n = 47 territories) from 1991 through 2002. The Final Report, titled “Temporal and Spatial Variation in the Demographic Rates of Two Mexican Spotted Owl Populations,” (*in press*) found that reproduction varied greatly over time, while survival varied little. The estimates of the population rate of change ($\Lambda = \text{Lamda}$) indicated that the Arizona population was stable (mean Λ from 1993 to 2000 = 0.995; 95% Confidence Interval = 0.836, 1.155) while the New Mexico population declined at an annual rate of about 6% (mean Λ from 1993 to 2000 = 0.937; 95% Confidence Interval = 0.895, 0.979). The study concludes that spotted owl populations could experience great (>20%) fluctuations in numbers from year to year due to the high annual variation in recruitment. However, due to the high annual variation in recruitment, the MSO is then likely very vulnerable to actions that impact adult survival (e.g., habitat alteration, drought, etc.) during years of low recruitment.

Since the owl was listed, we have completed or have in draft form a total of 183 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 376 PACs. The form of this incidental take is almost entirely harm or harassment, rather than direct mortality. These consultations have primarily dealt with actions proposed by FS Region 3. However, in addition to actions proposed by FS Region 3, we have also reviewed the impacts of actions proposed by the Bureau of Indian Affairs, Department of Defense (including Air Force, Army, and Navy), Department of Energy, National Park Service, and Federal Highway Administration. These proposals have included timber sales, road construction, fire/ecosystem management projects (including prescribed natural and management ignited fires), livestock grazing, recreation activities, utility corridors, military and sightseeing overflights, and other activities. Only two of these projects (release of site-specific owl location information and existing forest plans) have resulted in biological opinions that the proposed action would likely jeopardize the continued existence of the MSO. The jeopardy opinion issued for existing Forest Plans on November 25, 1997, was rendered moot as a non-jeopardy/no adverse modification BO was issued the same day.

In 1996, we issued a biological opinion on FS Region 3 adoption of the Recovery Plan recommendations through an amendment to their Land and Resource Management Plans (LRMPs). In this non-jeopardy biological opinion, we anticipated that approximately 151 PACs would be affected by activities that would result in incidental take of MSOs, with approximately 91 of those PACs located in the Upper Gila Mountains RU. In addition, on January 17, 2003, we completed a reinitiation of the 1996 Forest Plan Amendments biological opinion, which anticipated the additional incidental take of five MSO PACs in Region 3 due to the rate of implementation of the grazing standards and guidelines, for a total of 156 PACs. Consultation on individual actions under these biological opinions resulted in the harm and harassment of approximately 243 PACs on Region 3 NFS lands. FS Region 3 reinitiated consultation on the LRMPs on April 8, 2004. On June 10, 2005, the FWS issued a revised biological opinion on the amended LRMPs. We anticipated that while the Region 3 Forests continue to operate under the existing LRMPs, take is reasonably certain to occur to an additional 10% of the known PACs on NFS lands. We expect that continued operation under the plans will result in harm to 49 PACs and harassment to another 49 PACs. To date, consultation on individual actions under the amended Forest Plans, as accounted for under the June 10, 2005, biological opinion has resulted in the incidental take of owls associated with 19 PACs (USFWS 2005). Incidental take associated with Forest Service fire suppression actions, which was not included in the LRMP proposed action, has resulted in the incidental take of owls associated with 11 PACs.

Mexican spotted owl critical habitat

The final MSO critical habitat rule (USFWS 2004) designated approximately 8.6 million acres of critical habitat in Arizona, Colorado, New Mexico, and Utah, mostly on Federal lands (USFWS 2004). Within this larger area, critical habitat is limited to areas that meet the definition of protected and restricted habitat, as described in the Recovery Plan. Protected habitat includes all known owl sites and all areas within mixed conifer or pine-oak habitat with slopes greater than 40% where timber harvest has not occurred in the past 20 years. Restricted habitat includes mixed conifer forest, pine-oak forest, and riparian areas outside of protected habitat.

