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In Reply Refer To:
AESO/SE
2-21-02-I-103

March 22, 2002

Mr. John McGee
Forest Supervisor, Coronado National Forest
300 West Congress Street, 6th Floor
Tucson, Arizona 85701

Dear Mr. McGee:

This biological opinion responds to your request for consultation with the U.S. Fish and Wildlife Service (Service) 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 dated February 25, 2002, and received by us on February 27, 2002. At issue are impacts that may result from the proposed Mount (Mt.) Hopkins Summit Dorm project located in the Santa Rita Mountains, in Santa Cruz County, Arizona, on the threatened Mexican spotted owl (*Strix occidentalis lucida*) (MSO). Critical habitat was designated for this species on February 1, 2001, but does not occur on the Coronado National Forest.

This biological opinion was prepared using information from the following sources: your February 25, 2002, request for consultation, the biological assessment of February 12, 2002, photographs, site visits, and our files. A complete administrative record of this consultation is on file in our office.

CONSULTATION HISTORY

Photographs of the site were taken by the Forest Service, and the proposed project was reviewed with the Service on November 29, 2001. We received your request for formal consultation (dated February 25, 2002) and your biological assessment (dated February 12, 2002) on February 27, 2002.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

This project consists of three different construction items combined into one contract: the Summit dormitory, the Infrared Optical Telescope Array (IOTA) building extension, and the Commons Building basement.

Summit Dorm: A new 47 foot by 51foot, four bedroom, four bath dormitory will be built just off the east end of the existing Summit dormitory. This new dormitory would be separate from, but within feet of, the end of the existing building. Enlargement of the septic tank will occur, but the leach field will not require modification to accommodate additional use. A footpath will be built from the east end of the new dorm to a paved road that leads to the Summit Commons building. This path will accommodate pedestrian traffic between the buildings.

IOTA Extension: A new 18 foot by 30 foot addition will be built onto the existing IOTA building. The additional area will take up a portion of an existing gravel parking area. No additional vegetation clearing is needed.

Commons Building Basement: The basement of the existing building will be enclosed by construction of a concrete block exterior wall and the addition of interior walls. The existing deck covering will be replaced.

These three items will be built within the existing “footprint” of the Smithsonian/Whipple Observatory and total less than one-half acre. Work is scheduled to begin June 2, 2002, and be completed within one year from the start of the contract. The Forest Service estimates all three buildings will be enclosed (weather-tight shells) by December 2002. After the buildings are weather-tight, remaining work will continue inside them. Construction is clustered in one area, called the Summit (or the Bowl), on the upper portion of Mt. Hopkins, in the Santa Rita Mountains (see the biological assessment for details). If the project is not started in 2002, the Forest Service will notify the Service and the project will be reviewed by the Forest Service prior to implementation to determine if any substantial changes have been proposed.

The Smithsonian/Whipple Observatory (the project proponent) will provide a brief report to the Forest Service by January 30, 2003, regarding construction activity remaining in the contract. This report will summarize what work, if any, remains to be finished on the exterior of the buildings. If significant work of a noise-producing nature remains, and such work cannot be accomplished before the March 1, 2003, MSO breeding season begins, the Forest Service will reinitiate consultation to cover the remaining work. Work and related noise will occur within one mile of MSO Protected Activity Center (PAC) boundaries during the MSO breeding season (March 1 through August 31, annually). Because this is not in compliance with the 1995 MSO Recovery Plan (USFWS 1995), the Forest Service requested formal consultation. The three MSO PACs of most concern (due to lack of topographic buffering and their proximity to the observatory) are the Madera Canyon, Agua Caliente Canyon, and Cottonwood Canyon PACs. These PACs will be monitored for MSO occupancy and, if appropriate, MSO reproductive status.

