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In Reply Refer To:  
AESO/SE  
22410-2007-F-0196

January 29, 2009

Memorandum

To: Field Manager, Yuma Field Office, Bureau of Land Management, Yuma, Arizona

From: Field Supervisor

Subject: Biological Opinion for the Yuma Field Office Resource Management Plan

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 for formal consultation regarding effects of the Bureau of Land Management (BLM) Yuma Field Office Resource Management Plan (RMP) was dated November 26, 2007, and received by us on November 27, 2007. At issue are impacts that may result from the RMP on the following federally-listed species:

- razorback sucker (*Xyrauchen texanus*) and its critical habitat;
- desert tortoise – Mohave Desert population (*Gopherus agassizii*);
- Yuma clapper rail (*Rallus longirostris yumanensis*); and,
- southwestern willow flycatcher (*Empidonax traillii extimus*).

We concur with your effects determination of “may affect, not likely to adversely affect” for the Sonoran pronghorn (*Antilocapra americanus sonoriensis*). Our rationale is presented in Appendix A. The November 26, 2007, memorandum also requested concurrence regarding your determination that implementation of the proposed action may affect, but is not likely to contribute to the need to list the candidate western yellow-billed cuckoo (*Coccyzus americanus*). Other than the applicable conservation measures included in the proposed action (Appendix B), this species is not addressed in this biological opinion (BO).

This BO is based on information provided in the biological assessment (BA), RMP, telephone conversations, email messages, and other sources of information. Literature cited in this BO is not a complete bibliography of all literature available on the species of concern, the type of actions and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

## **CONSULTATION HISTORY**

- November 27, 2007 We received your final biological assessment and request for formal consultation on the Yuma Field Office (YFO) Preliminary RMP and Environmental Impact Statement (EIS).
- May 13, 2008 We requested a 60-day extension from the April 10, 2008, final consultation due date, to June 9, 2008.
- August 22, 2008 We provided a draft biological opinion for your review, and requested a second extension of the consultation period to allow for your review of the draft document.
- December 12, 2008 We received BLM comments on the draft biological opinion.

## **BIOLOGICAL OPINION**

### **INTRODUCTION**

The RMP was prepared to provide management direction for the YFO. A detailed summary of the proposed action is contained in Appendix C of that document. All decisions presented in Alternative E of Chapter 2 of the RMP constitute the proposed action and are incorporated here by reference (USBLM 2006). This BO addresses the anticipated effects of the proposed RMP at the broad-scale planning level. Subsequent site-specific section 7 consultation will be necessary for each discretionary action that may affect federally-listed species.

### **Description of the Planning Area**

The planning area encompasses over 1.3 million acres in La Paz, Maricopa, and Yuma counties in Arizona and Imperial and Riverside counties in California (RMP Map 1-1 USBLM 2006). The planning area follows the Lower Colorado River (LCR) from the town of Poston, Arizona, on the Colorado River Indian Tribes Reservation to the United States-Mexico international border near San Luis, Arizona. The LCR within the planning area is divided into divisions (Map 1):

- Limitrophe - International border at San Luis, Arizona upstream to Morelos Dam;
- Yuma – Morelos Dam to Laguna Dam;
- Laguna - Laguna Dam upstream to Imperial Dam;
- Imperial – Imperial Dam upstream to the south-end of the Cibola National Wildlife Refuge;
- Cibola – South end of Cibola National Wildlife Refuge (NWR) to Taylors Ferry;

- Palo Verde – Taylors’ Ferry to Palo Verde Diversion Dam; and
- Parker – Palo Verde Diversion Dam to Headgate Rock Dam.

Planning area elevations vary from 3,500 feet in the Eagletail Mountains to 100 feet along the LCR near the international border. The planning area lies entirely within the Lower Colorado sub-basin of the Colorado Hydrologic Region, which experiences hot summers, mild winters, low rainfall, high evaporation rates, and low humidity. Approximately 110 days per year have average temperatures over 100 degrees Fahrenheit (°F).

The planning area includes the City of Yuma and the towns of Quartzsite, San Luis, Somerton, and Wellton, Arizona, and Palo Verde and Blythe, California. Adjacent land jurisdictions that require management coordination in this RMP include Arizona Game and Fish Department (AGFD), Arizona State Lands, Luke Air Force – Barry Goldwater Range, other BLM Field Offices (Lake Havasu, Lower Sonoran, and El Centro), Bureau of Reclamation (BOR), California Department of Fish and Game (CDFG), Cibola, Imperial and Kofa National Wildlife Refuges (NWR), Cocopah Indian Reservation, Colorado River Indian Tribes, Quechan Indian Reservation, Marine Corps Air Station – Yuma, U.S. Army Yuma Proving Ground, and private lands within regional irrigation districts.

Land along the LCR was withdrawn by the BOR to accommodate water management projects. The Secretary of the Interior assigned recreation and wildlife-habitat management responsibilities on withdrawn lands to the BLM in coordination with BOR. The BLM is responsible for maximizing opportunities for recreation, wildlife, and other resources not managed by BOR. The BOR retains the responsibility for operation and maintenance of facilities and environmental mitigation and enhancement associated with water delivery on the LCR. YFO coordinated with BOR to ensure the RMP does not propose planning direction that would conflict with existing and planned BOR project activities.

### **Description of the Proposed Action**

The proposed action is implementation by the BLM of the preferred alternative as set forth in the RMP for BLM lands of the YFO in western Arizona and eastern California. Section 202 of the Federal Land Policy and Management Act of 1976 requires the Secretary of the Interior to develop, maintain, and revise land use plans for managing BLM lands. To comply with that Act, the YFO prepared the RMP. The RMP provides for the overall management guidance for administration of the planning area and makes specific land allocation direction regarding identification of lands eligible for disposal, designation of Areas of Critical Environmental Concern (ACECs), and limitation on use of BLM lands by off-highway vehicles (OHVs). The RMP was developed to guide management of BLM lands and resources within the planning area for approximately 15 years.

The direction resulting from the approved RMP and Record of Decision determine which use or combination of uses the YFO will emphasize. Directions also state which uses are not suitable. In certain cases, the directions are specific and immediately implementable (e.g., ACEC and utility corridor designation, and identification of wildlife travel corridors). In other instances, the YFO must prepare more specific activity plans and environmental analyses before implementing

decisions (e.g., Fred J. Weiler Greenbelt Management Plan, locatable mineral withdrawal recommendations, and acquisition, exchange, or disposal of specific tracts of land).

The RMP presents and analyzes issues and management concerns identified by BLM planning team members, interagency consultation, the public, and YFO managers. The RMP focuses on the following 18 resources to implement the proposed action:

### 1. Land Health Standards

All resource activities will meet the Arizona Standards for Rangeland Health and Guidelines for Grazing (Standards and Guidelines). These Standards and Guidelines were developed, pursuant to 43 CFR 4180, by the BLM and the Arizona BLM Resource Advisory Council and were approved by the Secretary of the Interior in 1997. Management actions will promote sufficient vegetation across the landscape to maintain watershed stability, provide forage, improve or restore riparian-wetland functions, enhance groundwater recharge, and satisfy state water quality standards.

### 2. Special Designations Management

The planning area contains a variety of important historical, cultural, scenic, and natural values. Areas of Critical Environmental Concern (ACEC), National Historic Trails, National Recreation Trails, National Byways, and Wilderness designations protect these values. They may also be used to identify and manage areas that are hazardous to human life and property.

#### a. ACEC

Three ACECs, containing 44,700 acres, were re-authorized, designated, or expanded to protect important natural and cultural resources (RMP Table 2-1). ACEC actions include:

- Re-authorization of the existing Big Maria ACEC (4,500 acres), located north of Blythe, California, from the previous RMP (USBLM 1992);
- Designation of the Dripping Springs ACEC (11,700 acres) located in the north end of the New Water Mountains, east of Quartzsite, Arizona; and
- Expansion of the existing Sears Point (Gila River Cultural Area) ACEC, located along the Gila River east of Dateland, Arizona, from 3,700 acres to 28,500 acres.

#### b. Designated Wilderness

YFO manages four wilderness areas in Arizona, including the Eagletail, New Water, Muggins, and Trigo mountains. YFO shares management of four wilderness areas in the BLM California Desert District in California. The Little Picacho and Palo Verde Mountains Wildernesses are co-managed with the El Centro Field Office, and the Big Maria Mountains and Riverside Mountains wildernesses are co-managed with the Palm Springs/South Coast Field Office.

### c. National Byways

The National Byways program was established by the Department of Transportation and Federal Highways Authority under the Intermodal Surface Transportation Efficiency Act of 1991 and reauthorized under the Transportation Equity Act for the 21st Century in 2003. Back Country Byways (BCB) are designated by local BLM units, while National Byways are a designation conferred by Federal and State agencies. The proposed action identifies one proposed National Byway and four proposed BCBs (RMP Table 2-2):

- U.S. Highway 95 (National Scenic Byway)
- Agua Caliente BCB
- Brenda BCB
- Gold Nugget BCB
- Plomosa BCB

### d. Coordinated Management Areas (CMA)

The proposed action continues management of two CMAs and proposes one new CMA. CMAs are established where more than one government jurisdiction manages different resources within an area. The two existing and one proposed CMAs in the Planning Area include:

- Fortuna Pond (30 acres), which is cooperatively managed by the BOR, BLM, and AGFD to provide recreational fishing opportunity;
- Mittry Lake (3,800 acres), which is cooperatively managed by the BOR, BLM, and AGFD to provide wildlife habitat and compatible opportunities for fish- and wildlife-oriented recreation;
- Limitrophe (4,500 acres), which is proposed to be cooperatively managed by BOR, BLM, Department of Homeland Security, Department of State, International Water and Boundary Commission, numerous Tribes, and local law enforcement agencies. This CMA would provide for the protection of riparian, wildlife, and Tribal traditional use in balance with international border safety and health issues.

## 3. Vegetation Management

### A. Desired Plant Communities

The RMP identifies seven different plant communities within the planning area in which specific desired future conditions would be applied, including:

- Mixed Riparian Habitat and Wetland

- Mesquite Bosques/Woodlands
- Desert Wash Woodlands
- Paloverde-Mixed Cacti on Bajadas and Rocky Slopes
- Creosote-Bursage
- Mountain Uplands
- Dune Complexes

#### B. Vegetation Habitat Management Areas

The RMP proposes three Vegetation Habitat Management Areas (VHA) in the planning area:

- Elephant Tree Community VHA (10,000 acres), which is located in the Gila Mountains and supports one of the larger elephant tree stands in the United States.
- Blue Sand Lily Community VHA (500 acres), which is located on stabilized dunes on the Gila River Mesa and is the northernmost known population of this plant species.
- Fred J. Wieler Greenbelt (12,400 acres), which includes a number of isolated BLM-parcels of riparian vegetation along the Gila River (YFO and Lower Sonoran Field Office). Originally established as a Resource Conservation Area in 1970, it will continue to be managed to benefit wildlife, recreation, cultural resources, flood and erosion control, and water conservation.

#### C. Invasive or Noxious Species Management

The YFO will cooperate with other authorities to educate the public about the risks to the environment from invasive and noxious weed species. The YFO will research the means to control invasive species, monitor the resources affected, and implement control actions where needed in the action area. The YFO will encourage the use of weed-free certified hay for all wildernesses, wilderness study areas, lands allocated for wilderness characteristics, and Wildlife Habitat Areas (WHA). YFO will encourage the use of these forages for all other public lands within the Planning Area. The YFO will also require that all contractors and employees clean vehicles after traveling in areas with high noxious or invasive weed infestations.

#### D. Vegetation Use Authorization

YFO manages vegetation for habitat, multiple use, and sustained yield. The desired future conditions ensure that vegetation resources are used at a sustainable level and that appropriate levels of dead, downed, and detached wood are present to provide wildlife habitat and reduce soil erosion.

The following applies to the entire planning area:

- Wood cutting of native species for commercial or household wood use is not allowed.
- Commercial seed collection would require a permit on YFO-administered lands and would follow approved protocol.
- Plant salvage, during authorized ground-disturbing activities, would be allowed within the planning area on a case-by-case basis.
- Scientific collection of vegetative materials, including seeds, would be permitted where appropriate through an annual letter of permission by the Arizona BLM State Office.
- Recognized Indian tribes or Tribal members may collect non-commercial, personal use quantities of herbals, medicinals, traditional use items, or items necessary for traditional, religious, or ceremonial purposes.
- The public may collect dead and downed wood for personal campfire use while camping on YFO-administered land. The public does not need written authorization to collect small amounts of commonly available renewable resources such as flowers, berries, nuts, seeds, cones, and leaves for non-commercial purposes. Saguaro skeletons may not be collected for personal use or burned in campfires. The collection and possession of ironwood at any one time would be limited to three pieces, with an approximate weight not to exceed 10 pounds. The collection of standing dead plant material is not allowed.

#### 4. Wildland Fire Management

YFO coordinates with other agencies to manage fire in accordance with the nationwide BLM fire policy and the National Fire Plan. This integrates fire and fuels management with other land and resource management activities to benefit natural resources and implement multiple-use on BLM-administered lands within the planning area. The basis for fire management on BLM-administered lands can be found in Federal and State laws, regulations, policies, and guidance.

This project includes conservation measures for use in fire suppression, prescribed fire, and fuels management activities as described in the biological opinion on BLM Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management (LUP) (FWS File number 02-21-03-F-210 Appendix C). Emergency consultation would only be needed in the future if suppression actions fall outside of these prescriptions/measures. The full analysis for fire suppression, prescribed fire, and fuels management has been included in that biological opinion.

The Lower Colorado River subdivision of the Sonoran Desert is the predominant vegetation community within the planning area. This vegetation community is not considered fire-adapted or dependent. Invasive or noxious weed have created areas that are now prone to high intensity fires with high rates of spread. The entire planning area will be managed as non-fire use; all naturally-occurring fires will be suppressed.

## 5. Fish and Wildlife Management

The RMP restores, enhances, and maintains habitats to sustain or increase fish and wildlife populations. Specific management actions include:

- Establishing ground-level wildlife water developments at livestock waters where feasible;
- Modifying existing livestock waters for safe wildlife use as funding and opportunities permit;
- Limiting the distribution and abundance of invasive plants and animals to current levels and reducing their impact on native ecosystems through active management;
- Minimizing the undesirable effects of human activities to fish and wildlife populations, especially during critical life stages, through mitigation of potential impacts;
- Restoring native species habitat distribution and occurrence (especially for priority species), conserving biological diversity, and maintaining genetic integrity and exchange, and improving availability of suitable habitats and habitat linkages;
- Supporting reintroductions, transplants, and supplemental stockings (augmentations) of wildlife populations (as defined in BLM Manual 1745) in current or historical ranges in collaboration with AGFD, CDFG, and/or the FWS where such reintroductions are within areas deemed suitable through BLM policy;
- Managing non-native species identified as pests in accordance with applicable BLM, AGFD, and CDFG management policies depending on administrative area;
- Designing and implementing vegetation, fire and fuels, and watershed resource management related projects that would promote enhancement of existing habitat conditions or restoration of degraded habitat conditions for the selected fish and wildlife species of emphasis. Vegetation and fuels management for wildlife habitat improvement should consider the following habitat conditions or features: (1) amount, quality, and distribution of suitable habitats; (2) juxtaposition and connectivity to other habitat areas; (3) influence of roads related degradation; and (4) ecosystem disturbance processes that develop and modify habitats.
- Constructing, maintaining, restoring, or enhancing wildlife waters for native wildlife species populations. Water developments would include design features to ensure safety and accessibility to water by wildlife;
- Maintaining all existing wildlife waters to provide a perennial water source;
- Relocating and releasing individual animals and/or rehabilitated wildlife. These types of wildlife releases are not intended to establish new populations but are appropriate in areas of suitable habitat.

## 6. Special Status Species Management

Special status species refers to all federally-listed endangered, threatened, proposed and candidate species, and designated or proposed critical habitat; species of concern managed under conservation agreements or management plans; state-listed species; and BLM-sensitive species. The RMP incorporates applicable recovery tasks as conservation measures in the proposed action from the following recovery plans:

- Desert tortoise (Mojave Population)
- Yuma clapper rail
- Southwestern willow flycatcher
- Razorback sucker

## 7. Livestock Grazing Management

The YFO's objectives for rangeland management are to carry out the intent of the Taylor Grazing Act of 1934, as amended and supplemented, the Federal Land Policy and Management Act of 1976, and the Public Rangelands Improvement Act of 1978. The Desired Future Conditions (DFCs) for grazing allotments in the action area are to provide forage on a sustained yield basis for livestock consistent with meeting Lands Health Standards and multiple use objectives. Rangeland ecosystems would be maintained or improved to meet Standards for Rangeland Health and Guidelines for Grazing Administration. There are 17 grazing allotments administered by the YFO, eight of which are classified as ephemeral (RMP Table 3-17).

## 8. Wild Horse and Burro Management

The YFO will manage wild horses and burros in the Cibola-Trigo Herd Management Areas (HMA) and four un-named Herd Areas (HA). HMAs are lands that have been designated for special management emphasizing the maintenance of an established wild horse and/or burro herd. A HA is a geographic area identified as having been used by wild horses and burros 1971.

The YFO will manage the Cibola-Trigo HMA to maintain the appropriate management level of 165 burros. Previous portions of this HMA that are located east of State Highway 95 will be converted to HA status. All wild horses and burros will be removed from this area for safety reasons.

## 9. Recreation

Recreation management goals are primarily described through a system called the Recreation Opportunity Spectrum (ROS). The YFO completed a planning area wide ROS Inventory in 2005. The ROS Inventory identifies the recreational conditions currently available on BLM-administered lands in the planning area.

There are six different types of ROS classes: primitive, semi-primitive, rural natural, rural developed, suburban, and urban (RMP Table 2-11 and Map 2-6d). The RMP proposes to modify the existing ROS conditions to accommodate the other proposed resource allocations.

The ROS would: 1) provide guidance on what types of actions and mitigation measures are appropriate on the public lands when comprehensively examined along with other BLM resource allocations, and; 2) disclose to the public the potential impacts to recreational conditions during the NEPA analysis process for future proposed actions.

The RMP identifies areas with concentrated or intensive recreational use as Special Recreation Management Areas (SRMA). The YFO will focus specific management, funding, and planning to provide recreational opportunities while protecting, sustaining, and enhancing environmental resources in these areas. Within each SRMA, Recreation Management Zones (RMZ) may be identified to provide site-specific planning and management. The YFO will prepare activity level plans for all SRMAs designated in the RMP.

