

BIOLOGICAL OPINION SUMMARY
Mt. Hopkins Road Improvement Project

Date of opinion: May 19, 1997

Action agency: Forest Service, Coronado National Forest, Nogales Ranger District

Project: The Mt. Hopkins Road Improvement Project (Forest Road 184) involves increasing sight distance around corners and road width on a 6.2 mile segment between the Smithsonian Institution's Whipple Visitor Center and the gate to the Whipple Observatory complex. A total of 41 separate road cuts and 2 fill sites, resulting in about 2.2 acres of new disturbance within the existing road alignment will be required. Excess materials resulting from the roadcuts will be hauled off the project site, except for materials needed for the two fill areas. Electrical lines will be relocated and buried within Forest Road 184. Fourteen of the 41 proposed roadcuts will require the removal of 162 Palmer's agaves, a principal food source for the lesser long-nosed bat. The project site is within the foraging range of 3 known lesser long-nosed bat roosts. The closest roost, Agua Caliente Caves (on private land) is less than 2 kilometers from the project area. Little is known about lesser long-nosed bat use of these caves. However, sign of lesser long-nosed bat use has been recorded there.

Location: Mt. Hopkins (Montosa Canyon), Santa Cruz County, Arizona

Listed species affected: The endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*). No critical habitat has been designated for this species.

Biological opinion: Nonjeopardy

Incidental take statement:

Level of take anticipated: Anticipated level of take, in the form of harm (direct loss of food sources) to the lesser long-nosed bat is 162 Palmer's agave. The agaves removed as a result of the project are surrogates for anticipated take for the bat.

Reasonable and prudent measures: The biological opinion contains two measures. The first measure involves transplanting agaves removed with the project. The second measure is intended to prevent the loss of agaves outside the planned construction sites.

Terms and conditions: Three terms and conditions relate to techniques in transplanting the agaves to insure survival and monitoring/reporting requirements. The Forest Service is required to monitor survival of transplanted agaves for two years and report to FWS at the end of this monitoring period concerning number of agaves transplanted, mortality, observations, and recommendations. One term and condition deals with protection of agaves outside the construction area.

Conservation recommendation: Two conservation recommendations are provided on lesser long-nosed bat surveys of Agua Caliente Caves and mine shafts in the Mt. Hopkins area. The third recommendation involves providing the Desert Botanical Gardens 2-3 of the removed Palmer's agaves for research and reference.



United States Department of the Interior

Fish and Wildlife Service

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In Reply Refer To:

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2-21-97-F-212
97212

May 19, 1997

Candance W. Allen, District Ranger
Nogales District
Coronado National Forest
303 Old Tucson Road
Nogales, Arizona 85621

Dear Ms. Allen:

The U.S. Fish and Wildlife Service has reviewed the project proposal for the Mt. Hopkins Road Improvement Project. The Forest Service requested formal consultation on this project in a May 12, 1997, phone conversation. This document represents the Service's biological opinion on the effects of the proposed action on the endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) in accordance with Section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.)(ESA).

In the August 24, 1996, biological assessment and evaluation (BA&E), the Forest Service determined that the project is not likely to adversely affect the Mexican spotted owl and lesser long-nosed bat. The Service concurs with the Forest Service's finding that the project is not likely to adversely affect the Mexican spotted owl. All of the proposed construction (totaling 2.2 acres) occurs along the existing road alignment, which does not provide habitat for the owl. Furthermore, no trees suitable for owl habitat will be removed and the construction will be performed outside of the owl's breeding season, thus eliminating disturbance to nesting owls. Additionally, due to the grade and number of curves in the road, road improvements are not likely to enhance travel speed on the road, so that the Service does not believe that the project will increase vehicle-owl collisions. In a phone conversation with Tom Newman, District Biologist, on May 12, 1997, the Service indicated it was unable to concur with the Forest Service's determination for the lesser long-nosed bat.

This biological opinion is based on information provided in the August 24, 1996, BA&E, a field investigation of the project site on April 27, 1997, conversations with Tom Newman, and other sources of information. Literature cited in this biological opinion does not represent a complete bibliography of literature available on the lesser long-nosed bat or effects of habitat modification on the species, or other subjects that may have been considered in this opinion. A complete administrative record of this consultation is on file in the Arizona Ecological Services Field Office.