STATUS OF THE SPECIES

The Mexican spotted owl (*Strix occidentalis lucida*)(MSO) is a medium-sized bird with dark eyes, dark to chestnut brown coloring, whitish spots on the head and neck and white mottling on the abdomen and breast. Of the three subspecies of spotted owl occurring in the United States,

the MSO has the largest geographic range. It lives in canyon and mountain forest habitats across a range that extends from southern Utah and Colorado, through Arizona, New Mexico, and west Texas, to the mountains of central Mexico. The MSO occupies a fragmented distribution throughout its United States range corresponding to the availability of forested mountains and canyons, and in some cases, rocky canyon lands. MSO reproduction varies temporarily and spatially. MSO do not nest every year and reproduce periodically. The Service cited two primary reasons for the MSO's decline when it listed the species as threatened in 1993; historical alteration of its habitat as the result of timber management practices, specifically the use of even-aged silvicultural practices; and the danger of habitat loss and type conversion from catastrophic wildfire. Detailed information is contained in the 1995 MSO Recovery Plan (USFWS 1995).

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 action in the action area that have undergone section 7 consultation, and the impacts of State and private action 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.

The observatory (and associated roads) on Mt. Hopkins began with road work in the 1960s, with site completion in the middle to late 1970s, about 15 years before the MSO was listed and inventory work on the species began. MSO occurred in the Santa Rita Mountains before, during, and after the observatory was built, although formal inventories and monitoring of reproductive success were not conducted until the 1990s (USFS 2002). Per the 1995 MSO Recovery Plan (USFWS 1995), MSO habitat is described as protected, restricted, and "other"; all three occur in the Santa Rita Mountains. Protected habitat for an adult MSO (or pair) is called a Protected Activity Center (PAC). It contains the best 600 acres of nesting, roosting, and foraging habitat, with the majority of the PAC containing nesting and roosting cover.

The Santa Rita Mountains support about 10,000 to 15,000 acres of MSO habitat, divided into 15 known PACs that cover the tops of the mountain range. The observatory "footprint" is on the crest of Mt. Hopkins and does not contain MSO habitat. It is located outside the boundaries of any PACs. The surrounding forests and deep canyons support mixed conifers, with the majority of MSO nesting habitat areas located in the deeper parts of the canyons. Snowfall can begin as early as September in wet winters, with spring beginning about May or June, annually (USFS 2002).

The Santa Rita Mountain PACs are closely associated; because the designated area for a PAC is 600 acres or more of the best nesting and roosting habitat available, and there is limited land with such habitat, PAC boundaries "overlap" on their edges. Seven MSO PACs occur within one mile of the Mt. Hopkins observatory or access road: McBeth Spring (205), Madera Canyon (206), Agua Caliente (207), Cottonwood Canyon (208), Sprung Spring (209), Montosa Canyon

(212) and Cottonwood II (218). These PACs are occupied year round and for long periods of time. Monitoring from past years (2001 and earlier) indicates the available space for MSO nesting and roosting habitat appears occupied to capacity; new PACs have not been established for about three years.

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.

The project is not within any MSO PAC boundaries, and MSO habitat does not occur in the project "footprint". Seven PACs occur within one mile of the project site. While it is early in the 2002 MSO breeding season, and monitoring has not yet begun, based on past trends, all seven MSO PACs are likely to be at least occupied this spring. Nesting and reproductive status will not be able to be determined until later in the season (June 2002). The three closest PACs (Madera, Agua Caliente, and Cottonwood) will be fully monitored for the entire MSO breeding season. The remaining four PACs (McBeth Spring, Sprung Spring, Montosa and Cottonwood II) do not require monitoring due to their distance from the observatory site and the adequate noise shielding by topography.

Construction noise, a direct effect, will begin in June 2002. This coincides with the MSO breeding season behaviors involving post-hatching. Research of disturbance effects to nesting raptors indicates some variability of tolerance between different species and at differing time in the breeding cycle (Fyfe and Olendorff, 1976). In general, the most sensitive time is early in the breeding season; during mate and nest selection, egg-laying, and incubation. Excessive flushing of the brooding bird off the eggs can leave them vulnerable to temperature fluctuations, predation, and damage by the parent bird leaving the nest in a hurried exit. Post-hatching, parental attention on the nest is at a peak; the stimulus of begging nestlings keeps the adults closely tied to the site. This appears to be the time of least risk of adult nest desertion. For MSO at this site in June, the nestlings will be almost full size, but not yet able to fledge (leave) the nest due to inadequate feathering. They would continue to need their parents to feed and protect them for at least another two months. While the birds would likely hear construction noise, the noise will not likely be of severe, prolonged, or intense levels near any roost or nest site. Such noise, although detectable by the birds, is anticipated not to result in MSO injury or mortality of adults or young.