The primary constituent elements for proposed MSO critical habitat were determined from studies of their habitat requirements and information provided in the Recovery Plan (USFWS 1995). Since owl habitat can include both canyon and forested areas, primary constituent elements were identified in both areas. The primary constituent elements which occur for the MSO within mixed-conifer, pine-oak, and riparian forest types that provide for one or more of the MSO's habitat needs for nesting, roosting, foraging, and dispersing are in areas defined by the following features for forest structure and prey species habitat:

Primary constituent elements related to forest structure include:

- A range of tree species, including mixed conifer, pine-oak, and riparian forest types, composed of different tree sizes reflecting different ages of trees, 30% to 45% of which are large trees with diameter-at-breast height (dbh) of 12 inches or more;
- A shade canopy created by the tree branches covering 40% or more of the ground; and,
- Large, dead trees (snags) with a dbh of at least 12 inches.

Primary constituent elements related to the maintenance of adequate prey species include:

- High volumes of fallen trees and other woody debris;
- A wide range of tree and plant species, including hardwoods; and
- Adequate levels of residual plant cover to maintain fruits and seeds, and allow plant regeneration.

The forest habitat attributes listed above usually are present with increasing forest age, but their occurrence may vary by location, past forest management practices or natural disturbance events, forest-type productivity, and plant succession. These characteristics may also be observed in younger stands, especially when the stands contain remnant large trees or patches of large trees. Certain forest management practices may also enhance tree growth and mature stand characteristics where the older, larger trees are allowed to persist.

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions within the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions that are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

For this consultation, we are defining the action area as the entire Elk Park Fuels Reduction analysis area, including all haul routes to and from the project area.

Bald eagle

A. Status of the species within the action area

Breeding Bald Eagles

The Lower Lake Mary Breeding Area (BA) was discovered in 1970 and supported breeding activity until 1972. In 1982 the BA was designated historical after 10 years of non-use. In February and March 1996, adult and subadult bald eagles were observed building a nest near the historical nest location, but breeding activity never commenced. Another pair of bald eagles was seen constructing a nest in July 2004, but no breeding activity occurred. On May 23, 2005, the Forest Service reported an active bald eagle nest on Lower Lake Mary. A pair of un-banded adult bald eagles reoccupied the BA and rebuilt historical nest #1. In 2005, the bald eagles nested at the site and hatched one young. The nestling was banded in July. In early August, the young eagle was found on the ground below the nest and died the next day. A necropsy was completed and results indicated the eaglet died as a result of injuries incurred when it fell from the nest.

The bald eagle pair was seen copulating on March 25, 2006, and a nest was located approximately 1.5 miles southeast of the 2005 nest. On June 5, 2006, three young were banded by the AGFD, FWS, and Forest Service. All three young successfully fledged in August 2006.

The bald eagles associated with this BA did not nest in 2007, although pair sightings did occur within and near the breeding areas. It is unclear if bald eagles will use last year's nest again or relocate. Regardless, bald eagles typically have more than one nest per breeding area, and it is likely they may use the 2005 and/or 2006 nests in the future.

Winter Resident Bald Eagles

Bald eagles are primarily winter visitors to northern Arizona, occupying all habitat types and elevations. Wintering eagles arrive in the fall, usually late October or early November, and leave in early to mid-April. The same stand that contains the Lower Lake Mary BA nest #1 (2005 nest) is also a winter bald eagle roost.

Bald eagle surveys are conducted annually in January in Arizona. The FH3 Lakes standardized route runs along the eastern boundary of the Elk Park Fuels Reduction Project Area. The survey results for these routes are displayed in Table 3. This route only surveys the edge of the project area and only a few of the sightings from each route were most likely within the project area. In addition, the routes do not survey roost habitat, but only count eagles seen flying, perched or foraging for carrion along the road or fish in the lakes along FH 3. Therefore, the bald eagle numbers don't reflect the total number of bald eagles using winter roost habitat or foraging in the area. However, it should be noted that the FH3 Lakes route begins near the Elk Park project area and most years we see bald eagles in and around the project area during the survey (S. Hedwall, FWS, pers. comm.)

Table 3: Bald Eagle Midwinter Survey Results for the Interstate 17 and FH 3 Lakes Standardized Routes.

