

APPENDIX B

CONSERVATION MEASURES

Conservation Measures from the Lesser Long-nosed Bat Recovery Plan

BLM will manage public land within the IFNM in accordance with the following conservation measures for the lesser long-nosed bat:

1. Continue protecting roost sites and evaluate the need for and implement protection for food plants.
2. Monitor all major roosts in Arizona, New Mexico, and Mexico once a year.
3. Continue surveying for additional roosts in the United States and Mexico.
4. Develop and conduct a public education and information campaign in Arizona, New Mexico, and Mexico on the beneficial aspects of bats in general and the lesser long-nosed bat specifically.
5. Conduct critical research on population census techniques, physical requirements for roosts, foraging ranges of roosts, reproduction and mating systems and other life history and habitat questions.

Conservation Measures from Desert Tortoise Habitat Management on the Public Lands: A Rangeland Plan

The following management objectives were developed to help BLM meet its overall goal for preserving and managing tortoises and their habitats.

Objective 1. Develop increased awareness of tortoise resources on the public land.

Objective 2. Complete and maintain on a continuing basis an inventory and monitoring program for tortoise populations and habitats to assist in making management decisions on the public lands.

Objective 3. Develop and maintain a monitoring program specifically for land-use activities that adversely affect tortoise habitats. This program will, be used in the analysis of and response to the cumulative impacts of land-use decisions on tortoise habitats.

Objective 4. Comply fully with the Endangered Species Act of 1973, as amended, as it relates to tortoise population and habitat management on the public lands.

Objective 5. Develop and maintain effective coordination and cooperation with outside agencies and Bureau constituents concerning tortoise population and habitat management.

Objective 6. Conduct research and studies sufficient to develop and document the knowledge and techniques needed to ensure the viability of tortoise populations and habitats in perpetuity.

Objective 7. Manage the public lands, on a continuing basis, to protect the scientific, ecological, and environmental quality of tortoise habitats consistent with the category goals and other objectives of

the Rangewide Plan. This implies management for the existence of an adequate number of healthy and vigorous tortoise populations of sufficient size and resilience to withstand the most severe environmental impacts, and with appropriate sex and age ratios and recruitment rates to maintain viable populations in perpetuity.

Objective 8. When the need is identified through the BLM planning system, acquire and/or consolidate, under BLM administration, management units with high tortoise habitat values, and mitigate the effects of issuing rights-of-way across public lands.

Objective 9. Ensure that off-highway vehicle use in desert tortoise habitats is consistent with the category goals, objectives, and management actions of the Rangewide Plan.

Objective 10. Ensure that livestock use is consistent with the category goals, objectives, and management actions of the Rangewide Plan. This may include limiting, precluding, or deterring livestock use as documented in site-specific plans.

Objective 11. Provide for herd management for wild horses and burros which is consistent with the category goals, objectives, and management actions of the Rangewide Plan. This may include limiting or precluding wild horse and/or burro use, as appropriate. (No wild horses or burros exist within the IFNM.)

Objective 12. Provide for management of wildlife other than desert tortoises on the public lands consistent with the category goals, objectives, and management actions of the Rangewide Plan.

Objective 13. Cooperate with state wildlife agencies and the Animal and Plant Health Inspection Service to effect appropriate types and levels of predator control, to meet the category goals, objectives, and management actions of the Rangewide Plan. This will be considered only where predation is interfering with maintaining viable tortoise populations.

Objective 14. Manage the BLM's energy and minerals program in a manner consistent with the category goals, objectives, and management actions of the Rangewide Plan.

Conservation Measures from the Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management

The following conservation measures for fire management activities are common to all alternatives and will be implemented for all authorized management activities. These conservation measures are intended to provide State-wide consistency in reducing or eliminating the effects of management actions on Federally endangered, threatened, proposed, and candidate species, as well as species included on the Wildlife Species of Concern in Arizona and BLM Arizona Sensitive Species lists.

