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**U.S. Fish and Wildlife Service**  
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In Reply Refer To:

AESO/SE

22410-2007-F-0098

22410-2007-F-0132

02-21-02-F-229

02-21-98-F-266

November 20, 2007

Mr. John A. Ruble, Director  
Directorate of Public Works  
Department of the Army  
United States Army Intelligence Center and Fort Huachuca  
3040 Butler Road  
Fort Huachuca, Arizona 85613-7010

RE: Installation of One 600 Kilowatt (KW) Wind Turbine and One 50KW Mass Megawatts  
Wind Machine on Fort Huachuca

Dear Mr. Ruble:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated April 12, 2007, and received by us on April 18, 2007. At issue are impacts that may result from the proposed installation of one 600 to 850 kilowatt (KW) wind turbine or mass megawatts wind machine and one 50KW mass megawatts wind machine on Fort Huachuca, Cochise County, Arizona. The proposed action may adversely affect the endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*).

In a November 3, 2006, letter, received by us on November 7, 2006, you requested our concurrence that the proposed action was not likely to adversely affect the threatened bald eagle (*Haliaeetus leucocephalus*). The bald eagle was removed from the List of Endangered and Threatened Wildlife on July 9, 2007 (72 FR 37346). Concurrence with your effects determination is no longer required for this species.

Your November 3, 2006, letter also contained your determination that the proposed action would have no effect on the threatened Mexican spotted owl (*Strix occidentalis lucida*) and the species' critical habitat, the endangered Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*), and the endangered Huachuca water umbel (*Lilaeopsis schaffneriana* var. *recurva*) and the species' critical habitat. Species and critical habitats with "no effect" determinations do not require review from the Fish and Wildlife Service and are not addressed further.

This final biological opinion is based on information contained in: (1) your November 3, 2006, letter; (2) your April 12, 2007, response to our December 6, 2006, request for additional information; (3) our May 13, 2003, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* (Wind Turbine Guidance); (4) comments on our September 26, 2007, draft biological opinion received from your staff via electronic mail on multiple dates in October and November 2007; (5) other published and unpublished sources of information. A complete administrative record of this consultation is on file at this office.

## CONSULTATION HISTORY

- November 7, 2006: We received your November 3, 2006, request for concurrence that the proposed action may affect, but is not likely to adversely affect, the lesser-long nosed bat and bald eagle.
- December 6, 2007: We transmitted a letter to you (File nos. AESO/SE: 22410-2007-I-0098, 02-21-03-I-0400 and 02-21-01-I-0413) stating that we could not concur with your effect determination for the lesser long-nosed bat. We requested additional information and recommended that you consider formal consultation for the species.
- April 16, 2007: We received your April 12, 2007, response to our December 6, 2007, letter. Your response included a request for formal consultation on the lesser long-nosed bat and transmitted an attachment detailing your response to our request for additional information.
- June 14, 2007: We transmitted to you our final biological opinion (File nos. AESO/SE: 22410-2007-F-0132, 02-21-02-F-229, and 02-21-98-F-266) on the effects of ongoing and future military operations and activities at Fort Huachuca.
- July 9, 2007: We published a Final Rule removing the bald eagle from the List of Endangered and Threatened Wildlife (72 FR 37346).
- August 6, 2007: We transmitted a letter (File nos. AESO/SE: 22410-2007-F-0132, 02-21-02-F-229 and 02-21-98-F-266) requesting an additional 60 days in which to complete formal consultation on the proposed action. We stated that a draft biological opinion would be transmitted on or before October 6, 2007.
- August 17, 2007: We received your August 10, 2007, letter granting us the 60-day extension.
- September 26, 2007: We transmitted a draft biological opinion on the subject action to you.
- September 28 – October 17, 2007: We received various electronic mail messages from your staff providing comments on the draft biological opinion.

- October 23, 2007: A description and effects of the proposed action document was provided to your staff during a coordination meeting to confirm the accuracy of the eventual final biological opinion.
- November 7, 2007: We received an electronic mail message from your staff stating that there were no issues with the final description and effects of the proposed action document provided on October 23, 2007.