Route Name	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
FH 3 Lakes	8	20	13	8	69	4	3	14	4	5	6	9	7	10	55	29

B. Factors affecting the species within the action area

The Lower Lake Mary area, though consisting mostly of Federal land, is a very active area. Almost all of the current threats listed to bald eagles in the Status of the Species, above, occur or have the potential to occur within the action area. Potential direct threats include low-level aircraft overflights due to the nest/roost stand proximity to the Flagstaff Airport, collisions with power lines, poisoning, and other human disturbances. A local sheep rancher was convicted in 2004 of poisoning eagles west of Flagstaff. Additional threats to bald eagles include habitat disturbances (e.g., degraded aquatic habitat conditions, fluctuating water levels due to drought and water users), which may indirectly affect the species' reproductive success.

Maintenance of power lines and power line corridors within the greater Lake Mary area is ongoing. Power line maintenance may include replacement or repair of power poles, transformers, and power lines. Corridor maintenance includes trimming branches and cutting trees that may disrupt electrical service by falling on or growing into the existing power lines. Both live and dead trees of all species and sizes may be removed through corridor maintenance. The effects to eagles may include the removal or roost and forage perch trees, modification of winter roost areas, and disturbance resulting from these activities that could cause birds to flush.

Human disturbance to bald eagles may increase as the number of eagles increase and human development continues to expand into rural areas. Currently, both nest areas associated with the Lower Lake Mary BA are in relatively close proximity to private property and the shoreline near the nest/roost stand is used by off-highway vehicles, fisherman, and other recreationists. The Forest Service implemented a closure order during the 2005 breeding season, but the area is popular with locals and tourists alike. Nest watchers recorded 347 human activities at the nest in 2005 (Jacobson *et al.* 2005). Ten activities elicited 24 significant responses from the breeding pair. The bald eagles were restless in response to gunshots, sirens, helicopters, off-highway vehicles, equestrians, construction, and dogs. The eagle pair flushed in response to canoes/kayaks, helicopters, and bicyclists (Jacobson *et al.* 2005).

In addition, concentrations of heavy metals in bald eagle eggs are a concern in Arizona. Thirteen Arizona bald eagle eggs collected from 1994 to 1997 contained from 1.01 to 8.02 parts per million (ppm) dry weight mercury (Arizona Game and Fish Department *in prep*). Concentrations in the egg are highly correlated with risk to reproduction. Adverse effects of mercury on bald eagle reproduction might be expected when eggs contain about 2.2 ppm mercury or more. Five of 10 eggs approached or exceeded the 2.2 ppm threshold concentration. What is especially alarming is that mercury concentrations in addled eggs appear to be increasing over time. Addled bald eagle eggs collected in Arizona in 1995-97 contained more than two- to six-times higher concentrations of mercury than eggs collected in 1982-84 (approximately 0.39-

1.26 ppm) (K. King, pers. comm.). Both Upper and Lower Lake Mary have been closed to fishing at different times in the last five years due to high mercury levels in fish. Since bald eagles using the area are most definitely foraging on fish in the reservoirs, it is possible that mercury may impact the bird's reproductive success.

Another potential future threat to bald eagles in the area is WNV. The 2005 Lower Lake Mary nestling that died tested positive for WNV, although this is not what killed the bird, and other birds in the area have tested positive for the virus.

Mexican spotted owl

A. Status of the species within the action area

Across the project area there are 747 acres of PAC habitat, 1,605 acres of restricted habitat, 240 acres of target/threshold habitat, and 2,195 acres of designated critical habitat. The Clark (040542), Mustang (040535), Crawdad (040547), and Holdup (040544) PACs fall within or are adjacent to the Elk Park Fuels Reduction Project area. The monitoring data for these PACs is listed in Appendix B of the BAE and is included herein by reference. The only PAC that will be treated with mechanical thinning and prescribed burning is the Clark PAC. MSO habitat within the project area was inventoried according to approved protocols and an additional year of surveys will be conducted in restricted habitat either the year prior or the year of project treatments.

The Clark PAC is the only protected habitat that will be treated. Owls were located in this PAC in 1995 and 1996. However, surveys and informal monitoring conducted from 1997-2002 did not locate any owls. The PAC was not monitored from 2003 to 2005. In 2006, an unknown barking call was heard in late May. However, the response may have been the female associated with the Lake No. 1 PAC (040526), which is located approximately 0.5 mile due west of the Clark PAC. Though the majority of the Clark PAC is composed of pine-oak habitat, the condition of this habitat is not as good as that we typically associate with MSO nesting and roosting habitat. Stand 359-04, which contains approximately 75% of the area to be treated within the Clark PAC, most closely resembles target/threshold conditions and not nesting/roosting habitat (USFWS 1995, Ganey *et al.* 2003). This area is deficit in the amount of oak, density of trees greater than 24 inches dbh, and the number of large trees per acre that typically occur in known MSO nesting habitat. Though we do not have any nesting data for the PAC and very little in the way of owl locations, FWS and Forest Service biologists designated the best pine-oak habitat within the PAC as a 100 acre core area and it will not receive any treatment.

