United States Department of the Interior
U.S. Fish and Wildlife Service
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In Reply Refer To:

January 28, 2009

AESO/SE
22410-2008-F-0219

Ms. Cindy Lester
U.S. Army Corps of Engineers
Los Angeles District, Phoenix Office
3636 North Central Avenue, Suite 900
Phoenix, Arizona 85012

RE: Bill Williams River Bridge Fire Damage Repair

Dear Ms Lester:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated October 30, 2008, and received by us on October 31. At issue are impacts that may result from the Corps of Engineers (Corps) issuance of a section 404 permit to the Arizona Department of Transportation (ADOT) for the proposed Bill Williams River Bridge Fire Damage Repair project located in La Paz and Mohave counties, Arizona. The proposed action may affect the endangered bonytail (*Gila elegans*), razorback sucker (*Xyrauchen texanus*), and Yuma clapper rail (*Rallus longirostris yumanensis*).

In your letter requested our concurrence that the proposed action is not likely to adversely affect bonytail critical habitat in Lake Havasu. We are not able to concur with your finding due to the risk of toxic materials entering the water in the event of a spill.

This biological opinion is based on information provided in the October, 2008, biological assessment, other information provided during meetings and discussions on the proposed action, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, the potential effects of repair materials and actions on aquatic habitats or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation History

The proposed action is necessitated by the July 28, 2006, accident on the bridge in which a fuel tanker overturned and caught fire. Burning fuel ran off the bridge deck and damaged the concrete on the underside of the bridge and portions of the deck structure. ADOT initiated a project to repair the damage and we were contacted in March, 2008, to discuss potential effects of the repair operations. Several meetings and conference calls were held between FWS, ADOT and their contractors, and the Corps to evaluate project plans and design protective measures to include in the proposed action. We received the request for formal consultation on October 30, 2008, and replied on November 10, 2008, that the information provided was sufficient to initiate formal consultation.

January 5, 2009: We sent the draft BO to the action agency.

January 20, 2009: We received the comments on the draft BO.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to repair fire damage to spans 8, 9, and 10 of the State Route 95 (SR95) bridge over the Bill Williams River located 0.3 miles east of its confluence with Lake Havasu. The proposed action consists of replacing the east deck overhang and barriers, patching and sealing distressed concrete on the underside girders, replacement of all expansion joint seals, and sealing the entire bridge deck with epoxy polymer and aggregate overlay. Staging areas proposed are existing cleared areas at the paved pull-off lot north of the bridge and the unpaved dirt lot south of the bridge. Details of the work actions and the materials to be used are found in the biological assessment (ADOT 2008). The proposed repair action is currently scheduled to be initiated in fall 2009 with activities expected to take approximately three months.

Some of the materials to be used in the repair are environmentally harmful if they enter aquatic habitats. The proposed action contains a conservation measure to require the contractor to put a debris and liquid containment system around the main work area at spans 8, 9, and 10 and specifies how damaged portions of the bridge would be removed to reduce the risk of material falling into the water. The containment system will capture solid debris and minimize the potential for liquids and soft materials from falling into the water below the bridge.

Other conservation measures included in the proposed action are:

1. ADOT will, in coordination with the Bill Williams River National Wildlife Refuge (Refuge), review and approve the procedures outlined in the Spill Prevention and Containment Measures Plan and Stormwater Control Plan (Spill Plan) developed by ADOT's contractors. ADOT will monitor the implementation of these Plans to ensure compliance.

2. Within 10-working days of the initiation of construction, ADOT's Environmental Planning Group (EPG) will hire a qualified biological monitor to remain at the site during construction activities conducted over water. The biological monitor will also conduct biological resource awareness training for the construction personnel.

