

**United States Department of the Interior  
U.S. Fish and Wildlife Service  
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AESO/SE  
22410-2007-F-0011

October 12, 2006

Memorandum

To: District Manager, Arizona Strip District, Bureau of Land Management, St. George, Utah

From: Field Supervisor

Subject: Biological Opinion for Fire Rehabilitation Plans in the Pakoon Basin

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated September 28, 2006, and received by us on September 28, 2006. At issue are impacts that may result from the proposed Fire Rehabilitation Plans in Mojave Desert Tortoise Habitat in the Pakoon Basin, located in Mohave County, Arizona. The proposed action may affect the threatened Mojave desert tortoise (*Gopherus agassizii xerobates*) and its designated critical habitat.

This biological opinion is based on information provided in your September 2006 biological evaluation, the Documentation of Land Use Plan Conformance and National Environmental Policy Act (NEPA) Adequacy (DNA) for Tortoise Fire Rehabilitation (DNA-AZ-130-2006-0056), telephone conversations, literature, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, stabilization and rehabilitation activities and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

The proposed action is similar to and located in the same area as the Fire Rehabilitation Plans in Mohave Desert Tortoise Habitat, for which you consulted with us earlier in 2006 (USFWS 2006). Information from that consultation and biological opinion are incorporated herein by reference.

## CONSULTATION HISTORY

September 15, 2005: You contacted us about plans to reseed desert tortoise habitat burned by wildfires in 2006.

September 28, 2006: We received the biological evaluation and request for formal consultation.

October 5, 2006: By email, you modified your request for formal consultation to include effects to Mohave desert tortoise critical habitat.

## BIOLOGICAL OPINION

### DESCRIPTION OF THE PROPOSED ACTION

The Bureau of Land Management (BLM) proposes to stabilize soils in three wildfire areas that burned during summer 2006 and initiate vegetative recovery of burned Mojave desert tortoise critical habitat through a variety of treatments. Approximately 7,000 acres are located within the Gold Butte-Pakoon desert tortoise critical habitat unit and contain suitable habitat for desert tortoise (Table 1). Cottonwood, Hungry, and Jacob '06 fires are located in the northwestern portion of the Pakoon Basin.

Except for fence construction, treatments in these wildfire areas will be conducted concurrently with the treatments of the 2005 wildfires previously consulted on with us (USFWS 2006). BLM will use a combination of treatments, including aerial seed application, mechanical seed incorporation, and grazing exclusion (fencing) to rehabilitate portions of each fire. A portion of each fire will not be treated (a total of 2,949 acres in the three areas) because adequate vegetation remains. Individual treatment locations have been delineated and mapped (Figures 1-3), and acres for each treatment are included in Table 2.

#### Access

Treatment crews will access the Cottonwood fire by 0.8 mile of cross-country travel outside of desert tortoise habitat. Access to the Hungry fire will be by 1.0 mile of cross-country travel, part of which is within suitable desert tortoise habitat (category 3). Access to the Jacob '06 fire will be along an existing road. As with 2005 Fire Rehabilitation Plans, new trails will be accessed only with all-terrain vehicles (ATVs), will be visually obscured from existing roads to discourage use, and will be rehabilitated following implementation of the treatments.

#### Seeding

BLM proposes to apply a seed mix of native species to each of the fires (Table 2), totaling 2,194 acres. Seed will be applied by helicopter between October 16 and November 1, 2006 and will include (depending on seed availability):

Sand dropseed (*Sporobolus cryptandrus*)  
 Western wheatgrass (*Agropyron smithii*)  
 Desert needlegrass (*Stipa speciosa*)  
 Big galleta (*Hilaria rigida*)  
 Desert marigold (*Baileya multiradiata*)  
 Palmer's penstemon (*Penstemon palmeri*)  
 White evening primrose (*Oenothera caespitosa*)  
 Arizona lupine (*Lupinus arizonicus*)  
 Creosotebush (*Larrea tridentata*)  
 Nevada ephedra (*Ephedra nevadensis*)

### Seed Incorporation

Between November 1, 2006 and March 15, 2007, BLM will incorporate seed on 36.8 acres of the reseeded area by dragging small bushy trees or shrubs behind ATVs on each of the fires (Table 2).

### Fence Construction

As with the 2005 wildfire rehabilitation plans (BLM 2006), treatments will be protected from grazing pressure from livestock and burros to promote plant establishment. The BLM proposes to construct a total of about 28 miles of fence to temporarily exclude grazing from each fire (Table 2). Fences will be constructed during the desert tortoise dormant season (October 15 to March 15) and after seed incorporation. ATVs will be used to transport fence materials; tracks will be obliterated following construction. The fence around each fire will remain in place until treatment objectives are met, or until BLM determines that objectives cannot be met.