B. Factors affecting the species within the action area

We are unaware of any planned Forest Service activities that will affect MSO habitat within the project area. The Mountaineer Healthy Forests Restoration Act Project is located to the west and south of the Elk Park Fuels Reduction Project area, and is expected to reduce fire risk to the Elk Park area as well as the community of Mountaineer.

Continued population growth and development of private parcels within the action area and greater Flagstaff-area may increase the recreational demands in the area. Disturbance associated with recreation such as off-road vehicles, biking, and recreational shooting tends to be greatest during the summer and fall. The MSO breeding season overlaps with the summer recreation season and it is possible that this affects MSO use of the area. No dispersed camp sites have been located within or adjacent to PACs within the action area, but since the area is surrounded by communities (e.g., Mountaineer, Elk Park, etc.) it is likely that there is high recreational use of the area. Firewood cutting within the area likely occurs and this may affect the persistence of large Gambel oak snags and logs.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline.

Bald eagle

The direct and indirect effects of the proposed action to bald eagles include habitat disturbance (including fire and fuels management actions) and noise disturbance. Bald eagles have been observed nesting and roosting within and in close proximity to the proposed action area.

Habitat Disturbance

Implementation of the proposed action will result in the thinning and/or burning of approximately 6,500 acres of ponderosa pine forested habitat. According to the BAE, there is no nesting or potential nesting habitat within the project boundary. Both known eagle nest areas are located outside the project boundary, but are within the action area for the project. In addition, though potential habitat does exist, there are no known winter roosts within the project boundary. However, there are several winter roost areas within 0.25 mile of the project boundary.

No thinning or burning activities are planned for any known or potential eagle habitat. In addition, there will be no burning or thinning within two miles of an occupied breeding area. The majority of prescribed burning will occur in the fall from September through December. This will create an overlap of approximately three months between when the wintering eagles arrive (mid-October) and the end of the burning season. In one burn unit, prescribed burning will occur within 0.25 mile of a known roost. All other known winter roost sites are greater than 0.25 mile away.

Burning outside the breeding season should result in only minimal effects to roosting bald eagles. Burning will result in smoke accumulations, particularly during the evening and early morning hours when cold air traps smoke in drainage bottoms. Most of this smoke dissipates by 1000 hours when the cool morning air begins to warm and rise allowing the smoke to lift out of the drainages. Winter roosts are typically found on the slopes adjacent to drainage bottoms, which are typically above the area where smoke accumulates.

Prescribed burning could affect bald eagles if it were to occur at the time eagles were breeding. Breeding includes courtship, nesting, and fledgling periods, on Lower Lake Mary, we suspect that breeding is beginning in February, but it is difficult to know for sure since we have only two years of data for the area. If breeding begins in February, young could leave the nest by July. Since the majority of prescribed burning typically occurs from September through December, there should be little or no overlap with breeding eagles. To ensure that heavy smoke does not result in impacts to nesting eagles, burning will not occur within two miles of an active nest. If Forest Service, FWS, and AGFD biologists determine that eagles are not nesting on Lower Lake Mary, this restriction may be lifted. Pile burning may occur if it is greater than one mile from an active nest, but conservation measures will be implemented to ensure effects are minimal.

Noise Disturbance

Biological studies of eagle behavior indicate that eagles are particularly vulnerable to interference during territory establishment, courtship, egg-laying, incubation, and parenting of nestlings (USFWS 2006a). A wide variety of activities, including various types of development, resource extraction, and recreational activities near sensitive areas such as nesting, feeding, and roosting sites, can interrupt or interfere with the behavioral patterns of eagles. Further disruption may also result from human activity that occurs after the initial habitat alteration or disturbance. When a sound source arouses an animal, the disturbance may affect metabolic rates by increasing activity levels. This increased activity can deplete energy reserves (Bowles 1995). Noisy human activity can cause raptors to expand their home ranges, but birds often return to normal use patterns when human activity ceases (Bowles 1995). Noise associated with commercial logging activities will be heard by both nesting and roosting bald eagles within the action area. Logging trucks, as they brake and shift gears, create bursts of loud sound, and chainsaws and other mechanized harvesting equipment can be quite loud. However, this noise is not expected to be loud enough that it will result in flushing eagles off nests or roosts. Topography will minimize some of the noise, and jake brakes will not be permitted within 0.25 mile of winter roosts or 0.46 mile of nests. Harvesting activities will not be visible from either the 2005 or 2006 nest locations.

