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AESO/SE
02-21-04-F-0247

August 10, 2004

Mr. M. Stephen Best
District Ranger
Williams Ranger District
742 South Clover Road
Williams, Arizona 86046-9122

Dear Mr. Best:

This biological opinion responds to your request for 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 for formal consultation was received on May 13, 2004. At issue are impacts that may result from the proposed Campground Bark Beetle Outbreak Sanitation and Prevention Project located in Coconino County, Arizona, on the threatened bald eagle (*Haliaeetus leucocephalus*).

In a May 21, 2004, email message, your staff also requested our concurrence that the proposed action is not likely to adversely affect the Mexican spotted owl (*Strix occidentalis lucida*). We concur that the proposed project is not likely to adversely affect that species for the reasons stated in the appendix to this biological opinion.

This biological opinion is based on information provided in an undated biological evaluation, meetings, email correspondence, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, beetle outbreak sanitation and prevention and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation History

Table 1 is a summary of the consultation history for the proposed project.

Table 1. Consultation History for the Campground Bark Beetle Outbreak Sanitation and Prevention Project.

<i>Date</i>	<i>Event</i>
April 19, 2004	We received a draft biological evaluation of the proposed project for review.
April 27, 2004	We discussed the proposed action in a meeting with Kaibab National Forest staff.
May 13, 2004	We received a request for formal consultation on the proposed action.
May 21, 2004	We received a request for concurrence with a not likely to adversely affect determination for the Mexican spotted owl.
June 15, 2004	We issued a thirty-day letter acknowledging the request for formal consultation.
August 2, 2004	We issued a draft biological opinion for review.
August 4, 2004	We received comments on the draft.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Most of the information regarding the proposed action in this document is taken from a biological evaluation of the project (BE; Nielsen undated). The intent of the proposed action is to reduce the risk from a bark beetle (several species of *Ips* and the western pine beetle) outbreak to developed recreation areas on the Kaibab National Forest. The risk is proposed to be reduced by implementing an integrated pest management strategy. This integrated approach will consist of removal of beetle-infested trees, spraying high-value trees with carbaryl insecticide, and thinning to reduce basal area.

Proposed treatments will occur within and around the following developed recreation sites on the Kaibab National Forest: Cataract Lake Campground, Dogtown Lake Campground, Kaibab Lake Campground, and White Horse Lake Campground. Proposed treatments include the following:

Removal of beetle-infested and hazard trees or snags

Developed recreation sites will be monitored to identify beetle-infested trees and remove such trees from the sites. Hazard trees that were killed by causal factors other than beetles, but pose a threat to public safety within the developed recreation sites, will also be identified and removed as part of the treatment. The treatment is anticipated to result in removal of an average of approximately 400 infested and/or hazard trees and snags each year across the four campgrounds. The trees and snags are typically small to medium in size, although an estimated 15 large-diameter (>24 inch diameter at breast height [dbh]) hazard trees or snags may need to be removed each year. Future removal needs depend on the future severity of beetle outbreaks, as

well as the severity of drought and the effectiveness of the proposed treatments within the campgrounds.

Infested and hazard tree removal will not be done between November 15 and March 15 to minimize effects to bald eagles wintering in the areas. With this minimization measure, dates of treatment are likely to encompass March 15-April 30 and October 1-November 15, because of the following reasons: most work will need to be done while most of the campground loops and Cataract Campground are closed for the season (i.e., October 1-April 30) because of public safety concerns; Forest Service crews, which are largely comprised of fire-fighting personnel, are more likely to be available to do the work outside of the spring-summer fire season; and removal of *Ips*-infested trees is most effective after trees become dormant and after *Ips* activity subsides, because trees decrease release of phenols and turpines, which attract beetles. The treatment may begin upon issuance of the biological opinion for this action and will last up to 10 years from the date of issuance of the biological opinion. The treatment will require approximately 6 weeks of work spread through the four treatment areas each year. Cutting trees requires a minor portion of this time, with the majority of time needed for removing the trees by hand. The treatment will be done by Forest Service crews or by a licensed contractor.