Wildland Fire Suppression

The following conservation measures will be implemented during fire suppression operations unless firefighter or public safety, or the protection of property, improvements, or natural resources, render them infeasible during a particular operation. Each conservation measure has been given an alphanumeric designation for organizational purposes (e.g., FS-1). Necessary modifications of the conservation measures or impacts to Federally protected species and habitat during fire suppression operations will be documented by the Resource Advisor, and coordinated with the USFWS.

- **FS-1.** Protect known locations of habitat occupied by Federally listed species. Minimum Impact Suppression Tactics (M.I.S.T.) will be followed in all areas with known Federally protected species or habitat [*Interagency Standards for Fire and Aviation Operations 2003*, or updates].
- **FS-2.** Resource Advisors will be designated to coordinate natural resource concerns, including Federally protected species. They will also serve as a field contact representative responsible for coordination with the USFWS. Duties will include identifying protective measures endorsed by the Field Office Manager, and delivering these measures to the Incident Commander; surveying prospective campsites, aircraft landing and fueling sites; and performing other duties necessary to ensure adverse effects to Federally protected species and their habitats are minimized. On-the-ground monitors will be designated and used when fire suppression activities occur within identified occupied or suitable habitat for Federally protected species.
- **FS-3.** All personnel on the fire (firefighters and support personnel) will be briefed and educated by Resource Advisors or designated supervisors about listed species and the importance of minimizing impacts to individuals and their habitats. All personnel will be informed of the conservation measures designed to minimize or eliminate take of the species present. This information is best identified in the incident objectives.
- **FS-4.** Permanent road construction will not be permitted during fire suppression activities in habitat occupied by Federally protected species. Construction of temporary roads is approved only if necessary for safety or the protection of property or resources, including Federally protected species habitat. Temporary road construction will be coordinated with the USFWS, through the Resource Advisor.
- **FS-5.** Crew camps, equipment staging areas, and aircraft landing and fueling areas will be located outside of listed species habitats, and preferably in locations that are disturbed. If camps must be located in listed species habitat, the Resource Advisor will be consulted to ensure habitat damage and other effects to listed species are minimized and documented. The Resource Advisor will also consider the potential for indirect effects to listed species or their habitat from the siting of camps and staging areas (e.g., if an area is within the water flow pattern, there may be indirect effects to aquatic habitat or species located off-site).

Species Specific Conservation Measures

The following species-specific conservation measures will be applied during wildfire suppression to the extent possible, and will be required during fuels treatment activities. Necessary modifications of the conservation measures or impacts to Federally protected species and habitat during fire suppression operations will be documented by the Resource Advisor, and coordinated with the USFWS.

Cactus ferruginous pygmy-owl

- **FP-1.** Treatment of riparian habitat, Sonoran desert/desertscrub, or mesquite-invaded grasslands under 4,000 feet in elevation that may support nesting cactus ferruginous pygmy owls will only occur during the non-nesting season of August 1 to January 31, unless pre-project surveys indicate the area does not support pygmy-owls or mitigation plans approved by the USFWS have alleviated negative consequences.

- **FP-2.** Develop mitigation plans in coordination with the USFWS for fuels treatment projects (mechanical, chemical, or biological treatments) that may adversely affect cactus ferruginous pygmy-owls or their habitat. Mitigation plans will be approved by the USFWS.
- **FP-3 (Recommended).** To the extent possible, maintain habitat features necessary to support breeding populations of the pygmy-owl within their historic range and review ongoing fire management activities for effects on essential habitat features needed by cactus ferruginous pygmy-owls. 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 (w/in the last 10 years) occupied habitat.

Flowering Plants

The following conservation measures for known locations and unsurveyed habitat of all Federally protected plant species within the planning area will be implemented during fire suppression to the extent possible, and are mandatory for fuel treatment activities:

- **PL-1.** Known locations and potential habitat for plant populations will be mapped to facilitate planning for vegetation treatments, and to ensure protection of these populations during fire suppression.
- **PL-2.** BLM will coordinate with USFWS to delineate buffer areas around plant populations prior to vegetation treatment activities. BLM will coordinate with USFWS during any emergency response to ensure protection of plant populations from fire and fire suppression activities.
- **PL-3.** During fire suppression, in habitat occupied by federally protected plant species, no staging of equipment or personnel will be permitted within 100 meters of identified individuals or populations, nor will off-road vehicles be allowed within the 100- meter buffer area, unless necessary for firefighter or public safety or the protection of property, improvements, or other resources (see **FS-7**). One of the primary threats to many of these plant species is trampling/crushing from personnel and vehicles.