Though there are no bald eagle nests or roosts within the project area, the proposed haul route passes within 0.25 mile of both. Assuming that commercial harvest may generate enough logs to fill one log truck per acre, approximately 8,000 log trucks, which include both loaded and empty log trucks, will pass through a known winter roost and within 0.25 mile of the 2005 nest. This amount of commercial traffic is likely to occur off and on over a period of three to five years and may generate enough noise and/or visual activity to disrupt roosting when it occurs. In order to reduce the amount of disturbance to breeding eagles, this portion of the haul route will not be used when breeding eagles are present. Breeding and nesting status will be determined by the Forest Service, FWS, and AGFD biologists. However, though this conservation measure will protect eagles that may re-use the 2005 nest, it may not protect wintering bald eagles that may use the roost area from October 15 through April 15.

As stated in the environmental baseline section, we frequently see wintering bald eagles in the early morning using the area near the haul route on Lower Lake Mary. Management of wintering bald eagles involves protecting three habitat components: foraging areas, daytime

perching areas, and night roosts, as well as the eagles that use them (Martell 1992). We recommend that managers provide protection from human disturbance, physical alterations to habitat, environmental contaminants, and loss of food resources (Martell 1992). The use of the proposed haul route during the winter roost season will not provide protection from disturbance. Disturbances associated with the proposed action may limit the use of winter foraging areas, disrupt foraging behavior, and force eagles to use marginal resources, thereby reducing habitat quality (Stalmaster 1983, 1987). Stalmaster and Kaiser (1997) studied the flushing responses of wintering bald eagles on the Fort Lewis Army Reservation, Washington during 1991-1994. They found that flushing by eagles decreased with increasing distance from firing events (16% of eagles flushed at 0.31 to 0.62 mile). Another study found that gunshots and sonic booms within 1.24 miles of nesting eagles caused 10% of birds to flush (Grubb and King 1991), but experimental shooting 0.31 mile from a roost caused most eagles to flush (Smith 1988). Habituation to frequently occurring events, especially by adults, and the need for food and habitat contained in the area, likely explain the apparent tolerance of many eagles to firing and activity (Stalmaster and Kaiser 1997). However, as noted above, habituation to disturbance, though it may occur to some extent, often is partial or negligible (Frid and Dill 2002).

Mexican spotted owl

The direct and indirect effects of the proposed action to MSO include habitat disturbance (including fire and fuels management actions) and noise disturbance. There are MSO PACs, restricted habitat, and critical habitat located within and adjacent to the project area.

Habitat disturbance

Approximately 390 acres within the Clark PAC are proposed for group selection treatments. Group selection treatments target the removal of trees in all size classes to create uneven-aged stands that are continuously establishing themselves over time, thus maintaining an uneven-size forest structure that is preferred by MSO (USFWS 1995). However, in order to achieve uneven-aged thinning, it is sometimes necessary to remove larger trees in order to achieve the desired forest structure. As a part of this action, the Forest Service will harvest ponderosa pine trees up to 16 inches dbh within the Clark PAC. The Recovery Plan does not recommend removing trees greater than 9 inches from PACs. The reason for the proposed treatment in the PAC is to enhance nesting, roosting, and foraging habitat in the long-term. Currently, the PAC is not providing what we believe to be quality nesting and roosting habitat. There is a deficit of large trees and multiple canopy layers that are preferred by MSO (USFWS 1995). Harvesting trees up to 16 inches dbh in the Clark PAC will put the majority of acreage within the PAC on a trajectory to grow nesting habitat. Though there may be short-term adverse affects to MSO associated with the Clark PAC immediately following the treatment and for some time after, the long-term effects to this PAC from this action are expected to be beneficial. Harvest within the Clark PAC will not occur during the MSO breeding season (March 1 to August 31).