Carbaryl spraying

The treatment will consist of application of carbaryl insecticide with hand-held instruments to living, high-value trees that are not currently infested with beetles. All trees to be sprayed will be within existing campground sites and identified for spraying by a Forest Service employee or entomologist. All bole surfaces, from the root collar up to a three-inch diameter top, will be treated with insecticide. The amount of spray applied will be sufficient to soak the bark, resulting in wetting of the underlying bark flakes.

The treatment may be implemented annually March 15-May 1, until beetle pressure subsides, or up to 10 years from the date of issuance of the biological opinion for this action. This time period allows for effective treatments because it is after maturation of adults and drying of the bark surface, but before emergence and flight of the mature bark beetles. During 2005, a total of 153 trees are proposed for spraying; 113 within the White Horse Lake Campground and 40 within the Kaibab Lake Campground. These high-value trees proposed for spraying are also primarily large-diameter trees. The work will take approximately 7 days each year.

Thinning

Kaibab National Forest engine crews or private contractors will use chainsaws to fell and buck designated trees. All trees proposed for thinning have small diameters; most are ≤ 9 inches dbh, but in some areas of very high density, trees up to 14 inches dbh will be cut. The desired future condition is a density of approximately 70-80 trees per acre.

All “slash” (cut tree trunks, limbs, and trimming debris) will be treated properly to minimize the spread of any beetles breeding within the slash into adjacent trees. Slash will be lopped and scattered, chipped, bucked up and removed, or hand-piled and burned, based on site-specific evaluation. Chipped material will either be removed from the site or spread throughout the site. The chipper will either chip on the roadside after crews have dragged the slash to the roadside or, where applicable, the chipper will be pulled into the site by a truck or farm tractor.

Thinning will occur from October 1-November 15, starting during the fall of 2004. If logistical constraints prevent completion of the treatment during the fall of 2004, work will be completed during the fall of 2005. Thinning will encompass 15, 110, 180, and 102 acres at Cataract, Dogtown, Kaibab, and White Horse Lake campgrounds, respectively. The treatment will require approximately 3 weeks total across the four areas.

Conservation Measures

The District has developed several measures to reduce the potential for adverse effects that will be implemented as part of the proposed project (Nielsen undated). The measures that relate directly to the bald eagle include:

- No treatments will be done between November 15 and March 15 to minimize effects to wintering bald eagles.
- All carbaryl spraying will be done with hand-held instruments. A cherry picker (i.e., a basket similar to that used to raise utility repair-persons up to the tops of utility structures) will be used for applications at heights above ground level.
- No trees within 200 feet of the high water mark of the lakes will be sprayed. No trees will be sprayed within 200 feet of drainages leading to, or flowing from the lakes, within one mile upstream and 300 feet downstream of the lakes.
- The City of Williams will monitor water at the campground lakes after spraying is completed to ensure that water quality is not affected.
- Spraying will not occur if winds are >10 miles/hour, if snow is on the ground, or if there is a chance of precipitation within two hours of spraying.
- Application of the carbaryl insecticide will be done in accordance with safety and handling procedures required by the Environmental Protection Agency. Application will be done by a licensed pesticide applicator. The chemical that will be used is registered for bark beetles and will be properly formulated, following label directions for bark beetles. The insecticide will be in liquid form; no powder will be used. The application rate specified on the label for bark beetles will be used.
- Most trees to be removed as part of thinning treatments are ≤ 9 inches dbh. In a few locations where extremely dense conditions exist, trees up to 14 inches dbh will be cut.
- Most cutting treatments at White Horse Lake Campground will be done during the fall.

STATUS OF THE SPECIES

The bald eagle south of the 40th parallel was listed as endangered under the Endangered Species Preservation Act of 1966, on March 11, 1967 (U.S. Fish and Wildlife Service 1967), and was

reclassified to threatened status on July 12, 1995 (U.S. Fish and Wildlife Service 1995). No critical habitat has been designated for this species. The bald eagle was proposed for delisting on

July 6, 1999 (U.S. Fish and Wildlife Service 1999). 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 bald eagle occurs in association with aquatic ecosystems, frequenting estuaries, lakes, reservoirs, major river systems, and some seacoast habitats. Generally, suitable habitat for bald eagles includes those areas which provide an adequate food base 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 night roosts (U.S. Fish and Wildlife Service 1995).