This proposed project is part of the observatory as a whole, and is minor expansion within the established confines of the observatory site. Work involved in ensuring power, plumbing, and septic facilities for the new construction will be interdependent actions. Noise from these actions will occur and are anticipated to be at low levels due to the use of hand tools and being indoors.

Forested and mountainous, the topography serves to partially shield noise from the observatory. Daily ambient noise (human voices, traffic from cars, trucks, road graders, etc.), occurs year round on the main road and the short roadway leading up to the observatory, as well as at the observatory itself. Depending on a person's (or a bird's) location and hearing ability, noise from these sources can be easily heard or quite muffled.

Construction work will be during daylight hours only (no night work). Cement trucks, electric tools, saws, and hammers, support vehicles, a crane, and work crews will raise noise levels above the typical background noise levels the MSO may be used to, beginning in June 2002, and likely continue (outside) until snowfall and winter weather ends outdoor work. Because the building shells are expected to be weather-tight before winter really heavily sets in, indoor work is anticipated to be well muffled and much quieter. It is anticipated not to disturb people in adjacent buildings, let alone MSO within one mile of the site.

Decibel levels that would disturb MSO have not been scientifically established, but common sense would indicate the louder and longer the duration of noise, the more likely it would be to disturb a bird.

Indirect effects (future effects that are reasonably certain to occur), are anticipated to be minimal. The dormitory will house people who already work on the site; new noise or traffic is not expected to be encouraged or created by the proposed project. Lighting for the new facilities will be minimal and conform to observatory site standards that restrict light pollution on such sites. Additional footpaths will encourage more and safer pedestrian traffic between buildings.

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.

The Service knows of no future actions planned for the action area.

CONCLUSION

After reviewing the status of the MSO, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the MSO. Critical habitat is designated for the MSO, but none occurs on the Coronado National Forest; therefore, none will be affected.

We present these conclusions for the following reasons:

1. Construction noise will begin and continue after the most sensitive time period of the MSO breeding season is past and the adult birds are strongly bonded to each other and to their nestlings (if reproduction has occurred that year). Monitoring of the three closest PACs will determine MSO reproductive status and will begin March 2002.
2. Construction noise will lessen with a combination of topographic shielding and distance from MSO nest and roost sites. Anticipated and known nest and roost sites are close to a mile away from the noise source.
3. If MSO are not breeding during the construction, the adults can use the various canyons and the rest of the mountain range to stay comfortably away from any noise with no loss of roost or forage capability.

The conclusion of this biological opinion is based on full implementation of the project as described in the Description of the Proposed Project section of this document, including any Conservation measures 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 further defined by the Service 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 by the Service 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 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

The Service does not anticipate the proposed action will incidentally take any MSO because nest and roost habitat for the species does not occur directly in the project area, noise from the project site will be attenuated by geographic and topographic features, and MSO breeding behavior is anticipated not to be disrupted by the proposed work.

REINITIATION NOTICE

This concludes formal consultation on the action 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.

The Service appreciates the Forest Service's efforts to identify and minimize effects to listed species from this project. For further information please contact Thetis Gamberg (520) 670-4619 or Sherry Barrett (520) 670-4617. Please refer to the consultation number, 2-21-02-F-110, in future correspondence concerning this project.

Sincerely,

/s/ David L. Harlow
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ES)
Field Supervisor, Fish and Wildlife Service, Albuquerque, NM

John Kennedy, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Tucson AZ

REFERENCES CITED

Fyfe, R. W. and R. R. Olendorff. 1976. Minimizing the dangers of nesting studies to raptors and other sensitive species. Canadian Wildlife Service, Ottawa, Canada. 16pp.

USFS. 2002. Biological assessment for the Smithsonian/Whipple Observatory summit dorm project. Coronado National Forest, Nogales Rangers District, Nogales, AZ.

USFWS. 1995. Recovery plan for the Mexican spotted owl: Vol. I. Fish and Wildlife Service, Albuquerque, NM.