3. The contractor:

    a. Shall not allow construction work to occur between February 15 and July 31 of any year.

    b. Shall not pump water from the Bill Williams River for any reason.

    c. Shall not perform any of the work from the abutments or embankments, nor from the surface of the river.

    d. Shall develop and implement a Spill Plan for working over water.

    e. Shall develop and implement a Stormwater Control Plan for all areas not covered by the Spill Plan (this includes staging areas, non-point source spills containment and clean-up, and concrete washout activities).

    f. Shall contact ADOT EPG 10 working days prior to the start of construction to arrange for a qualified biological monitor to be present during construction activities and perform environmental awareness training to construction personnel.

    g. Shall, in the event of a breech of containment, cease all construction until the spill is addressed and further spills are prevented. The contractor will notify the biological monitor on site, who will contact ADOT EPG. EPG will contact the appropriate agency biologist to evaluate effects to habitat. The contact list will be located in the Spill Plan.

The proposed action would occur within the boundaries of the Refuge inside ADOT's existing right-of-way for SR95. The bridge spans the Bill Williams River shortly before the river enters into Lake Havasu; one of three large water storage reservoirs on the lower Colorado River. The uplands surrounding the project area supports vegetation communities associated with the lower Sonoran desertscrub, including creosote-bursage, mesquite, and palo verde associations. At the project site, cattail marsh and aquatic communities are present.

STATUS OF THE SPECIES AND CRITICAL HABITAT (rangewide and/or recovery unit)

Bonytail

Listing History

The bonytail (*Gila elegans*) was listed as an endangered species on April 24, 1980 with an

effective date of May 23, 1980. The Bonytail Chub Recovery Plan was updated in 1990 (U.S. Fish and Wildlife Service 1990) and Recovery Goals were approved in 2002 (U.S. Fish and Wildlife Service 2002a). Critical habitat was designated in six river reaches in the historical range of the bonytail chub on March 21, 1994, with an effective date of April 20, 1994. In the Lower Colorado Rive Basin, critical habitat was designated in Lake Mohave, Lake Havasu, and a portion of the Colorado River above Lake Havasu.

Further information on the status of this species is summarized on our web page (www.fws.gov/southwest/es/arizona) under Document Library, Document by Species. If you do not have access to the Internet or can not otherwise access the information, please contact this office.

Species Description

The bonytail chub is one of the three closely related members of genus *Gila* found in the Colorado River. Confusion about the proper taxonomy and the degree of hybridization between the bonytail chub, the humpback chub, (*Gila cypha*), and the roundtail chub, (*G. robusta*), has complicated examinations of the status of these fish. The bonytail chub was originally described from specimens taken in Arizona (Baird and Girard 1853). The bonytail chub is a highly streamlined fish with a very thin, pencil-like, caudal peduncle and large, falcate fins (Allan and Roden 1978). A nuchal hump may be present behind the head. Maximum length is about 23 inches (600 millimeters [mm]), with 12-13 inches (300-350 mm) more common (U.S. Fish and Wildlife Service 1990). Weights are generally less than two pounds (one kilogram [kg]) (Vanicek and Kramer 1969). Bonytail chub are long-lived fish; some have reached at least 49 years of age (Minckley 1985).

Life History

The bonytail chub 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 (U.S. Fish and Wildlife Service 1993). With the confusion between the bonytail chub and roundtail chub arising from use of the common names “bonytail chub” and “trout” for both species, specific information on abundance may be lacking. However, the FWS is reasonably certain that records from the Lower Colorado River were bonytail chub and not roundtail chub. Records from the late 1800’s and early 1900’s indicated the species was abundant in the lower Colorado and Gila River drainages (Baird and Girard 1853, Kirsch 1889, Gilbert and Scofield 1898, Miller 1961).

With their streamlined bodies, bonytail chub appear to be adapted to the Colorado River and large tributary streams. Even with these adaptations, this species does not select areas of high velocity currents and use of pools and eddies by the fish is significant (Vanicek 1967, Vanicek and Kramer 1969). Grinnell in 1914 captured bonytail chubs in a backwater along the Lower Colorado River. There is limited information on migrations or other movements.