It is the Service's biological opinion that the Mt. Hopkins Road Improvement Project is not likely to jeopardize the continued existence of the lesser long-nosed bat.

CONSULTATION HISTORY

Informal consultation on the Mt. Hopkins Road Improvement Project began in July 1996. On July 30, 1996, Mary Richardson and Michele James (Service) Phoenix Office and Tom Newman (Nogales Ranger District) conducted a field visit to observe Mexican spotted owls and its habitat on the Nogales Ranger District and discuss the road improvement project. Another site visit was conducted by Tom Newman and Charles Scott (Service) on April 27, 1997. In a phone conversation on May 12, 1997, Charles Scott notified Tom Newman that the Service would not be able to concur with the Forest Service's determination that the project is not likely to adversely affect the lesser long-nosed bat, given the proposed action will remove numerous Palmer agaves within the feeding range of known lesser long-nosed bat roosts. The Forest Service requested initiation of formal consultation by telephone on May 12, 1997.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Mt. Hopkins Road (Forest Road 184) runs along the south and west facing slopes of Montosa Canyon on Mt. Hopkins in the Santa Rita Mountains, Nogales Ranger District, northern Santa Cruz County, Arizona. The project area is located in T20S, R14E, Sections 19, 20, 21, 22, and 23. Forest Road (FR) 184 terminates at the Smithsonian Institution's Fred Lawrence Whipple Observatory on Mt. Hopkins. The paved road turns to gravel shortly past the Whipple Visitor Center and Forest Service Picnic Area. The 6.2 miles of proposed road improvement begins at this gravel section and ends at the pavement on the upper 3 miles of FR 184, near the gate to the Observatory complex.

The purpose of this proposed project is to improve the safety along a 6.2 mile section of this narrow, winding mountain road by increasing the sight distance around corners and road width. Paving of the road is anticipated as funds become available to the Smithsonian Institution. The project requires new ground disturbance where turns are widened and adjacent road banks are cut back to improve visibility. Work on the straighter portions of the road will be limited to providing a transition on corners where cuts or fills will be located and paved.

A total of 41 separate road cuts and 2 fill sites, resulting in about 2.2 acres of new disturbance will be required along the 6.2 mile section of road. Most of the excess material from the cuts will be hauled out of the project area; fill material will be disposed at two areas on the road. Electrical lines will be relocated and buried within FR 184.

The BA&E generally discussed, as a recommended project requirement, the transplanting of agaves from the roadcuts. The recommendation did not present specific information, such as number of agaves to be transplanted or transplanting techniques.

STATUS OF THE SPECIES - RANGEWIDE

The lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) was listed (originally, as *Leptonycteris sanborni*; Sanborn's long-nosed bat) as endangered on September 30, 1988 (53 FR 38456). No critical habitat has been designated for this species. The lesser long-nosed bat is a small, leaf-nosed bat. It has a long muzzle and a long tongue, and is capable of hover flight. These features are adaptations to feed on nectar from the flowers of columnar cactus, such as the saguaro (*Carnegie gigantea*) and organ pipe cactus (*Lemaireocereus thurberi*), and from paniculate agaves, such as Palmer's agave (*Agave palmeri*) and Parry's agave (*A. parryi*) (Hoffmeister 1986). Palmer's agave exhibit many characteristics of chiropterophily, such as nocturnal pollen dehiscence and nectar production, light colored and erect flowers, strong floral order, and high levels of pollen protein with relatively low levels of nectar sugar concentrations (Slauson 1996). Parry's agave demonstrates many (though not all) of these same morphological features (Gentry 1982). Slauson (1996) has demonstrated that nectar feeding bats are the principle pollinators defining seed set in Palmer's agave, though other pollinators may also be important.