Although not considered a separate subspecies, bald eagles in the southwestern United States have been considered as a distinct population for the purposes of consultation and recovery efforts under the Act. A recovery plan was developed in 1982 for bald eagles in the Southwest recovery region. We determined that bald eagles in the Southwest recovery region are part of the same bald eagle population found in the remaining lower 48 states (U.S. Fish and Wildlife Service 1995). We proposed delisting of the bald eagle in the lower 48 states, including Arizona, stating that the number of breeding pairs in the Southwest Recovery Unit has more than doubled in the last 15 years (U.S. Fish and Wildlife Service 1999).

In addition to breeding bald eagles, Arizona provides habitat for wintering bald eagles, which migrate through the state between October and April. In 2004, the standardized statewide Arizona winter count totaled 402 bald eagles, including 236 adults, 147 subadults, and 19 of unknown age.

Even though the bald eagle has been reclassified to threatened, and the status of the birds in the Southwest is on an upward trend, the Arizona population remains small and under threat from a variety of factors. Human disturbance of bald eagles is a continuing threat which may increase as numbers of bald eagles increase and human development continues to expand into rural areas (U.S. Fish and Wildlife Service 1999). The bald eagle population in Arizona is exposed to increasing hazards from the regionally increasing human population. Because water is a scarce resource in the Southwest, recreation is concentrated along available watercourses. Some of the continuing threats and disturbances to bald eagles include entanglement in monofilament fishing line and fishing tackle; overgrazing and related degradation of riparian vegetation; malicious and accidental harassment, including shooting, off-road vehicles, recreational activities (especially watercraft), and low-level aircraft overflights; alteration of aquatic and riparian systems for water distribution systems and maintenance of existing water development features such as dams or diversion structures; collisions with transmission lines; poisoning; and electrocution (Stalmaster 1987).

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 in the action area that have undergone formal or early section 7 consultation, and the impact of State and

private actions which 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.

A. Status of the species within the action area

Locations of bald eagle wintering areas and perches come partially from annual winter counts performed on a single day each winter by Forest Service personnel and maintained by the District Biologist (Nielsen undated). Annual winter counts were done at Cataract, Kaibab, and White Horse lakes during 1994-2001. Winter counts were done at Dogtown Lake only during 1994, due to access limitations to this site during the winter from heavy snow levels. Incidental observations of bald eagles, which are reported to the District Biologist, provide additional information on winter use areas and perches.

The treatment areas occur within existing campgrounds near lakes. Ponderosa pine is the dominant vegetation type in the treatment areas. The existing ponderosa pine habitat within the treatment areas is dense with small- and medium-diameter trees. Campground recreationists use the areas heavily during the summer months.

Wintering bald eagles have been observed at all four lakes at which treatments are proposed. Bald eagles do not breed within the areas. No bald eagle nests have been found within the Kaibab National Forest. The highest numbers of bald eagles observed at any one time at Cataract, Dogtown, Kaibab, and White Horse lakes were 6, 25, 9, and 15 eagles, respectively. Typical incidental reports are of 1-3 eagles at these lakes.

Bald eagles are most commonly observed perching near these lakes in large snags or trees. The nearest known bald eagle winter perch snags or trees are within the treatment areas at Cataract Lake and White Horse Lake campgrounds and at 0.1 mile from the treatment areas at both Dogtown Lake and Kaibab Lake campgrounds. High visibility is the most important characteristic of these perch snags or trees. High visibility exists when a snag or tree is higher than the canopy level, there is an open-branch structure, and/or open forest conditions exist in the vicinity of the snag or tree. Snags are preferred over living trees, while rocks, ground, and ice may also be used as perching substrata.

It is not clear if bald eagle winter roosts occur in or near the treatment areas. Elsewhere across the bald eagle's range, winter roosts are communal, in stands of large, living trees, protected from severe weather, and normally several miles from areas of daytime activity. There are a few such isolated bald eagle winter roosts known in northern Arizona, and they tend to be occupied by smaller groups of birds. Winter roosting patterns in northern Arizona seem to be more influenced by diurnal foraging activity. Bald eagle winter roosts in northern Arizona often consist of small groups clustered around larger bodies of water (e.g., Lake Mary and Mormon Lake on the Coconino National Forest). Therefore, the four proposed treatment areas (and the lakes they are adjacent to) could support small-group winter roosts of bald eagles.