Spawning takes place in the late spring to early summer (Jonez and Sumner 1954, Wagner 1955) in water temperatures about 64^{o}F (18^{0}C) (Vanicek and Kramer 1969). Riverine spawning of the bonytail chub has not been documented; however in reservoirs, gravel bars or shelves are used

(Jonez and Sumner 1954). Bonytail chub may be flexible in their spawning habitat needs as evidence from successful spawning in hatchery ponds at Dexter National Fish Hatchery and raceways at Willow Beach National Fish Hatchery.

Habitat needs of larval and juvenile bonytail chubs are not well known. Few larvae have been identified in the Lower Basin; in the Upper Basin, there is confusion between larvae of the bonytail chub and other chubs, so interpreting data is difficult. It is known that young prey on aquatic invertebrates, especially chironomid larvae and mayfly nymphs (Vanicek and Kramer 1969). It is likely that quiet water habitats are preferred habitats for young fish, given the success of raising them in man-made ponds. Backwaters temporarily or permanently connected to the main river channel are also believed to be important habitat for all life stages.

Since 1997, additional information on the number of founders to the bonytail chub broodstock held at Dexter National Fish Hatchery and Technology Center (DNFH&TC) has been developed (Hedrick *et al.* 2000) that provided information on the amount of genetic variability in the broodstock. The genetic quality of fish produced from the brood stock is suitable for reintroduction; although there is a need to obtain additional wild-born fish to augment the broodstock. The DNFH&TC staff performed additional genetic analyses and developed a new broodstock based on this genetic information.

Status and Distribution

The range-wide trend for the bonytail chub is for a continued range-wide decrease in wild populations due to lack of sufficient recruitment of young adults with the loss of old adults due to natural mortality. Loss of the extant wild populations is expected. Extinction of this fish in the wild throughout its historic range is being forestalled by the stocking of sub-adult fish into the Upper Colorado River Basin, lakes Mohave and Havasu and below Lake Havasu in the Lower Colorado River. These stockings are intended to create populations of young adults that may be expected to persist for 40-50 years. The success of this stocking has apparently been limited, with few fish found after stocking.

While it is expected that these young adults will reproduce, the successful recruitment of wild-born young fish to the population may not occur without additional management of habitat and biological factors. Management and research on these populations will be critical to provide for the survival and recovery of the species.

Critical Habitat: Constituent Elements

Critical habitat for the bonytail is defined by three primary constituent elements:

1. Water: a quantity of water of sufficient quality (i.e. temperature, dissolved oxygen, lack of contaminants, nutrients, turbidity, etc.) that is delivered to a specific location in accordance with a hydrologic regime that is required for the particular life stage for each species.

2. Physical habitat: this includes areas of the Colorado River system that are inhabited or potentially habitable by fish for use in spawning, nursery, feeding, and rearing, or corridors between these areas. In addition to river channels, these areas also include bottomlands, side channels, secondary channels, oxbows, backwaters, and other areas of the 100-year floodplain, which when inundated provide spawning, nursery, feeding, and rearing habitats, or access to these habitats.

3. Biological environment: Food supply, predation, and competition are important elements of the biological environment and are considered components of this constituent element. Food supply is a function of nutrient supply, productivity, and availability to each life stage of the species. Predation and competition, although considered normal components of this environment, are out of balance due to introduced nonnative fish species in many areas.

At the time of designation of critical habitat, all river reaches and floodplains occupied by the species had been extensively modified by past human activities. These activities had significantly affected the water, physical habitat, and biological habitat constituent elements of the designated reaches. Those alterations, as well as how each reach related to the constituent elements, were discussed in the biological support document (U.S. Fish and Wildlife Service 1993) for each designated reach. All designated areas are considered essential for the conservation of the species, with the recognition that not all areas to be designated met all the essential features of critical habitat. These areas require special management or other actions to ensure their value to the species conservation was not compromised. As formal section 7 consultations on proposed Federal actions have been completed with regard to critical habitat, the environmental baselines were updated to reflect the results of those consultations.