The RMP identifies five SRMAs within the planning area:

- Colorado River Corridor Destination SRMA (147,300 acres), which includes facilities developed in partnership with other agencies such as the AGFD. It contains three RMZs (RMP Map 2-7e);
  - Blythe Intaglios Heritage RMZ
  - Ehrenberg-Cibola RMZ
  - Trigo Mountain Wilderness RMZ
- Greater Yuma SRMA (123,200 acres), which is divided into eight RMZs (RMP Maps 2-7e):
  - Anza National Historic Trail RMZ
  - Gila Mountains RMZ
  - Imperial Dam RMZ
  - Laguna Mountains RMZ
  - Limitrophe RMZ
  - Mittry Lake RMZ
  - Southern Desert Communities RMZ
  - Urban Recreation Lands RMZ
- Gila River Valley SRMA (43,300 acres), which contains the Sears Point Heritage RMZ (RMP Map 2-7e):

- Yuma East SRMA (528,300 acres), which contains two RMZs (RMP Map 2-7e).
  - Dispersed Use RMZ
  - Eagletail Mountain Wilderness RMZ
- La Posa SRMA (346,400 acres), which is divided into six RMZs (RMP Map 2-7e):
  - Access RMZ
  - Dripping Springs Heritage RMZ
  - Highway 95 RMZ
  - Intensive Camping RMZ
  - Intensive Day-use RMZ
  - New Water Mountain Wilderness RMZ

All areas outside of the SRMAs that do not receive focused, specific recreation program management are classified as Extensive Recreation Management Areas. Recreation management within Extensive Recreation Management Areas would be limited to custodial actions only. Custodial actions are primarily reactive in order to manage dispersed activities, visitor health and safety, and user and resource conflicts. Extensive Recreation Management Areas are generally managed directly through LUP decisions and do not require additional activity-level planning.

## 10. Travel Management

### A. Travel Management Areas

Land ownership in the action area varies from large blocks of BLM, Military, USFWS NWR and Tribal lands to small, scattered tracts of BLM, State, and private lands. Access problems, because there are no roads or trails, or no legal right to use existing roads or trails, prevent BLM from administering some tracts of BLM lands and prevent the public from legally accessing these lands. Travel Management Areas would provide for more locale-specific transportation management guidance to protect various resource values. The RMP proposes five Travel Management Areas within the Planning Area:

- Ehrenberg Cibola Travel Management Area (152, 300 acres) (RMP Table 2-20)
- Gila River Valley Travel Management Area (60,500 acres) (RMP Table 2-21)
- Greater Yuma Travel Management Area (133,600 acres) (RMP Table 2-22)
- La Posa Travel Management Area (384,600 acres) (RMP Table 2-23)
- Yuma East Travel Management Area (587,000 acres) (RMP Table 2-24)

## B. Off Highway Vehicle Management Areas

This RMP will implement the following OHV area designations:

- Open Area (2,400 acres) - All types of vehicle use are permitted at all times; subject to regulations and standards set forth in 43 CFR 8341 and 8342.
- Limited Area (1,146,700 acres) - OHV use is restricted at certain times, in certain areas.
- Closed Area (168,900 acres) - All vehicle use is prohibited, unless permitted by an authorized official. These areas include:
  - designated wilderness
  - Fortuna Wash (Section 33)
  - La Paz Valley

## 11. Visual Resource Management

The RMP assigns a visual resource management class for all areas in the planning area based on an inventory of visual resources and management considerations for other land uses (RMP Map 2-9e). The visual resource management land use designations are described in RMP Table 2-26. Other resource uses and management activities would be managed to conform to the applicable visual resource management objectives established in this RMP.

## 12. Wilderness Characteristics Management

The YFO evaluated 48,400 acres of public lands, outside of designated wilderness, which will be managed to maintain or enhance the following wilderness characteristics:

- Naturalness - Lands and resources exhibit a high degree of naturalness when effected by the forces of nature and where the imprint of human activity is substantially unnoticeable.
- Solitude - Visitors may have outstanding opportunities for solitude when the sights, sounds, and evidence of other people are rare and infrequent.
- Primitive and Unconfined Recreation - Visitors may have outstanding opportunities for primitive and unconfined types of recreation where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.

## 13. Cultural Resources

The desired future condition of all cultural resources on YFO-administered land within the planning area is to preserve and protect significant cultural resources for future generations. Cultural resources include sites, buildings, objects, features, and artifacts.

#### 14. Paleontological Resources

Paleontological resources will be managed for their scientific, educational, and recreational values, and adverse impacts to these resources will be mitigated.

#### 15. Air, Water and Soil Management

##### A. Air

The Federal Land Policy and Management Act (FLPMA) and the Clean Air Act (CAA) of 1970 and Amendments of 1977 and 1990 prohibit all Federal land management agencies from conducting, supporting, approving, licensing, or permitting any activity on Federal land that does not comply with all applicable local, State, and Federal air quality laws, statutes, regulations, and implementation plans. In support of these regulations, a program has been developed that provides benefits to air quality and other resources by decreasing air pollutant concentrations, increasing visibility, and decreasing atmospheric deposition.

##### B. Water

Water resources in the planning area include both surface water and groundwater. Guidance for water resources management is given by BLM Manual 7240 (DOI BLM 1997 update) and in the Land Health Standards and Guidelines (CFR 43-4180). The YFO works cooperatively with BOR to manage develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

##### C. Soils

The planning area also contains sensitive resources including biological soil crusts, desert pavement, and stabilized sand dunes, defined as follows:

- Biological soil crusts: A complex mosaic of cyanobacteria, green algae, lichens, mosses, microfungi, and other bacteria.
- Desert pavement: A ground surface consisting of coarse, densely packed, patinated cobbles and gravels that are covered with layers of ferro-manganese deposits and microscopic organisms.
- Stabilized sand dunes: A sand-covered landscape that is veiled and stabilized by plant cover, so that the sand is no longer borne away by winds.

## 16. Lands and Realty Management

### A. Land Ownership Adjustment

The purpose of this program is to adjust land tenure in the planning area to achieve BLM resource management objectives and improve service to the public. No BLM or private lands will be acquired, exchanged, or disposed of without additional compliance with NEPA and the Endangered Species Act through a site-specific analysis of a proposed action.

#### i. Land Acquisition

The YFO is authorized under Section 205 of FLPMA to acquire non-Federal lands or interests in lands by purchase, exchange or donation. Acquired land must:

- Facilitate access to public lands and resources;
- Maintain or enhance public uses and values;
- Facilitate implementation of this RMP;
- Provide for a more manageable land ownership pattern;
- Include significant natural or cultural resource values; or
- Eliminate split-estate by acquiring either the surface or subsurface rights, if acquisition of rights would be in the public interest.

#### ii. Land Disposal

All land-disposal actions are discretionary. The YFO will evaluate lands it selects for disposal for significant natural and cultural resources, threatened and endangered plants and animals, floodplain/flood hazards, prime and unique farmlands, and other critical factors. These actions would trigger NEPA compliance, and the YFO would conduct an effects analysis on listed species and their critical habitat. The YFO would conduct section 7 consultations with USFWS according to the effects determination. Some of the factors considered during the NEPA process include the importance of the habitat or area to the overall abundance and distribution of the listed species or its critical habitat; the importance of Federal management to species survival; the foreseeable uses of the habitat or area in non-BLM ownership; and the difference between feasible Federal and non-Federal protection for the habitat or area. National BLM policy (Manual Section 6840.06) which would factor into this decision states in part:

“Ensure activities affecting populations and habitats of threatened and endangered (T&E) species are designed to be consistent with recovery needs and objectives. Screen all proposed actions to determine if T&E species and their habitats may be affected. Ensure no actions adversely affect the likelihood of recovery of any T&E species.”

The RMP identifies 13,100 acres of YFO-administered lands that are targeted for disposal by sale or exchange (RMP Table 2-30). The YFO is not required to dispose of all identified lands. Unforeseen land management concerns, the presence of significant natural resources, or public concerns raised during the NEPA process may prevent disposal or may result in identification of other lands for disposal. However, disposal of other lands would require a land use plan amendment. The decision to consider these lands for disposal is completed and part of the environmental baseline; however, actual selection of specific parcels and their disposal are site-specific actions subject to future section 7 consultation, as appropriate.

#### B. Land Use Authorization

The YFO may allow use of the public lands or interests in lands through issuance of rights-of-way (ROW), leases and permits. Typical ROW issuances include access roads, powerlines, telephone lines, fiber optic systems, communication facilities, etc.

Ten utility corridors will be designated along existing lines (RMP Table 2-30). Future major cross-Field Office utility ROW proposals will be encouraged to use these corridors unless an evaluation of the project shows that location outside of the designated area is the only practicable alternative.

The YFO will lease recreation areas for concessions, state parks, county parks and city park in accordance with desired ROS settings. These actions may require section 7 consultation at that time.

### 17. Mineral Resource Management

The YFO manages three categories of mineral resources:

- Saleable Minerals (sand and gravel, stone, and clay resources) - The RMP proposes six new mineral material sites would be developed throughout the planning area over the 15-year life of the plan, for a total of 800 acres.
- Leasable Minerals (oil, gas and geothermal resources) - The RMP identifies four low-temperature geothermal resource regions within the planning area. There are currently no geothermal energy leases in the planning area, and no indications for future leasing activity.
- Locatable Minerals (gold, silver, copper, etc.) - The RMP identifies 290,500 acres that have moderate potential and 268,100 acres that have high potential for metallic locatable minerals. For non-metallic locatable minerals, the area of moderate potential is 1,127,200 acres, and the area of high potential is 18,700 acres. The RMP requires:
  - Consolidation of surface and subsurface (minerals) estates to improve manageability of the Federal lands;
  - Notices-of-intent when mechanical equipment is used for exploration or processing and cumulative disturbance is less than five acres;

- Mining plans of operation where disturbance is greater than five acres and where bulk sampling would remove 1,000 tons or more;
- A validity examination at prior existing claims in mineral withdrawn areas would be required before submittal of a mining plan of operations to verify the valid discovery of a valuable mineral deposit;
- Mining plans of operation for operations in designated ACECs or currently withdrawn or reserved lands where the mining claim predates the withdrawal or reservation;
- Mining plans of operation in areas designated as closed to OHV use and in lands or waters known to contain federally listed threatened or endangered species or proposed or designated critical habitat;
- Reclamation of all disturbances created by casual use mining.

#### 18. Public Health and Safety Management

According to applicable Federal and State laws and regulations, the YFO would identify areas or hazards which have potential impact to public health and safety. The following are public health and safety concerns in the planning area:

- Abandoned mines
- Unexploded ordnance
- International boundary issues
- Hazardous materials

#### Conservation Measures for Threatened and Endangered Species

In order to protect and enhance threatened and endangered species in addition to the measures listed in Appendix B, the RMP incorporates numerous conservation measures from existing threatened and endangered species recovery plans, the Lower Colorado River Multi-Species Conservation Plan (MSCP), Migratory Bird Executive Order 13186, and the Arizona Partners in Flight Bird Conservation Plan.

The YFO has committed to implementing the following conservation measures, as part of the RMP proposed action. These measures would be implemented within the YFO's scope of authority.

### **Conservation Measures Common to All Federally-Listed Species**

- All proposed activity-level plans will be evaluated to prevent or mitigate any impacts that could degrade or destroy listed or proposed species and their designated or proposed critical habitat.
- All activity-level plans will undergo site specific section 7 compliance before implementation.

### **Razorback Sucker Conservation Measures**

The proposed action adopts and implements the Razorback Sucker Recovery Goals (USFWS 2002a) originally from the Razorback Sucker Recovery Plan (USFWS 1998).

Specific YFO conservation measures would:

- Control non-native fishes to minimize the threat of hybridization or negative interactions with razorback sucker with proper coordination with and authorization from AGFD and CDFG;
- Develop, enhance, and maintain suitable habitats (riverine habitats including oxbows, depressions, and bottomlands) required for all life stages for self-sustaining populations in all recovery units;
- Protect critical habitat from further degradation in habitat conditions and water quality, and restore habitats to meet established recovery goals for razorback sucker;
- Evaluate razorback sucker habitat on BLM-administered lands and develop a strategy to eliminate or reduce adverse effects from BLM-authorized development along shorelines;
- Enhance public awareness through educational programs and posting of informational bulletins of the importance of razorback sucker and potential threat to the species and habitat from recreation and development along the LCR, and;
- Post signs at fishing access points and at tackle shops advising anglers of the potential to take razorback suckers and how to report and release captured fish.

### **Desert Tortoise (Mohave Population) Conservation Measures**

The YFO will implement the recovery strategy addressed in the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994b). The recovery objective is to provide habitat capable of maintaining stable or increasing trends in desert tortoise abundance and survivorship in all recovery units. The planning area partially overlaps with the Eastern Colorado recovery units in southeastern California (USBLM 2002). Recovery goals, objectives, strategies, and delisting criteria are described in the recovery plan and would:

- Ensure no net loss in the quality or quantity of Category I and II desert tortoise habitats to the extent practicable, and;

- Establish the goals and criteria for three categories of desert tortoise habitat areas.

The following management actions would apply to all desert tortoise habitats in the planning area:

- Review land use requests during the March 1 through October 15 critical period on a case-by-case basis. Requests may be denied and/or mitigated to achieve Desired Future Conditions (for example, no net loss of Category I and II habitat);
- Compensate for loss of desert tortoise habitat in accordance with the Desert Tortoise Compensation Team (1991);
- When possible, prohibit activities that would fragment or further isolate existing populations of desert tortoises (i.e., canals, highways);
- Reduce take of desert tortoises by removing animals to undisturbed areas out of harm's way;
- Reduce the attraction of predators, such as the common raven (*Corvus corax*), to project areas to the maximum extent possible;
- Reduce take of desert tortoises by injury or death due to the straying of construction and maintenance equipment beyond project areas through establishment of clearly defined work areas;
- Modify activities to avoid injury or harm if a tortoise is found in a project area;
- Confine the period of leasable mineral exploration and major construction work from November 1 to March 1. Minimize surface disturbance associated with authorized activities;
- Perform complete preconstruction inspections of areas to be developed and mitigate for actions to protect desert tortoises and their habitat, including reclamation and bonding (fees committed prior to action to fund cleanup and mitigation), if appropriate. After project completion, measures would be taken to facilitate restoration of the disturbed site;
- Fence new paved roads and highways or major modifications of existing roads through desert tortoise habitat with tortoise barrier fencing. Culverts, to allow safe passage of tortoises, shall be constructed approximately every mile along new paved roads and railroads. Require erection of tortoise barriers around projects that would be sources of mortality (such as canals, heavily used roads, and steep-walled reservoirs), and promote methods that allow safe movement across project areas;

- Minimize blading of new access or work areas. Disturbance to shrub cover would be avoided if possible. If shrubs cannot be avoided during equipment operation or vehicle use, they should be crushed wherever possible rather than excavated or bladed and removed;
- Cover or modify project features that might trap or entangle desert tortoises, such as open trenches, pits, pipes, and others, to prevent entrapment during the active season or when an on-site biologist is not available. After completion, these features would be filled in, covered, or otherwise modified so they are no longer a hazard to desert tortoises;
- Enclose an entire site with a tortoise-proof fence where project activities are to extend over 90 days in desert tortoise habitat. For project activities that are to occur in fewer than 90 days, a temporary fence would be erected around the area of activity;
- Limit vehicular travel and non-motorized competitive events to designated routes;
- Close and rehabilitate existing roads where no public or administrative need exists;
- Limit seismic exploration, new construction, road maintenance, vehicle use, or other surface disturbing activities to existing ROW areas;
- Locate all surface disturbing projects in previously disturbed areas or outside of desert tortoise habitat. When at all possible, avoid habitat and, where not possible mitigate damage to habitat. If a desert tortoise is found in a project area, activities should be modified to avoid injuring or harming it;
- Implement worker education programs and well-defined operational procedures to avoid the “take” of desert tortoises and their habitat, and;
- Ensure that wild horse and burro abundance is in ecological balance with existing desert tortoise and other wildlife populations.

### **Yuma Clapper Rail Conservation Measures**

The YFO would implement applicable recovery objectives consistent with the Yuma clapper rail recovery plan and any future revisions to:

- Ensure no net loss or fragmentation of marsh-like habitat for major life history requirements (i.e., breeding, feeding or resting cover) of Yuma clapper rail and to maintain natural bird behavior by minimizing indirect effects resulting from human-caused disturbances;
- Maintain riparian areas that form an integrated mosaic with wet sloughs and marshes designed to support the Yuma clapper rail and other marsh and aquatic wildlife;

- Burn decadent marsh vegetation without risking the rarer and more valuable cottonwood willow habitat if research concludes that burning decadent marsh vegetation benefits Yuma clapper rail population;
- Restrict or prohibit human caused disturbances to habitat or individuals in occupied territories during the breeding and molting seasons (March 15–September 1);
- Support research to study the biological requirements of Yuma clapper rail;
- Complete survey and monitoring of Yuma clapper rail populations and breeding areas on BLM-administered lands, and;
- Promote species-habitat recovery using public outreach with education and interpretive programs.

### **Southwestern Willow Flycatcher Conservation Measures**

Recovery tasks found in the various plans including the Southwestern Willow Flycatcher Recovery Plan (USFWS 2002b) and the MSCP (LCR MSCP 2004) were used to create the management action alternatives. A number of these management actions are proposed, or ongoing, for the willow flycatcher. YFO proposes the following conservation measures for the willow flycatcher:

- Provide suitable habitat capable of maintaining stable or increasing population trends of willow flycatcher in the LCR Recovery Unit within the planning area;
- Minimize unauthorized OHV use in riparian habitat with fencing or physical barriers;
- Protect existing willow flycatcher habitats by reducing fire risk to habitat. Avoid hazardous fuel thinning projects that reduce the quality or quantity of willow flycatcher habitat and instead install fire breaks to protect habitat from wildfires;
- Through interagency coordination with AGFD, initiate cowbird control to protect nesting willow flycatcher if sufficient baseline data show cowbird parasitism to be a significant threat for that population;
- Develop new riparian habitat and restore damaged or degraded areas along the LCR and Gila River for the survival and recovery of the willow flycatcher;
- Protect known occupied sites or potential willow flycatcher habitat through acquisition, easements, partnerships, and other means;
- Acquire suitable habitat through land acquisition and easements from willing landowners to compensate for loss of historical willow flycatcher habitat;

- Minimize activities that would promote or encourage attractants of scavengers, predators, and brown-headed cowbirds to protect existing populations of willow flycatcher;
- Minimize recreation activities in potentially suitable willow flycatcher habitat to allow the area to develop breeding habitat;
- Provide on-site monitors and enforcement where recreation use conflicts exist, and;
- Reduce potential impacts from recreation activities by promoting public outreach and education.

In addition to the specific management actions listed above, the YFO is implementing a number of small-scale projects that focus on the restoration/enhancement of native riparian habitat.

