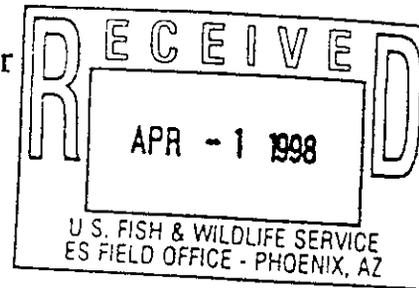




# United States Department of the Interior

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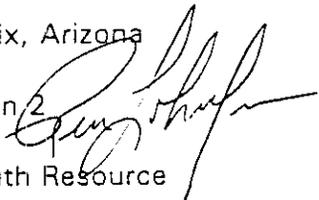
In Reply Refer To:  
R2/ES-HC

MAR 27 1998

2-21-85-F-069

## Memorandum

To: District Manager, Bureau of Land Management, Phoenix, Arizona

From: Assistant Regional Director, Ecological Services, Region 

Subject: Biological Opinion and Concurrence for Lower Gila South Resource Management Plan and Amendment

This responds to your September 18, 1996, memorandum to our Arizona State Ecological Services Field Office at Phoenix (AZESFO) requesting formal consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (Act), as amended, on the Lower Gila South Resource Management Plan (1988) and its' 1988 Amendments (RMP). The Service has reviewed the RMP. This document represents the Service's biological opinion on the effects of the planning decisions in the RMP on the southwestern willow flycatcher (*Empidonax traillii extimis*), Sonoran pronghorn (*Antilocapra americana sonoriensis*), lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), and cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*). You indicated that a "no effect" determination was concluded for the brown pelican in the Lower Gila South resource planning area. The Service will not comment on this finding because, pursuant to 50 CFR 402.14(a) and (b), it is the action agency's responsibility to identify actions that "may affect" a listed species. The Service's concurrence is not required for such findings. The Service urges the Bureau of Land Management (BLM) to maintain full documentation of the basis of this finding in its administrative record.

This opinion is issued in accordance with Section 7 of the Act, (16 U.S.C. 1531 et seq.) and is based on information provided in the: (1) Biological evaluation for the Lower Gila South RMP dated September 18, 1996 (biological evaluation); (2) BLM's memorandum to the Service dated June 23, 1997, amending the management direction for four species; (3) Lower Gila South RMP Final Environmental Impact Statement (EIS) (4) 1988 RMP amendment for Areas of Critical Environmental Concern (ACEC); and (5) other sources of information. A complete administrative record of this consultation is on file in the Service's AZESFO.

Although the RMP discusses a broad spectrum of management activities, section 7 consultation will be required if any future site-specific projects may affect threatened, endangered, or proposed species. Pursuant to 50 CFR § 402.12, a biological assessment shall evaluate the potential effects of the action on listed and proposed species and determine whether any such species or habitat are likely to be adversely affected by the

action. Thus, consulting with the Service at the resource management planning-level does not preclude individual project-specific consultations if listed species may be affected.

## CONSULTATION HISTORY

The BLM requested formal consultation in a September 18, 1996, memorandum to the Service's AZESFO on the Lower Gila South RMP (1988) and its' 1988 Amendments. A draft biological opinion was transmitted to the BLM by a September 2, 1997, memorandum. Written comments dated October 31, 1997, on the draft biological opinion were received by the Service on November 6, 1997. Those comments are herein given consideration, and incorporated where appropriate.

The Service concurs with the BLM's determination that the continued implementation of the Lower Gila South Resource Area "may affect, but is not likely to adversely affect" the Yuma clapper rail and peregrine falcon. According to the BLM, no Yuma clapper rails exist on their lands within the resource planning area. Occupied and permanent water habitats for the clapper rail exist as private and State lands or lands under Public Land Order 1015. In addition, according to the biological evaluation, no peregrine falcons occur and nesting habitat is marginal within the planning area. At the project level, the Service will concur with BLM's actions under the RMP if known or potential nest sites for peregrine falcon are surveyed in the same year as the action is proposed. Activities involving blasting, chainsaws, prescribed fires, or the use of loud power tools or heavy equipment are not to occur within 0.5 miles (mi) of any active peregrine falcon aerie from March 1 through July 31.

The most current scientific data available were used in this biological opinion, including the information in the Service's files from previous consultations, conferences with experts, survey reports, interagency meetings, field reviews, and literature reviews. It is the Service's biological opinion that the actions implemented under the Lower Gila South Resource Area RMP are not likely to jeopardize the continued existence of the southwestern willow flycatcher, cactus ferruginous pygmy-owl, Sonoran pronghorn, or lesser long-nosed bat.

## DESCRIPTION OF PROPOSED ACTION

The Lower Gila South RMP planning area is located southwest of Phoenix, Arizona. The area includes 2,009,232 acres of surface management and 1,946,485 acres of subsurface mineral management responsibilities by the BLM. Programs within the RMP include rangeland management, wilderness, land uses, cultural resources, fire management, minerals and energy, recreation, wildlife, woodcutting, economic conditions, and social elements. Amendments to the RMP include the ACEC. The biological evaluation contained analysis of the potential effects to federally listed threatened, endangered, and proposed species from actions guided by the RMP, as well as some site-specific ongoing activities or programs. However, this biological opinion addresses the RMP only and does not address site-specific projects.

Decisions and Programs addressed in the RMP are as follows:

The RMP includes two qualitatively different classes of actions:

1. "Action Decisions" that directly affect current, on-the-ground management and would not require further site-specific consultation before implementation.
2. Plan-level guidance and direction, including actions described in the biological assessment as "Direction Decisions." These include "direction decisions" described in the biological evaluation in addition to the total plan-level direction of the RMP. These actions are more general in nature. Any site-specific management action would require separate section 7 review before implementation.

These two classes of actions will be addressed separately in the following analyses. The Service cannot concur that on-the-ground activities under these decisions can go forward without further review under section 7. The biological evaluation does not provide sufficient assessment of the specific, on-the-ground actions for those actions to be covered by this biological opinion. The Service can, however, evaluate the plan-level guidance provided by these "action decisions" in this biological opinion, and will address them along with other plan-level guidance.

#### Range Management

A total of 48 grazing allotments occur within the Lower Gila South RMP area. Grazing allotments are placed in one of three management categories, "maintain," "improve," and "custodial." "Maintain" refers to the present range condition being in satisfactory condition, allotments having moderate to high resource production potential and producing near their potential, no serious resource use conflicts, and present management accomplishing the desired results. "Improve" refers to the present range condition existing in an unsatisfactory condition, allotments having moderate to high resource production potential but are producing at low to moderate levels, serious resource use conflicts or controversies existing, and opportunities existing that would achieve the allotment's potential through changes in management. "Custodial" refers to the present range conditions having low resource production potential but are producing near their potential, limited resource use conflicts or controversies existing, and present management is accomplishing the desired results. However, grazing allotments within the Lower Gila South have been assigned to "maintain" and "custodial" categories with no allotments designated as in the "improve" category. Of the 48 allotments, 28 are considered "custodial," and 12 are designated in the "maintain" category. No category designation was provided in the RMP for the eight grazing leases.

Allotments are classified as perennial/ephemeral, meaning they have a base allocation (preference) of animal unit months (AUM). An animal unit month is the amount of forage required to feed a cow with a calf for 1 month for a year-long operation. Ephemeral range does not consistently produce forage, but periodically provides annual vegetation suitable for livestock grazing. In general, the ephemeral recognizes that the allotments have the potential to provide significant forage during wet years in the form of annual vegetation.

This gives the permittee the option to request livestock use of this seasonally abundant annual production. Additional livestock grazing is authorized for ephemeral use under a supplemental grazing license when sufficient forage is present and such use does not conflict with other resources or damage the perennial vegetation base. There is no set AUM for ephemeral use. Ephemeral stocking rates are based on the amount of annual vegetation present at the time of the request. Ephemeral permits are considered upon request and dealt with separately from the perennial permit. Perennial preference (base allocation) was based on historic use and mutual agreement with the permittee.

Within the Lower Gila South resource planning area, 22 grazing allotments and 8 grazing leases are classified as perennial/ephemeral and are allowed to graze a base herd on a year-long basis. Livestock operators on perennial/ephemeral allotments are offered 10-year permits that state the number of livestock and the period of use for each allotment. Flexibility in livestock numbers are allowed for years of high or low forage productions, availability of water, early or late rangeland readiness, and variations in ranching operations. The remaining 18 allotments are designated as ephemeral allotments that are grazed 3 years intermittently out of a 10-year period. Grazing use by livestock is based on 50 percent of the available and potential ephemeral forage crop. During dry years when little ephemeral forage is present, grazing is not authorized on these allotments. When wet years occur, and it is available for both wildlife and livestock, grazing may be authorized on a case-by-case basis and would be subject to management requirements.

The BLM's rangeland monitoring program provides information for refining the grazing program and making needed adjustments. A rangeland monitoring plan was prepared in June 1981. It outlines the studies to be conducted for each allotment. On selected perennial-ephemeral allotments, monitoring studies would include: (1) Actual yearly livestock use; (2) forage utilization; (3) trend in rangeland condition; and (4) precipitation.