The lesser long-nosed bat is migratory and found throughout its historic range, from southern Arizona and extreme southwestern New Mexico, through western Mexico, and south to El Salvador. It occurs in southern Arizona from the Picacho Mountains (Pinal County) southwest to the Agua Dulce Mountains (Pima County) and southeast to the Chiricahua Mountains (Cochise County) and south to Mexico. Roosts in Arizona are occupied from late April to September (Cockrum and Petryszyn 1991); the bat is not known to be present during winter in Arizona (Hoffmeister 1986). In spring, adult females, most of which are pregnant, arrive in Arizona gathering into maternity colonies. These roosts are typically at low elevations near concentrations of flowering columnar cacti. After the young are weaned these colonies disband, in July and August; some females and young move to higher elevations, primarily in the southeastern parts of Arizona near concentrations of blooming paniculate agaves. Adult males typically occupy separate roosts forming bachelor colonies. Males are known mostly from the Chiricahua Mountains but also occur with adult females and young of the year at maternity sites (Fleming 1995).

As indicated above, the lesser long-nosed bat consumes nectar and pollen of paniculate agave flowers and the nectar, pollen, and fruit produced by a variety of columnar cacti. These bats often forage in flocks. Throughout the night between foraging bouts the bats will rest in temporary night roosts (Hoffmeister 1986). Nectar of these cacti and agaves are high energy foods. Concentrations of food resources appear to be patchily distributed on the landscape and the nectar of each plant species utilized is only seasonally available. Cacti flowers and fruit are available during the spring and early summer, and blooming agaves through the summer; cacti occur in lower elevation areas of the Sonoran Desert region, and paniculate agaves are found in higher elevation desert areas, desert grasslands and shrublands, and into the oak woodland (Gentry 1982).

Lesser long-nosed bats appear to be opportunistic foragers and efficient fliers. The seasonally available food resources may account for the seasonal movement patterns of the bat. The lesser long-nosed bat is known to fly long distances from roost sites to foraging sites. Night flights from maternity colonies to flowering columnar cacti have been documented in Arizona at 15 miles, and in Mexico at 25 miles and 38 miles. Lesser long-nosed bats have been recorded visiting individual blooming Palmer's agaves in excess of 1000 visits per night, while other agaves may not be visited at all. Lesser long-nosed bats have been observed feeding at hummingbird feeders many miles from the nearest potential roost site.

Loss of roost and foraging habitat, as well as direct taking of individual bats during animal control programs, particularly in Mexico, have contributed to the current endangered status of the species. Suitable day roosts and suitable concentrations of food plants are the two resources that are crucial for the lesser long-nosed bat (Fleming 1995). Caves and mines are used as day roosts. The factors that make roost sites useable have not yet been identified. Whatever the factors that influence selection of roost locations, the species appears to be sensitive to human disturbance. Instances are known where a single brief visit to an occupied roost is sufficient to cause a high proportion of lesser long-nosed bats to temporarily abandon their day roost and move to another. Perhaps most disturbed bats return to their preferred roost in a few days; however, the sensitivity suggests that the presence of alternate roost sites may be critical when disturbance occurs. Interspecific interactions with other bat species may also influence lesser long-nosed bat roost requirements.

Known major roost sites include 16 large roosts in Arizona and Mexico (Fleming 1995). According to surveys conducted in 1992 and 1993, the number of bats estimated to occupy these sites was greater than 200,000. Twelve major maternity roost sites are known for Arizona and Mexico. According to the same surveys, the maternity roosts are occupied by over 150,000 lesser long-nosed bats. The numbers above indicate that although there may be relatively large numbers of these bats known to exist, the relative number of known large roosts is small. Disturbance of these roosts and the food plants associated with them could lead to the loss of the roosts. The limited numbers of maternity roosts may be the critical factor in the survival of this species.

STATUS OF THE SPECIES IN THE ACTION AREA

According to Fleming (1995), there are 3 major lesser long-nosed bat maternity roosts sites in Arizona. None of these maternity roosts are in close proximity to the project area. The nearest roost, in Pinal County, is over 160 kilometers (100 miles) from the project. There is a cluster of 4 major post-maternity roosts in the Santa Rita Mountains (Pima County), Patagonia Mountains/Canelo Hills (Santa Cruz County), and Huachuca Mountains/Canelo Hills (Cochise County) (Fleming 1995).