## **STATUS OF THE SPECIES**

### **Razorback Sucker and its Critical Habitat**

The razorback sucker was first proposed for listing under the Act on April 24, 1978, as a threatened species, but was later withdrawn for technical reasons. In March 1989, the FWS was petitioned by a consortium of environmental groups to list the razorback sucker as an endangered species. The FWS made a positive finding on the petition in June 1989, which was published in the Federal Register on August 15, 1989. A final rule was published on October 23, 1991, with an effective date of November 22, 1991. The Razorback Sucker Recovery Plan was released in 1998 (USFWS 1998). Recovery Goals were approved in 2002 (USFWS 2002b).

The razorback sucker was once abundant in the Colorado River and its major tributaries throughout the Basin, occupying 3,500 miles of river in the United States and Mexico (Minckley 1983, USFWS 1993). Records from the late 1800s and early 1900s indicated the species was abundant in the LCR and Gila River drainages (Gilbert and Scofield 1898, Minckley 1983, Bestgen 1990). Since 1997, significant new information on recruitment to the wild razorback sucker population in Lake Mead has been developed (Holden et al. 2000) that indicates some degree of successful recruitment is occurring. This degree of recruitment has not been documented elsewhere in the other remaining populations.

Adult razorback sucker use most riverine habitats, although there may be an avoidance of whitewater type habitats. Main-channel habitats tend to be low velocity ones such as pools, eddies, nearshore runs, and sand or gravel bars (Bestgen 1990). Adjacent to the main channel, backwaters, oxbows, sloughs, and flooded bottomlands are also used by this species. From studies conducted in the upper Colorado River basin, habitat selection by adult razorback suckers changes seasonally. They move into pools and slow eddies from November through April, runs and pools from July through October, runs and backwaters during May, and backwaters, eddies, and flooded gravel pits during June. In early spring, adults move into flooded bottomlands. They use relatively shallow water (ca. 3 feet) during spring and deeper water (five to six feet) during winter.

Razorback sucker also use reservoir habitat, where the adults may survive for many years. In reservoirs they use all habitat types, but prefer backwaters and the main impoundment (USFWS 1998). Much of the information on spawning behavior and habitat comes from fishes in reservoirs where observations can readily be made. Spawning takes place in the late winter to early summer depending upon local water temperatures. Various studies have presented a range of water temperatures at which spawning occurs. In general, temperatures between 10 to 20 degrees Celsius (°C) are appropriate (summarized in Bestgen 1990). They typically spawn over cobble substrates near shore in water three to ten feet deep (Minckley et al. 1991). Razorback sucker are known to spawn on submerged alluvial fans where large washes enter the LCR (C. Minckley, FWS, pers. comm. January 31, 2006). There is an increased use of higher velocity waters in the spring, although this is countered by the movements into the warmer, shallower backwaters and inundated bottomlands in early summer (McAda and Wydoski 1980, Tyus and Karp 1989, Osmundson and Kaeding 1989). Spawning habitat is most commonly over mixed cobble and gravel bars on or adjacent to riffles (Minckley et al. 1991).

Habitat needs of larval and juvenile razorback sucker are reasonably well known. In reservoirs, larvae are found in shallow backwater coves or inlets (USFWS 1998). In riverine habitats, captures have occurred in backwaters, creek mouths, and wetlands. These environments provide quiet, warm water where there is a potential for increased food availability. During higher flows, flooded bottomland and tributary mouths may provide these types of habitats. However; this dependency on slack water habitats, which support large numbers of non-native fish, increases the predation risks to young razorback sucker (Mueller 2003).

Razorback sucker are somewhat sedentary; however, considerable movement over a year has been noted in several studies (USFWS 1998). Spawning migrations have been observed or inferred in several locales (Jordan 1891, Minckley 1973, Osmundson and Kaeding 1989, Bestgen 1990, Tyus and Karp 1990). During the spring spawning season, razorbacks may travel long distances in both lacustrine and riverine environments, and exhibit some fidelity to specific spawning areas (USFWS 1998). Range-wide, the status of razorback sucker is exceedingly poor due to lack of significant recruitment, ongoing habitat loss, and continuing pressure from nonnative species.

### Critical Habitat

Razorback sucker critical habitat was designated in 15 river reaches on March 21, 1994 (USFWS 1994a). Critical habitat included portions of the Colorado, Duchesne, Green, Gunnison, San Juan, White, and Yampa rivers in the Upper Colorado River Basin, and the Colorado, Gila, Salt, and Verde rivers in the LCR Basin. The conservation role of the critical habitat is largely intact in all 15 river segments.

The primary constituent elements of razorback sucker critical habitat include water, physical habitat, and biological environment. Water must be of sufficient quantity and quality (i.e. temperature, dissolved oxygen, lack of contaminants, nutrients, turbidity, etc.) required for the life stages of the species. The physical environment includes bottom lands, side channels, secondary channels, oxbows, backwaters, and other inhabited or potentially habitable areas of the 100-year floodplain of the LCR. The biological environment involves food supply, predation, and competition. Food supply is related to nutrient supply, productivity, and

availability. Predation and competition, although natural processes, are increased in the LCR due to the introduction of non-native fish.

### **Desert Tortoise (Mohave Population)**

The desert tortoise populations north and west of the Colorado River in Arizona, and Utah (excluding the Beaver Dam Slope populations) were listed as endangered under an emergency rule on August 4, 1989 (USFWS 1989). Subsequently, the entire Mojave population of the desert tortoise west of the Colorado River in California and Nevada, and north of the river in Arizona and Utah, including the Beaver Dam Slope, was listed as a threatened species on April 2, 1990 (55 FR 12178). Critical habitat was designated in 1994 (59 FR 5820-5846, also see corrections at 59 FR 9032-9036). The Desert Tortoise (Mojave Population) Recovery Plan (DTRP) was signed on June 28, 1994 (USFWS 1994b).

The desert tortoise is an arid land reptile associated with desert scrub vegetation types; primarily creosote bush (*Larrea tridentata*) flats, washes, and hillside slopes or bajadas. A robust herbaceous component to the shrubs and cacti of the creosote bush vegetation type is an important component of suitable habitat. Within these vegetation types, desert tortoise can survive and reproduce where their basic habitat requirements are met. These include: a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and over-wintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow. Further information on the range, biology, and ecology of the desert tortoise can be found in the DTRP (USFWS 1994b).

Desert tortoises are most active during the spring and early summer when annual plants are most abundant. Additional activity occurs during warmer fall months and occasionally after summer rain storms. In Arizona, desert tortoise can be active from mid-March through mid-October. Desert tortoises spend the remainder of the year in burrows to escape the extreme conditions of the desert.

Desert tortoise home range sizes vary with respect to location and year. Over its lifetime, each desert tortoise may require more than 1.5 square miles of habitat and make forays of more than seven miles at a time (Berry 1989). During droughts, desert tortoises forage over larger areas, increasing the likelihood of injury or mortality through encounters with humans and predators. Direct loss of tortoises has occurred from illegal collection by humans for pets or consumption, upper respiratory tract disease, predation on juvenile desert tortoises by common ravens and kit foxes (*Vulpes macrotis*), and collisions with vehicles on paved and unpaved roads. Other threats affecting the desert tortoise include loss of habitat from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture.

Grazing and OHV activities have degraded additional habitat. Fire is an increasingly important threat because it degrades or eliminates habitat (Appendix D of USFWS 1994b). Following wildfire, native plant species are often replaced by invasive, non-native species such as red brome (*Bromus rubens*), which can result long-term habitat degradation or loss.

Desert tortoise recovery may occur at the RU level, which allows populations within each of the six RUs to be recovered and de-listed individually. Similarly, the jeopardy and adverse modification standards may be applied within or across RUs. Thus, proposals to implement the Desert Tortoise Recovery Plan in portions of a RU cannot be evaluated with regard to jeopardy or adverse modification in a section 7 consultation without an understanding of proposed or existing management prescriptions occurring elsewhere in the RU.

In 1988, the BLM initiated desert tortoise habitat categorization on public lands (USBLM 1989). Three categories were delineated with the following goals:

- Category 1 - Maintain stable, viable populations and protect existing habitat values; increase populations where possible. Habitat area is essential to maintain large, viable populations.
- Category 2 - Maintain stable, viable populations and halt further decline in tortoise habitat values. Habitat area may be essential to maintain viable populations.
- Category 3 - Limit tortoise habitat and population declines to the extent possible by mitigating impacts. Habitat area is not essential to maintain viable population

In response to the General Accounting Office Report (GAO 2002), the FWS convened the DTRP Assessment Committee (DTRPAC) in 2003 to scientifically assess the DTRP. The DTRPAC Report (Tracy et al. 2004) produced a number of findings and recommendations that will serve as the basis for revision of the 1994 Recovery Plan. In particular, this report recognizes that threats to the desert tortoise have cumulative, synergistic, and interactive effects, and that tortoise recovery depends on managing multiple threats. Threats facing desert tortoises have been increasing since the DTRP, including in the Northeastern Mojave RU, and recovery actions have not been fully implemented. The DTRPAC Report also recognizes that tortoise populations may be distributed in metapopulations rather than single, large populations in RUs. In addition to reducing multiple threats within management areas, it is important to protect the corridors among habitat patches. For recovery, tortoise meta-populations require areas of suitable habitat, but these areas may be periodically vacant of tortoises.

### Critical Habitat

Twelve areas in Arizona, California, Nevada, and Utah were designated as desert tortoise critical habitat in 1994. Critical habitat units (CHUs) were based on recommendations for DWMAAs outlined in the draft Recovery Plan (USFWS 1994b). These DWMAAs are also identified as “desert tortoise areas of critical environmental concern (ACECs)” by the BLM. Some critical habitat units extend across State lines and are listed below.

- Arizona: Beaver Dam Slope, Gold Butte-Pakoon
- California: Fremont-Kramer, Superior-Cronese, Ord-Rodman, Chuckwalla, Pinto Mountain, Chemehuevi, Ivanpah, Piute-Eldorado
- Nevada: Piute-Eldorado, Mormon Mesa, Gold Butte-Pakoon, Beaver Dam Slope

- Utah: Beaver Dam Slope, Upper Virgin River

Because the CHU boundaries were drawn to optimize reserve design, the CHU may contain both "suitable" and "unsuitable" habitat. Suitable habitat can be generally defined as areas that provide the primary constituent elements of desert tortoise critical habitat:

- Sufficient space to support viable populations within each of the six recovery units and provide for movements, dispersal, and gene flow;
- Sufficient quantity and quality of forage species and the proper soil conditions to provide for the growth of such species;
- Suitable substrates for burrowing, nesting, and over-wintering;
- Burrows, caliche caves, and other shelter sites;
- Sufficient vegetation for shelter from temperature extremes and predators; and
- Habitat protected from disturbance and human-caused mortality.

At the time of CHU designation, all lands in the CHUs had been impacted by past land management activities to some degree. Appendix D of the DTRP (USFWS 1994b) discusses the types of human actions that occurred in desert tortoise habitat before and after the designation of critical habitat that have had effects to the physical habitat components of critical habitat. Designation of most CHUs as DWMAs/ACECs has aided in protection of these areas, particularly by limiting off-highway vehicle use and other ground-disturbing activities, and reducing or eliminating wild burros and livestock grazing in many units.

### **Yuma Clapper Rail**

The Yuma clapper rail was listed as an endangered species on March 11, 1967, under endangered species legislation enacted in 1966 (Public Law 89-669) (USFWS 1967). Only populations found in the United States were listed as endangered; those in Mexico were not listed under the 1966 law or the subsequent Endangered Species Act of 1973 (as amended). Yuma clapper rail critical habitat has not been designated. The Yuma Clapper Rail Recovery Plan was issued in 1983 (USFWS 1983).

The Yuma clapper rail is a 14-16 inch long marsh bird with a long, down-curved beak. Both sexes are slate brown above with light cinnamon underparts and barred flanks. The Yuma clapper rail is distinguished from other clapper rail subspecies using distributional data, plumage color, and wing configurations (Banks and Tomlinson 1974). The Yuma clapper rail is a secretive species and is not often seen in the wild. It does have a series of distinctive calls that are used to identify birds in the field.

Yuma clapper rail inhabits both freshwater and brackish marshes dominated by dense cattail (*Typha spp.*). The most productive areas consist of uneven-aged stands of cattails interspersed with open water of variable depths (Conway et al. 1993). Other important factors in habitat suitability include the presence of vegetated edges between marshes and shrubby tamarisk or willow thickets (Eddleman 1989), and the amount and rate of water level fluctuations within the habitat. Water flow in the open channels within the marsh is desirable (Todd 1971, Tomlinson and Todd 1973). Yuma clapper rail also uses cattail habitats in quiet backwater ponds, flowing stream or riverside areas, irrigation canals and drainage ditches, reservoirs and small lakes or other small marshlands. Artificially constructed marshes can also provide suitable habitat.

Yuma clapper rail breeds from February through early July (Eddleman 1989). Nests are constructed in marsh vegetation or low growing riparian plants at waters' edge. Non-native (introduced) crayfish (*Procamberus clarki*) form the primary prey base for Yuma clapper rails today (Todd 1986). Prior to the introduction of crayfish, isopods, aquatic and terrestrial insects, clams, plant seeds, and small fish dominated the diet. Once believed to be highly migratory (with most birds thought to spend the winter in Mexico), telemetry data showed most Yuma clapper rails do not migrate (Eddleman 1989). Very little is known about the dispersal of adult or juvenile birds, but evidence of populations expanding northward along the lower Colorado River, the Salton Sea, and central Arizona over the last 80 years indicates that Yuma clapper rails can effectively disperse to new habitats provided that habitat corridors exist between the old and new sites (Rosenberg et al. 1991).

Additional life history information is found in the Recovery Plan (USFWS 1983), Todd 1986, Eddleman 1989, and Rosenberg et al. 1991.

The Yuma clapper rail has two major population centers in the United States: the Salton Sea and surrounding wetlands in California, and the LCR marshes from the border with Mexico north to Havasu National Wildlife Refuge. Smaller numbers of rails are found along the lower Gila River in Yuma County, the Phoenix metropolitan area (including portions of the Gila, Salt and Verde rivers) in Maricopa County, Roosevelt Lake in Gila County, Picacho Reservoir in Pinal County, and the Bill Williams River in La Paz County, Arizona (FWS annual survey data). Yuma clapper rails have also recently been documented from southern Nevada in Clark County (McKernan and Braden 2000, Tomlinson and Micone 2000) and the Virgin River in Washington County, Utah and Mohave County, Arizona (McKernan and Braden 2000).

Annual survey data compiled by the FWS for the period 1990 through 2005 documented between 464 and 1076 rails observed (via calls or visual observation) at the survey sites. Most recent available survey data from 2005 documented 885 birds (USFWS 2006).

Declines in actual numbers heard or seen on survey transects since the early 1990's have not been positively connected to any event on the lower Colorado River or Salton Sea; however, changes in habitat quality caused by overgrown marsh vegetation is suspected of influencing rail numbers in those areas. Habitat restoration through mowing or burning over-age cattail stands is under evaluation in several locations to determine future management needs.

### **Southwestern Willow Flycatcher**

The southwestern willow flycatcher was listed as endangered, without critical habitat, on February 27, 1995 (USFWS 1995). Critical habitat was later designated on July 22, 1997 (USFWS 1997). A correction notice was published in the Federal Register on August 20, 1997 to clarify the lateral extent of the designation (62 FR 44228).

On May 11, 2001, the 10<sup>th</sup> circuit court of appeals set aside designated critical habitat in those states under the 10<sup>th</sup> circuit's jurisdiction (New Mexico). The FWS decided to set aside willow flycatcher critical habitat in all other states (California and Arizona) until it could re-assess the economic analysis.

On October 19, 2005, the USFWS re-designated willow flycatcher critical habitat (USFWS 2005). A total of 737 river miles across southern California, Arizona, New Mexico, southern Nevada, and southern Utah were included in the final designation. The lateral extent of critical habitat includes areas within the 100-year floodplain. The primary constituent elements of critical habitat are based on riparian plant species, structure and quality of habitat, and insects for prey. A variety of river features such as broad floodplains, water, saturated soil, hydrologic regimes, elevated groundwater, fine sediments, etc. help develop and maintain these constituent elements (USFWS 2005).

The Southwestern Willow Flycatcher Recovery Plan was completed in 2002 (USFWS 2002b). This plan describes the reasons for endangerment, current willow flycatcher status, addresses important recovery actions, and provides recovery goals. Recovery is based on reaching numerical and habitat related goals for each specific Management Unit established throughout the willow flycatchers' range and establishing long-term conservation plans (USFWS 2002b).

The willow flycatcher is a small grayish-green passerine bird measuring approximately 5.75 inches. The song is a sneezy "fitz-bew" or a "fit-a-bew", the call is a repeated "whitt". It is one of four currently recognized willow flycatcher subspecies (Phillips 1948, Unitt 1987, Browning 1993). It is a neotropical migrant that breeds in the southwestern U.S. and migrates to Mexico, Central America, and possibly northern South America during the non-breeding season (Phillips 1948, Stiles and Skutch 1989, Peterson 1990, Ridgely and Tudor 1994, Howell and Webb 1995). Willow flycatcher breeding range includes southern California, Arizona, New Mexico, western Texas, southwestern Colorado, southern Utah, extreme southern Nevada, and extreme northwestern Mexico (Sonora and Baja) (Unitt 1987, USFWS 2002b).

The willow flycatcher breeds in dense riparian habitats from sea level in California to approximately 8,500 feet in Arizona and southwestern Colorado. Historical egg/nest collections and species' descriptions throughout its range describe the willow flycatcher's widespread use of willow (*Salix spp.*) for nesting (Phillips 1948, Phillips et al. 1964, Hubbard 1987, Unitt 1987, San Diego Natural History Museum 1995). Currently, willow flycatcher primarily use Geyer willow (*Salix geyeriana*), coyote willow (*Salix exigua*), Goodding's willow (*Salix gooddingii*), boxelder (*Acer negundo*), tamarisk (*Tamarix sp.*), Russian olive (*Elaeagnus angustifolius*), and live oak (*Quercus agrifolia*) for nesting. Other plant species less commonly used for nesting include: buttonbush (*Cephalanthus sp.*), black twinberry (*Lonicera involucrata*), cottonwood (*Populus spp.*), white alder (*Alnus rhombifolia*), blackberry (*Rubus ursinus*), and stinging nettle (*Urtica spp.*). Four basic vegetation communities provide willow flycatcher habitat: monotypic

willow, monotypic exotic, native broadleaf dominated, and mixed native/exotic (Sogge et al. 1997).

Tamarisk is an important component of the willow flycatcher's nesting, foraging, and migrating habitat in the bird's range. In 2006 in Arizona, 68 percent of known willow flycatcher nests were built in a tamarisk tree (Graber et al. 2007). Tamarisk had been believed to provide of lesser quality willow flycatcher habitat. However comparisons of reproductive performance (USFWS 2002b), prey populations (Drost et al. 2001) and physiological conditions (Owen and Sogge 2002) of willow flycatcher breeding in native and exotic vegetation has revealed no difference (Sogge et al. 2005).