## **BIOLOGICAL OPINION**

### **DESCRIPTION OF THE PROPOSED ACTION**

The project sites are situated in the West Range of Fort Huachuca, on grasslands north of the Huachuca Mountains and west of an Agave Management Area. Both the windmill and wind machine are located within 2 miles of the closest known lesser long-nosed bat roost on the installation, and they are within the 36-mile foraging radius (Horner *et al.* 1990) of several known and suspected roost sites within the mountain ranges bordering the San Pedro River Valley.

Lesser long-nosed bats roost and forage widely within the area within which the wind power generation sites are to be constructed, and thus the action area includes all roost sites within the aforementioned mountain ranges.

The proposed action is described in detail in your November 3, 2006, and April 12, 2007, letters to us. Your staff provided further refinements to the proposed action in electronic mail messages received by us on September 28 and October 2, 4, and 17, 2007. The proposed action consists of two wind turbines: one with a relatively large generating capacity and one with a relatively small generating capacity. The turbines will be constructed on Fort Huachuca's West Range.

The larger turbine will be in one of three configurations: (1) a 600KW windmill; (2) an 850KW windmill; or (3) an 850KW mass megawatts wind machine. Regardless of the turbine capacity or configuration selected for the larger facility, it will be paired with a 50KW mass megawatts wind machine at the other site (see Table 1, below).

Table 1: Potential combinations of turbine configurations; one large turbine will be combined with the 50KW turbine.

<b>Large Turbine Configuration</b>	<b>Small Turbine Configuration</b>
600KW windmill turbine	50KW mass megawatts wind machine
850 KW windmill turbine	
850 KW mass megawatts wind machine	

The 600KW turbine will have three 85-foot long blades that spin at 30 revolutions per minute (RPM). The structure will be a maximum of 246 feet high with a 50-foot diameter baseplate; no guy lines are required. The 600KW turbine will be connected to an existing road by a 0.19-mile access road. Construction of the 600KW turbine will disturb a 300 by 300-foot work area.

The 850KW turbine will have a minimum tower height of approximately 130 feet and a maximum tower height of approximately 215 feet. The rotor diameter is approximately 170 feet with nominal speeds of 36 miles per hour (mph). The other specifications and area of ground disturbance are anticipated to be similar to the 650KW windmill.

The 850KW mass megawatts wind machine will be 110 feet tall by 900 feet long. The box frame for each subunit composing the machine measures 24 feet by 24 feet by 4.5 inches. There are approximately 9,200 blades for this unit; the blades will spin at speeds equal to the wind speed. The structure will require approximately 600 guy wires for support.

The 50KW mass megawatts wind machine is a 128-foot high, 24-foot wide, 28-foot deep box-like structure employing a Multi-Axis Turbo system (MAT). A total of 184 blades are used in the mass megawatts wind machine; each blade is 26 inches long, 10 inches thick, and 42 inches high and spins at speeds equal to the wind speed. Twelve guy wires extending from the upper portions of the structure and anchored to points 127.5 feet from the base will be required. Construction of the 50KW mass megawatts machine will disturb a 200 by 200-foot work area.

The mass megawatts wind machine, regardless of size, will incorporate augmentors on both sides of the machine. Augmentors are structures that extend away from the machine's sides at a 30 degree angle and are employed to direct and accelerate prevailing winds into the machine. The augmentor will reach a height of no greater than 55 feet adjoining the unit but can reach out as far as 100 feet from it in order to catch the prevailing wind from the terrain. The mass megawatts wind machines will be oriented to face the prevailing wind directions at their respective sites.

Proposed conservation measures include the already-implemented actions taken to conserve the Agave Management Areas, preconstruction surveys for agaves, and protection and monitoring of known on-base lesser long-nosed bat roost sites. These additional measures are described in our June 14, 2007, biological opinion (BO) on the effects of ongoing and future military operations and activities at Fort Huachuca (File numbers AESO/SE: 22410-2007-F-0132, 02-21-02-F-229 and 02-21-98-F-266) and were reiterated in an attachment to your April 11, 2007, letter to us.

Additional conservation measures proposed to minimize the effects of the currently proposed action include weekly site visits to the turbine sites to monitor for lesser long-nosed bat mortality from July 1 to October 31 as a default, longer if bats are known to be present outside of that window. Surveys will be conducted by qualified biologists within a 500-foot radius of each turbine site. You have proposed that, if 10 lesser long-nosed bats are found dead at the turbine sites during the life of the project, you will reinitiate formal consultation.