Threats

Designated critical habitat in the species range is occupied by bonytail chub populations. No critical habitat areas are considered pristine or unmodified. Changes to water flow and physical habitat conditions from the pre-development patterns have had significant impacts to habitat quality; however, the areas remain capable of supporting the species at some level. The biological environment has also changed significantly with the introduction of non-native fish species. The non-native fish may be the greatest impediment to survival and recovery of the bonytail.

Effects of Federal Actions on the Species

Federal actions that may have adverse effects to the bonytail undergo section 7 consultation. These actions include water management actions involving water release patterns from dams, and changes to existing water diversions or new diversions. The Colorado River Recovery Implementation Program (CRRIP) in the Colorado and Utah and the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) in Arizona, California and Nevada provide conservation for the species to offset the effects of water management.

Consultation History

The range of the bonytail extends across several states and FWS office jurisdictions. The number of informal and formal consultations completed for this species is significant. We only have information for Arizona, and formal consultations completed after 2000 are listed in Appendix A.

Razorback sucker

Listing History

The razorback sucker (*Xyrauchen texanus*) was first proposed for listing under the Endangered Species Act (Act) on April 24, 1978, as a threatened species. The proposed rule was withdrawn on May 27, 1980, due to changes to the listing process included in the 1978 amendments to the Act.

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. The finding stated that a status review was in progress and provided for submission of additional information through December 15, 1989. The proposed rule to list the species as endangered was published on May 22, 1990, and the 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 (U.S. Fish and Wildlife Service 1998). Recovery Goals were approved in 2002 (U.S. Fish and Wildlife Service 2002b).

Critical habitat was designated in 15 river reaches in the historical range of the razorback sucker on March 21, 1994, with an effective date of April 20, 1994. 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 Lower Colorado River Basin.

Further information on the status of this species is summarized on our web page (www.fws.gov/southwest/es/arizona) under Document Library, Document by Species. If you do not have access to the Internet or cannot otherwise access the information, please contact this office.

Species Description

The razorback sucker is the only representative of the genus *Xyrauchen* and was described from specimens taken from the “Colorado and New Rivers” (Abbott 1861) and Gila River (Kirsch 1889) in Arizona. This native sucker is distinguished from all others by the sharp-edged, bony keel that rises abruptly behind the head. The body is robust with a short and deep caudal peduncle (Bestgen 1990). The razorback sucker may reach lengths of 40 inches (1001 mm) and weigh 11 to 13 pounds (five to six kg) (Minckley 1973). Adult fish in Lake Mohave reached about half this maximum size and weight (Minckley 1983). Razorback suckers are long-lived, reaching the age of at least the mid-40’s (McCarthy and Minckley 1987).

Life History

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 (U.S. Fish and Wildlife Service 1993). Records from the late 1800's and early 1900's indicated the species was abundant in the lower Colorado and Gila rivers (Kirsch 1889, 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 species remaining populations.

Adult razorback suckers use most of the available riverine habitats, although there may be an avoidance of whitewater type habitats. Main channel habitats used tend to be low velocity ones such as pools, eddies, nearshore runs, and channels associated with 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. three feet [one meter]) during spring, and deeper water (five to six feet [two meters]) during winter.

Data from radio-telemetered razorback suckers in the Verde River showed they used shallower depths and slower velocities than in the upper basin. They avoided depths <1.3 feet (0.3 meter), but selected depths between 2.0 and 3.9 feet (0.6 and 1.2 meters), which likely reflected a reduced availability of deeper waters compared to the larger upper basin rivers. However, use of slower velocities (mean = 0.1 foot/sec[0.03 meter/sec]) may have been an influence of rearing in hatchery ponds. Similar to the upper basin, razorback suckers were found most often in pools or runs over silt substrates, and avoided substrates of larger material (Clarkson *et al.* 1993).