Willow flycatcher habitat is dynamic and can change rapidly: nesting habitat can grow out of suitability; tamarisk habitat can develop from seeds to suitability in five years; heavy runoff can remove/reduce habitat suitability in a single flood event; or river channels, floodplain width, location, and vegetation density may change over time. The willow flycatcher habitat use in different successional stages may also be dynamic. For example, over-mature or young habitat not suitable for nest placement can be occupied and used for foraging and shelter by migrating, breeding, dispersing, or non-territorial willow flycatcher (Cardinal and Paxton 2005, McLeod et al. 2005). That same habitat may subsequently grow or cycle into habitat used for nest placement. Willow flycatcher habitat can quickly change and vary in suitability, location, use, and occupancy over time (Finch and Stoleson 2000).

There are currently 284 known southwestern willow flycatcher breeding sites in California, Nevada, Arizona, Utah, New Mexico, and Colorado (all sites from 1993 to 2006 where a resident willow flycatcher has been detected) holding an estimated 1,262 territories (Durst et al. 2007). A grand total of willow flycatcher territories can not be determined because not all sites are surveyed annually. Numbers have increased since the bird was listed and some habitat remains un-surveyed; however, after nearly a decade of intense surveys, the existing numbers are just past the upper end of Unitt's (1987) estimate of 20 years ago (500-1000 pairs).

While numbers have significantly increased in Arizona (145 to 495 territories from 1996 to 2005) (English et al. 2006), overall distribution of willow flycatcher throughout the state has not changed very much. Survey effort in 2006 was reduced in some key areas (i.e. sites at the San Pedro River study area that have formerly supported relatively large numbers of flycatchers) therefore; statewide results should not be compared to previous years. Surveyors detected 624 resident willow flycatchers at 53 sites along 12 drainages. There were 351 willow flycatcher territories, with 276 pairs documented at 39 sites (the remaining 75 territories were classified as lone males) found in 2006 (Graber et al. 2007).

Currently, population stability in Arizona is believed to be largely dependent on the presence of two large populations (Roosevelt Lake and San Pedro/Gila River confluence). Therefore, the result of catastrophic events or losses of significant populations either in size or location could greatly change the status and survival of the species. Conversely, expansion into new habitats or discovery of other populations will improve willow flycatcher stability and status.

## **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**

### **Razorback Sucker and its Critical Habitat**

Razorback sucker are found in the LCR from the top of the planning area downstream to Imperial Dam and Senator Wash Reservoir. The Recovery Plan establishes the need to augment or reestablish populations of the fish in its critical habitat (USFWS 2002a). Razorback sucker spawning has not been documented in the planning area. Numerous management actions are proposed or ongoing for the razorback sucker including stocking programs in a number of locations. AGFD released 200 sonic-tagged razorback suckers into the LCR and associated backwaters at Imperial Dam and the six miles upstream to study habitat use (Bradford and Gurtin 2002). AGFD has also stocked approximately 58,400 razorback sucker (>10 inches in length) into the A-7 and A-10 Backwaters in the Palo Verde Division of the LCR.

The BOR contracted Arizona State University (ASU) to assess the razorback sucker stocking success in the LCR from Parker Dam downstream to Yuma. ASU captured nine razorback suckers in the vicinity of the Oxbow Recreation Area (Palo Verde Division) in May 2004 ((LCR MSCP 2004). ASU captured an additional 1,100 razorback sucker in these efforts as of July 2006. Small razorback sucker populations are developing near the A-7 Backwater. Overall, survival remains low, yet long-term trends have yet to be determined.

Razorback sucker spawning habitat has not recently been documented in the main LCR channel (Minckley 1993). Razorback sucker spawning has only been observed in Senator Wash Reservoir within the planning area (Minckley 1983, Medel-Ulmer 1993, Kretschmann and Leslie 2006). Senator Wash Reservoir is used to store excess water in the Imperial Division when large floods occur upstream and/or when downstream irrigation needs are low. Water surface fluctuations up to two meters can occur overnight (Kretschmann and Leslie 2006). Kretschmann and Leslie (2006) observed spawning behavior but later failed to find razorback sucker eggs or fry. Eggs and fry are not surviving due to predation from other fish species and large water level fluctuations which expose and desiccate eggs and fry (Kretschmann and Leslie 2006). These same fluctuations prevent or limit establishment of emergent or aquatic vegetation which may also provide razorback sucker habitat (Minckley 1993, Kretschmann and Leslie 2006).

Critical habitat in the planning area includes the LCR and its 100-year floodplain between Poston, Arizona and Imperial Dam. The primary constituent elements of habitat are present but the biological environment (presence of non-native fish) in particular is in a degraded condition.

### **Desert Tortoise (Mohave Population)**

The desert tortoise (Mohave Population) is found in the planning area in California. Neither desert tortoise critical habitat nor DWMA were designated in the planning area. The closest designated critical habitat; the Chemehuevi Unit, located three to four miles west of Lake Havasu City, Arizona, will not be affected by the proposed action. The Chuckwalla DWMA, located a few miles west of Palo Verde, California is administered by the California Desert BLM District. Neither area occurs in the action area.

Desert tortoise habitat in the YFO was categorized in 1989 (USBLM 1989). These habitat categories are based upon field surveys and transects conducted in potential, suitable, or known desert tortoise habitat. Two desert tortoise habitat areas were categorized in the planning area (Map 2a and 2b). The Big Maria Mountains is a category 2 area that totals 7,232 acres. The YFO estimated relative desert tortoise densities of 32 to 55 animals per square mile in this habitat area (USBLM 1989). The Palo Verde Foothills is a category 3 area and totals 9,622 acres. The YFO estimated relative desert tortoise densities of 10 to 24 animals per square mile in this habitat area.

Desert tortoises in the Big Maria Mountains are within the Big Maria ACEC. The desired future condition common to all ACECs includes protection for special status species (desert tortoise). Management actions that would protect desert tortoises within the ACEC include:

- All locatable mineral actions require an approved Mining Plan of Operation;
- New mineral disposal site (sand and gravel pits) would not be authorized;
- OHV use is limited to existing inventoried routes until future route evaluation and designation is completed in the ACEC, and;
- Public use of the ACEC would be limited to day-use only.

Desert tortoises in the Big Maria Mountains are also located within the Blythe Intaglios Heritage RMZ (RMP Map 2-7e USBLM 2007). This RMZ is managed to enhance the preservation and interpretation of cultural resources. Management actions that would protect cultural resources such as intaglios (large geoglyphs on the desert surface) from ground disturbing activities would also protect desert tortoise.

The Palo Verde Foothills desert tortoise habitat area is located within the small portion of the Palo Verde Mountains Wilderness. The remaining wilderness is administered by the California Desert BLM District. Wilderness management provides long-term protection and preservation of all ecological values which includes desert tortoises. The remaining desert tortoise habitat in this area, approximately 8,850 acres, is under no special area designation.

Although desert tortoise or their sign are occasionally found outside of categorized habitat, non-categorized areas are not considered to contain habitat features suitable to support viable desert tortoise populations. Desert tortoise densities are extremely low in these areas. Excluding the two desert tortoise habitat areas and areas along the LCR, there are approximately 12,000 acres of uncategorized desert tortoise habitat in the California-portion of the planning area, of which approximately 3,800 acres is located in isolated sections intermixed with State and NWR lands.

It is very difficult to survey desert tortoises in low density areas (Freilich et al. 2000). To derive desert tortoise densities outside of the habitat areas, we multiplied the average densities of desert tortoises in the habitat areas by 0.1 as done in the case with consultations by the FWS Ventura California Office (USFWS 2007). It was believed that estimating densities at 10 percent of the higher density areas was a reasonable approximation (Ray Bransfield, USFWS pers. comm. April, 4, 2008, USFWS 2007). We assume that based upon an average of 18 desert tortoises found per square mile in the Palo Verde Mountains habitat area that desert tortoise densities are approximately 1.8 desert tortoises per square mile in the uncategorized habitats.

We also assume desert tortoise densities to be lower than 1.8 per square mile in areas dominated by desert pavement soil types. Desert pavement occurs where soil is covered by a single layer of tightly-packed gravel. These areas are typically devoid of any perennial vegetation due to the low infiltration and rapid runoff that occurs during infrequent precipitation. Sufficient quantity and quality of vegetative forage species and vegetative cover are considered important components of desert tortoise habitat (USFWS 1994b). Annual vegetation occurs only when suitable winter precipitation occurs (Turner and Brown 1994). Desert pavement is found in the Senator Wash Reservoir area.

### Yuma Clapper Rail

Clapper rail populations are widespread along the LCR in the planning area. Clapper rail survey results are presented in Table 1.

Location	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Palo Verde Division	0	NS <sup>1</sup>	2	NS	9	NS	3	NS	NS	0	NS
Cibola NWR	41	61	89	49	31	56	60	54	82	42	NS
Imperial Division	104	1	10	23	15	13	21	22	36	29	11
Imperial NWR	37	56	51	11	24	56	46	27	26	47	21
S. Imperial Dam	29	3	NS	27	4	3	34	NS	NS	17	29
Mittry Lake	18	NS	NS	6	NS	NS	10	NS	NS	8	7
Teal Alley	35	34	40	34	32	20	24	23	23	21	27
YPG Slough	37	28	31	23	17	37	51	40	23	33	29
Yuma Division	1	NS	6	NS	2	1	NS	5	1	0	2
Limitrophe Division	6	NS	0	NS	NS	3	NS	NS	9	0	NS

## Southwestern Willow Flycatcher

Willow flycatcher breeding has yet to be documented in the planning area. Willow flycatchers have not been documented nesting downstream of the Bill Williams River-LCR confluence since surveys began in 1995 (McLeod et al. 2007). Migrants moving through the LCR corridor may use BLM-administered lands to travel to breeding grounds and back to Central America for the winter. Two other subspecies of willow flycatcher, (*E. t. brewsteri* and *E. t. adastus*) may also migrate through the LCR corridor (Sogge et al. 1997).

A portion of the Parker-Southerly International Boundary Management Unit of the LCR Southwestern Willow Flycatcher Recovery Unit is located in the planning area. Willow flycatcher habitat in this MU is primarily monotypic exotic tamarisk along the LCR and associated backwaters.

### Critical habitat

There is no designated willow flycatcher critical habitat within the planning area.

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

Natural riverine and floodplain habitats were replaced by reservoirs after construction of the numerous dams along the LCR. Downstream of these dams, effects to sediment inputs and transport, and water temperature occurred. Control of water flows from the large dams to provide for agricultural and municipal/industrial uses and flood control significantly altered the natural river hydrograph and reduced flow variations on a seasonal scale while increasing them on a daily scale. Floodplain protection through levees, channelization by dredging and bank stabilization confined the river channel and eliminated the meandering course through the valleys. Significant changes to species habitats resulted from the direct and indirect effects of these actions. Some of the indirect effects of baseline actions will continue to alter the system into the future until a new equilibrium is reached. Examples of these indirect effects are channel incisement resulting from bank stabilization, prevention of erosive events that provide sediments to the system, and changes in sediment movement and sub-composition below large dams.

Riparian habitats were affected by actions in the environmental baseline in several ways. The large reservoirs drowned out river valleys that once supported floodplains with cottonwood-willow and mesquite woodlands. Controlled flows reduced the potential for seasonal flooding that provided for maintenance, elimination and regeneration of riparian woodlands in a successional cycle. The effects of controlled flows, when combined with levees and stabilized banks that shut off the floodplain and prevented the river from meandering, reduced the opportunity for natural regeneration of riparian vegetation. The lack of natural flooding prevented moist soil conditions needed for seedling establishment and growth. Incised channels worsened the situation for regeneration by dropping the water table under the floodplain woodlands. While adult trees might be able to follow the dropping water table if the change was slow enough, young trees and seedlings could not. Wildfire, conversion to agriculture, and other human development eliminated existing cottonwood-willow and mesquite stands on the floodplain. The inability of the modified river system to provide suitable conditions for riparian woodland establishment and maintenance has resulted in the current low levels of native riparian

habitat on the LCR. This has also encouraged the spread of non-native tamarisk (*Tamarix sp.*) on the LCR. This expansion has further reduced the acreage available and suitable for native riparian trees. Under the present set of conditions, the remaining acreage of cottonwood-willow habitat will be lost and not replaced by the same vegetation type. The mesquite woodlands face similar issues and continue to be lost.

Marshes and backwaters were formed, maintained and ultimately destroyed by the meandering river. Marshes also developed near the confluences with tributary streams such as the Bill Williams and Gila Rivers as well as along the edges of backwater lakes and river channels. Development of agricultural, recreational, residential and commercial areas in the floodplains has eliminated any backwaters or marshes found there. Those that remain are along the river corridor on undeveloped lands. Marshes and backwaters are transitory habitats with a distinct natural aging process. A backwater can be connected to the river or isolated (as in a cut-off oxbow). Once formed, it begins to fill in with vegetation from adjacent riparian or marshes and sediment transported overland or from the river flows. Depending on the size and initial depth of this backwater and the natural flows over the years, the aging process may be rapid or more prolonged. As the backwater becomes shallower, it becomes more and more marsh-like as cattails and bulrush grow in the shallow water. Eventually, even the shallow water is gone, and the marsh may persist for some years. If the river changes its channel away from the backwater/marsh, it may dry out enough to support riparian vegetation. Under natural fluvial processes, backwaters and marshes are actively created and destroyed by the river as it meanders and passively created or destroyed by the natural aging process if the river does not migrate back to the location. Very large floods eliminate most or all backwaters or marshes on the floodplain, but also create new backwaters from the receding waters of the same flood event. Under the present conditions, the river cannot meander and create new backwaters and marshes; however, the existing backwaters and marshes are more permanent since they are not cyclically created and destroyed.

The only backwaters and marshes that will remain in the future are those actively maintained in place by Reclamation or other Federal, Tribal, State or private landowners. Reclamation has a mitigation responsibility to maintain a number of backwaters resulting from NEPA and Fish and Wildlife Coordination Act (FWCA) compliance for various channelization, dredging and stabilization activities. Maintenance largely consists of periodic dredging to set back the natural aging process. Thus, a number of backwaters are artificially maintained in the same place they originally formed. Backwaters not covered by mitigation commitments are not maintained unless a multi-agency group can raise the funds to dredge the backwater.

Aquatic habitats in the LCR have been simplified by the changed flows and channelization of the river. The main channel of the LCR is managed to deliver water efficiently, not to provide a varied habitat for fish. Backwaters, eddies, side channels and other features of a meandering river system are lost as the channel is constricted and incised and the natural hydrograph is eliminated. Nutrient inputs from marshes and riparian areas flooded by spring and summer high flows are lost, as are the shallow waters needed as nursery areas for fish. Eddies, gravel and cobble bars, side channels and braided channels do not provide for efficient delivery of water and have been eliminated or significantly reduced. For example, dredging of wash fans, a significant source of sands, gravels and cobble to the system, reduces this input and further homogenizes the channel. Controlled flows alter water depths and velocities on a daily basis with the effects

greatest below the large dams and attenuated downstream. Depending on water depths, this variation may be enough to dry up connected backwaters and expose spawning or shallow nursery habitats. The conditions in the main channel of the LCR have not improved over the years and conditions will continue to decline as indirect effects of baseline actions continue to occur.

Federal agencies have formally consulted on 19 actions in the planning area which addressed adverse effects to listed species. These actions included management plans, ROWs, utility lines, fire management, habitat improvement projects, and land tenure adjustments.

### **Razorback sucker and its critical habitat**

Razorback sucker have declined in numbers largely due to the introduction and proliferation of nonnative sportfishes such as flathead catfish, largemouth bass, channel catfish, and carp which prey on them and compete for food and space. Before large numbers of non-native fish were stocked into reservoirs, razorback sucker spawning resulted in successful recruitment.

Large dams, such as Glen Canyon and Hoover dams, have greatly decreased the amount of suspended sediment in the LCR (Ligon et al. 1995, Schmidt et al. 1998, and Van Steeler and Pitlick 1998). Razorback sucker evolved in waters with much higher levels of suspended sediment that occurred in the pre-dam period (Johnson and Hines 1999, USFWS 1991, and USFWS 1998). Suspended sediment in rivers generally increases in the spring as a result of peak runoff from spring snow melt (Pitlick and van Steeler 1998). This natural flow and sediment transport regime is altered by water storage in upstream reservoirs (Ligon et al. 1995, Pitlick and Van Steeler 1998, Van Steeler and Pitlick 1998). The average suspended sediment load in the Lower Colorado River was 3.5 times higher than after construction of Glen Canyon Dam (Blinn and Cole 1995). Razorback suckers, particularly young-aged class fish, are more susceptible to predation in clearer water than in more turbid water (Johnson and Hines 1999). Most non-native fish in the LCR are sight feeders, whereas young razorback sucker lack avoidance mechanisms needed to elude visually-oriented predators (Minckley 1983, Johnson et al. 1993).

Riverine habitat in LCR in the planning area has been altered by the construction of the Palo Verde Diversion and Imperial Dam. These structures slow river flow and accumulate large amounts of sediment. Pre-dam, the large washes would have deposited coarse sand and gravel on to alluvial fans in the LCR. These alluvial fans would have provided shallow, coarse substrate spawning areas preferred by razorback sucker (Tyus and Karp 1990, Minckley et al. 1991). Today, slowed water and the lack of large floods allow fine sediment deposition to accumulate behind Imperial Dam. Large wetlands and stands of non-native riparian woodland that became established on the accumulated sediment now hinder sediment transport from large washes into the LCR main channel. There are no alluvial deposits observed from aerial photography along the LCR in the planning area (Mapquest.com February 13, 2008). There are numerous sandbars within the river channel. These deposits are likely to consist of fine sands which are not used as spawning habitat. Sandbars that may be suitable for spawning beds are also popular recreation sites on large rivers and lakes (Asplund and Cook 1999). Thick tamarisk and phragmites stands and large boulder rip-rap limit recreationist access to the LCR shoreline.

These sandbars provide the only sites for camping, picnicking, and resting. Heavy boat traffic over these shallow deposits may also reduce their suitability for razorback sucker spawning.

Pollutants such as petroleum products and runoff from developed recreation facilities or urban areas may reduce water quality for razorback sucker in shallow water areas near boat ramps and developed shorelines. The Environmental Protection Agency (EPA) passed a regulation in 1996 to regulate exhaust admissions from new spark-ignition gasoline marine engines (including outboard engines, personal water craft engines and jet boat engines) due to very high hydrocarbon emissions (EPA 1996). These new emission standards are expected to reduce hydrocarbon emissions by more than 75%. Although originally considered an air quality issue, these new restriction would also limit the amount of hydrocarbons entering the water, reducing hydrocarbon pollution entering the LCR in the future.

Since 1997, FWS-Arizona Ecological Services Office has processed seven formal section 7 consultations involving razorback sucker for Federal actions within the planning area.