### Monitoring

Treatments in each fire area will be monitored at either existing or new monitoring sites. The monitoring protocol is the same as that proposed for the 2005 wildfire plans (BLM 2006).

BLM will also monitor noxious weeds and evaluate any proposed weed treatments through site-specific NEPA analysis. Potential impacts from these treatments have not been considered in this biological opinion and may require consultation in the future.

### Conservation Measures

Conservation measures are the same as those included in the 2005 wildfire plans, except for a measure excluded here because it is applicable only to the 2005 Nevershine Fire.

1. An authorized biologist or desert tortoise monitor<sup>1</sup> will present a desert tortoise education program to all project personnel who may encounter tortoises during project activities, prior to initiation of activities that may result in disturbance of desert tortoise habitat or death or injury of tortoises. The program instructor will sign the attendance roster for this program, as will those in attendance, and the roster will be submitted with the annual report documentation. The education program will include the following:

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<sup>1</sup> Responsibilities and qualifications for desert tortoise monitors and authorized biologists are found in Appendix A.

- Legal protection of the desert tortoise and sensitivity of the species to human activities;
  - A brief discussion of desert tortoise distribution and ecology;
  - The conservation measures and terms and conditions of this biological opinion;
  - Project features designed to reduce adverse effects to desert tortoises and their habitat, and to promote the species' long-term survival;
  - Protocols to use during encounters with desert tortoises and associated reporting requirements. Currently, the FWS-approved protocol is the Desert Tortoise Council document *Guidelines for handling desert tortoises during construction projects*; and
  - The definition of take and penalties for violations of Federal and State laws.
2. Areas that will be disturbed due to ATV use during access, seed incorporation, and fence construction will be flagged or marked on the ground prior to these activities.
  3. The BLM will ensure that tortoise burrows are avoided whenever possible and that disturbance is limited to the minimum necessary. If a tortoise is found onsite during project activities and is in harm's way, the tortoise shall be moved by a desert tortoise monitor or authorized biologist. If a qualified individual is not onsite, all activities that could create harm to the tortoise will cease until the tortoise moves out of harm's way on its own volition.
  4. Seed will be incorporated when tortoises are most likely to be inactive (October 15 through March 15).
  5. During use of mechanical equipment on all portions of the project areas that are within desert tortoise habitat, a desert tortoise monitor or authorized biologist will walk ahead of the equipment to watch for any tortoises. If a tortoise is encountered, it will be allowed to move out of harm's way on its own or will be moved by the monitor or authorized biologist. The monitor will maintain a record of all desert tortoises encountered during project activities that includes:
    - Locations and dates of observation
    - General condition and health of the tortoise
    - Whether the animal voided its bladder
    - If moved, location moved from and to
    - Any diagnostic markings

6. During seed incorporation and fence construction, ATVs and seed incorporation devices will avoid existing live native shrubs.
7. Prior to moving any 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 a desert tortoise monitor or authorized biologist will move the tortoise to a safe locality.
8. A litter-control program will be implemented to reduce the attractiveness of the area to opportunistic predators such as desert kit fox (*Vulpes macrotis*), coyotes (*Canis latrans*), and common ravens (*Corvus corax*). Trash and food items will be disposed of properly in predator-proof containers with re-sealing lids. Trash containers will be emptied and removed from the area and disposed of in an approved landfill at the conclusion of the activity.

## **STATUS OF THE SPECIES**

### **MOJAVE DESERT TORTOISE**

#### **Status of the Species**

The status of the Mohave desert tortoise and its critical habitat is the same as that described in USFWS (2006).

## **ENVIRONMENTAL BASELINE**

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

### **A. STATUS OF THE SPECIES WITHIN THE ACTION AREA**

The action area is defined as that portion of the Pakoon Basin that includes the Cottonwood, Hungry, and Jacob '06 fires and the access routes to these fires. Proposed stabilization and rehabilitation activities would occur in the Pakoon Basin, Grand Canyon-Parashant National Monument, northwestern Mohave County, Arizona. The three wildfire sites in this proposed action are located in the same critical habitat unit (Gold Butte-Pakoon) and general area described in USFWS (2006). For the purposes of this consultation, we are defining suitable desert tortoise habitat as those areas that BLM previously categorized as desert tortoise habitat (within the action area, these include only category 3 habitat). Desert tortoise habitat categories serve to identify, via on-the-ground inspections, those areas containing habitat features essential for desert tortoise survival.