The Patagonia Bat Cave on the Sierra Vista Ranger District in Santa Cruz County is one of the more significant and best known post-maternity roost of these 4 roosts. Beginning in mid-July,

lesser long-nosed bats start to roost in Patagonia Bat Cave (reaching a peak of 20,000 in late August) and feed on agave flowers (Fleming 1995). The Patagonia Bat Cave is approximately 30 kilometers (19 miles) from the project area. The Cave of the Bells in the Santa Rita Mountains of the Nogales Ranger District is the other major post-maternity roost identified by Fleming (1995) that is within the foraging range of the project (17 kilometers or 10.5 miles). The only information provided by Fleming (1995) on this roost relates to the bats' sensitivity to human disturbance and reoccupancy of a roost once it has been abandoned. Following is the pertinent excerpt from Fleming (1995) concerning Cave of the Bells:

"Censuses on September 9-10, 1987, showed 1,500 to 2,000 bats present. The cave was watched closely in 1987, 1988, and 1989 as part of a project to develop a gate design acceptable to the bats. Information obtained showed that this cave was used for a limited time period and the bats very quickly left in September. Census figures for September 7, 1988, were 175 bats and 170 were present in early September 1989 when a mock-up of the gate was installed. The numbers of bats using the cave decreased quickly after the mock-up was installed, but this was not seen as unusual given the past census information. The real gate was installed in the winter/spring of 1990 and the door latched open to allow the bats free access. However, no bats were seen using the cave in 1990 and none have been seen since."

According to the Forest Service (1997), the reason for the absence of the lesser long-nosed bat from this cave is unknown. Before installation of the gate, the number of lesser long-nosed bats using this cave was quite varied. There is some speculation that this cave has been used by lesser long-nosed bats only on an opportunity basis, such as during periods of abundant food production in this area compared to other areas; however, no data is available to support this hypothesis (Forest Service 1997).

The Agua Caliente Caves are located on private land near FR 184 and the Forest Service boundary and in close proximity to the project site (less than 2 kilometers). Lesser long-nosed bat sign has been recorded from these caves (Forest Service 1997). Prior to the State selling the 40 acre tract containing these caves to a private individual, the caves were gated to prevent human disturbance to the bats. There are mine tunnels and rock crevices on Mt. Hopkins and the surrounding area that may serve as transitory, day, or night roosts.

There are no columnar cacti in the project area. However, species of paniculate Agave used by foraging lesser long-nosed bats do occur in the action area, principally Palmer's agave (*Agave palmeri*). According to Newman (1996), agaves are present in the action area in variable densities from low to high depending on specific locations. Palmer's agave occur along the lower portions of the existing alignment of FR 184 (from about 4,400 to 5,900 feet elevation) and in the surrounding grassland and oak habitats.

EFFECTS OF THE PROPOSED ACTION

An estimated 162 Palmer's agaves will be removed as a direct result of the road improvements. Based on information in the BA&E, agaves will be removed at 14 separate road cuts, with the highest number (125) being removed at the first 4 work sites (Stations A through D). The effects of the action on the lesser long-nosed bat is the loss of these agaves, an important food source for this endangered species. The fact that these agaves are within the foraging range of 3 known lesser long-nosed bat roosts (1 roost is less than 2 kilometers away) adds to the significance of losing this future food source. The loss or decline in forage plant populations is a significant threat to the long-term stability of lesser long-nosed bat populations; therefore, the protection of foraging areas and food plants is a priority recovery task in the bat's recovery plan (Fleming 1995).

No definitive information is available on the density, age distribution, and reproductive status of paniculate agaves in the general project area. The BA&E generally states that agaves are abundant on appropriate sites outside the planned areas of disturbance and that thousands of agaves occur within the foraging range of known roosts. Most of the Palmer's agaves planned for removal along FR 184 are young plants not yet producing flower stalks but have the potential to reach maturity (Newman 1996). Agaves are expected to colonize many of the new road cuts (Newman 1996). The density of forage plants may be an important factor in determining optimal or acceptable foraging distances for the lesser long-nosed bat (Fleming 1995). Adequate numbers of flowers and/or fruits are required within the foraging range of roosts and along migration routes to support this bat. Locations of good feeding sites therefore play an important role in determining availability of potential roost sites (Fleming 1995). However, according to Fleming (1995), there is a lack of knowledge concerning what constitutes suitable numbers and distribution of forage plants around roost sites and along migratory paths to sustain current populations.