#### Recreation Program

Although much of the resource area is considered relatively remote and sparsely populated, extensive recreational use does occur. Most of the dispersed recreation is in the form of off-road vehicle use, hunting, hiking, camping, sightseeing, or rock collecting. Concentrated recreational activity is predominant in or near the populated centers of Buckeye, Gila Bend, and Ajo, Arizona, where sites have been developed specifically for recreational activities. Page 12-13 of the RMP documents that off-road vehicle use can be limited or areas closed off to motorized vehicle use if resource conflicts exist; e.g., wildlife harassment, degradation to habitats, damage to watershed, etc. Visual resource management also is included within the recreation program.

#### Minerals and Energy

Private industry is encouraged to explore and develop Federal minerals to satisfy national and local needs. This policy provides for economically and environmentally sound exploration, and reclamation practices. Public lands are open and available for mineral exploration and development unless withdrawn or administratively restricted. Three categories were stated: locatable, saleable, and leasable minerals. The range of minerals

known in the resource area is wide and includes precious metals, nearly all minerals on the strategic metals list, and most minerals used domestically. Although the Lower Gila South RMP area contains a high heat flow and good prospects for geothermal resources, no geothermal leases occur according to the RMP. Also according to the RMP, no exploratory wells have led to production, and little demand for mineral material sales occurs.

#### Lands

Land tenure actions are described in the RMP as rights-of-way, communication sites, easements, permits, and unauthorized occupancy. All of these land cases are evaluated by the BLM on a case-by-case basis. The RMP states that 10 utility corridors (approximately 1 mile wide) would be designated. According to the RMP on page 18, designation of 10 corridors would provide space for construction of future projects and allow for multiple occupancy by compatible users.

#### Other Programs

Although no federally-listed plant species have been documented within the Lower Gila South resource area, the RMP documents 19 species considered sensitive. The RMP states that 5 plant species are negatively affected by grazing livestock, wild burros, and wildlife. Wild burros are found in one location in this resource area near Painted Rock Reservoir area. During summer months when the Gila River is dry, burros enter private agricultural fields for forage and water. The RMP states that the BLM plans no burro captures. Cultural resources within the RMP area are divided into three categories: prehistoric, historic, and traditional cultural/religious areas. Site-specific cultural resource evaluations are completed before surface disturbing or land exchange activities occur. According to the RMP, the Phoenix District has developed a fire plan that designates fire suppression activities, areas suitable for prescribed burns, intensive control areas, and rehabilitation measures. Two federally-listed species are discussed in the RMP: the Yuma clapper rail and the Sonoran pronghorn. Although wood cutting is not a large program, permits are available on a case-by-case basis. According to the BLM, approximately 150 permitted cords of wood were authorized in the last 5 years. The biological evaluation discusses designating the Vekol Valley Grassland area and the Gila River Cultural Area as ACEC's. In addition, the biological evaluation states that Sierra Estrella and Table Top Area should not be designated as an ACEC.

#### Other Considerations of Proposed Action

Also considered as a part of the proposed action for this consultation are the Arizona Rangeland Health Standards approved by the Secretary of the Interior on April 28, 1997. Additionally, the BLM has offered new direction for the Lower Gila South RMP in the form of conservation measures for southwestern willow flycatcher and cactus ferruginous pygmy-owli. The BLM will implement these conservation measures in an ecosystem-based land management approach. A description of these measures follows:

### Southwestern Willow Flycatcher

The new management direction includes specific conservation measures for the southwestern willow flycatcher. It is designed to map suitable and potential habitat on BLM-administered lands, survey habitats for the presence of willow flycatchers, and provide protective measures for habitats which are currently suitable or have the potential to become suitable southwestern willow flycatcher habitat. These measures will be integrated with current management direction provided by the BLM's Riparian Management Policy and the Arizona Rangeland Health Standards and Guidelines. Both policies emphasize the importance of managing riparian systems in a proper functioning condition while enhancing potential natural communities.

The new management direction is incorporated into the consultations for:

- Lower Gila North Management Framework Plan (MFP)/Grazing EIS
- Lower Gila South RMP and 1988 Amendment.
- Phoenix RMP
- Eastern Arizona Grazing EIS
- Upper Gila-San Simon Grazing EIS (Phoenix portion)
- Thirteen Allotments along the Gila River
- Kingman RMP reinitiation
- Yuma RMP

### **Conservation Measures for the Southwestern Willow Flycatcher**

The BLM in Arizona will develop and implement an action plan for the southwestern willow flycatcher that provides protective guidance for managing willow flycatcher habitat and implementing BLM authorized activities. This action plan will provide guidance to Arizona BLM Field Offices for implementing decisions authorized in their respective planning documents (RMP's, MFP's, and associated grazing EIS's). Minimal features of the plan will include the following.

1. Mapping: Maps that convey the following information about southwestern willow flycatcher habitat managed by the BLM Field Office:
  - a. Location, size, shape, and spacing of habitat areas;
  - b. Habitat stage with respect to willow flycatchers according to the following classification: suitable-occupied, suitable-unoccupied, suitable-unsurveyed, potential in the short term (1 to 3 years), and potential in the long-term (greater than 3 years);
  - c. Status of southwestern willow flycatcher surveys for each area of suitable habitat: either the date(s) surveyed or indication that the area has not been surveyed.

2. Southwestern Willow Flycatcher Surveys: A list of areas to be surveyed following the most recent Service recommended protocol, along with the anticipated completion date for the survey of each area.
3. Habitat Management Guidelines: Management guidelines (fencing, grazing system used, or southwestern willow flycatcher habitat improvement activities) for areas at each of the habitat stages defined above for mapping. These guidelines should include:
  - a. Exclusion of livestock grazing within occupied or unsurveyed, suitable habitat during the breeding season (April 1-September 1).
  - b. Management of suitable southwestern willow flycatcher habitat so that its suitable characteristics are not eliminated or degraded.
  - c. Management of potential southwestern willow flycatcher habitat to allow natural regeneration (through natural processes) into suitable habitat.
4. Cowbird Control: To reduce the likelihood of nest abandonment and loss of southwestern willow flycatcher productivity owing to cowbird parasitism associated with BLM-authorized grazing activities in or near occupied habitats, BLM will implement the following:
  - a. Investigate and identify livestock concentration areas on BLM lands in the action areas that are likely foraging areas for brown-headed cowbirds within a 5-mile radius of occupied or unsurveyed suitable southwestern willow flycatcher habitat, and evaluate ways to reduce any concentration areas found.
  - b. If cowbird concentrations indicate a strong likelihood that parasitism to southwestern willow flycatcher nests is occurring or actual parasitism is documented through nest monitoring, possible cowbird foraging areas will be assessed, and appropriate control measures for cowbirds will be implemented. Evaluation of possible parasitism applies to active southwestern willow flycatcher nests on BLM-administered lands that are within 5 mi of BLM-authorized grazing activities. These efforts will be coordinated with the Service and the U.S. Animal and Plant Health Inspection Service. Monitoring and/or control activities will be conducted by qualified personnel with appropriate permits.

#### Cactus Ferruginous Pygmy-Owl

Conservation measures that provide additional management direction for the cactus ferruginous pygmy-owl also have been developed by the BLM in Arizona. These measures will map suitable habitats, conduct surveys to determine the presence of birds in these areas, and maintain habitat features in suitable habitats that are necessary to support breeding populations. The habitat and survey data obtained through this process will be used in an interagency effort to refine the Service's initial habitat profile and known species

distribution in Arizona. Additional knowledge will also allow for refinements in mapping of suitable habitat and development of management prescriptions.

The new management direction is incorporated into the consultations for:

- Lower Gila North MFP/Grazing EIS
- **Lower Gila South RMP and 1988 Amendment**
- Lower Gila South RMP, Barry Goldwater Amendment
- Phoenix RMP
- Eastern Arizona Grazing EIS
- Upper Gila-San Simon Grazing EIS (Phoenix portion)
- Thirteen Allotments along the Gila River

#### Conservation Measures for Cactus Ferruginous Pygmy-owl

1. Habitat Description: The BLM in Arizona will work with the Service, the Forest Service, and Arizona Game and Fish Department (AGFD) in a cooperative effort to refine the Service's habitat profile and delineation of distribution for the cactus ferruginous pygmy-owl. The habitat profile will include habitat features necessary to support breeding populations for owls and a profile for the subset of Sonoran desert scrub that is likely to support cactus ferruginous pygmy-owls.
2. Mapping: Map suitable habitat within the planning area based on the Service's most current habitat profile and distribution map (within 3 years).
3. Survey: Survey for the presence of owls on BLM-administered lands over all mapped areas of suitable habitat within a timeframe identified in an action plan developed in cooperation with the Service. Priorities for survey include:
  - a. Survey before any habitat disturbing activity (this applies to all suitable habitat, regardless of the status of the mapping effort described in number 2 above);
  - b. Areas in proximity to occupied or recently (within the last 10 years) occupied habitat;
  - c. Historic localities; and
  - d. Likely historic habitat, based on historic localities and the habitat profile.
4. Habitat Management: Maintain habitat features necessary to support breeding populations of cactus ferruginous pygmy-owls within their historic range:
  - a. Maintain essential habitat features on suitable habitat as identified in the most current Service-approved habitat profile for the cactus ferruginous pygmy-owl.
  - b. Review ongoing activities for effects on essential habitat features needed by cactus ferruginous pygmy-owls, and modify activities, where necessary, to

sustain the overall suitability of the habitat for the owls. Priority will be given to activities in or near occupied or recently (within the last 10 years) occupied habitat.