Lesser long-nosed bat

- **LB-1.** Instruct all crew bosses (wildfire suppression and mechanical, chemical, biological treatments) in the identification of agave and columnar cacti and the importance of their protection.
- **LB-2.** Prior to implementing any fuels treatment activities (mechanical, chemical, biological treatments), preproject surveys will be conducted for paniculate agaves and saguaros that may be directly affected by fuels management activities.
- **LB-3.** Protect long-nosed bat forage plants—saguaros and high concentrations of agaves—from wildfire and fire suppression activities, and from modification by fuels treatment activities (mechanical, chemical, biological treatments), to the greatest extent possible. Agave concentrations are contiguous stands or concentrations of more than 20 plants per acre. Avoid driving over plants, piling slash on top of plants, and burning on or near plants. Staging areas for fire crews or helicopters will be located in disturbed sites, if possible.

- **LB-4.** No seeding/planting of nonnative plants will occur in any wildfire rehabilitation site or fuels treatment site with paniculate agaves or saguaros.
- **LB-5.** A mitigation plan will be developed by the Bureau in coordination with the USFWS for fuels management projects (mechanical, chemical, biological treatments) within 0.5 mi of bat roosts or in areas that support paniculate agaves or saguaros. The mitigation plan will ensure that effects to bat roosts and forage plants are minimized and will include monitoring of effects to forage plants. The plan will be approved by the USFWS.
- **LB-6 (Recommended).** BLM personnel will examine concentrations of agaves (including shindagger (*A. schottii*) within each proposed fuels treatment area, and protect from treatments any significant concentrations of agaves that appear to be amidst fuel loads that could result in mortality greater than 20 percent (>50% for *A. schottii*). BLM personnel will use their best judgment, based on biological and fire expertise, to determine which significant agave stands are prone to mortality greater than 20 percent (>50% for *A. schottii*).

Desert tortoise, Sonoran population

Implement the conservation measures for desert tortoise, as appropriate, for fire suppression and fuels treatment activities (mechanical, chemical, biological treatments), excluding requirements for notification to USFWS.

Conservation Measures for Desert tortoise

- **DT-1.** Take appropriate action to suppress all wildfires in desert tortoise habitat, based on preplanned analysis and consistent with land management objectives, including threats to life and property. Full suppression activities will be initiated within key desert tortoise habitat areas identified in site-specific Fire Management Plans.
- **DT-2.** Suppress all wildfires in desert tortoise habitat with minimum surface disturbance, in accordance with the guidelines in Duck et al. (1995) and the 1995 programmatic BO on fire suppression on the Arizona Strip (2-21-95-F-379).
- **DT-3.** Pre-position suppression forces in critical areas during periods of high fire dangers.
- **DT-4.** As soon as practical, all personnel involved in wildfire suppression (firefighters and support personnel) will be briefed and educated about desert tortoises and the importance of protecting habitat and minimizing take, particularly due to vehicle use. Fire crews will be briefed on the desert tortoise in accordance with Appendix II of Duck et al. (1995).
- **DT-5.** If wildfire or suppression activities cannot avoid disturbing a tortoise, the Resource Advisor or monitor will relocate the tortoise, if safety permits. The tortoise will be moved into the closest suitable habitat within 2 miles of the collection site that will ensure the animal is reasonably safe from death, injury, or collection associated with the wildfire or suppression activities. The qualified biologist will be allowed some discretion to ensure that survival of each relocated tortoise is likely. If the extent or direction of movement of a fire makes sites within 2 miles of the collection site unsuitable or hazardous to the tortoise or biologists attempting to access the area, the tortoise may be held until a suitable site can be found or habitat is safe to access and not in immediate danger of burning. The Resource Advisor will contact the USFWS Arizona Ecological Services Field Office (AESFO) as soon as possible concerning disposition of

any animals held for future release. Desert tortoises will not be placed on lands outside the administration of the Federal government without the written permission of the landowner. Handling procedures for tortoises, including temporary holding facilities and procedures, will adhere to protocols outlined in Desert Tortoise Council (1994).