## **STATUS OF THE SPECIES**

Our June 14, 2007, biological opinion contains a current Status of the Species for the lesser long-nosed bat, and this section is incorporated herein via reference.

## **ENVIRONMENTAL BASELINE**

Our June 14, 2007, biological opinion contains a current Environmental Baseline for the lesser long-nosed bat, and it is incorporated herein via reference. The Environmental Baseline for the currently proposed action, however, is greater in areal extent, as it must include other sites within approximately 36-mile forage flight distance (Horner *et al.* 1990), both on and off Fort Huachuca. Many of the off-post sites are located on or near the Coronado National Forest in the Huachuca, Whetstone, Dragoon, and other mountains. The Environmental Baseline is expanded via reference to include the baseline information from our June 10, 2005, *Programmatic Biological and Conference Opinion on the Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands of the Southwestern Region* (File number 2-22-03-F-366).

Lesser long-nosed bats have the ability to forage over long distances to obtain resources when they are scarce, but research has shown that when forage resources are adequate and long movements are not necessary, the bats forage as close to their roost sites as possible (Horner *et al.* 1998, Ober and Steidl 2004, Ober *et al.* 2005). This strategy is energetically efficient and emphasizes the importance of maintaining food resources in proximity to roost sites. However, foraging studies have also shown that lesser long-nosed bats will fly long distances to forage even when forage resources are available closer to roost sites (Bogan 2007) and is evidence that further investigation into the foraging behavior of this species is needed. Lesser long-nosed bats roosting on and near Fort Huachuca as well as those roosting in more distant locales can be expected to forage within the Agave Management Area and thus, encounter the turbines.

Based on research conducted by Ober *et al.* (2000) on the foraging ecology of lesser long-nosed bats on Fort Huachuca, the high energy demands of the bat coupled with the small amount of nectar per flower forces bats to visit many flowers per night. The daily expenditure of energy for lesser long-nosed bats may be 1.5-2 times as high as previously reported and thus the amount of food needed to support the bat population in southeastern Arizona may be greater than previously thought. Therefore, maintaining sufficient numbers of agaves as a food source appears to be very important. Ober *et al.* (2000) also found evidence that bats select areas with both high resource abundance and evidence of high resource abundance in previous years, suggesting that site fidelity may play a role in the bats' foraging behavior. A reduction in or fragmentation of *A. palmeri* populations could have serious effects on bat populations by increasing energy demands with resulting reductions in reproductive success and adult recruitment. It could also force them to roost in substandard areas or compete with one another for food at remaining plants. These negative effects would be even more noticeable during years of low flower production. The density of flowering agaves on their study areas on Ft. Huachuca varied from 3.5 (1988) to 0.8 (1999) plants/acre within the bats' home range (Ober *et al.* 2000). Continued protection of the Agave Management Area thus is crucial.

## **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, which 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 proposed action includes both direct and indirect effects. Primary among these is the direct effect of blade strikes of lesser long-nosed bats. Lesser long-nosed bats are fast-flying (Sahley *et al.* 1993) but we have hypothesized that their nectivorous life history may render them to be less capable echolocators than insectivorous bats. As such, we are concerned that individuals may be susceptible to blade strikes, which we will assume will be fatal in most cases.

Your April 11, 2007, letter contained information regarding the likelihood that the turbines will be operating during the night, when lesser long-nosed bats are active. Wind speed data from June 2004 to October 2004, the lesser long-nosed bats' typical period of occupancy of sites on Fort Huachuca, averaged 8.2 miles per hour at 10 meters from the ground from 6:00 p.m. to 6:00 a.m. Daytime (7:00 a.m. to 5:00 p.m.) wind speeds during these months averaged 10.62 miles per hour at 10 meters from the ground. It is recognized that these are mean wind speeds, derived from values both higher and lower. Mean statistics, however, are influenced by skew and thus, we anticipate that the typical, or median, wind speeds are lower yet. The minimum wind speed required for the windmill turbines is 12 mph, indicating that the turbines will spin relatively infrequently at night, thus minimizing blade strikes of lesser long-nosed bats.