5. Management direction for the cactus ferruginous pygmy owl (including such things as habitat profiles, habitat categorization, mapping, and surveys) will be reviewed with the Service annually. Adjustments will be made, as necessary, based on these findings, other new information, or accepted recovery prescriptions.

## BIOLOGICAL OPINION

### SOUTHWESTERN WILLOW FLYCATCHER (*Empidonax traillii extimis*)

#### Status of the Species (Range-wide)

The southwestern willow flycatcher was proposed for listing as endangered, with critical habitat, on July 23, 1993. A final rule listing the species as endangered was published on February 27, 1995, and a final designation of critical habitat was published on July 22, 1997. The following information is developed from a compilation of unpublished data.

The southwestern willow flycatcher is a small passerine bird. It is a neotropical migratory species that breeds in the southwestern United States and migrates to Mexico, Central America, and possibly northern South America during the non-breeding season. The historical range of the southwestern willow flycatcher included southern California, Arizona, New Mexico, western Texas, southwestern Colorado, southern Utah, extreme southern Nevada, and extreme northwestern Mexico.

#### Life History

The southwestern willow flycatcher is a small riparian obligate bird, nesting along rivers, streams, and other wetlands where dense growths of willow (*Salix* sp.), *Baccharis*, buttonbush (*Cephalanthus* sp.), boxelder (*Acer negundo*), saltcedar (*Tamarix* sp.) or other plants are present, often with a scattered overstory of cottonwood (*Populus* sp.) and/or willow. The species is an insectivore, foraging within and above dense riparian vegetation, taking insects on the wing or gleaning them from foliage.

Birds begin arriving on breeding grounds in late April and May. Migration routes are not completely known. However, willow flycatchers have been documented migrating through specific locations and drainages in Arizona that do not currently support breeding populations, including the upper San Pedro River, Colorado River through Grand Canyon National Park, lower Colorado River, Verde River tributaries, and Cienega Creek. These observations probably include subspecies *E.t. brewsteri* and *E.t. adastus*. *Empidonax*

flycatchers rarely sing during fall migration so that a means of distinguishing some migrating *Empidonax* without a specimen is not feasible. However, willow flycatchers have been reported to sing and defend winter territories in Mexico and Central America.

Southwestern willow flycatchers begin nesting in late May and early June and fledge young from late June through mid-August. Southwestern willow flycatchers typically lay three to four eggs in a clutch (range = 2-5). The breeding cycle, from laying of the first egg to fledging, is approximately 28 days. Eggs are laid at 1-day intervals; they are incubated by the female for approximately 12 days; and young fledge approximately 12 to 13 days after hatching. Southwestern willow flycatchers typically raise one brood per year but have been documented raising two broods during one season. Southwestern willow flycatchers have also been documented reneating after nest failure.

Survivorship of adults and young have been reported as: of 58 nestlings banded since 1993, 21 (36 percent) returned to breed; of 57 birds banded as adults (after hatch year) since 1989, 18 (31 percent) returned to breed at least 1 year (10 males, 8 females), 5 (9 percent) returned to breed for 2 years (all males), and 2 (3.5 percent) returned to breed for 3 years. A statistically significant variation in return rates of juveniles also has been documented as a function of fledging date; approximately 21.9 percent of juveniles fledged on or before July 20 returned the following year, whereas only 6.4 percent of juveniles fledged after July 20 returned the following year.

Range-wide, occupied habitat for the southwestern willow flycatcher can be characterized by dense patches of riparian shrubs or trees including stands of native vegetation and occasionally exotic vegetation. The size and shape of occupied riparian habitat patches vary considerably. Southwestern willow flycatchers have been found nesting in patches as small as 0.8 hectare; e.g., Grand Canyon and as large as several hundred hectares; e.g., Roosevelt Lake and Lake Mead. When viewed from above, the mixed vegetation types often appear as a mosaic of plant species and patch shapes and sizes. In contrast, narrow, linear riparian habitats one or two trees wide do not appear to contain attributes attractive to nesting willow flycatchers. However, willow flycatchers have been found using these habitats during migration.

Open water, cienegas, marshy seeps, or saturated soil are typically in the vicinity of willow flycatcher nests. Southwestern willow flycatchers have been documented nesting in areas where nesting substrates were in standing water. At some locations, particularly during drier years, water or saturated soil is only present early in the breeding season (i.e., May and part of June). However, the total absence of water or visibly saturated soil has been documented at sites where the river channel has been modified; e.g., creation of pilot channel, where modification of subsurface flows has occurred; e.g., agricultural runoff, or as a result of natural changes in river channel configuration.

Southwestern willow flycatcher nests are typically placed in the fork of a branch with the nest cup supported by several small diameter, vertical stems. The main branch from which the fork originates may be oriented vertically, horizontally, or at an angle. Stem diameter for the main supporting branch can be as small as 3 to 4 centimeters (cm). Vertical stems supporting the nest cup are typically 1 to 2 cm in diameter. Occasionally, southwestern

willow flycatchers place their nests at the juncture of stems from separate plants, sometimes of different plant species. Those nests are also characterized by vertically-oriented stems supporting the nest cup. Nest height relative to the base of nest substrate also varies across the southwestern willow flycatcher's range.

Southwestern willow flycatchers using predominantly native broadleaf riparian habitats nest relatively low to the ground [between 1.8 meter (m) and 2.1 m on average], whereas those using mixed native/exotic and monotypic exotic riparian habitats nest relatively high above the ground (between 4.3 m and 7.4 m on average). Historic egg/nest collections and species' descriptions from throughout the southwestern willow flycatcher's range confirm the bird's widespread use of willow for nesting.

### Population Dynamics

Intensive nest monitoring efforts in California, Arizona, and New Mexico have revealed that: (1) Sites with both relatively large and small numbers of pairs have experienced extremely high rates of brood parasitism; (2) high levels of cowbird parasitism in combination with nest loss due to predation have resulted in low reproductive success and, in some cases, population declines; (3) at some sites, levels of cowbird parasitism remain high across years, while at others parasitism varies temporally with cowbirds absent in some years; (4) the probability of a willow flycatcher successfully fledging its own young from a nest that has been parasitized by cowbirds is low; i.e., < 5 percent; (5) cowbird parasitism and nest loss due to predation often result in reduced fecundity in subsequent nesting attempts, delayed fledging, and reduced survivorship of late-fledged young; and (6) nest loss due to predation appears more constant from year-to-year and across sites, generally in the range of 30 to 50 percent.

Besides lowering nest success, fecundity, and the number of young produced, cowbird parasitism may also lower survivorship of willow flycatcher young fledged late in the season. Southwestern willow flycatchers that abandon parasitized nests, or reneest after fledging cowbirds, lay fewer eggs in subsequent clutches and, if successful, fledge willow flycatcher young late in the season. Cowbird parasitism has been shown to delay successful willow flycatcher nesting by at least 13 days. This delay resulted in significantly different return rates of juveniles. Only 6.4 percent of willow flycatcher young that came from late nests were recaptured in subsequent years, whereas 21.9 percent of young that came from early nests were recaptured. If these recapture rates mirror actual survivorship, then even though some parasitized willow flycatchers eventually fledge their own young, nest loss due to parasitism or depredation may have the more insidious effect of reducing overall juvenile survivorship.

Cowbird parasitism and nest depredation are adversely affecting southwestern willow flycatchers throughout their range. Cowbirds have been documented at more than 90 percent of sites surveyed. Parasitism rates have been highly variable, at the same sites, from one year to the next. Thus, the potential for cowbirds to be a persistent and widespread threat remains high.

### Status and Distribution

*E.t. extimus* was first described from a specimen collected by Gale Monson on the lower San Pedro River near Feldman, Arizona. The taxonomic validity of *E.t. extimus* was subsequently reviewed and has been accepted by most authors. Historical and contemporary records of *E.t. extimus* have been reviewed throughout its range, revealing that the species has "declined precipitously. . ." and that "although the data reveal no trend in the past few years, the population is clearly much smaller now than 50 years ago, and no change in the factors responsible for the decline seem likely."

The loss of more than 70 breeding locations range wide has been documented, including locations along the periphery and within core drainages that form this subspecies' range. Range-wide estimates of the southwestern willow flycatcher population were found to be comprised of 500 to 1,000 pairs. Below is a state by state comparison of historic and current data for the southwestern willow flycatcher. Since 1992, more than 800 historic and new locations have been surveyed range wide to document the status of the southwestern willow flycatcher (some sites in southern California have been surveyed since the late 1980's). Survey efforts in most States were done under the auspices of the Partners In Flight program, which served as the coordinating body for survey training sessions and review and synthesis of data. The extensive and, in some cases, intensive nature of these efforts have provided a critical baseline for the current distribution, abundance, and reproductive success of southwestern willow flycatchers range wide.