In the Clark PAC, harvesting trees up to 16 inches dbh will reduce the average basal area from 139 square feet per acre to less than 100 square feet per acre. The average canopy cover, as measured across the PAC, will decrease from 66% to 51%, and the average quadratic mean diameter will increase from 9.5 inches to 11.3 inches due the removal of smaller trees and

retention of larger trees. The resulting basal area and canopy cover measures are still within the range that we find MSO roosting in pine-oak habitat (Ganey *et al.* 2003). In comparison, harvesting trees up to 9 inches dbh, as recommended in the Recovery Plan (USFWS 1995) would have little direct effect on stand densities in this PAC. Average basal area would decrease from 139 square feet per acre to 127 square feet per acre and average canopy cover would decrease from 66% to 62%. Modeling indicates that over the 40 years following treatment, the proposed action will result in lower stand densities and canopy covers and decreased competition between trees, decreased tree stress, increased tree vigor, increased understory productivity and diversity, and a more uneven-aged forest structure. These long-term benefits are based upon the current forest structure in the Clark PAC and are not representative of PAC treatments in general, nor should these data be construed as a recommendation that trees greater than 9 inches dbh should be removed in PACs.

There is a total of 1,065 acres of restricted MSO habitat in the project area. Treatments planned in restricted habitat will be in compliance with the Recovery Plan (USFWS 1995). Approximately 65 acres occur within 0.5 mile of private land where fuels reduction treatments can be more intensive. However, the treatments proposed as a part of this project will not reduce, but should improve, the quality of the restricted habitat. The Forest Service identified stand 389-03 as target/threshold habitat, which accounts for 13% of the total restricted habitat in the area. This stand will be burned only and is expected to meet stand density requirements for large trees per the Recovery Plan (USFWS 1995) within 20 years following treatment.

Noise Disturbance

Within the Clark PAC, existing closed roads will be used for hauling logs. No new roads will be created and the existing roads will be rehabilitated and closed immediately following mechanical treatments. Roads within the Clark PAC will not be open to the public and will be posted closed to public entry and barricaded during mechanical treatment.

Approximately one mile of FSR 132K passes through the northern boundary of the Mustang PAC and is proposed as a haul route for the extreme southern compartment of the project. Some minor grading and spot fill will be needed before log trucks can use this road. Breeding season restrictions on both road maintenance and hauling will be used within 0.5 mile of roosts and nests within the Mustang PAC to minimize effects from noise disturbance.

Critical habitat

There are 2,195 acres of critical habitat within the Elk Park proposed project area. Approximately 2,074 acres are proposed for harvesting and prescribed fire treatments, and 121 acres are proposed for burning only. Oaks, snags, and large logs are not targeted for treatment, and proposed treatments are designed to improve the structural diversity of the project area. None of these areas will be treated in a manner that would reduce their designation as protected or restricted habitat.

Of the six primary constituent elements related to forest structure, only the volume of logs and woody debris is expected to be potentially adversely affected by the proposed action. However,

within MSO habitats, logs will be lined and burning techniques will be used to minimize the loss of both logs and snags during prescribed fire operations. Additionally, within turkey nesting habitat (which overlaps with MSO pine-oak habitat), two to three logs will be felled perpendicular to each other under the direction of the District Biologist. These log structures will provide increased prey habitat for MSO as well as nesting habitat for turkey. The logs will be marked with “Wildlife Tree” signs and protected from subsequent prescribed fires.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Bald eagle

Non-federal activities that are reasonably certain to occur, which could impact eagles, include clearing vegetation around power lines, road use, road maintenance, recreation, agriculture, development, water diversion, and groundwater pumping. These activities may reduce the quantity and quality of eagle nesting, roosting, and foraging habitat; result in disturbance to eagles; and contribute as cumulative effects to the proposed action.

Mexican spotted owl

Non-federal actions within the proposed action area that are reasonably certain to occur include the potential development and/or modification (e.g., road construction, land clearing, logging, firewood gathering) of private property in-holdings. These activities may reduce the quality and quantity of MSO nesting, roosting, and foraging habitat; result in disturbance to breeding MSOs; and contribute as cumulative effects to the proposed action. However, because of the occurrence of MSOs predominantly on Federal lands, and because of the role of the respective Federal agencies in administering the habitat of the MSO, actions to be implemented in the future by non-Federal entities on non-Federal lands are considered to be of minor impact to the owl population, but may have significant impacts on the MSO PACs and critical habitat.