Razorback suckers 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 (U.S. Fish and Wildlife Service 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 from 50º to 68º F (10° to 20° C) are appropriate (summarized in Bestgen 1990). They typically spawn over cobble substrates near shore in water 3-10 feet (one to three meters) deep (Minckley *et al.* 1991). 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 (U.S. Fish and Wildlife Service 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.

Razorback suckers are somewhat sedentary; however, considerable movement over a year has been noted in several studies (U.S. Fish and Wildlife Service 1998). Spawning migrations have been observed or inferred in several locales (Jordon 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 (U.S. Fish and Wildlife Service 1998). In the Verde River, radio-tagged and stocked razorback suckers tend to move downstream after release. Larger fish did not move as much from the stocking site as did smaller fish (Clarkson *et al.* 1993).

Razorback sucker diet varies depending on life stage, habitat, and food availability. Larvae feed mostly on phytoplankton and small zooplankton and, in riverine environments, on midge larvae. Diet of adults taken from riverine habitats consisted chiefly of immature mayflies, caddisflies, and midges, along with algae, detritus, and inorganic material (U.S. Fish and Wildlife Service 1998).

Status and Distribution

The razorback sucker is endemic to the Colorado River Basin and formerly occurred in all major rivers and larger streams in the Basin. Now listed as endangered due to declining or extirpated populations throughout the range of the species, the razorback was once the most widespread and abundant of the Basin's big-river fishes. In the Verde River it persisted north to near the headwaters till the mid-1950s in numbers abundant enough to be a food item for aboriginal inhabitants and later settlers (Minckley and Alger 1968, James 1993). Since the arrival of Euro-Americans in the southwest, the range and abundance of razorback sucker has been devastated by water manipulations, habitat degradation, and importation and invasion of nonnative species. Construction of dams, reservoirs, and diversions destroyed, altered, and fragmented habitats needed by the sucker. Channel modifications reduced habitat diversity, and degradation of riparian and upland areas altered stream morphology and hydrology. Finally, invasion of these degraded habitats by a host of nonnative predacious and competitive species has created a hostile environment for razorback sucker larvae and juveniles. Although the suckers bring off large spawns each year and produce viable young, the larvae are largely eaten by the nonnative fish species (Minckley *et al.* 1991).

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. The range-wide trend for the razorback sucker is a continued decrease in wild populations due to a lack of sufficient recruitment and the loss of old adults due to natural mortality. Efforts to replace the

aging population in Lake Mohave, restoring the Lake Havasu population, and increasing the lower river populations are underway. Stocking efforts in the Upper Colorado River Basin and in lakes Mohave and Havasu and the lower Colorado River Basin below Parker Dam are ongoing, with the 30,000 fish replacement for Lake Havasu completed in 2001. The most critical of these efforts is the replacement of the Lake Mohave population using wild-caught larvae from the lake. By the end of 2001, the initial goal to stock 50,000 sub-adult fish into Lake Mohave was reached (Tom Burke, Bureau of Reclamation, pers. comm.). The Lake Mohave efforts will continue to meet the second goal, which is to establish a population of 50,000 adults.

In the Lower Colorado River Basin, efforts to reintroduce the species to the Gila, Salt, and Verde rivers have not been successful in establishing self-sustaining populations. Reintroduction efforts continue in the Verde River. Initially very few stocked fish were recaptured in subsequent years, despite considerable monitoring effort. Loss of these fish was primarily due to predation from nonnative fishes within hours after stocking (Marsh and Brooks 1989). Laboratory tests indicate that larger suckers may have a better chance of avoiding predators and surviving (Johnson *et al.* 1993). Since 1994, 13,250 razorback suckers generally $\geq$12 inches (300 mm) have been released into the Verde River near the Childs power plant During the last several years, there has been a steady increase in the number of suckers captured during monitoring efforts (Jahrke and Clark 1999).