- **DT-6.** Upon locating a dead, injured, or sick desert tortoise, initial notification must be made to the appropriate USFWS Law Enforcement Office within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph, and any other pertinent information. The notification will be sent to the Law Enforcement Office with a copy to the AESFO.
- **DT-7.** Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. If possible, the remains of intact desert tortoises will be placed with educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted above will be obtained and the carcass left in place. Arrangements regarding proper disposition of potential museum specimens will be made with the institution prior to implementing the action. Injured animals will be transported to a qualified veterinarian by an authorized biologist. Should any treated desert tortoise survive, the USFWS will be contacted regarding final disposition of the animal.
- **DT-8.** The Resource Advisor or monitor(s) will maintain a record of all desert tortoises encountered during fire suppression activities. This information will include for each desert tortoise: (1) locations and dates of observation; (2) general condition and health, including injuries and state of healing, and whether animals voided their bladders; (3) location moved from and to; and (4) diagnostic markings (i.e., identification numbers of marked lateral scutes). No notching of scutes or replacement of fluids with a syringe is authorized.
- **DT-9.** Prior to moving a vehicle, personnel will inspect under the vehicle for tortoises. If a tortoise is found under the vehicle, the tortoise will be allowed to move away from the vehicle on its own accord, if possible. Otherwise an individual will move the tortoise to a safe locality in accordance with **FS-2** and **DT-5**.
- **DT-10.** Off-road vehicle activity will be restricted to the minimum necessary to suppress wildfires. Vehicles will be parked as close to roads as possible, and vehicles will use wide spots in roads or disturbed areas to turn around. Whenever possible, a biologist or crewperson trained to recognize tortoises and their shelter sites will precede any vehicle traveling off-road to direct the driver around tortoises and tortoise burrows. Whenever possible, local fire-fighting units will provide direction and leadership during off-road travel because of their expertise and knowledge of area sensitivities.
- **DT-11.** Fire-related vehicles will drive slow enough to ensure that tortoises on roads can be identified and avoided.
- **DT-12.** Fire crews or rehabilitation crews will, to the extent possible, obliterate off-road vehicle tracks made during fire suppression in tortoise habitat, especially those of tracked vehicles, to reduce future use.
- **DT-13.** To the maximum extent practical, campsites, aircraft landing/fueling sites, and equipment staging areas will be located outside of desert tortoise habitat or in previously disturbed areas. If

such facilities are located in desert tortoise habitat, 100 percent of the site will be surveyed for desert tortoises by a qualified biologist approved by BLM, whenever feasible. Any tortoises found will be moved to a safe location in accordance with **FS-2** and **DT-5**. All personnel located at these facilities will avoid disturbing active tortoise shelter sites.

- **DT-14.** Elevated predation by common ravens or other predators attributable to fire suppression activities will be reduced to the maximum extent possible. Work areas, including campsites, landing/fueling sites, staging areas, etc. will be maintained in a sanitary condition at all times. Waste materials at those sites will be contained in a manner that will avoid attracting predators of desert tortoises. Waste materials will be disposed of at an appropriate waste disposal site. “Waste” means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
- **DT-15.** Backfiring operations are permitted where necessary in desert tortoise habitat. Burning out patches of identified habitat within or adjacent to burned areas is not permitted as a standard fire suppression measure unless necessary for firefighter or public safety or to protect property, improvements, or natural resources.
- **DT-16.** Use of foam or retardant is authorized within desert tortoise habitat.
- **DT-17.** Rehabilitation of vegetation in tortoise habitat will be considered, including seeding, planting of perennial species, etc.
- **DT-18.** Recovery of vegetation will be monitored, including establishing and monitoring paired plots, inside and outside burned areas in tortoise habitat. Recovery plans will be coordinated with the USFWS and AGFD.
- **DT-19.** The effectiveness of wildfire suppression activities and desert tortoise conservation measures will be evaluated after a wildfire. Procedures will be revised as needed.