Characteristics of potential winter roosts at the proposed treatment sites may be the same as the perching trees, or they could be protected pockets of living trees in the vicinity of perching trees. The Williams Ranger District believes that some perches in other areas of the District are used for night roosting by bald eagles, based on observations of eagles late in the evening and early

the next morning in the same snag or tree on multiple days. Roosting in more open stands and tree structures in northern Arizona is consistent with the warmer climate in northern Arizona, compared to harsher winter climates across much of the rest of the bald eagle's range. In addition, perch snags or trees could serve as sentinel perches, as observed in other parts of the bald eagle's range. Sentinel perches are tall trees close to, or on the edge of, the nighttime roost.

The typical occupation period by wintering bald eagles in northern Arizona has been previously defined as October 15-April 15 (Nielsen undated). Incidental observations of bald eagles at the four treatment areas have been documented between October 26-May 10 (Table 2). Abundances of both adult and immature bald eagle age classes in northern Arizona have been found to peak in February.

Table 2. Earliest and Latest Incidental Observations of Bald Eagles At or Near the Treatment Areas.

Treatment Area	Earliest Month and Day	Latest Month and Day
Cataract Lake	November 25	February 23
Dogtown Lake	October 26	April 18
Kaibab Lake	November 16	May 10
White Horse Lake	October 30	May 5

B. Factors affecting the species' environment within the action area

The affected environment is also influenced by other past and ongoing activities within the vicinity of the treatment areas. Previous activities include the following (Table 3):

Table 3. Previous Actions At or Within the Four Campgrounds.

Cataract Lake

1980s	A split-face, brick toilet building was added to the campground.
2001	The Williams High Risk Fuels Reduction Project included tree thinning and pile burning as close as 2 miles from the area.

Dogtown Lake

1990-1992	The Reneke Timber Sale included tree cutting and removal as close as 2 miles from the area.
2003	The campground was reconstructed involving realignment of the internal campground roads and associated tree removal, adding aggregate to the roads, removal of the old toilet buildings, and installation of new toilet buildings in new locations.
2003	Dogtown Lake was drained to kill nuisance fish and for dam valve replacement, and involved the use of a large pump and continuous pumping for several days.
Ongoing	Summer cattle grazing occurs near Dogtown Lake for approximately 45 days.
Future	The Dogtown Fuels Reduction Project involves tree thinning and prescribed fire. The project was addressed in the biological opinion on Wildland/Urban Interface

	Fuel Treatments in New Mexico and Arizona (issued April 10, 2001), in which a 'not-likely-to-adversely-affect' determination was made for the bald eagle. The project is in final stages of planning and has not yet been implemented. The boundary of this project encompasses the proposed treatment area at Dogtown Lake.
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Kaibab Lake

1989	The campground received some minor reconstruction (roads paved, fishing pier built).
1989	Riprap was added to the dam spillway at Kaibab Lake using heavy machinery.
1994	An accessible fishing pier was built on Kaibab Lake.
2001	Replacement of the toilet building and relocation of two water hydrants and associated water lines occurred at the campground using heavy machinery.
2002	Barrier rock was removed from the old access road using a small farm tractor.
Ongoing	Summer cattle grazing occurs near Kaibab Lake for approximately 60 days.

White Horse Lake

1989-1990s	The Sycamore Timber Sale included areas around the campground.
1989-1992	Permits for three recreation residence cabins located near the east end of the lake were reissued for 20 or 30 years.
1990	White Horse Lake was drained and the dam level was raised.
1995-1997	The campground was reconstructed involving: removal of the house, old store, and rental cabins, as well as the rental paddle boats; removal of old toilet buildings and replacement with new composting toilets; obliteration of the old campground loops and replacement with new loops; realignment and reasphalting of the roads within the campground; new picnic tables and fire-rings; and associated tree removal.
2002	White Horse Lake was drained in 2002 to kill nuisance fish and crawfish using a large pump and continuous pumping for several days.
Ongoing	The Fire Surrogate Project includes combinations of thinning and burning as close as 3.25 miles from the area.
Ongoing	The Elk-Lee Fuels Reduction Project involves tree cutting with heavy equipment and prescribed fire as close as 2 miles from the area.
Ongoing	Summer cattle grazing occurs near White Horse Lake for approximately 45 days.
Ongoing	The Frenchy Vegetative Treatment Project involves tree cutting and prescribed fire as close as 1.5 miles from the area.