The status of the desert tortoise and its critical habitat in the action area is the same as described in USFWS (2006); acres of critical habitat and suitable (categorized) desert tortoise habitat for

the 2006 wildfires proposed for treatment are listed in Table 1. Wildfires during summer 2005 burned a total of 89,444 acres within the Pakoon Basin of the Grand Canyon Parashant National Monument and 36,057 acres in the critical habitat unit. During summer 2006, an additional 14,500 acres burned in the same basin, with about 7,500 acres in the critical habitat unit. As a result of these wildfires, the condition of tortoise habitat has continued to decline in the basin, with much of the perennial forb and shrub cover removed by the fires. Some plants re-sprouted following monsoon rains of 2005 and 2006. We believe that through successful rehabilitation and appropriate management of other uses, such as livestock grazing and dispersed recreation, these areas can recover and reestablish the vegetative characteristics of suitable desert tortoise habitat.

## **B. FACTORS AFFECTING SPECIES' ENVIRONMENT WITHIN THE ACTION AREA**

Factors affecting the desert tortoise and its habitat in the action area remain unchanged from those described in USFWS (2006).

Livestock grazing is currently permitted on most of the wildfire areas proposed for treatment. A portion of the Cottonwood fire is located within the Pakoon Springs Allotment, where grazing is not authorized; however, some trespass cattle remain in the area.

## **EFFECTS OF THE ACTION**

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Except for number of acres treated, the effects of the treatments on desert tortoise and its habitat are the same as those described in USFWS (2006). Table 2 lists the acreage affected by each component of the project within each fire area. Project activities with the potential to directly and indirectly affect desert tortoises will occur in suitable and occupied desert tortoise habitat, and in designated critical habitat. Primary constituent elements of desert tortoise critical habitat that would be affected by the treatments are: sufficient quality and quantity of forage species and proper soil conditions to provide for the growth of these species; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality. Vegetation on an estimated 57 acres of critical habitat may be disturbed by project activities (seed incorporation, fence construction, and access to and within project sites). USFWS (2006) contains a complete description of these effects on desert tortoise and its critical habitat.

In summary, there may be effects that directly impact tortoises and their habitat, including possible injury and/or mortality. Short-term disturbance to desert tortoise critical habitat will also occur. Over the long-term, we expect the condition of critical habitat to remain stable or improve due to the treatments.

## CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Portions of the Jacob '06 and Cottonwood fires are located on Arizona State Trust land; the rest of the sites are located on BLM-administered lands. Livestock grazing is administered by the Arizona State Land Department on state lands within this area and is expected to continue. A few trespass cattle continue to occur in areas closed to livestock grazing. BLM limits off-highway vehicle travel to existing roads, trails, and washes, but occasionally travel occurs off of these existing routes. Because of the remote location of these lands, there is little other human activity occurring or expected in the future other than fire suppression, and little potential for future development.

## CONCLUSION

After reviewing the current status of Mojave desert tortoise, the environmental baseline for the action area, the effects of the proposed fire rehabilitation plans, and the cumulative effects, it is the FWS's biological opinion that the fire rehabilitation plans, as proposed, are not likely to jeopardize the continued existence of the Mojave desert tortoise, and are not likely to destroy or adversely modify designated critical habitat. This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.2. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat. We present these conclusions for the following reasons:

- Desert tortoise density in the action area is very low. The timing and duration of ground-disturbing activities will minimize direct impacts to desert tortoise. Following disturbance resulting from the treatment activities, we anticipate that the revegetation efforts will eventually result in improved habitat conditions for desert tortoise at these sites.
- The proposed project would result in approximately 57 acres of short-term disturbance within desert tortoise critical habitat which, even when combined with the acres treated in the 2005 wildfire plans, would involve less than 0.01 percent of the 6.4 million acres of designated critical habitat for the desert tortoise across its range. Because the physical constituent elements of critical habitat will persist in the project area, biological constituent elements were previously impacted by wildfires, and the goal of the project is to restore native vegetation, we anticipate that critical habitat will continue to serve its role in recovery of the desert tortoise following completion of the project.

The conclusions of this biological opinion are based on full implementation of the project as described in the Description of the Proposed Action section of this document, including any Conservation Measures that were incorporated into the project design.

## INCIDENTAL TAKE STATEMENT

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

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

### AMOUNT OR EXTENT OF TAKE

The FWS anticipates that the following incidental take of desert tortoises could occur as a result of treatment activities during implementation of the fire rehabilitation plans. This incidental take is expected to be in the form of harassment (moving tortoises out of harm’s way), harm (injury from ATVs during fence construction and/or seed incorporation), or mortality (crushing by ATVs).

1. All desert tortoises found in harm’s way may be captured and moved. We estimate that no more than three tortoises will be harassed by project activities.

This estimate of incidental take is based on the small number of desert tortoises likely to occur in the action area, the ability of approved biological monitors to detect and move adult tortoises, the timing of most project activities during the tortoise dormant season, and the short duration but high intensity of the ground-based activity during fence construction and seed incorporation treatments.