CONCLUSION

After reviewing the current status of the bald eagle and the MSO, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is our biological opinion that implementation of the Elk Park Fuels Reduction Project will not likely jeopardize the continued existence of the bald eagle and MSO, and is not likely to destroy or adversely modify designated critical habitat for MSO.

This biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task Force v.*

U.S. Fish and Wildlife Service (No. 03-35279) to complete the following analysis with respect to critical habitat.

Bald eagle

Our reasons for this conclusion for the bald eagle are that the population status of the eagle both within its entire range and within the action area has substantially improved; the species is proposed for delisting; and, the proposed action includes conservation measures that will lessen the impact of the proposed Elk Park Fuels Reduction Project on nesting and wintering eagles within the project area. No critical habitat has been designated for the species; therefore, none will be affected.

Mexican spotted owl

Our reasons for this conclusion are though 390 acres protected habitat treatments are outside the Recovery Plan (USFWS 1995) recommendations and will remove trees greater than 9 inches dbh, the proposed action will increase the long-term viability of MSO habitat by improving the quality of potential nesting and roosting habitat within the Clark PAC and reducing the threat of severe, stand-replacing wildfire. In addition, the implementation of the proposed action is not expected to impede the survival or recovery of MSO within the Upper Gila Mountains RU.

The conclusions of this biological opinion are based on full implementation of the project as described in the Description of the Proposed Action section of this document, including any Conservation Measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as the part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

Amount or Extent of Take Anticipated

We do not anticipate that incidental take is reasonably certain to result from the proposed action for the reasons given below.

Bald eagle

Using available information as summarized within this document, we have identified conditions of potential adverse effects to the bald eagles associated with the winter roost area along the FSR 296 haul route. If bald eagles do not use the area for nesting (which would trigger a closure), there will be noise disturbance associated with hauling traffic around this roost for a period of three to five years. Though we believe that the use of this area during the winter roost season may cause eagles to avoid this roost area, there are ample roost sites available in the general area that will be free from project-related disturbance. Therefore, we do not believe that the use of this road to haul logs is reasonably certain to affect eagles to the point where incidental take occurs.

Mexican spotted owl

Using available information as summarized within this document, we have identified conditions of potential adverse effects to the MSO associated with Clark PAC primarily related to habitat alteration. However, based on the best available information concerning the MSO, habitat needs of the species, the project description, and information furnished by the Forest Service, we do not believe that the removal of trees up to 16 inches dbh within this PAC or in adjacent restricted habitat is reasonably certain to affect spotted owls to the point where incidental take occurs. Even immediately after the project is completed, the Forest Service states that the PAC habitat will meet the canopy cover requirements for roosting owls and prey habitat will be enhanced. Though the removal of trees up to 16 inches in PACs is not typically recommended, we believe that in this situation this action will ultimately improve the potential of the Clark PAC to support nesting MSO.

We will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

DISPOSITION OF DEAD OR INJURED LISTED SPECIES

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 W. Broadway Rd, Suite 113, Mesa, Arizona, 85202, telephone: 480/967-7900) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and in handling dead specimens to preserve the biological material in the best possible state.

If possible, the remains of intact species shall be provided to this office. If the remains of the species are not intact or are not collected, the information noted above shall be obtained and the carcass left in place. Injured animals should be transported to a qualified veterinarian by an

authorized biologist. Should the treated species survive, the AESO should be contacted regarding the final disposition of the animal.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purpose of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that the Forest Service work with us and AGFD to develop a management plan for the Lower Lake Mary bald eagle BAs.
2. We recommend that the Forest Service continue to work with us and AGFD to design and implement forest thinning and burning projects that benefit listed and sensitive wildlife species.

In order to keep us informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitat, we request notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in this biological opinion. As provided in 50 CFR Section 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Thank you for your continued coordination. No further section 7 consultation is required for this project at this time. Should project plans change, or if information on the distribution or abundance of listed species or critical habitat becomes available, this determination may need to be reconsidered. In all future correspondence on this project, please refer to the consultation number 22410-2006-F-0371. We also encourage you to coordinate the review of this project with the AGFD.