Ongoing activities at the four campgrounds include the following:

Campground operations include activities such as cleaning toilet buildings, campsites, and fire-rings, and emptying of trash bins. Equipment used for the cleaning activities includes a small, two-wheel drive pick-up truck, gas powered golf carts, and a four-wheel drive pick-up truck with a trailer. Removal of the trash at Kaibab Lake includes use of a City of Williams garbage truck. Maintenance, upkeep, and repairs of campground facilities, such as fishing piers, signs, toilet buildings, solar systems at toilet buildings, picnic tables, fire rings, fences, and campground water tanks are conducted. A concessionaire operates the campgrounds with full services (host,

water, dump stations, trash pick-up, and fee collection) between May 1 and October 1 of each year.

The interior surfaces of the water tanks at Dogtown, Kaibab, and White Horse Lake campgrounds are sand-blasted approximately once every ten years. Sand-blasting and painting of the tanks takes approximately two weeks and involves loud, large equipment. This activity was last conducted at Kaibab Lake Campground in 2002, at Dogtown in 2003, and is due soon at White Horse Lake Campground.

Camping activities take place year-round within and near the campground lakes. There are 251 sites available for camping in the summer and 105 sites available in the winter. One loop of each campground, except Cataract Lake (which is closed for the winter), is open year-round. Camping activities include the use of recreational vehicles (RVs), trailers, and tents. RV and trailer users typically carry and use generators, as electrical hook-ups are not available in the campgrounds. During concessionaire operation in the summer months of 2000, the numbers of sites sold for overnight use were 997, 1,397 (including 180 group sites), 5,925 (including 448 group sites), and 2,620 in the Cataract, Dogtown, Kaibab, and White Horse Lake campgrounds, respectively. Most sites were limited to 2 vehicles per night, while the Dogtown group sites were limited at 50 people and the Kaibab group sites were limited at 63 people. Picnicking activities take place at all of the campground lakes and in the picnic area at Dogtown Lake. Access to the boat ramps, and fishing and boating activities by recreationists, occur at all of the campground lakes year-round.

Interpretive programs are conducted in an amphitheater at Kaibab and Dogtown lakes, and at an informal gathering place near the day-use parking area at White Horse Lake. The interpretive programs at White Horse Lake typically involve a hike along the trail around White Horse Lake. There is a self-guided interpretive trail at Dogtown Lake (the Davenport trail takes off from the interpretive trail), and a trail around the lake. There is a trail around White Horse Lake and a hiking trail that leads to Sycamore Canyon.

Roads going to and from the campgrounds (especially White Horse Lake and Dogtown Lake) are typically graded four times per year. The aggregate roads inside the campgrounds are typically graded once each year.

Past hazard tree removal within the treatment areas included approximately 50 trees in the early 1990s, and approximately 3-6 trees each year since, until 2003. During the 2003 operating season, approximately 100 trees were removed from Kaibab Lake Campground and 10 trees from White Horse Lake Campground. Most of the past hazard tree removal was conducted with a self-loading truck as part of small timber sales. Roadside hazard trees are occasionally removed from the roads going to and from the campgrounds. Ongoing hazard tree removal occurs along APS powerlines within the proposed treatment areas at Cataract and Kaibab lakes.

‘No effect’ determinations were made for the bald eagle for all Forest Service actions listed above, except as specified for the Dogtown Fuels Reduction Project in Table 3.

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. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Potential impacts from the proposed action to the bald eagle include: 1) project-related disturbance of wintering bald eagles, 2) modification of winter perching habitat, 3) modification of potential winter roosting habitat, 4) direct or indirect effects from carbaryl insecticide spraying, and/or 5) temporary alteration of prey habitat from changes in sediment transport (Nielsen undated).