The Fish and Wildlife Service will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§

703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

### **EFFECT OF THE TAKE**

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

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

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

The following reasonable and prudent measures and terms and conditions are necessary and appropriate to minimize take of Mojave desert tortoise:

1. The following personnel are approved to conduct tortoise monitor and authorized biologist activities, as described in the proposed action and in Appendix A:

Desert tortoise monitor: Kathleen Harcksen (BLM)

Authorized biologist: Mike Herder (BLM)

- A. To ensure that qualified individuals are conducting tortoise-related activities in conjunction with this project (education program, surveys to locate tortoises and/or burrows prior to surface-disturbing activities, moving tortoises out of harm's way), the above approved personnel submitted qualifications statements to FWS during consultation on the 2005 fire rehabilitation plans (USFWS 2006). If these activities will continue beyond January 1, 2007, these individuals must submit updates to these statements to FWS by December 15, 2006, and annually thereafter.
  - B. BLM shall submit an annual report of the tortoise-related activities conducted in conjunction with this project (see conservation measures 1 and 5 and term and condition 2.B., below).
2. The BLM shall monitor incidental take and habitat recovery resulting from the proposed action and report to the FWS the findings of that monitoring.
    - A. To ensure that the protective measures are effective and are being properly implemented, BLM shall contact FWS immediately if a desert tortoise is killed or injured by project activities. Contact the Arizona Ecological Services, Flagstaff Suboffice at (928) 226-0614. At that time, FWS and BLM shall review the circumstances surrounding the incident to determine whether additional protective measures are required. Project activities may continue pending the outcome of this review, provided that the protective measures and any appropriate terms and conditions of this biological opinion have been and continue to be implemented.

- B. The BLM shall monitor the project area and access routes that could be affected by the proposed action to ascertain take of desert tortoise and/or loss of its habitat that causes harm or harassment to the species, and submit annual monitoring reports to the Arizona Ecological Services Office (AESO) by January 1 of each year, beginning in 2007.
- i. For calendar year 2006, the report shall document the implementation of conservation measures intended to avoid incidental take, any instances of incidental take, and recommendations for modifying or refining the conservation measures to enhance listed species protection or reduce unnecessary survey requirements.
  - ii. For subsequent years until a final report on the rehabilitation effort is produced, these annual reports shall briefly document for the previous calendar year a summary of that year's vegetation monitoring studies, any observations of tortoises or tortoise sign in the monitoring locations, and, if any tortoises are found dead, suspected cause of mortality.

Review requirement: 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. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The BLM must immediately provide an explanation of the causes of the taking and review with the AESO the need for possible modification of the reasonable and prudent measures.

### **Disposition of Dead or Injured Listed Species**

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 W. Broadway Rd, Suite 113, Mesa, Arizona, 85202, telephone: 480/967-7900) 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 if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We recommend that the BLM:

1. Fund, aid, or establish research studies to determine methods for reducing alien annual grasses in desert tortoise habitat.
2. Fund, aid, or establish research studies to determine the effects of herbicide applications on the desert tortoise and its habitat.
3. Actively participate in the revision of the Desert Tortoise Recovery Plan and in implementation of recovery actions for the desert tortoise.
4. Ensure that livestock grazing does not occur within recently burned areas of critical habitat for the desert tortoise until the native vegetative community has fully recovered.
5. Stage fire-fighting resources in the Pakoon Basin during periods when threat of wildfire is high.

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

#### **REINITIATION NOTICE**

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The FWS appreciates the Bureau of Land Management's efforts to identify and minimize effects to listed species from this project. For further information please contact Brenda Smith (x101) at (928) 226-0614. Please refer to consultation number, 22410-2007-F-0011, in future correspondence concerning this project.

Steven L. Spangle

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)  
Assistant Field Supervisor, Fish and Wildlife Service, Phoenix, AZ (Attn: Jeff Servoss)  
Roy Averill-Murray, Fish and Wildlife Service, Desert Tortoise Recovery Office, Reno, NV  
Regional Director, Bureau of Indian Affairs, Phoenix, AZ  
Chairperson, Kaibab Band of Paiute Indians, Fredonia, AZ (Attn: Danny Bullets)  
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ  
Regional Supervisor, Arizona Game and Fish Department, Flagstaff, AZ

W:\Brenda Smith\Final BO 2006 fire rehab.doc:egg

**LITERATURE CITED**

Bureau of Land Management. 2006. Environmental assessment for rehabilitation of burned tortoise habitat, finding of no significant impact and decision record, July 2006. EA-AZ-130-2006-0008.

U.S. Fish and Wildlife Service. 2006. Biological opinion for fire rehabilitation plans in Mohave Desert Tortoise Habitat. 02-21-05-F-0772. Arizona Ecological Services Office, Phoenix, AZ.