Range wide, the current known population of southwestern willow flycatchers stands at 454 territories. This indicates a critical population status. More than 75 percent of the locations where willow flycatchers have been found are composed of 5 or fewer territorial birds, and up to 20 percent of the locations are comprised of single, unmated individuals. The distribution of breeding groups is highly fragmented with groups often separated by considerable distances; e.g., approximately 88 kilometer (km) straight-line distance between breeding willow flycatchers at Roosevelt Lake, Gila County, Arizona, and the next closest breeding groups known on either the San Pedro River (Pinal County) or Verde River (Yavapai County). Additional survey effort, particularly in southern California, may discover additional small breeding groups. However, range wide survey efforts have yielded positive results in less than 10 percent of surveyed locations. Moreover, survey results reveal a consistent pattern range wide: the southwestern willow flycatcher population as a whole is comprised of extremely small, widely-separated breeding groups or unmated willow flycatchers.

In determining the current range wide status, the Service has given consideration to impacts on southwestern willow flycatcher and its habitat from the Bureau of Reclamation's operations and maintenance of the Lower Colorado River, as well as the agency's proposed modified operations at Roosevelt Dam. Also given consideration are the Corp of Engineer's long-range operations of the Lake Isabella Reservoir. Each of these actions have undergone, section 7 consultation.

### Status of the Species (In the Action Area)

Regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the 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 that are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation. On the Lower Gila South resource area, past and present Federal, State, private, and other human activities that may affect the southwestern willow flycatcher include rangeland management, land tenure, minerals, and recreational activities. No prior section 7 consultations with the Service have been conducted on these activities.

The following description of the status of the willow flycatcher within the Lower Gila South resource area is taken from BLM's biological evaluation. The southwestern willow flycatcher is dependent upon densely vegetated riparian habitat. The Lower Gila South planning area has no lotic riparian systems outside the Gila River.

Permanent or dependable water occurs in the Gila River in two stretches within the planning area. Agricultural return and wastewater effluent from the treatment plant at 91st Avenue provide approximately 26 mi of flow from the planning area boundary to Gillespie Dam. The initial (effluent) flow is greatly reduced by the time it enters the planning area through removal at the Buckeye Canal. This reach supports riparian vegetation (willows and cattails) to varying degrees, with a seemingly recent positive trend in available water and riparian development. This stretch was surveyed for willow flycatchers by AGFD in 1996. They found no resident birds but some suitable habitat. The other permanent water location is a variable section (1-3 mi) downstream of the borrow pit reservoir at Painted Rocks Dam. Dense vegetation (especially willow) is rare in this reach. The reach below the reservoir was surveyed and deemed to be nonhabitat. Some small (< 1 acre) riparian habitats can develop, ephemerally, in some parts of the riverbed due to agricultural runoff.

Ownership along the Gila River is a checkerboard of State, Federal, and private lands. Nearly all BLM lands in/along the Gila River fall into one of two classifications: those of Public Land Order 1015 (1954; all lands are above Gillespie Dam) or Fred J. Weiler Greenbelt Lands. The Public Land Order segregates the land from appropriation (sale) and withdraws management to the Service who has ceded management to AGFD "in connection with the Gila River Waterfowl Area Project." These 1015 lands are more in the channel and more likely to develop into habitat when conditions are right. The Greenbelt classification segregates lands from appropriation and recognizes the lands as valuable bird habitat. The BLM retains ownership and management.

## Effects of the Action

Action Decisions: Many of these decisions are beneficial or would not affect the southwestern willow flycatcher. Such decisions involve off-road vehicle (ORV) restrictions and designations of ACEC's. The remaining action decisions may have adverse effects on the southwestern willow flycatcher, but are not analyzed in the biological evaluation. These actions include administration of ephemeral grazing allotments, rangeland developments, designation of 10 utility corridors, construction of erosion structures, and a land exchange program. Only the plan-level direction provided by these remaining action decisions is considered in this biological opinion.

Plan-level direction, including direction decisions: Program areas in the RMP with potential effects on southwestern willow flycatchers include minerals, lands, rangeland, and recreation. Other program areas in the RMP (protected plants, wilderness resources, cultural resources, fire management, and wildlife) have insignificant or beneficial effects or no effect on southwestern willow flycatchers.

### Rangeland

Rangeland activities that can destroy or degrade the riparian habitat for southwestern willow flycatchers include grazing by wildlife, feral burros, and domestic livestock. These impacts can include severe impacts on willow flycatcher habitat composition and structure. Trampling may alter riparian plant communities by direct damage to plants, or by damaging soils. Plant densities, cover, biomass, vigor, and regeneration capacities may be reduced. Grazing may also result in the loss, reduction, or suppression of regeneration of riparian areas. Other potential effects of grazing include increases in duff layers, accelerated decomposition of woody materials, compaction of soils, and bank damage. The presence of livestock near southwestern willow flycatcher nesting areas increases the likelihood of cowbird parasitism of nests by improving cowbird access to the nests. Among the "action decisions" on the continued administration of 18 ephemeral allotments (Decision RM-1), rangeland developments (RM-3), and monitoring plans to determine adjustments in stock numbers (RM-5). Protection from these adverse effects of grazing are provided by BLM's new management direction to exclude livestock from unsurveyed-suitable habitat, and to manage potential southwestern willow flycatcher habitat to allow natural regeneration into suitable habitat.

### Lands

Activities under the lands program area that can affect southwestern willow flycatchers include land disposal and exchange. However, most of these activities are likely to be beneficial to the species by consolidating BLM holdings and management through acquisition and exchange of lands at urban interfaces for lands with higher resource value and potential. Limiting rights-of-way and communication facilities to existing corridors and sites may limit the increase of impacts. Action decision L-1 designates 10 one-mile wide utility corridors; the biological evaluation does not describe the proximity of these corridors to suitable or potential southwestern willow flycatcher habitat. The new habitat management direction should, however, result in avoidance of most impacts to suitable and potential southwestern willow flycatcher habitat.

## Minerals

Mining activities under the minerals program area can result in surface-disturbing activities and the use of heavy equipment in southwestern willow flycatcher habitat. The RMP encourages private industry to explore and develop minerals. However, the new management direction to regenerate and maintain southwestern willow flycatcher habitat features provides for consideration of the species' needs in making decisions on mining activities.

## Recreation

Road and trail closures in the RMP's may result in decreased impacts to southwestern willow flycatcher in some areas. However, recreational activities such as camping, picnicking, and hiking in riparian habitat during the nesting season can reduce reproductive success. According to the biological evaluation on page 18, "There is also considerable ORV activity along the more urban sections of the river when flows are down." BLM's review of these activities and existing road and trail use under new management direction to protect southwestern willow flycatcher habitat should provide protection from impacts to willow flycatchers from these activities.

## Cumulative Effects

Cumulative effects include the effects of future State, 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.

Given the scattered pattern of BLM lands and proximity of many holdings to agricultural uses, cumulative effects include continued grazing on private lands, water diversions that affect riparian habitat, and urban expansion.

## Conclusion

After reviewing the current status of the southwestern willow flycatcher, the environmental baseline for the action area, the effects of the proposed action, and available information on cumulative effects, it is the Service's biological opinion that continuation of management direction in the RMP is not likely to jeopardize the continued existence of the southwestern willow flycatcher. Critical habitat has not been designated within the Lower Gila South Resource Area, therefore none will be affected.

This conclusion is based on the lack of resident southwestern willow flycatchers and suitable habitat within the planning area and the marginal outlook for river flow conditions that would sustain regeneration of potential habitat to suitability. It is also based on the

new management direction that should result in regeneration of potential habitat to suitability, and increase the amount of suitable willow flycatcher habitat in the planning area.

### Incidental Take Statement

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. 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 such as breeding, feeding, and 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 provided that such taking is in compliance with the terms and conditions of this incidental take statement.

With the BLM's immediate implementation of the conservation measures to provide management direction for southwestern willow flycatchers in the Lower Gila South resource planning area, the Service does not anticipate that the proposed action will take any southwestern willow flycatchers.

### 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.

The Service recommends that the following conservation recommendation be implemented by BLM for the southwestern willow flycatcher:

1. The BLM should develop a water and flood control management plan in cooperation with other involved agencies. The object of the plan should be to achieve optimal conditions for regeneration and maintenance of willow flycatcher habitat while continuing to meet irrigation and flood control needs.
2. The BLM should coordinate with the Service on the development of emergency protocols for response actions that occur within southwestern willow flycatcher habitat, or may otherwise affect the species on the BLM lands, to develop possibilities for the minimization of impacts to and/or protection for the species.

3. The BLM should consider adding direction developed for the willow flycatcher to the Lower Gila South RMP as an amendment when it is next amended, or to any future, comparable document that covers the planning area.
4. The BLM should assess the impacts of winter grazing on riparian habitat. Studies should assess whether riparian vegetation has had time to become established and has grown to sufficient size to withstand grazing pressures. Different areas should be assessed because of the variations of response that may occur in the areas.
5. The BLM should consider providing ACEC status to southwestern willow flycatcher habitat in the next planning cycle for the Lower Gila South resource planning area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

### SONORAN PRONGHORN (*Antilocapra americana sonoriensis*)

#### Status of the Species (Range Wide)

The Sonoran pronghorn is recognized as a distinct subspecies of the pronghorn (*Antilocapra americana*). It is distinguished from other subspecies by its small size, pale coloration, and distinctive cranial features (Goldman 1945). The Sonoran pronghorn was listed as an endangered species on March 11, 1967. In Arizona, the Sonoran pronghorn occurs on the Cabeza Prieta National Wildlife Refuge (NWR), the Barry M. Goldwater Air Force Range, and Organ Pipe Cactus National Monument, from Highway 85 west to the Cabeza Prieta Mountains and from approximately the Wellton-Mohawk Canal south to the Mexican border (FWS 1982). Recent unconfirmed sightings suggest some animals may occur on the Tohono O'odham Reservation and in the Lechuguilla Desert, west of the Cabeza Prieta Mountains (FWS 1994, J. Hervert, AGFD, Yuma, Arizona, pers. comm., 1996). In Sonora, the Sonoran pronghorn is known from near Sonoyta south to the Puerto Penasco area, east to the sandy plains around Bahia de San Jorge, and west into flats surrounding the Sierra de Pinacate (FWS 1994). The current range of the Sonoran pronghorn is estimated at more than 4.9 million acres (FWS 1994). Historically, the range of the Sonoran pronghorn may have been much larger, extending further west, possibly into the Yuma Desert, Imperial Valley of California, and northeastern Baja California; to north of the Gila River; east to the Baboquivari Mountains; and south to Bahia Kino or Guaymas (FWS 1994, Hall and Kelson 1959, Hoffmeister 1986). However, precise determination of the historic range is precluded by a lack of specimens and the largely anecdotal nature of historic records.