Temporary project-related disturbance is likely to occur at the four bald eagle winter-use areas (four treatment areas) during implementation. Disturbance will be in the form of: a) noise from chainsaws, pick-up trucks, a bulldozer, a “cherry picker” truck with a portable tank and gas-powered pump, a farm tractor (smaller than a dozer), and a dump truck; b) treatment operations such as felling, limbing, bucking, and removal of trees; and c) project-related human presence and activity for up to 3 months per year during up to 10 years. No treatments will be implemented between November 15 and March 15, which encompasses much of the typical occupation period of northern Arizona by bald eagles (October 15 – April 15), as well as when bald eagle winter populations peak in northern Arizona (February). Disturbance during implementation is likely to result in temporary agitation and/or temporary displacement of bald eagles using the areas.

Modification of winter perching habitat is likely to result from the proposed thinning and infested/hazard tree removal. It is possible that bald eagle winter roosting habitat exists within the treatment areas, and the quality of such winter roosting habitat could be reduced as a result of these treatments. Potential effects to winter roosting habitat include reduced thermal cover from reduced tree densities or loss of roost trees that have become infested with beetles or pose a safety hazard in the campgrounds. If winter roost habitat quality is reduced within the treatment areas, the bald eagles are most likely to be displaced to other roosting habitat adjacent to and surrounding the treatment areas. Treatments also could result in temporary interference with bald eagle social interactions, because of the semi-communal nature of winter roosts in northern Arizona.

The proposed carbaryl spraying could result in direct or indirect effects to bald eagles (Nielsen undated). Bald eagles could absorb the chemical directly by perching on sprayed trees. Because the high-value trees chosen for spraying are typically large trees, like those typically used for perching, this is the most likely route of exposure to bald eagles. The pesticide is generally short-lived in the environment, lasting days to months, depending on temperatures and pH, with higher levels of both resulting in accelerated-chemical breakdown. Carbaryl is largely non-toxic to birds, as suggested by very high LD₅₀ rates and, therefore, direct exposure is not likely to result in mortality of bald eagles. Direct exposure could have short-term, non-lethal effects on the nervous system of bald eagles, which could result in temporarily reduced foraging and

sheltering abilities. Potential long-term effects from direct exposure to the pesticide are not well understood, but the worst-case scenario, which includes disruption of the endocrine system, could result in reduced reproductive success and/or survival of exposed individuals or their future young. Other indirect methods of exposure, such as through ingestion of contaminated waterfowl or fish prey, are not likely to occur, due to the following minimization measures: 1) all carbaryl spraying will be done with hand-held instruments; b) no trees within 200 feet of the high water mark of the lakes will be sprayed and no trees will be sprayed within 200 feet of drainages leading to, or flowing from the lakes, within one mile upstream and 300 feet downstream of the lakes; and c) spraying will not occur if winds are > 10 miles per hour, if there is snow on the ground, or if there is a chance of precipitation within two hours of spraying.

Fish and waterfowl prey habitat quality could be decreased slightly over the short-term from slight increases in sediment transport with precipitation after thinning. However, these effects to prey habitat are unlikely due to the following: a) thinning and piling will be accomplished by hand crews using a minimal amount of mechanized equipment, b) no roads or skid trails will be created, c) thinning will only occur of small-diameter trees (≤ 9 inches dbh in most areas) and will leave substantial remaining tree densities of approximately 70-80 trees per acre, and d) some debris from thinning and hazard tree removal will remain on the ground, which will aid in reducing sediment transport.

In summary, project-related disturbance of wintering bald eagles is likely to occur and result in temporary agitation and/or temporary displacement of bald eagles using the areas. In addition, the proposed action is likely to result in effects on winter perch habitat. Modifications of potential winter roosting habitat may also occur if winter roosting habitat exists within the treatment areas, and could result in displacement from such habitat and temporary interference with social interactions common to bald eagle roosts. Furthermore, carbaryl insecticide could be absorbed into the skin of bald eagles that perch on sprayed trees, which could result in temporary non-lethal effects to the nervous system of bald eagles, but also could have uncertain, long-term impacts. Finally, temporary alteration of prey habitat from changes in sediment transport is unlikely.

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.

All four campgrounds are presently used, and will continue to be used, by campers and recreationists between May 1 and October 1. All campgrounds, except for Cataract Lake, are available for limited use by campers and recreationists during the remainder of the year.