## TABLES

**Table 1.** Desert tortoise habitat and critical habitat acres within the 2006 wildfires, Grand Canyon-Parashant National Monument, Mohave County, Arizona.

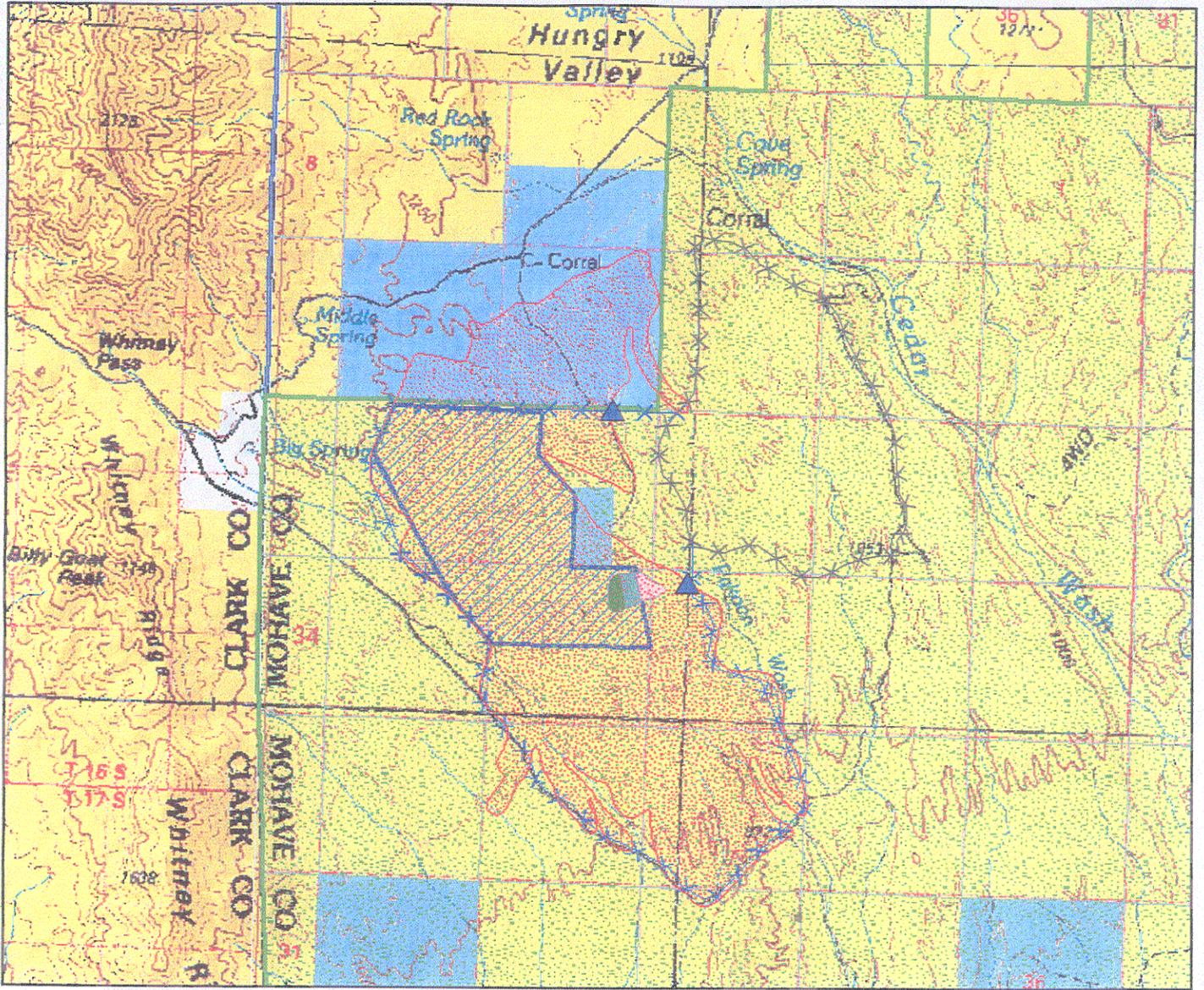
	2006 Wildfires		
	Jacob '06	Hungry	Cottonwood
<b>Acres burned</b>			
<b>Critical habitat unit</b>	2,599	734	3,725
<b>Cat III tortoise habitat</b>	1,521	9	840
<b>Total burned in wildfire</b>	3,339	809	6,123

**Table 2.** Proposed treatments within desert tortoise habitat, 2006 wildfires, Grand Canyon-Parashant National Monument, Mohave County, Arizona.