Based on survey data collected between 1992 and 1994, an estimated 125 to 256 Sonoran occur in Arizona, and 179 to 313 occur in Sonora (FWS 1994). Data are insufficient to determine trends in population size (FWS 1994). Pronghorn are typically found in broad, alluvial valleys. They inhabit creosote (*Larrea tridentata*) and bursage (*Ambrosia deltoidea* and *A. dumosa*) vegetation communities year round and more diverse vegetation associations from late winter to early fall (FWS 1994). Hughes and Smith (1990) found Sonoran pronghorn in areas of approximately 11 percent perennial cover.

The diet of Sonoran pronghorn consists of a variety of plant materials, particularly cacti, such as fruits of jumping cholla (*Opuntia fulgida*), herbaceous species such as plantain (*Plantago insularis*), and filaree (*Erodium texanum*), a variety of shrubs and trees, and grasses (Monson 1968, Carr 1970). The importance of the availability of water sources to Sonoran pronghorn is unknown. Hughes and Smith (1990) found no significant difference in distance of pronghorn localities to water between the wet and dry seasons, implying that they do not congregate near water.

Pronghorn become sexually mature at 12 to 16 months. Parturition occurs from February through May and animals rut from July to September (Kitchen and O'Gara 1982, FWS 1994). Mean home range size is 56.1 km<sup>2</sup> for males and 45.2 km<sup>2</sup> for females. At the onset of the hot, dry period in late spring, individual animals move distances of up to 50 km from lower, sparsely vegetated valleys to areas of more complex vegetation. With the onset of the summer rains, animals move back to areas with low vegetation diversity.

The cause of population declines and extirpation from portions of its historic range include unregulated hunting in historic times, current illegal hunting in Sonora (FWS 1994), degradation of habitat by livestock grazing, disturbance of habitat resulting from military ground-based activities, disturbance of animals caused by military overflights, loss of riparian habitat on the Gila River and the Rio Sonoyta that may have been important as foraging or watering areas, and conversion of habitat to agriculture, particularly in the Gila River Valley and Imperial Valley, California (FWS 1994, 1982). The Service believes the Sonoran pronghorn is a critically endangered species. The total number of pronghorn is less than 600. This subspecies lives in an extremely harsh desert environment that is subject to extended drought. As a result, the viability of the species is sensitive to environmental and demographic stochastic events.

A population viability analysis conducted with the program VORTEX suggested that three factors are especially important in determining population persistence. The variability in population size increased and, in some cases, populations went extinct if any of the following three variables were included in a simulation: five catastrophic events such as drought occurring in 100 years; annual mortality of females in excess of 60 percent; or female fawn mortality in excess of 60 percent (deVos 1995).

The Service finalized a recovery plan for the Sonoran pronghorn in 1982. The recovery objective was defined as "maintain existing population numbers and distribution of Sonoran pronghorn while developing techniques which will result in a U.S. population of 300 animals (average for a 5-year period) or numbers determined feasible for the habitat." The recovery plan is currently being revised. The draft plan calls for downlisting the Sonoran pronghorn to threatened when the number of animals in Arizona reaches at least 500 and remains stable for a 5-year period, or when numbers are determined adequate to sustain the population through time (FWS 1994).

Additional information on the taxonomy, range, distribution, biology, and threats to the Sonoran pronghorn can be found in Service (1994, 1982), Wright and deVos (1986), Hoffmeister (1986), Mearns (1907), Hughes (1991), Edwards and Ohmart (1981), deVos (1990), and Cockrum (1981).

Grazing is the primary land use although other associated Federal actions such as recreation and woodcutting have also occurred on the allotments. These activities have been occurring for many years and are ongoing.

#### Status of the Species (In the Action Area)

The Lower Gila South RMP area contains Sonoran pronghorn habitat. According to the biological evaluation, pronghorns use BLM administered lands in the Ajo area (south of the mine and west of Highway 85). Pronghorns have also been seen between Interstate 8 and the Goldwater Range. However, the western and southern boundaries of the BLM lands are fenced by the neighboring land managers (Cabeza Prieta National Wildlife Refuge and Organ Pipe Cactus National Monument) to keep cattle out of their lands. Inspection of maps of Sonoran pronghorn location records suggest that the fences may be a significant factor in preventing Sonoran pronghorn from expanding eastward into the project area. Thus, cattle grazing and the fencing associated with it may be a significant factor restricting the distribution of the Sonoran pronghorn in the area.

#### Effects of the Action

Action Decisions: Decisions involving ORV restrictions and designations of ACEC's may be beneficial. However, other action decisions such as woodcutting and recreational activities, ephemeral grazing allotments, rangeland developments, and designation of 10 utility corridors may adversely affect pronghorns. Only the plan-level direction provided in these other action decisions are considered in this biological opinion.

Plan-level direction, including direction decisions: Program areas in the RMP with potential negative effects on Sonoran pronghorn include minerals, lands, rangeland, and recreation. Other program areas in the RMP (protected plants, wilderness resources, cultural resources, fire management, and wildlife) have insignificant or beneficial effects or no effect on Sonoran pronghorn.

#### Rangeland

According to the BLM, cattle do not use allotments uniformly. Due to the foraging behavior of cattle, vegetation use is heaviest around water sources and tapers off to the maximum distance the animals will travel away from water. The heaviest livestock use occurs within one-quarter mile of water and is typically considered by the BLM as a "sacrifice area." The BLM believes that a distance of 2 miles or greater is generally considered outside the influence of cattle use. Plant densities, cover, biomass, vigor, and regeneration capacities may be reduced.

As stated above, inspection of maps of Sonoran pronghorn location records suggest that the fences may be a significant factor in preventing Sonoran pronghorn from expanding eastward into the project area. A memorandum from the Superintendent, Organ Pipe Cactus National Monument, to the Supervisor, AZESFO, dated August 26, 1996, explains fences and pronghorns in more detail. Cattle grazing and the fencing associated with it may be a significant factor restricting the distribution of the Sonoran pronghorn in the area.

In addition, Sonoran pronghorn may become entangled in fences. The RMP states that 47 miles of fence will be constructed as part of rangeland developments implement the proposed action.

There is question of whether water developments provide positive or negative results regarding Sonoran pronghorn (FWS 1994). Pronghorns have been reported near guzzlers however, they may be more interested in the resulting vegetation around artificial waters than the water itself (FWS 1994).

#### Lands

Activities under Lands can affect Sonoran pronghorn through land disposal and exchange. Most of these activities are likely to be beneficial to Sonoran pronghorn by consolidating BLM holdings and management through acquisition and exchange of lands at urban interfaces for lands with higher resource value and potential. The action decision that designates 10 1-mile wide utility corridors may affect pronghorn habitat. No locations were provided for utility corridors.

#### Minerals

Mining activities can result in surface-disturbing activities that may affect the Sonoran pronghorn habitat. This added with the use of heavy equipment may impact the pronghorn. The RMP encourages private industry to explore and develop minerals, but specific direction on protection of endangered species in general or Sonoran pronghorn in particular is not provided.

#### Recreation

Several activities can have adverse effects on Sonoran pronghorn. Off-road vehicle (ORV)-use is probably the most significant affect. Road and trail closures in the RMP's may result in decreased impacts in some areas, but it is not clear that any continuing impacts to Sonoran pronghorn from road and trail use have been evaluated or eliminated. Recreational activities such as camping, picnicking, and hiking may also affect the pronghorn. Although critical fawning areas may be impacted by these activities, it is questionable if any of these areas exist in the resource planning area.

#### Woodcutting

According to the RMP, the Lower Gila South RMP would continue to issue woodcutting permits on a case-by-case basis. Because no general specifications were provided, it difficult to assess the impacts of this activity on Sonoran pronghorns.

#### Cumulative Effects

Given the scattered pattern of BLM lands and proximity of many holdings to agricultural uses, cumulative effects include continued grazing on private lands, trespass cattle from private and tribal lands, and urban expansion.

### Conclusion

After reviewing the current status of the Sonoran pronghorn, the environmental baseline for the action area, the effects of the proposed action, and available information on cumulative affects, it is the Service's biological opinion that continuation of management direction in the RMP is not likely to jeopardize the continued existence of the Sonoran pronghorn. The majority of the pronghorn's habitat occurs within the Cabeza Prieta NWR, the Barry M. Goldwater Air Force Range, and Organ Pipe Cactus National Monument, with only a small portion occurring within the RMP area.