### **Desert Tortoise**

Human developments and disturbances have increased the effects of predation, especially in and adjacent to areas experiencing rapid population growth in the planning area. Free-roaming dogs kill hatchlings and young desert tortoises near human development. Ravens, which also kill hatchlings and young desert tortoises, are attracted to human development by garbage and other artificial food sources (Boarman 2002a). Conservation measures established by the BLM are working to address this threat.

Roads and highways affect desert tortoise and their habitats. Direct impacts include road kills and illegal collection. Many tortoises are killed on highways, with mortality rates dependent upon traffic speed and volume, age and width of the road and the density of tortoises in the surrounding area (Boarman 2002b). There is also a desert tortoise population depression zone along highways which may extend up to 0.25 mile (0.4 km) or more from the roadway (Nicholson 1978 In Boarman 2002b). Within this zone, increased vegetation growth, particularly annuals, often occurs as a result of runoff from the impervious pavement surface after rainfall. This vegetation flush attracts desert tortoises to highways where they can be killed on the road, during mowing operations, when vehicles pull off the road, or after they feed on the plants that have been sprayed with herbicides (Boarman 2002b).

Utility corridors (UC) can also directly affect desert tortoise and their habitats. UCs cross areas too remote and rugged for highways, thus impact desert tortoises in areas farther away from other human disturbances. Raven predation has increased as a result of transmission line construction which provides nest structure and perches used for hunting (Boarman 2000a). UCs can affect desert tortoise depending upon the service they provide. Open trenches during pipeline construction can trap desert tortoise causing mortality through overheating or being crushed and /or buried during pipeline installation. Future UC maintenance can affect desert tortoises when authorized and unauthorized vehicles drive along maintenance roads.

Recreational activities in desert tortoise habitat have been documented as a source of mortality. Off-highway vehicles can kill or injure desert tortoise or negatively affect its habitat through

destruction of vegetation needed for forage or cover, or causing soil compaction, destruction of soil crusts, and increase soil erosion.

The LCR MSCP (2004) addressed BOR operations and maintenance on the LCR. The LCR MSCP objective was to provide a long-term framework for compliance with the Act for ongoing, proposed and future projects. Proposed activities related to land conversions to agriculture may result in the loss of 192 acres of desert tortoise habitat. Other desert tortoise habitat may be affected during the development of riparian-wetland habitats for other MSCP-covered species. Desert tortoise habitat site conditions may be too dry for any of these projects to take place. However, infrastructure such as roads and utility lines needed for the development of the other MSCP-covered species may cross desert tortoise habitat. The MSCP plan proposes to acquire up to 230 acres of unprotected occupied desert tortoise habitat to mitigate for the anticipated loss of 192 acres of habitat. Since 1989, Arizona has completed four formal section 7 consultations for desert tortoise in the planning area.

### **Yuma Clapper Rail**

Yuma clapper rails prefer dense stands of cattails with access to open water and shorelines for foraging. Dense cattail with large amounts of dead material from previous years provides less suitable clapper rail habitat. Clapper rails have limited mobility and less foraging and nesting space in these situations. When the Colorado River had a natural hydrograph with high and low water cycles, marshes were created and destroyed with regularity and seldom were in place long enough to become overgrown. After dam construction, natural river processes were constrained and marshes have stabilized. Such stability enables cattail overgrowth to occur. Further, marshes age and become dryer land with the accumulation of sediments and dead plant materials that raise the ground surface above the water. Many LCR marshes exhibit this aging process. Prescribed fire, dredging or other marsh improvement projects, proposed by the BOR and FWS NWRs, create and maintain heterogeneous age-class stands of clapper rail habitat. The most significant areas of clapper rail habitat on the LCR are in Federal ownership and are protected from development pressures.

The number of wildfires varies from year to year in the planning area. The twenty-year annual average is approximately 36 fires, burning an average of 3,022 acres per year. Most of these fires are in the LCR (South) Fire Management Unit (FMU) (LCR from Interstate 10 south to the International Border) (USBLM 2006). Almost all fires on the LCR are human-caused. Most, if not all, clapper rail habitat in the planning area is located within the LCR (South) FMU. This unit has a history of large fires, with a total of eight fires ranging from 240 to 4,100 acres burning over the past 20 years (USBLM 2006). Wildland fire is not likely to kill cattail, unless conditions are such that roots are destroyed (Nelson and Dietz 1966, Beule 1979). Most fires in cattail only burn the above ground biomass and do little to reduce the size of these marshes (Nelson and Dietz 1966). Cattail re-growth within these sites would resume immediately if wildfires occur in winter to early spring (Sojda and Solberg 1993). Cattail densities may actually increase immediately after burning and return to pre-fire densities three to four years post-fire (Ponzio et al. 2004). Fires that occur in the summer would remove clapper rail habitat temporarily until the growing season resumes the following spring.

The magnitude of recreational boating on the lower Colorado River has increased dramatically over the past several decades. Recreational boating is a significant economic input for the local community. Boating affects clapper rails through direct harassment and disturbance of nesting and feeding birds. Clapper rails are flushed from nests which may increase the threat of egg predation. Clapper rails are considered weak fliers and are likelier to run away from disturbance than fly as in the case of other waterbirds (Rodgers and Schwikert 2002). Appropriate buffer zones to prevent boating disturbance to clapper rails is difficult to determine since flushed or disturbed birds may not be observed.

Eddleman (1989) identified selenium as a potential threat to the survival and recovery of the clapper rail. High levels of selenium can result in acute toxicity, chronic poisoning and tissue damage, and reproductive impairment (e.g., developmental abnormalities, embryo mortality, and reduced survival or growth of young) in birds. The LCR (including the Salton Sea and Mexico) does not contain local sources of selenium that contribute to selenium levels in the biological environment. However, the Colorado River in the Upper Basin (Utah, Wyoming and Colorado) picks up selenium from the seleniferous soils of the Mancos shale formations (return flows of irrigation water are the primary vector) and transports it to the LCR. Selenium is concentrated in the water through evaporation, and then becomes deposited into the sediments and can be accumulated by vegetation, invertebrates, and fish. Clapper rails become contaminated through their diet of crayfish, other invertebrates, and fish. Even at the current level of 2 parts per billion in the LCR water, selenium is likely accumulating in sediments and clapper rail forage species. Levels of selenium in LCR-supported clapper rail habitats in the United States and Mexico may have increased over the last 10-15 years due to irrigation returns (historical data on predevelopment selenium levels are not available) and are at levels above that considered of concern for reproductive impairment (King et al. 2000). Earlier studies (Rusk 1991, Roberts 1996, Andrews et al. 1997, Garcia-Hernández et al. 2001) documented selenium as an issue of concern for the clapper rail in the LCR and the Salton Sea, and suggested that it could become a concern in the Cienega de Santa Clara in Mexico.

The LCR MSCP (2004) addressed BOR operations and maintenance on the LCR. The LCR MSCP objective was to provide a long-term framework for compliance with the Act for ongoing, proposed and future projects. Flow-related activities have resulted in take of Yuma clapper rail. Diversions in reaches 3, 4, and 5 will lower groundwater levels sufficiently to reduce habitat quality in 133 acres of Yuma clapper rail habitat (acreages were not separated out by reach in the plan). Proposed mitigation by the LCR MSCP creates or improves up to 512 acres of low value or marginal quality habitat. The MSCP does not specify what reaches this mitigation would occur.

Since 1983, Arizona has completed 11 formal section 7 consultations including the Yuma clapper rail in the planning area.

### **Southwestern Willow Flycatcher**

The most significant factor affecting willow flycatcher within the planning area is habitat loss through fragmentation and vegetation modification. The construction of Morelos, Laguna, and Imperial Dams has interfered with the natural flood regime which is necessary to maintain and establish willow flycatcher breeding habitat. Willow flycatcher nesting has not been

documented in the planning area since the species was federally-listed. The lack of flood pulses, levee construction, rip rapping of shoreline, and narrowing of shorelines due to river regulation may limit the availability of native riparian nesting habitat to develop. However, most willow flycatcher nests have been located in tamarisk which is extremely abundant along the LCR (LCR MSCP 2004). The water delivery management actions that may hinder native riparian vegetation establishment and maintenance are beyond the control of YFO management in the planning area. These water delivery management actions were recently consulted upon and numerous conservation measures were developed to compensate for their effects (FWS file number 02-21-04-F-0161).

Cottonwood and willow replacement by tamarisk and phragmites (*Phragmites sp.*) has changed the historical fire regime on the LCR. Cottonwoods are often killed by fire, but willows and mesquites can re-sprout from the root crowns. Tamarisk become established in riparian communities where native species are stressed by water table declines and where flow regimes that allow for native vegetation establishment and maintenance have been changed or eliminated. As in the case with willow, tamarisk aggressively re-sprouts after burning; however, tamarisk is more efficient in water acquisition and can gain a competitive edge on the LCR (Busch and Smith 1995). Tamarisk flammability increases with the build-up of dead and senescent woody material within the plant community. Dense tamarisk stands can be highly flammable where limited or non-existent flooding allows leaf litter to accumulate (UFSWS 2002b).

The LCR MSCP (2004) addressed BOR operations and maintenance on the LCR. The LCR MSCP objective was to provide a long-term framework for compliance with the Act for ongoing, proposed and future projects. Flow-related activities may result in take of willow flycatcher. Diversions in the action area will lower groundwater level sufficiently to reduce habitat quality in 355 acres of occupied habitat and 214 acres of unoccupied habitat. Proposed mitigation by the LCR MSCP will create at least 4,050 acres of suitable habitat. The RMP does not specify the location of where mitigation will occur. Significant willow flycatcher habitat improvements are expected to occur over the life of the LCR MSCP. Since 1994, Arizona has completed eight formal section 7 consultations involving the southwestern willow flycatcher in the planning area.

## **EFFECTS OF THE ACTION**

Effects of the action refer to the direct and indirect effects on a listed 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.

Most of the 18 resource management actions will not adversely affect listed species. Other resources, in conjunction with the conservation measures will benefit listed species. Effects of fire suppression and fuels management activities on BLM-administered lands in Arizona were analyzed in the Biological and Conference Opinion for the BLM Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management (FWS file number 02-21-03-F-0210). Effects of that BO are summarized briefly below. The YFO RMP BA includes the same

conservation measures for activities within federally-listed species habitats that were included in the 2004 BO (USBLM 2007). The vegetation communities found in the planning area are not fire-adapted or dependent. Therefore the entire YFO planning area is managed as non-fire use.

Mitigation for areas burned by wildfire may include mechanical, biological, chemical, or prescribed fire to maintain non-hazardous levels of fuels, reduce the hazardous effects of unplanned wildland fires, and to meet resource objectives. The YFO did not provide any site-specific information on the prescriptions or appropriate management responses that will be applied in federally-listed species habitats. If YFO plans to include these treatments in habitat for these species, site-specific consultation should occur on these activities prior to implementation to fully analyze potential effects.

## **Razorback Sucker and its Critical Habitat**

### Wildland Fire Management

The BA described indirect effects from wildfire suppression on razorback sucker from increased sediment erosion into habitat. Some erosion may occur during and after fire suppression activities. However, razorback suckers evolved in an environment of highly variable discharge, large annual temperature fluctuation, and high turbidity. These river attributes have decreased significantly since the numerous dam constructions on the entire Colorado River system (Schmidt et al. 1998, Van Steeler and Pitlick 1998). Virtually no suspended sediment passes through the large dams on the LCR (Stevens et al. 2001). Despite sediment inputs from upland sources in the planning area, suspended sediment loads are still lower than pre-dam levels because of the present lower post-dam river flow velocities. Lower velocities decrease the LCR's ability to pick up and transport sediment (USBOR 2002). Razorback sucker are not significantly affected by additional sediment input into the LCR, as a result of erosion after wildfires. The BLM Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management biological opinion anticipated the potential for some harassment of razorback suckers during fire suppression.

### Recreation

The proposed action will increase recreational opportunities in the planning area. YFO manages recreation areas including boat ramps at Senator Wash, Squaw Lake, and the Palo Verde Oxbow; and concession leases with boat ramps and fuel sales at Hidden Shores and Walter's Camp. Discussion of boating management is very limited in the RMP and BA. Specific locations for new boat ramps are not presented in the RMP. The BA describes the potential effects of these facilities on razorback sucker. However, without more specific information only a general determination can be made on the effects of these facilities on razorback sucker. Future projects may require section 7 consultation.

Petroleum products and other potential pollutants are introduced to the river in a variety of locations. Large volume of boat launching in Squaw Lake and Hidden Shores may expose razorback sucker to spilled boat fuel. However, other fish species, such as carp, are commonly seen around these facilities. Water flow at these locations may prevent pollutants from concentrating in the area long enough to cause harm to fish.

Razorback sucker may be disturbed from foraging and shelter areas when approached by boaters and other recreationists. Razorback sucker spawn from January through early April which is a period of low visitor use on the LCR. As earlier stated, razorback sucker spawning has only been reported in Senator Wash Reservoir where non-native fish predation and widely fluctuating water levels severely limit spawning success. As a result, boating in Senator Wash Reservoir and the LCR main channel are not likely to significantly affect razorback sucker spawning.

### **Desert Tortoise**

Desert tortoises that are physically moved to prevent mortality or injury from any YFO-authorized activity could be harmed if not handled properly. Urine and large amounts of urates are frequently voided during handling and may represent a severe water loss, particularly to juveniles (Luckenbach 1982). Desert tortoise drink and store large amounts of water after winter rains to allow them to digest dry grasses and forbs in the summer (Ofstedal et al. 1993, Peterson 1996). If desert tortoises lose stored water, they are unable to eat dry summer forage and starvation may occur (Peterson 1996).

Desert tortoises can overheat if not placed in the shade when ambient temperatures are equal to or exceed temperature maximums for the species (Desert Tortoise Council 1994, revised 1996). YFO will implement a desert tortoise education program and protocol for handling desert tortoise, ensuring that only qualified individuals handle tortoises and that tortoises would only be handled if necessary, which should reduce these potential effects.

### Wildland Fire Management

The RMP proposes to continue full suppression of fire within desert tortoise habitat with minimum surface disturbance, in accordance with guidelines in Duck et al. (1994) and the programmatic Biological and Conference Opinion for the BLM Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management ( FWS file number 02-21-03-F-0210) (USBLM 2004). Fire suppression and fire and fuels management activity-effects on BLM-administered lands in Arizona were analyzed. The 2004 effects are summarized in this document. The RMP proposed action includes the same conservation measures (Appendix B, this document) for minimizing take and managing these activities within special status species habitats that were included in the 2004 BO (USBLM 2006). Most, if not all, wildfires on the YFO occur within the LCR corridor. Direct and indirect effects to desert tortoise are likely to occur when vehicles and equipment are transported, operated, and /or parked outside of the LCR corridor during wildfire suppression activities.

Prescribed fire would be used to maintain non-hazardous fuel levels and reduce the hazardous effects of wildfires. Neither of these activities would occur in desert tortoise habitat due to the extremely low vegetation present in these areas. The YFO did not provide any site-specific information on the prescriptions or appropriate management responses that will be applied in listed species habitats. If YFO plans to include these treatments in habitat for these species, site-specific consultation should occur on these activities prior to implementation to fully analyze potential effects.

## Lands and Realty

Designated utility corridors will overlap both desert tortoise habitat areas. The Big Maria Mountains habitat area will have a utility corridor along Highway 95 which also forms the boundary of the habitat area. Approximately 11 miles of utility corridor will occur within the Palo Verde Foothills habitat area. This corridor will follow Highway 78 for approximately 4.5 miles and an existing powerline for approximately 0.5 mile. The remainder of the utility corridor follows no existing roads or utilities. This new section of corridor is a reroute around the designated wilderness area to the west. Future utilities, such as powerlines, will follow the new utility corridors.

Two communication sites are proposed within the desert tortoise habitat areas. Both sites have existing facilities, however, only the Big Maria site was previously designated as a communication site. Designating the Palo Verde Gap site could lead to increased use and expansion of the site. New facilities especially at the Palo Verde Gap site will result in a loss of habitat.

Ravens are significant predators on hatchling desert tortoise. Transmission line poles and communication towers provide elevated perches that ravens can hunt from more effectively than from lower, natural perches. These structures also provide nesting substrates for ravens which increase predatory pressure when adult ravens are hunting to feed their young (Boarman 2002a). Transmission lines located across the Palo Verde Mountains and along Highway 95 may result in increased raven predation on hatchling desert tortoise. BLM has developed a conservation measure to reduce the attraction of predators (such as ravens) to the maximum extent practicable.

Powerline construction and future maintenance also require road construction in desert tortoise habitat that allows for increased human access. This increases the risk of vehicular collision, wildfire, spread of invasive plants, and illegal collection or killing of desert tortoise. BLM will initiate section 7 consultation for new ROW authorizations that may affect desert tortoise.

## Minerals Resource Management

The Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994) determined that surface disturbance that diminishes the capacity of the land to support desert tortoises and their habitat were found to be "generally incompatible" with recovery. However, the recovery plan makes exceptions for mining on a case-by-case basis so long as desert tortoises and their habitat are not significantly impacted and mitigation and restoration are implemented.

Minerals development may result in habitat alteration or destruction. Habitat alteration would be similar to that described for vegetation treatment projects. Rehabilitation would be required in most cases, meaning that most adverse effects would be temporary.

Based on the almost complete lack of locatable mining activity, the very low potential for mineral extraction in desert tortoise habitat, and requirements for mitigation and restoration, YFO anticipates that adverse effects from locatable mineral extraction in desert tortoise habitat would be limited. The approved Mining Plan of Operation requirement, for all locatable mineral actions, would protect desert tortoises and their habitat.

Mineral development may result in injury or mortality of desert tortoise. Vehicle traffic on the access road would increase the potential for adverse effects related to roads (see also Travel Management, below). Direct effects include desert tortoise being struck by vehicles on roads or injured in their burrows. Trash and debris left at the site are likely to attract ravens and increase the risk of predation.

Public lands in desert tortoise habitat in California, outside of designated wilderness, are available for mineral material extraction at the discretion of the YFO. The YFO will consult with the FWS if pits are proposed in desert tortoise habitat in California in the future.

The RMP recommends withdrawal of the Big Maria ACEC from mineral entry (RMP Table 2-30, Appendix D USBLM 2006). If this action is approved by Congress, the entire desert tortoise habitat area will be protected from mining operations.

### Recreation

Camping, backpacking, horseback riding, and mountain biking are permitted provided these activities do not significantly impact desert tortoise. Camping is concentrated along the LCR and the Imperial Dam Long-term Visitor Area (LTVA) at Senator Wash Reservoir. Commercial recreation or competitive race events may be authorized in desert tortoise habitat. An increase in the number of vehicles increases the probability of death or injury to desert tortoise from vehicle collisions. Commercial recreation and competitive race events require Special Recreation Permits which would be authorized on a case-by-case basis. The YFO would initiate section 7 consultation as part of the planning process for these activities.