Treatments	2006 Wildfires		
	Jacob '06	Hungry	Cottonwood
<b>Aerial seeding (acres)</b>			
Critical habitat	995	615	500
(category 3)	300	9	30
<b>Seed incorporation (acres)</b>			
Critical habitat	13.0	8	15.5
(category 3)	13.3	0	0
<b>Fencing (miles)</b>			
Critical habitat	9.5	2.3	14.1
(category 3)	4.5	0.3	6.0

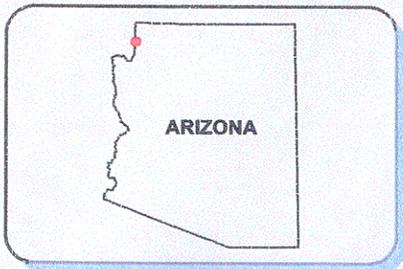
**FIGURES**

**Figure 1.** Jacob '06 fire treatment areas and fence construction.



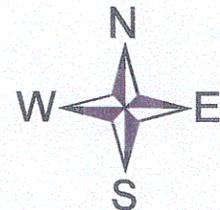
**Legend**

- |   |                           |                          |                        |
|---|---------------------------|--------------------------|------------------------|
| Jacob 06 Fire - 2709 BLM acres          | Bureau of Land Management | National Park Service    | Jacob 06 Fence         |
| Aerial Seeding Application - 1000 Acres | State Lands               | National Recreation Area | Existing Fence         |
| Critical Desert Tortoise Habitat        | Private Lands             | Indian Lands             | Proposed Cattle Guards |

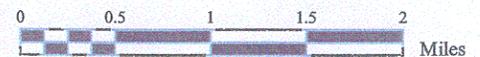


**Jacob 06 Treatment Priority Monitoring Areas**

- |                         |
|-------------------------|
| Seed Only - 12.6 Acres  |
| Seed & Mix - 13.3 Acres |
| Control - 12.6 Acres    |



1:60,000



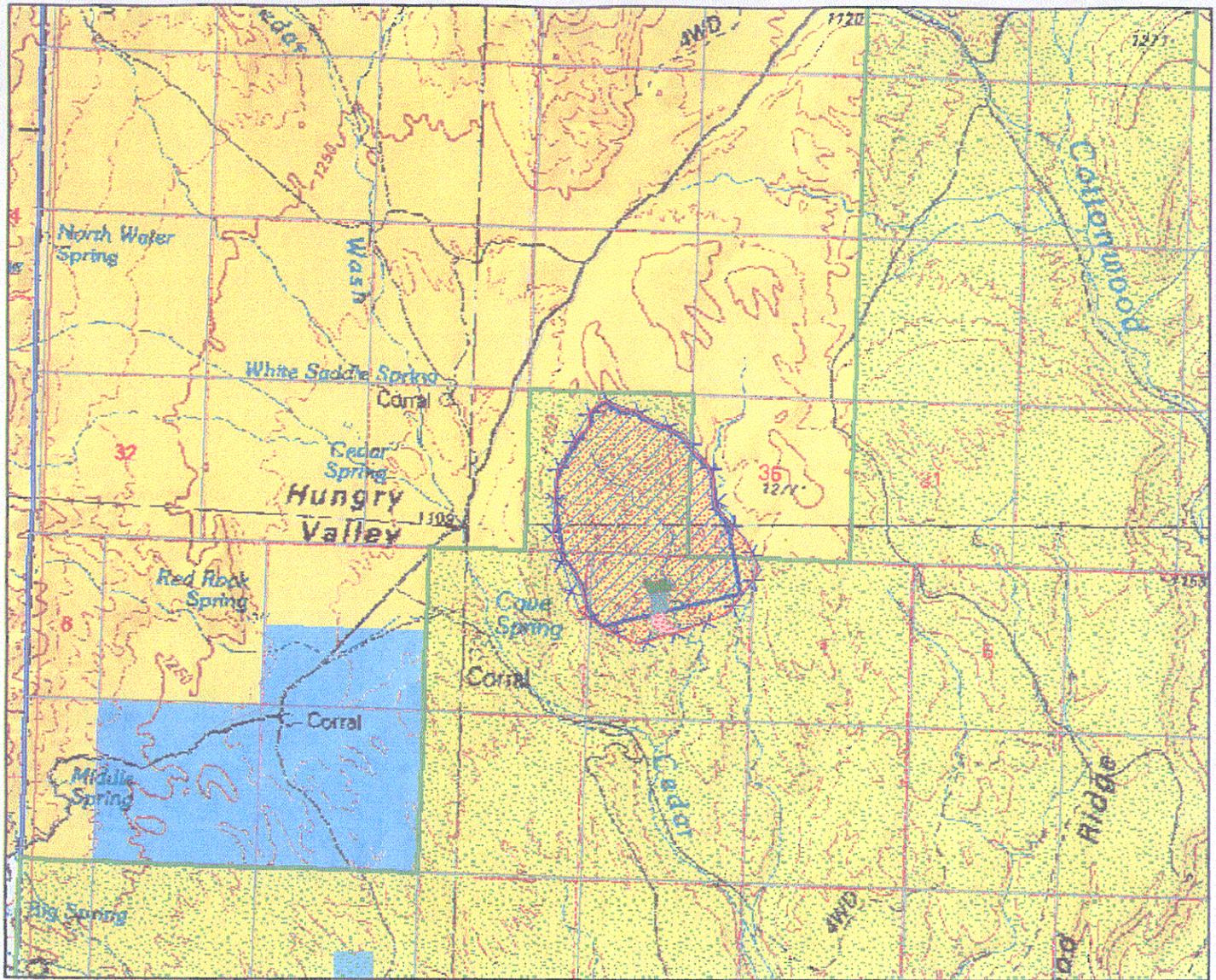
United States Department of the Interior  
 Bureau of Land Management  
 Arizona Strip District Office  
 Map created on August 23, 2006