### Incidental Take Statement

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. 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 such a breeding, feeding and 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The Service anticipates that the proposed action will take Sonoran pronghorn. For the purposes of consideration of incidental take of Sonoran pronghorn by the proposed projects that could be implemented under the RMP, incidental take can be broadly defined as either disturbance, or the alteration of habitat (from livestock grazing) that affects the behavior; i.e., breeding or foraging, of the pronghorns to such a degree that the pronghorns are considered lost as viable members of the population and are thus "taken." They may fail to breed, fail to successfully rear young due to inadequate food supplies available in altered habitat, raise less fit young, or desert the area because of disturbance when habitat no longer meets the their needs.

The Service anticipates incidental take of Sonoran pronghorn will be difficult to detect because the species is wide-ranging. Finding a dead or impaired individual is difficult. However, the following level of take of this species can be anticipated by degradation of habitat from fences and loss of food plants owing to livestock grazing. The anticipated level of take in terms of these surrogate measures is expressed as maintenance of the current level of habitat quality and fencing. Any decline in forage quality, as measured by selected habitat parameters, or increase in amount of fencing would exceed the level of incidental take.

### Reasonable and Prudent Measures

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With implementation of these measures, the Service believes that incidental take of Sonoran pronghorn will be minimized to the maximum extent possible. The measures described below are non discretionary, and must be implemented by the agency 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 BLM has a continuing duty to regulate the activity covered by this incidental take statement. This duty includes monitoring and reporting the progress of the action and its impact on the Sonoran pronghorn to the AZESFO.

The Service believes the following reasonable and prudent measures(s) are necessary and appropriate to minimize take of Sonoran pronghorn:

1. Fences will be modified and maintained to facilitate passage by Sonoran pronghorn while still preventing passage of cattle.
2. Improve habitat conditions for the Sonoran pronghorn.
3. Minimize human disturbance.

### Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of Act, BLM must comply with the following terms and conditions, that implement the reasonable and prudent measures described above the Sonoran pronghorn. These terms and conditions are nondiscretionary.

The following terms and conditions will implement reasonable and prudent measure 1:

1.1. All fences within the Lower Gila South will allow passage by Sonoran pronghorn movements within 1 year of this consultation. More than one type of fence structure may be appropriate. Assessing which fencing structure is best will require reviewing current literature as well as consultation with Sonoran pronghorn experts.

1.2 The BLM will work cooperatively with adjacent landowners in order to modify and maintain passage by Sonoran pronghorn movements and preventing passage of cattle. Any trespass livestock outside of permitted areas should be reported promptly to the appropriate agency for resolution.

The following terms and conditions will implement reasonable and prudent measure 2:

2.1 Habitat conditions within areas containing Sonoran pronghorn habitat will be analyzed and improved within 3-5 years. This will most likely require adjustments in current livestock grazing systems, recreational activities, and other actions that alter habitat. Conditions worsened as a result of drought are beyond the scope of this term and condition.

2.2 Monitor vegetation within allotments and other areas containing Sonoran pronghorn habitat in order to assess whether range conditions are improving.

The following terms and conditions will implement reasonable and prudent measure 3:

3.1 Minimize human disturbance by limiting or eliminating off-road vehicles within Sonoran pronghorn habitat.

3.2 Minimize ground disturbing activities from mineral development within pronghorn habitat.

3.3 Assess woodcutting activities occurring in Sonoran pronghorn habitat within the Lower Gila South. Limit or eliminate woodcutting if necessary.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With implementation of these measures the Service believes that incidental take will not be exceeded. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

#### Conservation Recommendations

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. The Service recommends that the following conservation recommendations be implemented by BLM for Sonoran pronghorn:

1. Using the most recent protocols, monitor Sonoran pronghorn use within areas adjacent to BLM lands.
2. Assess the amount of Sonoran pronghorn use around livestock water source structures.
3. Consolidation of lands through land exchanges should have the objective of improving conditions for the Sonoran pronghorn and their habitats.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

## LESSER LONG-NOSED BAT (*Leptonycteris curasoae yerbabuena*)

### Status of the Species (Range Wide)

The lesser long-nosed bat was listed (originally, as 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. These features are adaptations to collect nectar from the flowers of columnar cactus, such as the saguaro and organ pipe, and from paniculate agaves (Hoffmeister, 1986). This migratory species is found throughout its historic range from southern Arizona, through western Mexico, and south to El Salvador. It occurs in southern Arizona from the Picacho Mountains southwest to the Agua Dulce Mountains and southeast to the Chiricahua Mountains and south to Mexico. Arizona roosts are occupied from late April to September (Cockrum and Petryszyn, 1991). Adult females, most of which are pregnant, and their recent young are the first to arrive. They form maternity colonies at lower 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 are known mostly from the Chiricahua Mountains but also occur with adult females and young of the year at maternity sites.

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 status of the species. Suitable day roosts and suitable concentrations of food plants are the two resources that are critical for the lesser long-nosed bat. 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. Caves and mines are used as day roosts. The factors that make roost sites useable have not yet been identified. Whatever the factors are that determine selection of roost locations, the species appears to be sensitive to human disturbance. Instances are known where a single brief visit 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 human 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. 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)

The action area contains foraging habitat for the lesser long-nosed bat. Although there is no information available as to the extent of use of the area by the species, the area may be used extensively by the bats. Up to three major maternity roosts of the bat are within foraging range of the action area. Thus, the action area may provide important food sources at critical times during the bat's life cycle.

### Effects of the Action

Action Decisions: Decisions involving ORV restrictions, wildlife resource decisions, and designations of ACEC's may be beneficial to the bat. However, other action decisions such as administration of ephemeral grazing allotments, rangeland developments, designation of 10 utility corridors, mineral exploration and development, and woodcutting may adversely affect the bat. Only the plan-level direction pertaining to these other decisions is covered in this biological opinion.

Plan-level direction, including direction decisions: Program areas in the RMP with potential negative effects on bat include minerals, lands, rangeland, and recreation. Other program areas in the RMP (protected plants, wilderness resources, cultural resources, fire management, and wildlife) have insignificant or beneficial effects or no effect on the lesser long-nosed bat.

#### Rangeland Management

Up to three major maternity roosts of the lesser long-nosed bat are within foraging distance of the allotments within the Lower Gila South RMP area. As stated above, these bats forage on agave flowers, saguaro, and other columnar cacti flowers and fruits. Any adverse effects to these important food sources could result in adverse effects to the lesser long-nosed bat.

Grazing may change the character of the vegetative community in a number of interrelated ways which may affect saguaro populations. These effects include reduction of nurse plants, reduction in germination sites due to soil compaction and erosion, and trampling and predation of saguaro seedlings. Many perennial shrubs such as mesquite, palo verde, desert hackberry, and catclaw act as nurse plants for saguaros. Because livestock use these species as forage, this could indirectly contribute to a reduction in saguaro recruitment by decreasing the availability of nurse plants. Mesquite is a major component of the cattle diet in summer (44 percent) and fall (57 percent). Reducing foliage cover may diminish the ground area suitable for seedlings to germinate and grow by admitting harmful ultraviolet light in summer and retaining less heat in winter. It may also make seedlings more visible to rodents and other herbivorous small animals. Foraging livestock could trample some saguaro seedlings. The root system of saguaros of all age classes may be damaged as a result of soil compaction by cattle hooves. Cryptogamic soils may be disturbed by grazing, depriving the soil of nutrient-forming organisms, and permitting erosion that may render the habitat unsuitable for saguaro germination and growth.

## Lands

Activities under Lands that can affect lesser long-nosed bat through land disposal and exchange. Most of these activities are likely to be beneficial to the bat by consolidating BLM holdings and management through acquisition and exchange of lands at urban interfaces for lands with higher resource value and potential. The action decision to designate 10 1-mile wide utility corridors may have adverse effects to the bat. Clearing vegetation for a utility corridor may directly impact the bat's foraging habitat by removing food plants.

## Minerals

Mining activities under minerals can result in surface-disturbing activities and the use of heavy equipment which may impact the bat's foraging habitat. No maternity roosting sites are known within the resource planning area. The RMP encourages private industry to explore and develop minerals. Although the BLM does stipulate in their "Standards, Guidelines, Policies, and Regulations" that surface disturbing activities will avoid disturbance to cacti, and desert trees over 6 feet tall, specific direction on protection of lesser long-nosed bat in particular is not provided in the RMP.

## Recreation

Several activities can have adverse effects on lesser long-nosed bat foraging habitat. Road and trail closures in the RMP's may result in decreased impacts in some areas, but it is not clear that any continuing impacts to the bat from road and trail use have been evaluated or eliminated. Because no roost sites occur on BLM administered lands, recreational caving, hiking, or rock climbing are not known to be a threat.

## Woodcutting

Woodcutting in the Lower Gila South resource planning area is not a large program. These activities can directly impact the bat's food plant. As stated above, mesquite trees act as nurse plants for saguaro cactus and thus, woodcutting activities may have adverse effects to the bat. As mentioned previously, the BLM stipulates in their "Standards, Guidelines, Policies, and Regulations" that surface disturbing activities will avoid disturbance to desert trees over 6 feet tall. No specific RMP direction is provided for the lesser long-nosed bat.