The blades within the mass megawatts wind machine require a minimum wind speed of 4 mph in order to begin spinning, thereafter spinning at the prevailing wind speed. It is therefore likely that the mass megawatts wind machine will be operative at night for the majority of the time during the June to October timeframe during which lesser long-nosed bats are likely to be in the vicinity. Total surface area of the wind machine is considerable, and the augmentors may further funnel bats towards the turbine.

You have proposed to conduct weekly visits to the turbine sites to monitor for lesser long-nosed bat mortality from July 1 to October 31 as a default, longer if bats are known to be present outside of that window. Your surveys will be conducted within a 500-foot radius of each turbine site. You have proposed that if 10 lesser long-nosed bats are found dead at the turbine sites during the life of the project, reinitiation of formal consultation will be sought.

The potential indirect effect of disruption of lesser long-nosed bat foraging activities is minimized by your proposal to conduct pre-construction surveys for agaves at the turbine sites and to avoid impacts to those agaves.

Our June 14, 2007, biological opinion includes analyses of your full suite of lesser long-nosed bat conservation measures, several of which are applicable for the analysis in this biological opinion. The conservation measures and associated analyses pertaining to limiting the extent of construction disturbance, prohibitions on off-road vehicular travel, fire suppression, post-fire rehabilitation, and monitoring of the species on the installation are hereby incorporated via reference.

A detailed description of your conservation planning process and funding sources appears in the Environmental Funding Sources and Process subsection of the Description of the Proposed Conservation Measures section of our June 14, 2007, biological opinion. We have determined that you have provided sufficient specificity and assurance of funding for the proposed action's conservation measures such that they are reasonably certain to occur. Moreover, the annual coordination meetings between Fort Huachuca and FWS will provide opportunities to evaluate funding levels and project implementation as they relate to the triggers for reinitiation of formal consultation.

## **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.

Much of the land in the project area is managed by Federal agencies, particularly the Bureau of Land Management, Coronado National Forest, and Coronado National Memorial. Activities on state and private lands may require permits or funding from Federal agencies. Thus, many of the actions that are reasonably expected to occur in the project area that may adversely affect the lesser long-nosed bat would be subject to section 7 consultation.

The effects of grazing, development, and other activities occur on large tracts of State and private lands within the project area, as well as recreation and management activities at Kartchner Caverns State Park (i.e. trail construction and removal of live, flowering agave bolts for visitor safety) and within the known range of the lesser long-nosed bat that are not interrelated or interdependent actions of Fort Huachuca and are not otherwise subject to section 7. Development near the base of the Huachuca Mountains or at the mouths of canyons on the east slope south of Fort Huachuca could result in destruction of bat foraging habitat and agaves. The entry into lesser long-nosed bat roost caves by undocumented aliens and/or smugglers is considered an appreciable problem (FWS 2007). Compliance with the Act for activities on State and private lands that may affect the lesser long-nosed bat, but are not addressed by section 7 consultation, could occur through section 10(a)(1)(B) of the Act.

## **CONCLUSION**

After reviewing the current status of the lesser long-nosed bat, the environmental baseline for the action area, the effects of the proposed installation of one 600 to 850 kilowatt (KW) wind turbine or mass megawatts wind machine and one 50KW mass megawatts wind machine on Fort Huachuca, Cochise County, Arizona, and the cumulative effects, it is the FWS's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the species. No critical habitat has been designated for this lesser long-nosed bat; therefore, none will be affected. In making our determination we considered the following:

- Baseline weather conditions indicate that the windmill turbine, should it be constructed in lieu of a large, mass megawatts wind machine, will be unlikely to operate extensively

during nighttime hours during the season in which lesser long-nosed bats are present in the region.

- The proposed action includes measures to minimize the effects of construction disturbance to agaves upon which lesser long-nosed bats forage.
- Monitoring will be performed to determine the extent and/or to verify the suspected level of lesser long-nosed bat mortality at the large turbine or mass megawatts wind machine, and at the smaller mass megawatts wind machine.
- The project area in which most activities occur covers a relatively minor portion of the total range of the lesser long-nosed bat.
- The aforementioned effects will not affect the ability to recover the lesser long-nosed bat, as there will be no associated reduction in roost site occupancy or loss of forage resources.