Legal Land Description  
 BLM-Arizona Strip Field Office  
 T36 N R 16 W  
 Sec 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28 & 34  
 Gila & Salt Meridian

**Figure 2.** Hungry fire treatment areas and fence construction.

**Hungry Fire - 809 Acres**  
**Grand Canyon Parashant National Monument**

**Bureau Of Land Management**  
**State of Arizona**



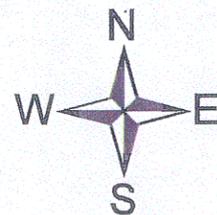
**Legend**

- |  |                           |                          |
|--|---------------------------|--------------------------|
| Hungry Fire - 809 Acres                | Bureau of Land Management | National Park Service    |
| Aerial Seeding Application - 700 Acres | State Lands               | National Recreation Area |
| Critical Desert Tortoise Habitat       | Private Lands             | Indian Lands             |
|  |                           | Hungry Fence             |



**Hungry Treatment Priority Monitoring Areas**

- |                        |
|------------------------|
| Seed Only - 8.0 Acres  |
| Seed & Mix - 8.0 Acres |
| Control - 8.7 Acres    |



1:60,000



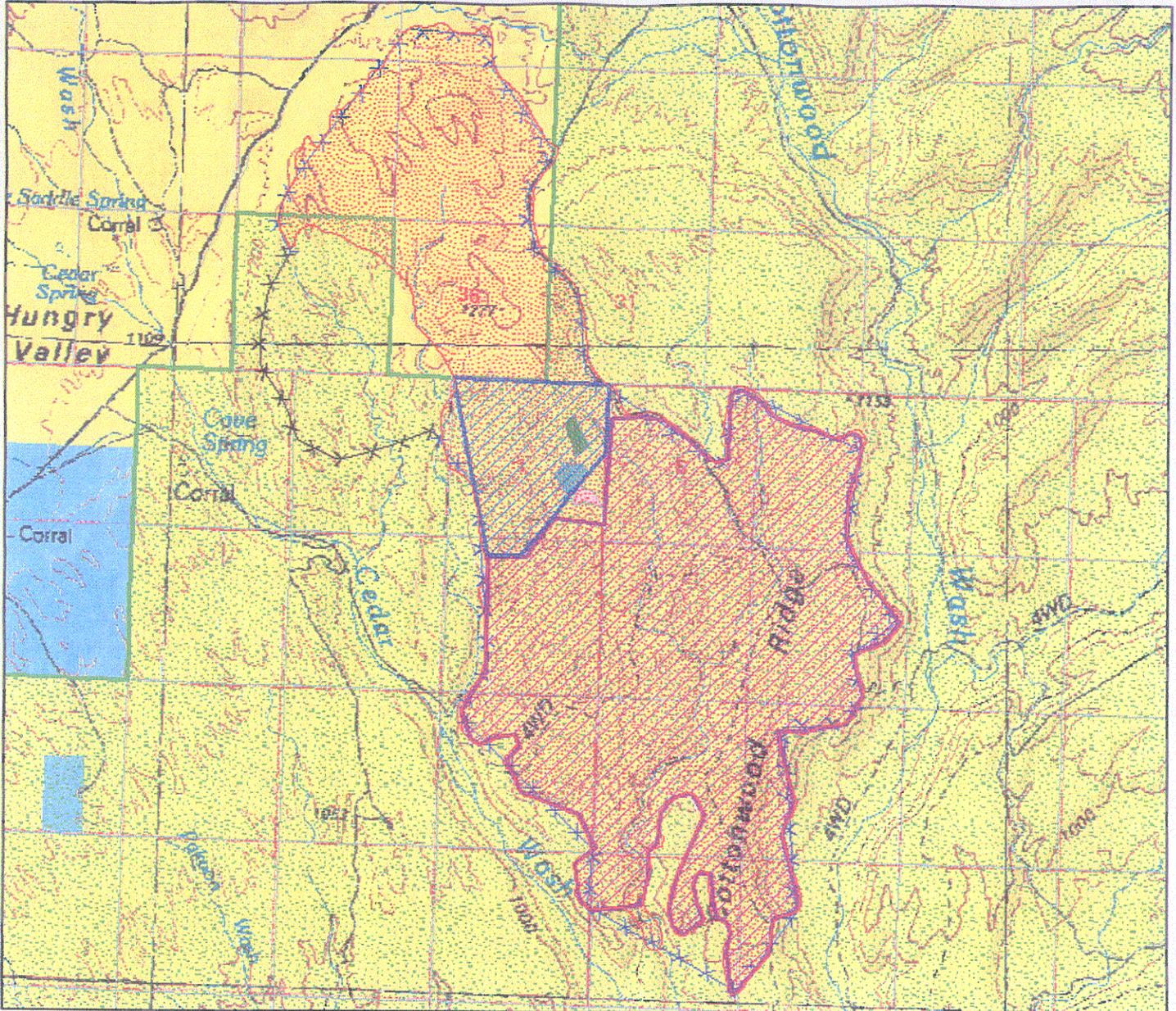
United States Department of the Interior  
 Bureau of Land Management  
 Arizona Strip District Office  
 Map created on August 23, 2006