Vehicles will be allowed to pull off of designated roads up to 100 feet in the planning area. Desert tortoise mortality and crushing of burrows could occur as a result of vehicles pulling off the road for recreational activities. However, given the relatively low level of public use and vehicle restrictions in the Palo Verde Foothills, Big Maria ACEC and desert areas near Senator Wash Reservoir, the incidence of injury or mortality should be very low. The highest road concentration, where camping occurs, is at Senator Wash Reservoir and Squaw Lake. Most of these camping areas are located on desert pavement where very few desert tortoises are expected to be found.

Special recreation permits will be issued to commercial enterprises, recreational events, and large groups. Special stipulations for desert tortoise protection will be included with these permits to reduce the likelihood of adverse affects. Desert tortoises would also benefit from additional seasonal stipulations that would be imposed to restrict activities that may otherwise result in adverse effects to desert tortoise would also benefit the species.

The Ehrenberg-Cibola Recreation Area Management Plan (RAMP) includes the Palo Verde Foothills and Big Maria Mountains desert tortoise habitat areas. Consultation with the FWS was completed for the Ehrenberg-Cibola RAMP (FWS file number 2-21-93-1-361) with a finding of not likely to adversely affect the desert tortoise.

The Big Maria Mountain desert tortoise habitat area is also located within the Blythe Intaglios Heritage RMZ (RMP Map 2-7e USBLM 2007). This RMZ is managed to enhance the preservation and interpretation of cultural resources. Management actions that protect cultural resources, such as intaglios (large geoglyphs on the desert surface) from ground disturbing activities, would also protect desert tortoise.

Recreational facilities on the California-side of the planning area occur within the Imperial Dam RMZ. This RMZ is located outside of any desert tortoise habitat areas. These facilities are concentrated along the LCR. Recreational use in the surrounding uplands is limited to unimproved roads that lead from one recreation site to another. This area has extremely low desert tortoise densities.

### Travel Management

Desert tortoises may be injured or killed by vehicles traveling on the existing transportation network. However, road miles are not all equal in their effects to desert tortoise due to variables such as road widths, location, and traffic type, speed, and volume. In general, the lower the traffic speed and volume, the lower the likelihood of collision with a desert tortoise. Most scientific literature concerning the effects of transportation systems on wildlife species is based on paved roads with high traffic volumes, traveling at high rates of speed. Desert tortoise habitat in the planning area is bisected by few roads. State highways 78 and 95 are the only two paved roads that cross desert tortoise habitat in the planning area. Both highways are located on the periphery of these habitats.

The Senator Wash Reservoir area contains the majority of dirt roads within desert tortoise habitat in the planning area. Most of these roads cross desert pavement to campsites in the Imperial Dam LTVA along the reservoir or lead to the LCR. There is a very limited time period in which desert tortoise may be adversely affected by road traffic in this area. Most recreational use, outside of holiday weekends in the summer, occurs during the desert tortoise inactive period of October to March. High temperatures that occur during the summer holiday weekends also limit desert tortoise aboveground activity. Most other areas are isolated from vehicle access by the mountainous terrain, LCR, Picacho State Park, or Imperial and/or Cibola NWR.

The RMP route designation process may close specific routes through desert tortoise habitat. Rehabilitation of closed roads or temporary roads that are no longer needed would have moderate short and long-term direct and indirect effects depending upon the habitat and the closure method. Physical closures, such as ripping portions of the road, could result in short-term impacts to desert tortoise through harm, injury or death if done during the activity period. Long-term benefits to desert tortoise would result from closing and rehabilitating roads by eliminating or reversing many of the adverse effects described above.

Road maintenance, especially on remote dirt roads, generally improves vehicle travel conditions that allow increased traffic volume and higher speeds. Such conditions may lead to increased desert tortoise injury or mortality. Desert tortoise could also be crushed by maintenance equipment such as road graders. Road maintenance often involves grading into washes to improve drainage off the road. Desert tortoise could be injured in drainages, and burrows constructed in the banks of washes could be damaged or destroyed. Desert tortoise could be

trapped in collapsed burrows following road maintenance. These adverse effects would be primarily concentrated in the Imperial Dam LTVA at Senator Wash Reservoir. Paved roads within the Imperial Dam LTVA have posted 15 mph speed limits which would decrease the probability of desert tortoise injury or mortality in this area (Mark Lowans, YFO pers. comm. May 1, 2008). The unpaved roads that lead to the North Shore campground at this LTVA are graded as needed. As stated earlier, much of this area is dominated by desert pavement which provides little desert tortoise habitat. Maintenance activity effects to active desert tortoise would be reduced by limiting non-emergency road maintenance to the desert tortoise inactive season, October 15 to March 15. The other desert tortoise areas are protected by wilderness designation or contain roads that are not maintained.

### Special Area Designation

The Big Maria ACEC will continue to provide enhanced management capabilities for desert tortoise, while minimizing adverse effects from other resource management programs. Management prescriptions provided in the RMP and in the future ACEC plans will benefit desert tortoise by elevating this species to the highest priority and focusing management direction toward conservation and recovery efforts.

### **Yuma Clapper Rail**

#### Wildland Fire Management

Yuma clapper rail may be affected by fire suppression actions. The effects of wildfire suppression were previously consulted on in the programmatic consultation with BLM on their statewide fire management activities (FWS file number 02-21-03-F-0210) and are summarized here. Yuma clapper rail habitat suitability could be modified by handline construction and use of backfires. Fire suppression actions could occur in occupied habitats during the nesting season. The proposed action includes conservation measures to avoid or minimize these effects (Appendix B). The probability that fire suppression actions would modify wetland or cattail marsh habitat to the extent that it would no longer be considered suitable for Yuma clapper rails is very low (Nelson and Dietz 1966, Beule 1979).

#### Recreation

The LCR main channel, within the Imperial Division receives heavy boating use as a result of numerous boat ramps (Hidden Shores, Squaw Lake, Martinez Lake, etc). Interior channels and backwaters are narrow and shallow and difficult to gain access to by most boats. It is difficult for large boats to travel at wake creating speeds in these areas. Most access is by canoe or small boat. Clapper rail habitat in Squaw Lake and the Imperial Channel are protected by posted “no wake” zones.

Much of the LCR shoreline is dominated by dense tamarisk, phragmites, and cattail stands that limit camping access and hiking. Typically, cattails grow in thick dense stands that are inaccessible to hikers. LCR recreational use has the potential to impact clapper rail through increased risk of human-caused fire that can temporarily affect cattail habitat. The RMP

proposes to reduce or eliminate campfire use in riparian/wetland areas. Recreation activities that reduce habitat suitability for clapper rail are prohibited.

### **Southwestern Willow Flycatcher**

#### Lands and Realty

There are no proposed land disposals in areas that would directly or indirectly affect willow flycatcher (RMP Map 12e). No utility corridors have been designated along existing lines that would affect willow flycatcher breeding habitat (RMP Map 12e). The RMP states that utilities, outside of designated corridors, would not be placed in priority wildlife habitat areas, which include potential willow flycatcher breeding habitats.

Vegetation removal resulting from issued leases, permits or other authorized activities may decrease some migratory habitat. However, unless this results in long distances between habitat patches of greater than 94 miles (150 km) (Otahal 1998) to 140 miles (225 km) (Yong and Finch 1997), this should not adversely affect the willow flycatcher during migration (USFWS 2002b). Willow flycatcher insect foraging needs during migration can be met from native and introduced plant species such as tamarisk (Owen and Sogge 2002) and is expected to continue given the preponderance of tamarisk along the LCR. Land cover map data from the LCR MSCP Biological Assessment (LCR MSCP 2004) measured 72,172 acres of cottonwood/willow, tamarisk, mesquite and tamarisk/mesquite habitat within the entire planning area. Tree removal resulting from YFO-authorized leases or permits are not likely to be a significant impact to migrating willow flycatcher as is it not likely to cause great distances between available foraging habitats.

#### Vegetation Management

Vegetation treatments would not be authorized in willow flycatcher habitats or in areas adjacent to potential habitat during the spring migration and nesting season (May through August). Although not currently known to breed in the planning area, this protection may protect unknown breeding willow flycatchers. Therefore, willow flycatchers are not likely to be adversely affected by vegetation treatments.

Indirect effects of vegetation restoration and treatments may include changes to plant community composition and species dynamics. The duration of these indirect effects depends upon the degree of tamarisk removal. As stated above under Land and Realty, willow flycatcher migratory habitat is plentiful in the planning area. Total tamarisk removal may permit cottonwood and willow establishment where suitable hydrologic conditions (protection from scouring floods and shallow water table) exist. Willow flycatcher would be benefited if native vegetation is restored and catastrophic wildfire risk in tamarisk-dominated habitat is reduced.

#### Fire and Fuels Management

Fire use and suppression effects could include disturbance from fire line construction through habitat, fire crew or vehicle presence during suppression, and loud noise from gasoline-powered equipment, fireboat and helicopter use. Fuel reduction projects in tamarisk communities may be

implemented to protect structures and important wildlife habitat. These actions can temporarily affect habitat and reduce its suitability for foraging or rest during migration. However, given the preponderance of migratory habitat within the planning area, it is unlikely that these disturbances would be significant.

### Recreation

Recreational use in riparian areas along the LCR and Gila River has the potential to impact migrating willow flycatcher as a result of noise and disturbance. These activities may compact soils and remove and impair vegetation regeneration, and increase trash, pollution, and human-caused fires that may degrade habitat. The potential for recreational activity to produce negative impacts depends on the frequency, intensity, location, and type of use, and is often determined by ease of access to riparian areas. As the frequency and intensity of use increases, the creation and use of new trails would also increase access.

Existing recreational use levels have not prevented suitable willow flycatcher migratory habitat from developing on the LCR. Willow flycatchers do not appear to be adversely affected by recreational use along the LCR during migration. This can be a result of high temperatures in the early summer and/or high availability of migratory habitat in the planning area.

The YFO has implemented a 72-acre riparian restoration project on the Pratt Agricultural Lease and adjacent South Mittry Lake Restoration area. To date, 15 acres have been re-vegetated with cottonwood and willow. This site is adjacent to the Betty's Kitchen National Recreation Trail (NRT). Although willow flycatchers have not nested at this site, the YFO anticipates that birds may begin to when the project is completed. Early summer recreationists hiking, picnicking, or bird watching may disturb willow flycatchers when birds are establishing territories and nesting sites. Mid-to-late-summer recreation use at the Betty's Kitchen NRT is limited by the high temperatures that coincide with the willow flycatcher breeding season.

## **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.

The planning area has experienced considerable growth in the last decade and projections for future growth indicate the trend will continue. Many activities outside of the Federal nexus occur and are expected to continue in Federally-listed species habitat, as described below.

### **Razorback Sucker and its Critical Habitat**

As areas along the LCR become developed, the amount of non-point source pollution being carried into razorback sucker habitat and critical habitat is likely to increase. There are numerous washes that drain developed lands in the towns and cities into the LCR. Razorback sucker may be adversely affected by these pollutants if they are spawning in the shallow areas where these washes enter spawning areas. Recreational site development and encroachment

around occupied reaches and designated critical habitat may further fragment or destroy upland or riparian vegetation and negatively affect water quality and quantity, and the primary constituent elements of critical habitat. Continued visitation and recreation could affect water quality by increasing petroleum product spills and contaminants as well as discharging treated and un-treated sewage. Recreation activities may also result in increased disturbances to fish and their spawning areas.

Because of the 2002 EPA transfer of the section 402 Clean Water Act National Pollutant Discharge Elimination System (NPDES) program to the State of Arizona, further economic development of private lands near rivers will require less Federal permitting. Continued development will lead to more public use of the river and shoreline areas eliminating opportunities to restore historical wetlands and flood plains for fish habitats.

### **Desert Tortoise**

The primary cumulative effect in the planning area for desert tortoise is continued development on private lands. Communities in and around the Arizona-California border have experienced tremendous growth over the last decade. Desert tortoise loss will occur in these developing areas. If significant population growth occurs in or adjacent to desert tortoise habitat increased recreation, illegal activities (e.g. trash dumping, off-highway vehicle use, collection of tortoises), and elevated predation of tortoises by dogs and ravens are likely to occur. The exact locations and size of new developments or of additions to existing developments cannot be stated with certainty, though the YFO anticipates considerable growth adjacent to existing communities.

Traffic will continue to increase on roads and highways causing increases in fires and habitat destruction, and the spread of invasive plant species. Traffic may also increase on secondary and un-maintained roads in desert tortoise habitat, leading to higher desert tortoise mortality rates from vehicular impacts.

Desert tortoise mortality may occur from illegal shooting. A high percentage of desert tortoise carcasses from the western Mohave Desert show evidence of having been shot (Berry 1986). The stability of desert tortoise populations is highly dependent on low adult mortality. Adults are the most visible segment of the population and the most susceptible to death or injury by gunshot. This problem has the potential to become more serious as human populations continue to increase in the planning area.

### **Yuma Clapper Rail**

There will be additional future demands for water placed on the LCR. Water supply needs for cities and agriculture in Arizona, Nevada and California may result in future efforts to manipulate the LCR's course which may decrease available marsh habitats. The exact locations and sizes of new developments or of additions to existing developments can not be stated with certainty.

### **Southwestern Willow Flycatcher**

The planning area is largely Federal lands, either under management by United States International Water and Boundary Commission (USIBWC), BLM, or BOR. All future Federal actions will undergo section 7 consultations as needed. However, the planning area is part of the international boundary between the United States and Mexico, and there is considerable activity from illegal border crossing throughout the area. This increased human activity may disturb birds during migration or negatively impact migratory habitat from fires set by illegal immigrants.

Large tamarisk stands, which may provide migratory habitat, are found on private lands on and adjacent to the Gila River in the planning area. Most of these habitats are adjacent to agricultural land in the Wellton-Mohawk Irrigation District. Willow flycatcher habitat loss could occur if additional lands are cleared for farming.

As development increases on private lands along the LCR and Gila River it can be anticipated that increased recreation effects and wild fire risk are likely to occur.

## **CONCLUSIONS**

The conclusions of this biological opinion are based on the project as described in the “Description of the Proposed Action” section of this document. Conservation measures incorporated into this project as implemented will further reduce project effects. After reviewing the current status of the desert tortoise, Yuma clapper rail, southwestern willow flycatcher, and razorback sucker, along with the environmental baseline for the planning area, the effects of the proposed actions, and the cumulative effects, it is our biological opinion that the Yuma Resource Management Plan is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify designated razorback sucker critical habitat.

We note that this biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service* (No. 03-35279) to complete the following analysis with respect to critical habitat.

We base these conclusions on the following reasons:

### **Razorback Sucker and its Critical Habitat**

1. Most of the RMPs proposed actions maintain or improve the physical and vegetation components of razorback sucker habitat.
2. Actions that may have negative effects on razorback sucker critical habitat generally will include measures to minimize those effects.
3. The YFO will analyze all projects and plans completed under this RMP for effects to razorback suckers, and request consultation if necessary.

### **Desert Tortoise**

1. The proposed action would affect a relatively small amount of desert tortoise habitat in California. The Big Maria and Palo Verde Foothills desert tortoise habitat areas are immediately adjacent to areas categorized by the BLM California Desert District as habitat category 3. These habitats are not essential to maintenance of viable populations (USBLM 1989).
2. Most of the planning area in California is uncategorized desert tortoise habitat. This area has extremely low desert tortoise densities due to low quality habitat. Much of this area is dominated by desert pavement, which is generally devoid of perennial vegetation, or steep, rugged mountains which are not generally used by desert tortoise in the Mohave Desert.
3. The RMP includes numerous conservation measures, as part of the proposed action, to protect desert tortoise during surface disturbing activities and fire suppression.
4. The RMP does not propose to dispose of any desert tortoise habitat.

### **Yuma Clapper Rail**

1. Many of the proposed actions in the RMP, including emergent and riparian vegetation establishment projects, will maintain or improve clapper rail habitat.
2. Large clapper rail habitat patches within the planning area are located on the Cibola and Imperial NWRs, and the Mittry Lake Wildlife Area. These habitats are protected by regulation established by the NWRs and AGFD, and would not be significantly affected by BLM activities.

### **Southwestern Willow Flycatcher**

1. To date, willow flycatchers have not been documented breeding on YFO-administered lands in the planning area (Koroniewicz et al. 2004, McLeod et al. 2005).
2. Many of the RMPs proposed actions will generally maintain or improve the habitat for willow flycatchers.
3. The YFO will analyze all projects and plans completed under this RMP for effects to listed species, including the willow flycatcher, and request future consultation if necessary.

4. The YFO proposes a number of conservation measures that act together to reduce or eliminate potential adverse effects from the RMP.
5. Vegetation treatments will avoid the willow flycatcher migration and breeding seasons.

### **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.

### **AMOUNT OR EXTENT OF TAKE**

#### **Razorback Sucker**

We can not conclude that there is a reasonable certainty for take of individual razorback sucker from implementation of the proposed action except for fire management. Individual razorback suckers may be subjected to mild temporary disturbance associated with recreational use of shallow waters and shorelines. However, we do not anticipate that this disturbance would rise to the level of take. Specific spawning locations, outside of Senator Wash Reservoir, in the planning area are unknown. However, the peak recreational use period in the summer occurs when razorback sucker would not be using the shallow waters for spawning. Overall, given persistence of the species and the heavy boat traffic within the planning area, razorback sucker have likely become habituated to this disturbance (L. Fitzpatrick, FWS pers. comm. February 25, 2008).

Incidental take in the form of harassment was anticipated in the BLM LUP Amendment BO due to fire suppression and remains the same in this BO. (FWS file number 02-21-03-F-0210).

#### **Desert Tortoise**

Recreation and travel management in the two desert tortoise habitat areas was consulted on in 1993 (FWS file number 2-21-93-1-361). The FWS concurred that the Ehrenberg-Cibola Recreation Area Management Plan implementation was not likely to adversely affect desert tortoises.

Desert tortoise densities outside of the Palo Verde Foothills and Big Maria Mountains desert tortoise habitat areas are very low (USBLM 2007). Desert tortoise habitat located outside of the two habitat areas will be designated as a Limited OHV Management Area (Appendix D Map 2-8e, USBLM 2006). OHV use will be limited to existing, inventoried or designated routes. There are very few roads that pass through un-categorized desert tortoise habitat. The only paved roads in these areas are the Imperial and Senator Wash roads. Most of Imperial Road is separated from desert tortoise habitat by the All-American Canal. The Senator Wash Road, leading from Imperial Dam to Squaw Lake, is four miles in length. Both of these roads provide access to the BOR facilities along the LCR; Imperial Dam and the Senator Wash Reservoir pumping station. They are located on BOR-withdrawn lands therefore they are not under YFO administration or authority.