CONCLUSION

After reviewing the current status of the bald eagle, the environmental baseline for the action area, the effects of the proposed project on the Williams Ranger District and the cumulative effects, it is our biological opinion that the Campground Bark Beetle Outbreak Sanitation and Prevention Project, as proposed, is not likely to jeopardize the continued existence of the bald

eagle. We present this conclusion due to the fact that only a relatively few wintering bald eagle may be affected by the proposed action.

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 regulation 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 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 (50 CFR 17.3). "Harass" is defined 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 (50 CFR 17.3). "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 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

We do not anticipate the proposed action will incidentally take any bald eagles.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species, initial notification must be made to our Law Enforcement Office, 2450 West Broadway Road, 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 care, and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes 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. Adjust application of carbaryl to the appropriate time of day to the greatest extent possible. For example, where carbaryl will be applied near bald eagle roosts that can be identified as foraging roosts, plan to apply the pesticide early or late in the day (when eagles are more likely to be absent) as opposed to mid-day. Alternatively, where carbaryl will be applied near bald eagle night roosts, plan to apply the pesticide during mid-day as opposed to early or late in the day. Of course, the actual presence/absence of bald eagles should appropriately influence the actual application near bald eagle roosts.
2. Adjust application of carbaryl to appropriate weather conditions to the greatest extent possible. For example, where carbaryl will be applied near bald eagle roosts that can be identified particularly as sheltering day roosts, plan to apply the pesticide on “nice weather” days when eagles are less likely to be present. Of course, the actual presence/absence of bald eagles should appropriately influence the actual application near bald eagle roosts.
3. Adjust application of carbaryl to the appropriate time of the season to the greatest extent possible. For example, the proposed application period is March 15-May 1. The latest dates of bald eagle observations at Cataract and Dogtown lakes are February 23 and April 18, respectively. Plan to apply the pesticide after those dates to reduce or eliminate pesticide impacts to bald eagles. Although the latest dates for bald eagle observations at Kaibab and White Horse lakes occur after May 1, planning for application later in the season may help reduce impacts in those locations, especially if bald eagles leave sooner than expected.
4. To the greatest extent possible, plan to conduct removal of beetle-infested and hazard trees during the proposed October 1-November 15 period (as opposed to the March 15-April 30 period) to reduce effects to bald eagles.
5. We recommend that the Williams Ranger District provide our Flagstaff Suboffice with all existing and any future documentation regarding the occurrence of bald eagles on the District.
6. We recommend that the Williams Ranger District provide our Flagstaff Suboffice with all data, particularly regarding bald eagle behavior, collected during the implementation of the project.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR §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 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.

We appreciate your efforts to identify and minimize effects to listed species from this project. For further information, please contact Bill Austin (928) 226-0614 (x102) or Brenda Smith (x101). Please refer to the consultation number, 02-21-04-F-0247, in future correspondence concerning this project.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque NM (ARD-ES)
Forest Supervisor, Kaibab National Forest, Williams AZ
Wildlife Biologist, Fish and Wildlife Service, Phoenix, AZ (Attn: Greg Beatty)

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix AZ

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APPENDIX A - CONCURRENCE

This appendix contains our concurrence with your “may affect, not likely to adversely affect” determination for the Mexican spotted owl.

Mexican spotted owl (*Strix occidentalis lucida*)

We concur with your determination that the proposed project may affect, but is not likely to adversely affect, the Mexican spotted owl. We base this concurrence on the following factors.

- 1) The proposed treatments do not occur within any protected, restricted, or proposed critical habitat for the MSO.
- 2) Restricted pine-oak (and proposed critical habitat at Dogtown) occurs adjacent to the Dogtown and White Horse Lake treatment areas. No effects to MSO or its proposed critical habitat because of the following: no habitat modification or loss or degradation of primary constituent elements will occur within this habitat; this habitat is at least 200 feet from areas proposed for spraying; spraying will not be done when winds are > 10 miles/hour; and no owls were detected in MSO habitat adjacent to Dogtown in surveys conducted according to MSO survey protocol during 2001, 2002, and 2003 (surveys are planned during 2004).
- 3) Most cutting will be done at the White Horse Lake treatment area during the fall, outside of the MSO breeding season.