Should you require further assistance or if you have any questions, please contact Shaula Hedwall at (928) 226-0614 (x103) or Brenda Smith (x101) of our Flagstaff Suboffice.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Field Supervisor, Arizona Game and Fish Department, Flagstaff, AZ
Assistant Field Supervisor, Fish and Wildlife Service, Flagstaff, AZ
District Ranger, Mormon Lake Ranger District, Flagstaff, AZ
Forest Biologist, Coconino National Forest, Flagstaff, AZ
District Wildlife Staff, Mormon Lake Ranger District, Flagstaff, AZ
Greg Beatty, Fish and Wildlife Service, Phoenix, AZ

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APPENDIX A

Agency actions that have undergone formal section 7 consultation with levels of incidental take permitted for the bald eagle in Arizona since 2001.			
Action	Year	Federal Agency	Incidental Take Anticipated
Arizona			
Revised Biological Opinion on Transportation and Delivery of Central Arizona Project Water to the Gila River Basin in Arizona and New Mexico and its Potential to Introduce and Spread Nonnative Aquatic Species 02-21-90-F-119a	2001	USBR	Amount or Extent Was Unquantifiable – Take was anticipated in the form of harm and harassment through: 1) alteration of fish prey species and through introduction of exotic plants and/or invertebrates (such as Salvinia) impacting eagle’s ability to access prey, and 2) disturbance due to construction of fish barriers on upper Verde River and Fossil Creek.
Navajo Nation Water Quality 02-21-96-F-368	2001	EPA	Amount of take was unquantifiable due to the mobile nature of the eagle following exposure to impaired water quality.
Installation of Wind Turbine at Camp Navajo 02-21-02-F-0503	2003	DOD	One bald eagle as a result of collision with wind turbine.
Intra-Service Biological and Conference Opinion - Issuance of a Section 10(a)(1)(B) permit to Salt River Project for Operation of Roosevelt Dam 02-21-03-F-0003	2003	USFWS/SRP	Over 50 years, reduced productivity as a result of harm resulting in loss of 18 eaglets.
Bureau of Reclamation’s Approval of Water Exchange by San Carlos Apache Tribe for Water Retention in San Carlos Lake. 02-21-04-F-0001 and 02-21-04-F-0077	2004	USBR	Loss of productivity at two bald eagle breeding areas (Coolidge and Granite Basin) for one year, totaling 4 eaglets/eggs.
Reconstruction of the Sunrise Park-Big Lake Road, also known as Forest Highway 43 02-21-97-F-0229	2004	FHWA	Reduced productivity/success as a result of impacts to foraging and nesting from recreation resulting in less than six eaglets fledged over a 10-year period.
Big Lake Campground Expansion 02-21-04-F-0107	2004	USFS	Reduced productivity/success as a result of impacts to foraging and nesting from recreation resulting in less than 80 percent of statewide average eagle productivity in five-year intervals. Therefore, if less than 3 eaglets are fledged every 5 years, incidental take will be exceeded.

Agency actions that have undergone formal section 7 consultation with levels of incidental take permitted for the bald eagle in Arizona since 2001.			
Programmatic Biological and Conference Opinion on the Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands of the Southwestern Region. 02-22-03-F-0366	2005	USFS	On the Tonto, Prescott, Coconino, and Apache-Sitgreaves National Forests, incidental take is anticipated in the form of harm and harassment as a result of implementing Engineering, Range, Recreation, Forest Health and Forestry programs and on the Coronado NF from implementing Minerals program. If for two consecutive years occupancy falls below 21 breeding areas or less than 11 eaglets are fledged in a single year on these forest collectively, incidental take will have been exceeded.
Mountaineer Healthy Forests Restoration Act Project Biological Opinion 02-21-05-F-0343	2006	USFS	Two adult eagles and all young from the Lake Mary Breeding Area for 1-3 years when the FR 296/296A haul route is used.
Phase I Hazard Vegetation Removal in Utility Corridors on Arizona Forests 22410-2007-F-0364	Draft 2007	USFS	None anticipated.
DOD = Dept. of Defense; EPA = Environmental Protection Agency; FHWA = Federal Highway Administration; SRP=Salt River Project; USFS = U.S. Forest Service; USBR = U.S. Bureau of Reclamation; USFWS=U.S. Fish and Wildlife Service			