Most unpaved roads are concentrated in an area one and one-half square miles around Senator Wash Reservoir. This area includes large tracts of desert pavement. Approximately two miles of un-paved roads pass through un-categorized desert tortoise habitats elsewhere in the planning area.

Incidental take may occur as a result of the proposed utility corridors and resultant structure construction. Future towers and powerlines may attract ravens and increase localized predation on desert tortoise hatchlings. Desert tortoises may be killed during construction and use of associated access roads. The RMP does not provide specific information on these proposed utility corridors. Site specific projects will be consulted upon in the future.

We anticipate that incidental take of desert tortoises could occur as a result of minerals exploration and development. Incidental take is expected to be in the form of harm (injury or mortality related to project activities, increased human access and uses) and/or harassment (resulting from habitat degradation or loss, or moving animals out of harm's way). We anticipate that incidental take of desert tortoises could occur as a result of implementing the RMP. During project implementation, desert tortoises found in harm's way may be captured and moved. Due to special area designation protections, few projects are proposed in either of the two desert tortoise habitat areas. Areas outside of these habitat areas have very low desert tortoise densities. We estimate that five tortoises will be taken over the life of the project. A tortoise refers to one desert tortoise or one clutch of desert tortoise eggs.

This estimate is based upon the small number of desert tortoises that occur in the planning area, the timing of surface disturbing activities during the tortoise inactive period, the additional protections provided by special area designation of a majority of the desert tortoise habitat areas (wilderness, ACEC, and the Blythe Intaglios Heritage RMZ).

In the Statewide consultation on BLM lands for fire and fuels, we anticipated that incidental take of desert tortoises could occur as a result of fire suppression. Almost all wildfires occur outside of desert tortoise habitat, within the LCR corridor. Incidental take is mostly likely to occur when vehicles and equipment are driven, operated, and parked outside of the corridor during suppression activities. The portion of incidental take already anticipated to occur in the action area is as follows:

1. Two desert tortoises every two years resulting from the following activities: a) operation of vehicles and equipment; b) development of crew camps, equipment staging areas, and aircraft landing/fueling sites; c) construction of firelines; d) use of retardants; and e) setting of backfires.
2. Five desert tortoises every five years as a result of moving animals from harm's way during fire suppression activities.

### **Yuma Clapper Rail**

The established “no wake” zones in Squaw Lake, Imperial Channel, and associated backwaters and narrow channels decrease the disturbance potential of recreational boating and fishing on Yuma clapper rail. Current levels of boating and other recreational uses have not prevented clapper rail numbers from stabilizing over the past five years (USFWS 2006). Outside of occasional harassment of individual birds in the vicinity of heavy boating use, effects from boating are likely insignificant to the population. We do not believe this harassment rises to the level of take. Clapper rails are likely to have become habituated to boat traffic in heavy use areas such as the Imperial Division (L. Fitzpatrick, FWS pers. comm. February 25, 2008).

Although boat wakes are known to flood waterbird nests elsewhere (Asplund 2000), clapper rails generally nest well within the interior of large cattail stands. Dense vegetation buffers the effects of boat wakes reducing their potential effect to clapper rail nests (L. Fitzpatrick, FWS pers. comm. February 25, 2008). Many clapper rail nesting areas, outside of the LCR main channel, are “no wake” zones, which also limits nest flooding.

As a result, we anticipate the only incidental take of clapper rails from RMP implementation would be that already identified in the BLM LUP Amendment BO regarding incidental take anticipated due to fire and fuels management projects (FWS file number 02-21-03-F-0210). This incidental take is incorporated into the current biological opinion as follows:

“We anticipate that incidental take of clapper rails could occur as a result of prescribed fire. We anticipate this incidental take will be difficult to detect because specific project areas have not been identified, the species is secretive, it occurs in dense vegetation unsafe to access during a fire, and dead or impaired birds would not likely be found following a fire. YFO proposes using prescribed fire within 100 acres of clapper rail habitat during the course of this plan (Appendix C). Prescribed burns will not take place during the breeding/molting season (conservation measure CR-2). Clapper rail nests would not be destroyed, and rail would be capable of flight to avoid active fire. There would be no direct loss of birds. Take of this species can be anticipated by loss of 100 acres of habitat to prescribed burns within a two-year period. Pre-project surveys are part of the proposed action (conservation measure FT-3). The amount of harassment can also be quantified based on the number of birds detected during these pre-project surveys. This will be the level of take due to harassment anticipated as a result of each site-specific project, and will be determined during site-specific consultation for these projects. The incidental take is anticipated to be in the form of harassment resulting from temporary loss of habitat

from prescribed burns, resulting in loss of cover and food in the burned area for up to two years.”

We do not anticipate mechanical or chemical treatments would result in incidental take of clapper rails because the conservation measures are expected to be effective in preventing such take from occurring.

### **Southwestern Willow Flycatcher**

Our effects analyses found that incidental take of willow flycatcher in the planning area would be difficult to detect due to the preponderance of migratory habitat that is available in the LCR corridor. Migrating willow flycatchers are also known to use many different vegetation communities outside of the LCR during migration.

Although the effects analysis found that some proposed activities could potentially disturb willow flycatchers we do not anticipate this to rise to the level of take. Migrating willow flycatchers are in the planning area for a short period of time and they are spread out over a large area during migration. The likelihood of incidental take is also lowered because of the numerous conservation measures in the proposed action.

Incidental take was identified in the BLM LUP Amendment BO due to fire and fuels management projects (FWS file number 02-21-03-F-0210). However, no breeding birds are known in the action area, therefore no take is anticipated.

### **EFFECT OF THE TAKE**

In this biological opinion, the FWS determines that these levels of anticipated take are not likely to result in jeopardy to the federally-listed species addressed in this consultation.

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

In order to be exempt from the prohibitions of section 9 of the Act, YFO must comply with the following terms and conditions, which implement the reasonable and prudent measures (RPM) and outline reporting/monitoring requirements. The terms and conditions (TC) are non-discretionary.

#### **Razorback Sucker**

The FWS completed a biological opinion for the BLM LUP Amendment BO regarding incidental take anticipated due to fire and fuels management projects (FWS file number 02-21-03-F-0210). That opinion issued an incidental take statement to cover this species if fire suppression adversely affected razorback sucker. The BLM LUP Amendment BO determined that the following reasonable and prudent measure and term and condition were necessary and appropriate to minimize take of razorback sucker from fire suppression activities:

RPM1. Minimize the effects of harassment of razorback sucker.

TCa. The BLM shall coordinate all fire suppression actions along and adjacent to the Lower Colorado River with FWS during the razorback sucker spawning season (January 1 to June 30).

No additional incidental take is anticipated as a result of implementing other YFO-administered activities described in the proposed action, therefore, there are no additional reasonable and prudent measures and terms and conditions are required under this consultation for razorback sucker.

### **Desert Tortoise**

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

RPM1. BLM shall implement programs and procedures to minimize injury or mortality of tortoises except if precluded by protection of property, or human safety.

TCa. All equipment taken into desert tortoise habitat will be cleaned and free of any noxious weed seeds and/or propagules prior to use.

TCb. For drilling activities, where technically and economically feasible, use directional drilling, or horizontal, or multiple wells from the same pad to reduce surface disturbance.

TCc. Powerlines shall include anti-perching mechanisms to discourage ravens. Monitoring of such use may be necessary. Powerline alignment should be kept within existing utility corridors, where feasible.

RPM2. BLM shall take measures to minimize incidental take from recreational activities and travel.

TCa. Upon implementation of the route designation/closure plan, make available to the public a route designation map that displays all open routes and clearly explains vehicle, camping, recreational, and other public use regulations and opportunities in the desert tortoise habitat.

TCb. Use various mechanisms of public outreach to inform the public about the desert tortoise. These mechanisms may include interpretive displays, news releases, and open houses.

Although incidental take is anticipated to desert tortoise associated with Fire Management, as stated in the 2004 LUP BO, all reasonable measures to minimize take have been incorporated into the conservation measures. Therefore, no reasonable and prudent measures are given for fire suppression.

### **Yuma Clapper Rail**

One reasonable and prudent measure and term and condition was issued in the 2004 BO, and is repeated here.

RPM1. Minimize disturbance to Yuma clapper rails during prescribed fire activities.

TCa. To allow for a better estimate of the number of birds in the affected area, BLM or their designated representative shall conduct surveys of the site to be prescribed burned during the breeding season prior to the burn. Since prescribed fires would be conducted during September to March, the surveys shall be done the preceding March to May.

No additional incidental take is anticipated as a result of implementing the proposed action, therefore, there are no new reasonable and prudent measures and terms and conditions required under this consultation.

### **Southwestern Willow Flycatcher**

No incidental take is anticipated as a result of implementing the proposed action, therefore, there are no reasonable and prudent measures and terms and conditions required under this consultation.

## **REPORTING REQUIREMENTS**

The BLM shall submit annual monitoring reports to the AESO by February 1 beginning in year 2010. These reports shall briefly document for the previous calendar year the effectiveness of the terms and conditions and locations of listed species observed, and, if any are found dead, suspected cause of mortality. The report shall also summarize tasks accomplished under the conservation measures and terms and conditions. The report shall make recommendations for modifying or refining conservation measures and terms and conditions to enhance listed species protection or reduce needless hardship on the YFO and its permittees.

### **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 YFO:

1. Conduct surveys in all desert tortoise habitats in the planning area to determine population density estimates. Desert tortoises have not been surveyed in the planning area since 1989. Coordinate with the survey protocols being evaluated and developed by the DTRPAC to determine which survey protocol will be most appropriate for this area.
2. Record and document all desert tortoise sightings (tortoises and sign) into appropriate special status species databases for future work.
3. Support and participate in annual clapper rail monitoring in the planning area. The RMP states that clapper rail surveys will be done every other year; however, the multi-agency protocol is to conduct surveys annually (Conway 2005). The clapper rail five-year review identifies the need for improved standardization of clapper rail surveys (USFWS 2006).
4. Continue to support inventories and monitoring of southwestern willow flycatcher and their habitats.

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 actions 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.

In keeping with our trust responsibilities to American Indian Tribes, we are providing for participation of the Bureau of Indian Affairs (BIA) in this consultation and, by copy of this memorandum, are notifying the Chemehuevi Tribe, Havasupai Tribe, Hopi Tribe, Quechan Tribe, Colorado River Indian Tribe, Fort Mojave Tribe, Kaibab Band of Paiute Indians, Hualapai Tribe, and the Navajo Nation. We also encourage you to coordinate with the BIA and invite all affected Tribes to participate in the consultation process.

We appreciate your efforts to identify and minimize effects to listed species from the proposed action. If you have any questions about this document, please contact Dave Smith (928) 226-0614 or Mary Richardson (602) 242-0210 (x242). For further information on project implementation please contact Erin Fernandez (520) 670-6150 (x238) or Jim Rorabaugh (520) 670-6150 (x230).

/s/ Debra Bills for

Steven L. Spangle

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ  
 Director, Environmental Protection, Chemehuevi Indian Tribe, Havasu Lake, CA  
 Director, Environmental Protection, Colorado River Indian Tribes, Parker, AZ  
 Director, Wildlife Conservation, Fort Mojave Indian Tribe, Fort Mohave, AZ  
 Manager, Natural Resources Department, Hopi Tribe, Kykotsmovi, AZ  
 Manager, Wildlife & Parks, Hualapai Tribe, Peach Springs, AZ  
 Director, Game and Fish Department, Quechan Tribe, Yuma, AZ  
 Honorable Chairman, Chemehuevi Indian Tribe, Havasu Lake, CA  
 Honorable Chairman, Fort Mojave Indian Tribe, Fort Mohave, AZ  
 Honorable Chairman, Hopi Tribe, Kykotsmovi, AZ  
 Honorable Chairman, Hualapai Tribe, Peach Springs, AZ  
 Honorable Chairman, Havasupai, Supai, AZ  
 Honorable Chairman, Kaibab Band of Paiutes, Fredonia, AZ  
 Honorable Chairman, Navajo Tribe, Window Rock, AZ  
 Honorable Chairman, Cocopah, Somerton, AZ  
 Director, Bureau of Indian Affairs, Phoenix, AZ  
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## **APPENDIX A. CONCURRENCE**

### **Sonoran Pronghorn (*Antilocapra americanus sonoriensis*)**

We concur with your determination that the proposed action may affect but is not likely to adversely affect the Sonoran pronghorn for the following reasons:

1) The proposed action implements or supports the following Recovery Tasks from the 2003 Supplement and Amendment to the 1998 Final Revised Sonoran Pronghorn Recovery Plan (USFWS 2003):

- Task 1.53 Investigate expansion of present range through barriers such as east of Highway 85, south of Highway 2 in Mexico, north of Interstate 8, Wellton Canal, fences, agriculture (portions of the Wellton-Mohawk Irrigation and Drainage District) to Gila River historical habitat;
- Task 1.6 Investigate potential competition in areas where livestock occur in Sonoran pronghorn habitat. If competition occurs, evaluate decreasing livestock numbers to eliminate negative effects on Sonoran pronghorn;
- Task 2.21 Determine evaluation techniques; use recent literature to evaluate techniques applicable to the Sonoran pronghorn;
- Task 2.22 Determine habitat criteria for reintroduction based on habitat use preferences learned from collared Sonoran pronghorn;
- Task 2.243 Determine habitat status and availability of preferred forage at reintroduction sites;
- Task 2.242 Determine necessity for fencing;
- Task 2.243 Determine status and availability of preferred forage; and
- Task 2.44 Determine if available water at release site is sufficient.

2) There are 3,402 acres of pronghorn habitat in the planning area administered by the YFO; however it is located within the northern-most portion of the current distribution of pronghorn and pronghorn observations in this part of their range have been rare and infrequent. It is not likely that pronghorn occur within these YFO-administered lands because they are located along Interstate 8 and is mostly isolated by agricultural and residential use. Therefore, potential direct effects to pronghorn from the proposed action are discountable.

3) Because the closest area frequented by pronghorn, the North Tactical Range (NTR) of the Barry M. Goldwater Range, is located outside, to the south, of the planning area administered by the YFO, we do not anticipate activities associated with the proposed action will adversely impact pronghorn using the NTR.

4) Some of the actions associated with the proposed action, such as those that support or implement recovery tasks for the pronghorn, are expected to be wholly beneficial. For example, the project area may contain potential pronghorn re-establishment habitat in the Palomas Plain. The first re-establishment in the vicinity of the project area would likely occur in the King Valley of the Kofa National Wildlife Refuge (pronghorn would likely be established as non-essential, experimental population under 10(j) of the ESA). If successful these animals may at some point disperse onto BLM lands. However, should this occur, for the purposes of section 7, these pronghorn would be treated as a proposed species on YFO-administered lands, assuming they are re-established under a 10(j) rule.

## **APPENDIX B. CONSERVATION MEASURES**

The following conservation measures are from Appendix 2-C of the RMP (USBLM 2006) and were referenced in the BA (USBLM 2007). These conservation measures originated from the BLM Arizona State Office Proposed Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management (USBLM 2004). These conservation measures will be implemented as part of the proposed action for all management activities that YFO authorizes. These conservation measures, as listed, were developed for all BLM Field Offices in Arizona. Not all conservation measures may be applicable to implementation in the YFO planning area. For example, the YFO planning is considered non-fire use in the RMP.

### **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 (MIST) will be followed in all areas with known federally protected species or habitat (Interagency Standards for Fire and Aviation Operations 2003).
  
- 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 (FCR) 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 should be coordinated with the USFWS, through the Resource Advisor.
- FS-5** Crew camps, equipment staging areas, and aircraft landing and fueling areas should 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 would be consulted to ensure habitat damage and other effects to listed species are minimized and documented. The Resource Advisor should 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).
- FS-6** All fire management protocols to safeguard federally protected species will be coordinated with local fire suppression agencies that conduct fire suppression on BLM-administered lands to ensure that the agency knows how to minimize impacts to federally protected species in the area.
- FS-7** The effectiveness of fire suppression activities and Conservation Measures for federally protected species should be evaluated after a fire, when practical, and the results shared with the USFWS and AGFD. Revise future fire suppression plans and tactical applications as needed and as practical.

### **Fuels Treatments, Prescribed Burning and other Fuels Management Actions**

The following Conservation Measures are mandatory when implementing wildland fire use, prescribed fires, and proposed vegetation treatments using mechanical, chemical, and/or biological treatment methods:

- FT-1** Biologists will be involved in the development of prescribed burn plans and vegetation treatment plans to minimize effects to federally protected species and their habitats within, adjacent to and downstream from proposed project sites. Biologists will consider the protection of seasonal and spatial needs for federally protected species (*e.g.*, avoiding or protecting important use areas or structures and maintaining adequate patches of key habitat components) during project planning and implementation.
- FT-2** MIST will be followed in all areas with known federally protected species or habitats.
- FT-3** Pre-project surveys and clearances (biological evaluations/assessments) for federally protected species will be required for each project site before implementation. All applicable Conservation Measures will be applied to areas with unsurveyed suitable habitat for federally protected species, until a survey has been conducted by qualified personnel to clear the area for the treatment activity.

- FT-4** Use of motorized vehicles during prescribed burns or other fuels treatment activities in suitable or occupied habitat will be restricted, to the extent feasible, to existing roads, trails, washes, and temporary fuel breaks or site-access routes. If off-road travel is deemed necessary, any cross-country travel paths would be surveyed prior to use and would be closed and rehabilitated after the prescribed burn or fuels treatment project is completed.
- FT-5** As part of the mandatory fire briefing held prior to prescribed burning, all personnel (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.

### **Rehabilitation and Restoration**

- RR-1** When rehabilitating important areas for federally listed species that have been damaged by fire or other fuels treatments, the biologist will give careful consideration to minimizing short-term and long-term impacts. Someone who is familiar with fire impacts and the needs of the affected species will contribute to rehabilitation plan development. Appropriate timing of rehabilitation and spatial needs of federally listed species will be addressed in rehabilitation plans.
- RR-2** Seed from regionally native or sterile alien (non-native) species of grasses and herbaceous vegetation will be used in areas where reseeding is necessary following ground disturbance to stabilize soils and prevent erosion by both wind and water.
- RR-3** Sediment traps or other erosion control methods will be used to reduce or eliminate influx of ash and sediment into aquatic systems.
- RR-4** Use of motorized vehicles during rehabilitation or restoration activities in suitable or occupied habitat will be restricted, to the extent feasible, to existing roads, trails, or washes, and to temporary access roads or fuel breaks created for fire suppression, prescribed burn, or fuels treatment activities to occur. If off-road travel is deemed necessary for rehabilitation or restoration purposes, any cross-country travel paths would be surveyed prior to use and would be closed and rehabilitated after use.
- RR-5** All temporary roads, vehicle tracks, skid trails, and off-road vehicle (ORV) trails resulting from fire suppression and the proposed fire management activities will be rehabilitated (water bars, etc.), and be closed or made impassible for future use.
- RR-6** Burned area emergency rehabilitation (BAER) activities and long-term restoration activities should be monitored, and the results provided to the USFWS and AGFD. Section 7 consultation for BAER activities will be conducted independently, if necessary.
- RR-7** **(Recommended)** Develop public education plans that discourage or restrict fires and fire-prone recreation uses during high fire-risk periods. Develop brochures, signs, and

other interpretive materials to educate recreationists about the ecological role of fires, and the potential dangers of accidental fires.