Legal Land Description  
 BLM-Arizona Strip Field Office  
 T36 N R 16 W, Sec. 1, 2 & 3  
 T37 N R 16 W, Sec. 35 & 36  
 Gila & Salt Meridian

**Figure 3.** Cottonwood fire treatment areas and fence construction.

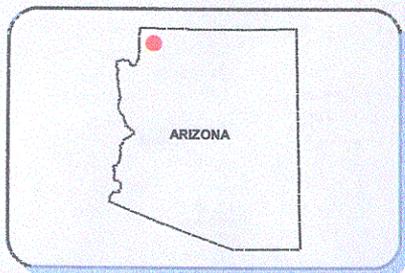
**Cottonwood Fire - 5331 Acres**  
**Grand Canyon Parashant National Monument**

**Bureau Of Land Management**  
**State of Arizona**



**Legend**

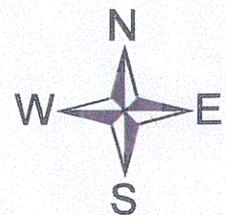
- Cottonwood Fire - 5331 Acres
- Bureau of Land Management
- National Park Service
- Cottonwood Fence - 16.1 miles
- FY06 Aerial Seeding Application - 500 Acres
- State Lands
- National Recreation Area
- Hungry Fence - 2.2 miles
- FY07 Aerial Seeding Application - 3724 Acres
- Private Lands
- Indian Lands
- Critical Desert Tortoise Habitat



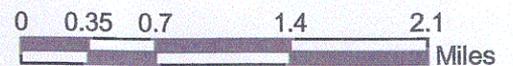
**Cottonwood Treatment Priority Monitoring Areas**

- Seed Only - 12.0 Acres
- Seed & Mix - 15.5 Acres
- Control - 8.8 Acres

Legal Land Description  
 BLM-Arizona Strip Field Office  
 T36 N R 15 W, Sec. 5, 6, 7, 8, 17, 18, 19 & 20  
 T36 N R 16 W, Sec. 1, 2, 12, 13 & 24  
 T37 N R 15 W, Sec. 30, 31 & 32  
 T37 N R 16 W, Sec. 23, 24, 25, 26, 35 & 36  
 Gila & Salt Meridian



1:60,000



United States Department of the Interior  
 Bureau of Land Management  
 Arizona Strip District Office  
 Map created on August 23, 2006

## APPENDIX A

### DESERT TORTOISE MONITOR AND BIOLOGIST RESPONSIBILITIES AND QUALIFICATIONS

**DESERT TORTOISE MONITOR** -- Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol. The monitor will report incidents of noncompliance in accordance with a biological opinion or permit, and move desert tortoises from harm's way when desert tortoises enter project sites and place these animals in "safe areas" pre-selected by Authorized Biologists, or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as "apprentices" to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; "directly supervised" means the Authorized Biologist is in direct voice and sight contact with the Monitor.

**AUTHORIZED BIOLOGIST** – Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with this biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologist must have thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearth and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

The qualifications statements submitted by BLM and approved by FWS for the following individuals for this project are available in the administrative record for consultation 02-21-05-F-0772:

Desert Tortoise Monitor: Kathleen Harcksen  
Authorized Biologist: Michael Herder