## Cumulative Effects

Given the scattered pattern of BLM lands and proximity of many holdings to agricultural uses, cumulative effects include continued grazing on private lands, urban expansion, and woodcutting.

## Conclusion

After reviewing the current status of the lesser long-nosed bat, 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 lesser long-nosed bat. No critical habitat has been designated for this species, therefore, none will be affected. Although several activities can locally damage or eliminate the bat's food plants, food resources are broadly available within the plaining area and the bat's foraging range.

### Incidental Take Statement

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. 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 such as breeding, feeding and 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The Service anticipates incidental take of the lesser long-nosed bat will be difficult to detect for the following reason(s): the species is wide-ranging and has small body size, finding a dead or impaired specimen is unlikely, losses may be masked by seasonal fluctuations in numbers or use of habitat, and the species roosts in habitat where detection is difficult. However, the following level of take of this species can be anticipated by loss of food plants due to livestock grazing and grazing improvement maintenance. The effect of cattle on the landscape can be conceived of being associated with the grazing preference numbers and the improvement maintenance. Any take of lesser long-nosed bats associated with those levels of preference and maintenance is the take that is anticipated. If the preference is increased or if additional maintenance or construction of improvements beyond that described in this propose action are subsequently proposed, and that adversely affect lesser long-nosed bat, then the allowed incidental take will be considered to be exceeded.

### Reasonable and Prudent Measures

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

1. Loss of lesser long-nosed bat food plants will be avoided to the greatest extent possible from grazing activities, including maintenance of livestock improvements.
2. Woodcutting will be assessed for its impacts on lesser long-nosed bat food plants.

### Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the BLM must comply with the following terms and conditions, that implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. The following terms and conditions will implement reasonable and prudent measure 1:
  - a. Assess the amount of food plants currently present within areas where livestock grazing is occurring. Adjust livestock grazing levels in order to maintain current levels of food plants for the bat.
  - b. Grazing levels will not be increased until it is known that sufficient food plants exist and are being sustained.
2. The following term and condition will implement reasonable and prudent measure 2:
  - a. Assess woodcutting activities occurring within a radius of 50 mi (81 km) around known roosts. Limit or eliminate woodcutting if necessary. Consultation with the Service regarding this activity is recommended.

### Conservation Recommendations

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.

The Service recommends that the following conservation recommendations be implemented by the BLM for lesser long-nosed bat.

1. Map potential roost site locations. Survey these areas and monitor and protect and roost sites found on BLM lands.
2. Develop a management plan for BLM administered areas within a radius of 50 mi (81 km) around known roosts. How recommendations discussed within the Recovery Plan for the lesser long-nosed bat should be stated. The above reasonable and prudent measures, and terms and conditions will be used as the basis for such a management plan.
3. Allotment management plans should be prepared for all allotments within a 50-mile radius of known lesser long-nosed bat roosts.

## CACTUS FERRUGINOUS PYGMY-OWL (*Glaucidium brasilianum cactorum*)

### Status of the Species (Range Wide)

A complete list of references used in the development of this section may be obtained from the AZESFO and is a part of the administrative record for this consultation.

The Service included the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) on its Animal Notice of Review as a category 2 candidate species throughout its range on January 6, 1989 (54 FR 554). After soliciting and reviewing additional information, the Service elevated *O. is. cactorum* to category 1 status throughout its range on November 21, 1991 (56 FR 58804). A category 1 species is defined as a species that the Service has on file substantial information to support listing, but for which a proposal to list has not been issued as it is precluded at present by other listing activities.

On May 26, 1992, a coalition of conservation organizations petitioned the Service, requesting listing of the pygmy-owl as an endangered subspecies under the Act. The petitioners also requested designation of critical habitat. In accordance with Section 4(b)(3)(A) of the Act, on March 9, 1993, the Service published a finding that the petition presented substantial scientific or commercial information indicating that listing may be warranted, and initiated a status review on the pygmy-owl (58 FR 13045). In conducting its status review, the Service solicited additional comments and biological data on the status of the cactus ferruginous pygmy-owl, through mailings, a notice in the Federal Register (58 FR 13045), and other means.

On December 12, 1994, the Service published a 12-month finding on the petitioned action (59 FR 63975). This finding indicated that listing of the cactus ferruginous pygmy-owl was warranted. A proposed rule was published on the same date to list the pygmy-owl as endangered in Arizona with critical habitat and as threatened in Texas without critical habitat. New information was received during comment periods indicating that population levels are higher in Arizona and Texas than was known at the time of the proposed rule. The Service determined that the Arizona population still warranted endangered status. Conversely, the new information indicated that listing the species as threatened in Texas was not warranted. Listing was finalized on March 10, 1997, and was effective on April 9, 1997. Critical habitat, including 290 river miles in Arizona, was included in the proposed listing, but was determined to be not prudent in the final rule.

The cactus ferruginous pygmy-owl (Order Strigiformes--Family Strigidae) is a small bird, approximately 17 cm (6 3/4 in ). Males average 62 g (2.2 oz), and females average 75 g (2.6 oz). The cactus ferruginous pygmy-owl is reddish-brown overall, with a cream-colored belly streaked with reddish-brown. Some individuals are grayish rather than reddish-brown. The crown is lightly streaked; paired black-and-white spots on the nape suggest eyes. There are no ear tufts, and the eyes are yellow. The tail is relatively long for an owl and is colored reddish-brown with darker brown bars. The call of this diurnal owl, heard primarily near dawn and dusk, is a monotonous series of short notes.

The cactus ferruginous pygmy-owl is one of four subspecies of the ferruginous pygmy-owl. It occurs from lowland central Arizona south through western Mexico, to the States of

Colima and Michoacan, and from southern Texas south through the Mexican States of Tamaulipas and Nuevo Leon. The northernmost record for the pygmy-owl is from New River, Arizona, approximately 55 km (35 mi) north of Phoenix. South of these regions and through Central America, *G. b. ridgwayi* replaces *G. b. cactorum*. Throughout South America, *G. b. brasilianum* is the resident subspecies. Also, a fourth subspecies of pygmy-owl (*G. b. stranecki*) has been identified from central Argentina.

The cactus ferruginous pygmy-owl was described in 1937, based on specimens from Arizona and Sonora. It is distinguished from *G. b. ridgwayi* and *G. b. brasilianum* by its shorter wings and longer tail, and by generally lighter coloration. *G. b. cactorum* occurs in several color phases, with distinct differences between regional populations. Some investigators have suggested that further taxonomic investigation is needed, primarily to determine whether the current *G. b. cactorum* comprises more than one subspecies.

*G. b. cactorum* is widely recognized as a valid subspecies. The American Ornithologists' Union (AOU) recognized *G. b. cactorum* in its 1957 *Checklist of North American Birds*, but subsequent AOU lists did not address subspecies.

The pygmy-owl nests in a cavity in a tree or large columnar cactus. Cavities may be naturally formed; e.g., knotholes, or excavated by woodpeckers. No nest lining material is used. The pygmy-owl has also nested in fabricated nest boxes. Three, four, five, and occasionally six eggs are laid and are incubated for approximately 28 days. The young fledge about 28 days after hatching. The pygmy-owl begins nesting activities in late winter to early spring.

The pygmy-owl occurs in a variety of subtropical, scrub, and woodland communities, including river bottom woodlands, woody thickets ("bosques"), coastal plain oak associations, thornscrub, and desertscrub. Unifying habitat characteristics among these communities are fairly dense woody thickets or woodlands, with trees and/or cacti large enough to provide nesting cavities. Throughout its range, the pygmy-owl occurs at low elevations, generally below 1,200 meters (4,000 ft). In the western portion of its range, the pygmy-owl appears to use riparian woodlands and bosques dominated by mesquite and cottonwood, Sonoran Desertscrub (usually with relatively dense saguaro cactus forests), and Sinaloan Deciduous Forest. The pygmy-owl also has been found in thickets of intermixed mesquite and saguaro cactus near the New River, Arizona. Prior to the mid-1900's, the pygmy-owl was also described as not "uncommon", "of common occurrence," and "fairly numerous" resident of lowland central and southern Arizona in cottonwood forests, mesquite-cottonwood woodlands, and mesquite bosques along the Gila, Salt, Verde, San Pedro, and Santa Cruz rivers, and various tributaries. Several birds have been taken along Rillito Creek near Fort Lowell, in the vicinity of Tucson, Arizona. The pygmy-owl also occurs in Sonoran desertscrub associations in southern and southwestern Arizona, comprised of palo verde, ironwood, mesquite, acacia, bursage, and columnar cacti such as the saguaro and organpipe.

In the past, the pygmy-owl's occurrence in Sonoran desertscrub was apparently less common and predictable. It was more predictably found in xeroriparian habitats (very dense desertscrub thickets bordering dry desert washes) than more open, desert uplands. The pygmy-owl also has been noted to occur at isolated desert oases supporting small pockets of riparian and xeroriparian vegetation.

Both riparian and desertscrub habitats are likely to provide several requirements of the cactus ferruginous pygmy-owl ecology. Trees and large cacti provide cavities for nesting and roosting. Also, these habitats along watercourses are known for their high density and diversity of animal species that constitute the pygmy-owl's prey base. In addition, the dense vegetation along these washes provides protective cover from aerial predators.