### **INCIDENTAL TAKE STATEMENT**

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

The measures described below are non-discretionary and must be undertaken by Fort Huachuca so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. Fort Huachuca has a continuing duty to regulate the activity covered by this incidental take statement. If Fort Huachuca: (1) fails to assume and implement the terms and conditions or (2) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Fort Huachuca must report the progress of the action and its impact on the species to the FWS as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

## **AMOUNT OR EXTENT OF TAKE**

We anticipate that up to 10 lesser long-nosed bats will be taken as a result of this proposed action, the life of which is presumed to be indefinite. This incidental take is expected to be in the form of blade-strike mortality. Your proposed action includes a conservation measure indicating that formal consultation will be reinitiated if and when then 10 individual lesser long-nosed bats are found dead at the turbine sites. We anticipate that the actual, rather than observed, level of mortality will represent only a small proportion of the actual mortality; lesser long-nosed bats may be injured but die elsewhere, scavengers may remove carcasses prior to monitoring, or identification of the bat species may not be possible.

## **EFFECT OF THE TAKE**

In the accompanying biological opinion, the FWS determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

## **REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS**

We believe that the following reasonable and prudent measure is necessary and appropriate to minimize impacts of incidental take authorized by this biological opinion:

1. Fort Huachuca shall continue to monitor the lesser long-nosed bat and its habitat to document levels of take and determine effectiveness of conservation measures.

To be exempt from the prohibitions of section 9 of the Act, Fort Huachuca must comply with the following terms and conditions in regard to the proposed action. These terms and conditions implement the reasonable and prudent measure described above. Terms and conditions are nondiscretionary.

The following terms and conditions implement the reasonable and prudent measure, above:

1. Fort Huachuca shall initiate monitoring for bat mortality at the wind turbine sites and continue to monitor lesser long-nosed bat populations and forage resources;
2. Fort Huachuca shall incorporate the bat mortality monitoring associated with the proposed action into an annual report, which summarizes the implementation of all of the installation's proposed actions and any incidental take that occurred. We are especially interested in an analysis of the effectiveness of the conservation measures and terms and conditions.

If the incidental take anticipated in the paragraph entitled "Amount or Extent of Take (10 lesser long-nosed bats)" is met, the Fort shall immediately notify the FWS in writing. If, during the course of the action, the level of anticipated incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation. In the interim, the Fort must cease the activity resulting in the take if it is determined that the impact of additional taking will cause an irreversible and adverse impact on the species. Fort Huachuca must immediately

provide an explanation of the causes of the taking and review with the FWS the need for possible modification of the reasonable and prudent measures.

### **DISPOSITION OF DEAD OR INJURED LISTED SPECIES**

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 West Broadway Road, Suite 113, Mesa, Arizona, 85202, telephone: 480/967-7900), 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. We recommend that you implement the guidance contained in our May 13, 2003, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* (available at <http://www.fws.gov/habitatconservation/wind.pdf>) and engage our office of Migratory Birds (<http://www.fws.gov/permits/mbpermits/birdbasics.html> and <http://www.fws.gov/southwest/migratorybirds/windpower.html>), if necessary.
2. We recommend that you consider relocating agaves from near the turbine sites if it is concluded that lesser long-nosed bats foraging upon them are being killed at the facilities.

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

### **REINITIATION NOTICE**

This concludes formal consultation on the action outlined in your April 12, 2007, request for formal consultation (modified in subsequent documents) on the proposed installation of one 600 to 850 kilowatt (KW) wind turbine or mass megawatts wind machine and one 50KW mass megawatts wind machine on Fort Huachuca, Cochise County, Arizona. 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 Fort Huachuca's efforts to identify and minimize effects to listed species from this project. For further information please contact Jason Douglas at (520) 670-6150, (x226), or Sherry Barrett at (x223). Please refer to the consultation number, 22410-2007-F-0098, in future correspondence concerning this project.

Sincerely

/s/ Steven L. Spangle  
Field Supervisor

cc: Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ  
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ  
Regional Manager, Arizona Game and Fish Department, Tucson, AZ  
Dawn Daw, Environment and Natural Resource Division, Fort Huachuca, AZ

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