Because the Palmer's agave is relatively slow growing, often taking 20+ years before initiating the single reproductive event in the life of the plant, the loss of 162 young agaves from the project area could have a temporal impact on the bat. Many factors may influence the year a particular agave may bloom. Precipitation, one to several years prior to blooming, is probably of special importance. The availability of agave flowering stalks, each and every year, is important in providing a sustained food source for the bat. In Southeast Arizona, Palmer's and Parry's agaves are the only reliable food source for the lesser long-nosed bat in mid to late summer. However, agaves are patchily distributed over the landscape and the presence of flowering agaves naturally fluctuates from year to year.

Due to the critical importance of the Palmer's agave as a food source for the lesser long-nosed bat, the loss of these food plants, particularly in close proximity to roosts, is considered to have a negative impact on the bat (Fleming 1995). The number or threshold of lost food plants that correlates to a level of negative impacts to the bat has not been identified and each episode must be evaluated on a case-by-case basis. More information on the suitable numbers and distribution of food plants needed to sustain the bat would help identify such a threshold. The most obvious

direct effect of the proposed project on the bat is the loss of 162 future sources of food. The adverse effect that this loss of food resource has on existing bat populations is more difficult to determine. The loss of these food plants could cause bats to shift foraging areas or travel further to forage. This could be particularly relevant for bats using the closest roost, the Agua Caliente Caves. Little is known about lesser long-nosed bat use in the Agua Caliente Caves, including the type of roost, frequency of use, and numbers of bats. In the absence of more information, the Service must consider that these caves still provide suitable roost habitat and that bats feed on agaves in the immediate vicinity of FR 184. Overall, the Mt. Hopkins Road Improvement Project is expected to cause temporary and localized shifts in the abundance of flowering agaves resulting in limited adverse effects on the lesser long-nosed bat.

CUMULATIVE EFFECTS

Cumulative effects include the adverse effects of future non-Federal (State, tribal, local, or private) actions on endangered or threatened species 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.

Although State land occurs in the project area, the Service is not aware of any future State actions that are reasonably certain to occur in the action area. In addition, there is private land within the project area. The Agua Caliente Caves, where sign of lesser long-nosed bats has been recorded, is on private property (these caves were formerly owned by the State). The Service is not aware of any future actions concerning these caves that are reasonably certain to occur. However, there is the potential for increased human visitation to the caves and disturbance to bats, including the lesser long-nosed bat. Increased coordination with the owner of Agua Caliente Caves to monitor bat use and provide technical assistance to reduce human disturbance would be beneficial. One activity that probably is occurring on State and private land within the project area is cattle grazing. Cattle grazing may have an adverse effect on food resources for the lesser long-nosed bat. The extent to which cattle grazing has an effect on this bat through impacts to paniculate agaves needs to be determined.

CONCLUSION

After reviewing the current status of the lesser long-nosed bat, the environmental baseline for the action area, the effects of the proposed Mt. Hopkins Road Improvement Project, and the cumulative effects, it is the Service's biological opinion the action, as proposed, is not likely to jeopardize the continued existence of the lesser long-nosed bat. No critical habitat has been designated for this species, therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Sections 9 of 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 attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, including breeding, feeding, or sheltering. Harass is defined as 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 a prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Forest Service so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Forest Service has a continuing responsibility to regulate the activity covered by this incidental take statement. If the Forest Service (1) fails to require any applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

AMOUNT OR EXTENT OF TAKE

The Service anticipates incidental take of lesser long-nosed bats will be difficult to detect for the following reasons. Take is expected to occur due to loss of up to 162 agaves used as food by the bat. Impacts to the species as a result of such loss would be difficult to detect and measure. In essence, the agaves to be removed as a result of the project serve as a surrogate for anticipated take for the bat. Therefore, the anticipated level of take, in the form of harm (loss of food sources) to the lesser long-nosed bat is 162 Palmer's agaves.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the lesser long-nosed bat.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of lesser long-nosed bats:

1. Prior to the start of construction, transplant Palmer's agaves planned for removal to areas near FR 184 that currently contain agaves and outside the influence of the road and planned construction sites. Those agaves growing in rock fissures and other agaves that can not be removed without causing severe damage will not be transplanted. The goal is to transplant a minimum of 50 percent of the 162 agaves identified for removal (81 agaves).
2. Prevent the disturbance of paniculate agaves outside of the immediate construction area.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

- 1.1 Agaves identified for removal due to road construction will be evaluated for transplant feasibility and suitable agaves prominently marked (e.g., flagging, stakes).
- 1.2 The Service consulted with Dr. Liz Slauson, agave specialist with the Desert Botanical Gardens in Phoenix, concerning the preferred method to transplant the removed agaves to insure maximum survival. The following transplanting guidelines are based on recommendations provided by Dr. Slauson and other pertinent information:
 - a. The best time to transplant the agaves is before a rainfall event (e.g. monsoons). The Forest Service can determine the most appropriate method to time transplants with rain (e.g. dew point). If the transplants can not occur in conjunction with a rain event, the next best alternative is to do the transplants after November, when air temperatures are cooler. Supplemental watering of transplanted agaves will be necessary if sufficient rain to prevent stress does not occur or if the agaves are planted after November.
 - b. Once agaves have been removed from the roadside, they should not be planted for a period of 2 to 7 days to allow any root wounds to heal. During this period, the agaves should be placed under shade cloth in an appropriate area out of view of the road.
 - c. Whenever possible, the agaves should be planted in shade to further reduce stress.
- 1.3 The transplanted agaves will be monitored for a minimum of two years to assess mortality and condition. The frequency of monitoring is at the discretion of the Forest Service. At the end of the two-year monitoring period, the Forest Service will report to the Service concerning the success of the transplanted agaves. The report will state the

total number of agaves transplanted, total number that survived, and other pertinent observations and recommendations that would be useful in future transplant projects.

- 2.1 Operation of equipment and other activities will be conducted in a manner to prevent disturbance to agaves not planned for removal. It is advised that agaves adjacent to the road but outside of the construction sites be prominently marked (e.g., flagging, stakes) and construction crews instructed to avoid disturbing these plants.

The reasonable and prudent measures, with their implementing terms and conditions; are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, incidental take occurs beyond that addressed above, such incidental take represents new information requiring reinitiation of consultation. The Forest Service must immediately provide an explanation of the causes of the taking and review with the Service the need for review of the project.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA directs Federal agencies to utilize their authorities to further the purposes of ESA 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. The Forest Service should encourage that the Agua Caliente Caves be surveyed for lesser long-nosed bats through cooperation with the landowner and appropriate State and Federal agencies.
2. The Forest Service should identify old mine shafts in the Mt. Hopkins Road and observatory area for lesser long-nosed bats surveys and encourage surveys for the bat be conducted in selected mine shafts, based on accessibility and likelihood of containing bats.
3. The Forest Service should provide to the Desert Botanical Gardens 2 to 3 of the smaller Palmer's agaves planned to be removed for the Mt. Hopkins road project. The Botanical Garden is interested in acquiring, for research and reference purposes, specimens of Palmer's agave from different populations. The information gained from these specimens may help with future transplant projects.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the Mt. Hopkins Road Improvement Project. As required by 50 CFR §402.16, reinitiation of formal consultation is required 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.

Thank you for your continuing efforts to conserve and recover endangered species. If we can be of further assistance, please contact Angie Brooks.

Sincerely,



Sam F. Spiller
Field Supervisor

cc: Director, Fish and Wildlife Service, Washington, D.C.
Regional Director, Fish and Wildlife Service, Albuquerque, NM
Forest Supervisor, Coronado National Forest, Tucson, AZ

Director, Arizona Game and Fish Department, Phoenix, AZ

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