### **Fire Management Activities in Riparian and Aquatic Habitats**

The following Conservation Measures be implemented during fire suppression and fuels treatment operations in riparian, wetland, or aquatic habitats, unless firefighter or public safety, or the protection of property, improvements, or natural resources, render them infeasible during a particular operation. Fuels treatment activities include prescribed fire and mechanical, chemical, and/or biological vegetation treatments in riparian, wetland, and aquatic habitats. 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.

- RA-1** During wildfire suppression, apply MIST within riparian areas. Fire suppression actions in riparian areas should be prioritized to minimize damage to stands of native vegetation from wildfire or suppression operations. To the extent possible, retain large, downed woody materials and snags that are not a hazard to firefighters.
- RA-2** Fire suppression and rehabilitation in riparian corridors will be coordinated with the Resource Advisor or qualified biologist approved by BLM.
- RA-3** Site-specific implementation plans that include project areas with federally protected aquatic or riparian-obligate species will specify fire management objectives and wildland fire suppression guidance, taking into account the special concerns related to these species.
- RA-4** In riparian areas, use natural barriers or openings in riparian vegetation where possible as the easiest, safest method to manage a riparian wildfire. Where possible and practical, use wet firebreaks in sandy overflow channels rather than constructing firelines by hand or with heavy equipment.
- RA-5** Construction or development of a crossing for motorized vehicles across a perennial stream will not be permitted, unless an established road already exists or where dry, intermittent sections occur.
- RA-6** Avoid the use of fire retardants or chemical foams in riparian habitats or within 300 feet of aquatic habitats, particularly sites occupied by federally protected species. Apply operational guidelines as stated in the *Interagency Standards for Fire and Fire Aviation Operations 2003 (or updates)*, “Environmental Guidelines for Delivery of Retardant or Foam Near Waterways.”
- RA-7** Priority for placement of fire camps, fire staging areas, and aircraft landing or refueling sites will be outside riparian areas or river/stream corridors.
- RA-8** When using water from sources supporting federally protected species, care must be taken to ensure adverse impacts to these species are minimized or prevented. Unused

water from fire abatement activities will not be dumped in sites occupied by federally protected aquatic species to avoid introducing non-native species, diseases, or parasites.

- RA-9** If water is drafted from a stock tank or other body of water for fire suppression, it would not be refilled with water from another tank, lakes, or other water sources that may support non-native fishes, bullfrogs, crayfish, or salamanders.
- RA-10** Use of containment systems for portable pumps to avoid fuel spills in riparian or aquatic systems will be required.
- RA-11 (Recommended)** Develop and implement restoration plans for affected riparian or aquatic areas, including long-term monitoring, to document changes in conditions in the riparian zone and watershed that maintain flood regimes and reduce fire susceptibility. Monitor stream water quality and riparian ecosystem health to determine effects of wildfire and fire management activities. Coordinate efforts and results with the USFWS and AGFD.
- RA-12** Fire management treatments within or adjacent to riparian and aquatic habitats be designed to provide long-term benefits to aquatic and riparian resources by reducing threats associated with dewatering and surface disturbance, or by improving the condition of the watershed and enhancing watershed function.
- RA-13** For priority fire/fuels management areas (e.g., wildlife-urban interface (WUI) areas) with federally protected species or designated critical habitat downstream, BLM biologists and other resource specialists, as appropriate, in coordination with USFWS and AGFD, determine:
- A) The number of acres and the number of projects or phases of projects to occur within one watershed per year.
  - B) An appropriately-sized buffer adjacent to perennial streams in order to minimize soil and ash from entering the stream.
  - C) Where livestock grazing occurs in areas that have been burned, specialists will determine when grazing can be resumed. Such deferments from grazing will only occur when necessary to protect streams from increased ash or sediment flow into streams.<sup>1</sup>

If agreement cannot be reached or treatment would not meet fuel reduction objectives, BLM will re-initiate consultation. Our authority to make these types of changes is in the regulations at 43 CFR 4110.3-3(b).

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<sup>1</sup>"Project" means any surface-disturbing activities proposed that may cause disturbance of desert tortoise habitat and/or death or injury of a desert tortoise, with the exception of grazing by livestock and activities associated with fire suppression.

## Species Specific Conservation Measures

In addition to the general Conservation Measures listed in **Section 1.0**, the following species-specific Conservation Measures will be applied to management actions in special status species habitats to the extent possible, and will be required during fuels and vegetation treatment activities. Necessary modifications of the Conservation Measures or impacts to federally protected species and habitat during implementation of management actions will be documented by the BLM biologist, and coordinated with the FWS.

### Desert tortoise, Mojave population

#### DT-1. Minimize or eliminate effects to desert tortoise from authorized projects<sup>1</sup>.

**DT-1.A.** For each authorized project<sup>1</sup>, BLM will designate a field contact representative (FCR) who will be responsible for overseeing compliance with these conservation measures and for coordination on compliance with the FWS. The FCR will be a qualified biologist approved by BLM, and will have the authority and the responsibility to halt all project activities that are in compliance with these conservation measures. These individuals will have a copy of these conservation measures while on the work site.

**DT-1.B.** To the extent possible, project features will be located in previously-disturbed areas or outside of desert tortoise habitat.

**DT-1.C.** To the extent possible, project activities will be scheduled when tortoises are inactive (October 15 through March 15). The following project activities will only be authorized between October 15 through March 15: surface disturbance associated with mineral leasing; organized, non-speed vehicular events; construction and non-emergency maintenance activities in ROWs; and non-emergency maintenance of existing roads.

**DT-1.D.** Pre-construction surveys will be conducted to locate desert tortoises that may be injured or killed as a result of proposed activities. Projects will be altered or tortoises in harm's way will be relocated to avoid lethal take of tortoises in project areas. Prior to any surface-disturbing activities associated with "projects," work sites will be surveyed for desert tortoises by a qualified biologist approved by BLM. Areas of new disturbance will be surveyed with 100-percent coverage.

**DT-1.D.1.** Between October 15 and March 15 any new disturbance will be preceded by 100-percent surveys conducted within one week of the proposed activities. During surveys, occupied desert tortoise burrows in or within 40 feet of areas to be disturbed will be excavated using hand tools under the supervision of an authorized biologist. Tortoises discovered in burrows will be relocated. Burrows will then be collapsed or blocked to prevent entry by tortoises. Desert tortoises and any desert tortoise eggs found in areas to be disturbed will be relocated in accordance with conservation measure DT-1.D.4. All handling of desert tortoises and their eggs will be in accordance with conservation measure DT-1.D.4.

**DT-1.D.2.** For project activities occurring during the desert tortoise active season (March 15 through October 15), surveys will be conducted within 24 hours of initiation of surface-disturbing activities. For surface-disturbing activities conducted from March 15 to October 15 in desert tortoise habitat, construction and operation activities will be monitored by a qualified desert tortoise biologist approved by BLM. The biologist will be present during all activities in which encounters with tortoises may occur. The biologist will watch for tortoises wandering into construction areas; check under vehicles; check at least three times per day any excavations that might trap tortoises; and conduct other activities necessary to ensure that death or injury of tortoises is minimized.

**DT-1.D.3.** Only biologists authorized and permitted by the Service and Arizona Game and Fish Department will handle desert tortoises. Additional biologists could be authorized if BLM submits the name(s) of the proposed authorized biologist(s) to the Service for review and approval at least 15 days prior to the onset of activities that could result in a take. Minimum requirements for authorized biologists include attending the Desert Tortoise Council's training course for handling desert tortoises and/or training by an authorized biologist. Authorized biologists must have all valid state and federal permits.

**DT-1.D.4.** The authorized biologist will maintain a record of all desert tortoises encountered during project activities. This information will include for each desert tortoise:

1. The 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 location moved to
4. Diagnostic markings (i.e. identification numbers of marked lateral scutes)  
Desert tortoises that are handled will be marked for future identification. An identification number (using the acrylic paint/epoxy technique) will be placed on the 4th costal scute (Fish and Wildlife Service 1992). No notching of scutes or replacement of fluids with a syringe is authorized.

**DT-1.E.** If a tortoise or clutch of tortoise eggs is found in a project area, to the extent practicable activities will be modified to avoid injuring or harming it. If activities cannot be modified, the tortoise/clutch will be moved from harm's way by an the authorized biologist the minimum distance possible within appropriate habitat to ensure its safety from death, injury, or collection associated with the project or other activities. The authorized biologist will have some discretion to ensure that survival of each relocated desert tortoise/clutch is likely. Desert tortoises/clutches will not be translocated to lands outside the administration of the Federal government without the written permission of the landowner. Handling procedures for desert tortoises and their eggs will adhere to protocols outlined in Desert Tortoise Council (1994 with 1996 revisions).

**DT-1.F.** Areas of new construction or disturbance will be flagged or marked on the ground prior to construction. All construction workers will strictly limit their activities and vehicles

to areas that have been marked. Construction personnel will be trained to recognize markers and understand the equipment movement restrictions involved.

**DT-1.G.** A desert tortoise education program will be presented to all project personnel that may encounter tortoises; such as employees, inspectors, supervisors, contractors, and subcontractors; prior to initiation of activities that may result in disturbance of desert tortoise habitat or death or injury of desert tortoises. The education program will include discussions of the following:

1. legal protection of the desert tortoise and sensitivity of the species to human activities;
2. a brief discussion of desert tortoise distribution and ecology;
3. the terms and conditions of applicable biological opinions;
4. project features designed to reduce adverse effects to desert tortoises and their habitat, and to promote the species' long-term survival;
5. protocols during encounters with desert tortoises and associated reporting requirements; and
6. the definition of take and penalties for violations of Federal and State laws.

**DT-1.H.** During the tortoise active season (March 15 through October 15), project features that might trap or entangle desert tortoises such as open trenches, pits, open pipes, etc will be covered or modified to prevent entrapment.

**DT-1.I.** Long-term or permanent project sites in which continued encounters with desert tortoises are expected (such as construction of schools under an R&PP lease, roads, power plants, or office buildings) will be enclosed with desert tortoise barrier fencing to prevent tortoises from wandering onto the project site where they may be subject to collection, death, or injury. Barrier fencing should consist of wire mesh with a maximum mesh size of 1-inch (horizontal) by 2-inch (vertical) fastened securely to posts. The wire mesh will extend at least 18 inches above the ground and preferably 12 inches below the surface of the ground. Where burial is not possible, the lower 12 inches will be folded outward, away from the enclosed site, and fastened to the ground so as to prevent tortoise entry. Any gates or gaps in the fence will be constructed and operated to prevent desert tortoise entry (such as installing "tortoise guards" similar to cattle guards, and/or keeping gates closed). Specific measures for tortoise-proofing gates and gaps will be addressed project by project. Once fence construction is complete, all tortoises within the fence will be relocated outside the fence in accordance with conservation measure DT-1.D.4. If more than 20 tortoises be relocated from any one area enclosed by a fence, the Bureau or NPS will contact the Service in regard to disposition of the animals. After the area within the fence has been cleared of tortoises, construction and operation activities may occur within the fence without the presence and monitoring of a biologist (see conservation measure DT-1.D.).

- DT-1.J.** Temporary fencing, such as snow fencing, chain link, and other suitable materials will be used in designated areas as determined by the Bureau to reduce encounters with tortoises from March 15 to October 15 on short-term projects, such as construction of power lines, burial of fiber optic cables, etc, where encounters with tortoises are likely.
- DT-1.K.** Blading of work areas will be minimized to the extent possible. Disturbance to shrubs will be avoided if possible. If shrubs cannot be avoided during equipment operation or vehicle use, wherever possible they will be crushed rather than excavated or bladed.
- DT-1.L.** Project vehicle use will be limited to designated routes (existing routes prior to designation) to the extent possible.
- DT-1.M.** At no time will vehicle or equipment fluids be dumped on public lands. All accidental spills must be reported to BLM and cleaned up immediately, using the best available practices according to the requirements of the law. All spills of federally or State-listed hazardous materials that exceed reportable quantities will be promptly reported to the appropriate State agency and the BLM.
- DT-1.N.** Vehicles associated with Bureau-authorized projects traveling on unpaved roads in desert tortoise habitat will not exceed speed limits established by the Bureau as necessary to protect desert tortoises. These speed limits will generally not exceed 40 mile per hour even on the best-unpaved roads but may be much less than this on some roads.
- DT-1.O.** New paved roads and highways in desert tortoise habitat or major reconstruction or modifications of existing paved roads through desert tortoise habitat will be fenced with desert tortoise barrier fencing (see DT-1.I. and J.). Culverts, to allow safe passage of tortoises, will be constructed approximately every mile of new or reconstructed paved road (culverts can also serve the more typical purpose of conducting water under roads). The culvert diameter needed to encourage tortoise use is correlated with culvert length, but generally short culverts of large diameter are most likely to be used. The floor of the culvert will be covered with dirt and maintenance should be performed as necessary to maintain an open corridor for tortoise movement. Culvert design will be coordinated with and approved by the Service.
- DT-1.P.** Unleashed dogs will be prohibited in project areas.
- DT-1.Q.** Temporary access routes created during project construction will be modified as necessary to prevent further use. Closure of access routes could be achieved by ripping, barricading, posting the route as closed, and/or seeding and planting with native plants.
- DT-1.R.** To reduce attraction of potential desert tortoise predators, project sites in desert tortoise habitat will be maintained in a sanitary condition at all times; waste materials at those sites will be placed in covered receptacles and disposed of promptly at an appropriate waste disposal site. "Waste" refers to all discarded matter, including, but not limited to,

human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment. All reasonable effort will also be taken to reduce or eliminate water sources associated with project activities that might attract ravens and other predators.

**DT-1.S.** After completion of the project, trenches, pits, and other features in which tortoises could be entrapped or entangled, will be filled in, covered, or otherwise modified so they are no longer a hazard to desert tortoises.

**DT-1.T.** After project completion, measures will be taken to facilitate restoration. Restoration techniques will be tailored to the characteristics of the site and the nature of project impacts. Techniques may include removal of equipment and debris, recontouring; and seeding, planting, transplanting of cacti and yuccas, etc. Only native plant species, preferably from a source on or near the project area, will be used in restoration.

**DT-2** Take appropriate action to suppress all wildfires in desert tortoise habitat.

**DT-2.A.** 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-2.B.** 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 two 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 two 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-2.C.** 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-2.D.** 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 should be transported to a qualified veterinarian by an authorized biologist. Should any treated desert tortoise survive, the USFWS should be contacted regarding final placement of the animal.
- DT-2.E.** 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-2.F.** 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-1.E.
- DT-2.G.** 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 should provide direction and leadership during off-road travel because of their expertise and knowledge of area sensitivities.
- DT-2.H.** Fire-related vehicles will drive slow enough to ensure that tortoises on roads can be identified and avoided.
- DT-2.I.** 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-2.J.** 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 or NPS, whenever feasible. Any tortoises found will be moved to a safe location in accordance with FS-2 and DT-1.E. All personnel located at these facilities will avoid disturbing active tortoise shelter sites.

- DT-2.K.** 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-2.L.** 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-2.M.** Use of foam or retardant is authorized within desert tortoise habitat.
- DT-2.N.** Rehabilitation of vegetation in tortoise habitat will be considered, including seeding, planting of perennial species, etc.
- DT-2.O.** 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-2.P.** The effectiveness of wildfire suppression activities and desert tortoise Conservation Measures will be evaluated after a wildfire. Procedures will be revised as needed.

### **Southwestern willow flycatcher**

#### **WF-1. Management Guidance for Fire Suppression and Related Actions**

- WF-1.A.** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats.
- WF-1.B.** Except where fires are active in occupied habitat, minimize unnecessary low-level helicopter flights during the breeding season (April 1 – September 30). Approach bucket dip sites at a 90-degree direction to rivers to minimize flight time over the river corridor and occupied riparian habitats. Locate landing sites for helicopters at least ¼ mile from occupied sites to avoid impacts to willow flycatchers and their habitat.
- WF-1.C.** Minimize use of chainsaws or bulldozers to construct firelines through occupied or suitable habitat except where necessary to reduce the overall acreage of occupied habitat or other important habitat areas that would otherwise be burned.
- WF-1.D.** Implement activities to reduce hazardous fuels or improve riparian habitats (prescribed burning or vegetation treatments) within occupied or unsurveyed suitable habitat for southwestern willow flycatchers only during the non-breeding season (October 1 to March 31).

- WF-1.E.** Avoid developing access roads that result in fragmentation or a reduction in habitat quality. Close and rehabilitate all roads that were necessary for project implementation.
- WF-1.F.** Prescribed burning will only be allowed within 0.5 mile of occupied or unsurveyed suitable habitat when weather conditions allow smoke to disperse away from the habitat when birds may be present (breeding season of April 1 – September 30).
- WF-1.G.** Vegetation treatment projects adjacent to occupied or unsurveyed suitable habitat will only be conducted when willow flycatchers are not present (October 1 – March 31).
- WF-1.H.** Continue to implement the riparian fire management plan to minimize fire damage in riparian areas, especially those with suitable or potential flycatcher habitat.

### **Yuma clapper rail**

#### **CR-1. Management Guidance for Fire Suppression and Related Actions**

- CR-1.A.** Implement the Conservation Measures for Fire Management Activities in Riparian and Aquatic Habitats.
- CR-1.B.** Any prescribed fire or vegetation treatment project in occupied or suitable marsh habitat only occur between September 1 and March 15 to avoid the Yuma clapper rail breeding and molting seasons.
- CR-1.C.** Mechanical removal of overstory habitat (e.g. tamarisk) could occur as early as August 15, after the breeding season for Yuma clapper rails.
- CR-1.D.** Herbicide application will not occur in Yuma clapper rail habitat and drift-inhibiting agents will be used to assure that the herbicide does not enter adjacent marsh areas.
- CR-1.E.** Evaluate past surveys for Yuma clapper rails as part of the planning for prescribed fire projects. Post-project surveys should also be conducted to document the re-growth of cattail habitats and occupancy by clapper rails.
- CR-1.F.** After fire suppression is completed in Yuma clapper rail habitat, review any available survey records of the burn site and record in the fire report the number of rails recorded from the vicinity during these surveys.

**APPENDIX C.  
DESERT TORTOISE MONITOR AND  
BIOLOGIST RESPONSIBILITIES AND QUALIFICATIONS**

**DESERT TORTOISE MONITOR** -- Approved by the FWS 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 FWS 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