Since the cactus ferruginous pygmy-owl was recently listed, only a few consultations have been completed or are underway for this species. Loss and modification of nesting habitat as one of the primary threats to this species, especially on private land. The extent of this loss may be reflected in the extremely low population size of this bird in Arizona. It is estimated that between 85 to 90 percent of low-elevation riparian habitats in the southwestern U.S. have been modified or lost. These alterations and losses are attributed to urban and agricultural encroachment, wood cutting, water diversion and impoundment, channelization, livestock overgrazing, groundwater pumping, and hydrologic changes resulting from various land-use practices.

Fewer than 20 verified records of cactus ferruginous pygmy-owls in Arizona for the period of 1971 to 1988. In 1992, surveys located three single cactus ferruginous pygmy-owls in Arizona. More extensive surveys in 1993 again located three single cactus ferruginous pygmy-owls in Arizona. During 1993 - 1994 surveys, one pair of cactus ferruginous pygmy-owls was detected in north Tucson, near the sightings of 1992 and 1993. Two individual owls were found in northwest Tucson during 1995 surveys, and an additional owl was detected at Organ Pipe Cactus National Monument. In 1996, the AZGFD focused survey efforts in northwest Tucson and Manana, and detected a total of 17 birds. Total individuals in Arizona are still extremely low at 19, with most of the birds occurring on private land. Results of the 1997 survey season indicate 12 cactus ferruginous pygmy-owls statewide.

#### Status of the Species (In the Action Area)

The BLM has identified areas containing large desert wash systems with adjacent saguaro stands. These areas include Woolsey Wash, Bender Wash, and 10-Miles Wash. No extensive surveys have been conducted in the planning area to determine the presence/absence of the pygmy-owl. One survey conducted in Woolsey Wash resulted in no owls detected. However, the BLM has stated that this area contains potential habitat and will be resurveyed.

At Organ Pipe Cactus National Monument, potential threats include the increased risk of wildfire associated with invasion of the Organ Pipe Cactus National Monument by non-native grasses such as red brome (*Bromus tectorum*) and buffelgrass (*Pennisetum ciliare*). An additional threat in this area is the increasing visitation and through traffic from the international port of entry at Lukeville (H. Smith, in litt. 1996). Organ Pipe Cactus National

Monument, the second major location for pygmy-owls in the State of Arizona, provides protection for the pygmy-owl, as it does for all other natural and cultural resources.

The Barry M. Goldwater Range, which overlaps the historical distributional range of the pygmy-owl, has an existing policy stating that for any species that have been identified as state or Federal species of concern, the range will be inventoried and potential impacts to those species analyzed with other information gathered. Projects can then be modified to avoid or minimize impacts to the species. The Barry M. Goldwater Range also has identified any habitats that are unique or significant on the range, including desert washes, bajadas, and dunes. The Goldwater Range additionally has the flexibility to create management plans for any species of concern; however, no such policy currently exists for the pygmy-owl.

### Effects of the Action

Action Decisions: Decisions involving ORV restrictions, wildlife resource decisions, and designations of ACEC's may be beneficial to the pygmy-owl. However, other action decisions such as administration of ephemeral grazing allotments, rangeland developments, designation of 10 utility corridors, mineral exploration and development, and woodcutting may adversely affect the pygmy-owl. Only the plan-level direction provided by these other action decisions is considered in this biological opinion.

Plan-level direction, including direction decisions: Program areas in the RMP with potential negative effects on the pygmy-owl include minerals, lands, rangeland, and recreation. Other program areas in the RMP (protected plants, wilderness resources, cultural resources, fire management, and wildlife) have insignificant or beneficial effects or no effect on the pygmy-owl.

### Rangeland Management

Grazing may change the character of the vegetative community in a number of interrelated ways which may affect saguaro populations. These effects include reduction of nurse plants, reduction in germination sites due to soil compaction and erosion, and trampling and predation of saguaro seedlings. Many perennial shrubs such as mesquite, palo verde, desert hackberry, and catclaw act as nurse plants for saguaros. Because livestock use these species as forage, this could indirectly contribute to a reduction in saguaro recruitment by decreasing the availability of nurse plants. Mesquite is a major component of the cattle diet in summer (44 percent) and fall (57 percent). Reducing foliage cover may diminish the ground area suitable for seedlings to germinate and grow by admitting harmful ultraviolet light in summer and retaining less heat in winter. It may also make seedlings more visible to rodents and other herbivorous small animals. Foraging livestock could trample some saguaro seedlings. The root system of saguaros of all age classes may be damaged as a result of soil compaction by cattle hooves. Cryptogamic soils may be disturbed by grazing, depriving the soil of nutrient-forming organisms and permitting erosion that may render the habitat unsuitable for saguaro germination and growth. The removal of annuals and shrubs by grazing activities may reduce prey abundance for the pygmy-owl.

Grazing riparian areas may impact the pygmy-owl. Within the action area, the pygmy-owl may occur in a variety of riparian woodlands and bosques dominated by mesquite and cottonwood, Sonoran desertscrub (usually with relatively dense saguaro cactus forests). Livestock grazing may alter habitat for the pygmy-owl by impacting important riparian and Sonoran desert vegetation characteristics. Protection from these potential impacts is provided by BLM's new direction to review ongoing activities for effects on essential habitat features and maintain those features.

#### Lands

Most of these activities are likely to be beneficial to the pygmy-owl by consolidating BLM holdings and management through acquisition and exchange of lands at urban interfaces for lands with higher resource value and potential. The action decision to designate 10 1-mile wide utility corridors may have adverse effects to the pygmy-owl. Clearing vegetation for a utility corridor may directly impact the species by removing habitat. New direction requires that such actions must be carried out in a manner that maintains essential habitat features for the owl.

#### Minerals

Mining activities can result in surface-disturbing activities and the use of heavy equipment that may impact the pygmy-owl. The RMP encourages private industry explore and develop minerals, but new specific direction requires the protection of essential habitat features for the pygmy-owl.

#### Recreation

Road and trail closures in the RMP's may result in decreased impacts in some areas. Several activities can have adverse effects on pygmy-owls. Off-road vehicle use can affect pygmy-owls by destroying vegetation and harassing owls. The Service expects that BLM will use the conservation measures for survey to immediately identify areas where ORV use should be lessened or prohibited. Campground developments and new hiking trails can also impact pygmy-owl habitat. However, application of new management direction for pygmy-owls should ensure that most adverse effects are avoided.

#### Woodcutting

Woodcutting activities can directly impact the pygmy-owl. As stated above, mesquite trees act as nurse plants for saguaro cactus and thus, woodcutting activities may impact saguaro cactus resulting in adverse effects to the pygmy-owl. New direction to maintain essential habitat features for pygmy-owls should ensure the avoidance of adverse effects.

#### Cumulative Effects

Given the scattered pattern of BLM lands and proximity of many holdings to agricultural uses, cumulative effects include continued grazing on private lands, urban expansion, and woodcutting.

## Conclusion

After reviewing the current status of the pygmy-owl, the environmental baseline for the action area, the effects of the proposed action, and available information on cumulative effects, it is the Service's biological opinion that continuation of activities under the direction of the Lower Gila South RMP, as amended, and supplemented with the new conservation measures, is not likely to jeopardize the continued existence of the cactus ferruginous pygmy-owl. Because critical habitat has not been designated, the proposed action is not likely to destroy or adversely modify critical habitat. Due to the extreme rarity of the pygmy-owl in Arizona and the lack of knowledge regarding its specific ecological requirements, BLM lands are crucial for the survival and recovery of this species in Arizona. Lack of information on the distribution of pygmy-owls and status of potential habitat within the RMP resource planning area has hindered the identification of actions that would protect the pygmy-owl from further decline. However, the new direction in the form of conservation measures provide direction to survey for and protect pygmy-owls and their habitat, thereby providing plan-level protection for the pygmy-owl.

## Incidental Take Statement

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. 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 such as breeding, feeding and 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 provided that such taking is in compliance with the terms and conditions of this incidental take statement.

With the BLM's immediate implementation of the conservation measures to provide management direction for the cactus ferruginous pygmy-owl in the Lower Gila South resource planning area, the Service does not anticipate that the proposed action will take any cactus ferruginous pygmy-owls.

## Conservations Recommendations

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species. Conservation recommendations are discretionary agency activities to minimize or avoid effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information on listed species. The recommendations provided here do not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for cactus ferruginous pygmy-owl. In furtherance of the purposes of the Act, we recommend implementing the following actions:

1. The BLM should coordinate with the Service on the development of emergency protocols for response actions that occur within pygmy-owl habitat, or may otherwise affect the pygmy-owl in the Lower Gila South resource planning area, to develop possibilities for the minimization of impacts to and/or protection for the pygmy-owl.
2. The BLM should consider adding specific habitat protection guidance based on the conservation measures as amendment to the Lower Gila South RMP when it is next amended, or in any future, comparable document that covers the planning area.
3. The BLM should consider providing ACEC status to cactus ferruginous pygmy-owl habitat in the next planning cycle for the Lower Gila South resource area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendation.

## REINITIATION STATEMENT

This concludes formal consultation on the action described in your request. As provided by 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.

cc: Chief, Division of Endangered Species, Washington, D.C.  
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