While stocking activities may prevent the imminent extinction of the species in the wild, they appear less capable of ensuring long-term survival or recovery. Studies on the two populations where natural recruitment has been documented (Lake Mead and Green River) are ongoing to obtain additional information that may be useful for future management that could provide for self-sustaining populations.

Threats

Designated critical habitat in the species range is occupied by razorback sucker populations. No critical habitat areas are considered pristine or unmodified. Changes to water flow and physical habitat conditions from the pre-development patterns have had significant impacts to habitat quality; however, the areas remain capable of supporting the species at some level. The biological environment has also changed significantly with the introduction of non-native fish species. The non-native fish may be the greatest impediment to survival and recovery of the razorback sucker.

Effects of Federal Actions on the Species

Federal actions that may have adverse effects to the razorback sucker undergo section 7 consultation. These actions include water management actions involving water release patterns from dams, and changes to existing water diversions or new diversions. The Colorado River Recovery Implementation Program in the Colorado and Utah, the San Juan Recovery Program in New Mexico, and the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) in Arizona, California and Nevada provide conservation for the species to offset the effects of water management.

Consultation History

The range of the razorback sucker extends across several states and FWS office jurisdictions. The number of informal and formal consultations completed for this species is significant. We only have information for Arizona, and formal consultations completed after 2000 are listed in Appendix A.

Yuma clapper rail

Listing History

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). 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). Critical habitat has not been designated for the Yuma clapper rail. The Yuma Clapper Rail Recovery Plan was issued in 1983 (U.S. Fish and Wildlife Service 1983).

Further information on the status of this species is summarized on our web page (www.fws.gov/southwest/es/arizona) under Document Library, Document by Species. If you do not have access to the Internet or can not otherwise access the information, please contact this office.

Species Description

The Yuma clapper rail is a 14-16 inch (350-400 mm) 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. Frequency of calls or responsiveness to taped calls varies seasonally.

Life History

Habitat for the Yuma clapper rail is freshwater and brackish marshes with dense vegetation, dominated by cattails (*Typha spp.*) that includes both mats of old material and more open stands. 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 the suitability of habitat include the presence of vegetated edges between marshes and shrubby riparian vegetation (saltcedar 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 rails will use quiet backwater ponds, flowing stream or riverside areas, irrigation canals and drainage ditches, reservoirs and small lakes or other small marshlands where cattail habitat is available. Natural and artificially constructed marshes can provide suitable habitat.

The breeding season for the Yuma clapper rail runs from February though early July (Eddleman 1989). Nests are constructed in marsh vegetation or low growing riparian plants at the edge of the water. 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 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 (U.S. Fish and Wildlife Service 1983), Todd (1986), Eddleman (1989), and Rosenberg *et al*. (1991).

Status and Distribution

The Yuma clapper rail has two major population centers in the United States; the Salton Sea and surrounding wetlands in California, and the lower Colorado River marshes from the border with Mexico 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 (U.S. Fish and Wildlife Service 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 Fish and Wildlife Service for the period 1990 through 2007 documented between 464 and 1076 rails observed (via calls or visual observation) at the survey sites. Surveys in 2007 documented 822 birds. These figures are of actual birds and are not extrapolated to provide a population estimate. The unlisted Yuma clapper rail population in Mexico was estimated to contain 6300 birds (Hinojosa-Huerta *et al*. 2000), and the amount of movement between the two populations is unknown.

Threats

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.

Recently developed information that may affect the life history of the Yuma clapper rail involves selenium levels in the crayfish, the primary prey species. Levels of selenium in crayfish from

Yuma clapper rail habitats were high enough to cause concern for potential reproductive effects (Roberts 1996, King *et al*. 2000). No adverse effects from selenium have been observed; however, due to the clapper rail's secretive nature, nests are very difficult to find and young birds hard to observe. Additional monitoring is under consideration at this time.

Effects of Federal Actions on the Species

Federal actions that may have adverse effects to the Yuma clapper rail undergo section 7 consultation. These actions include issuance of Clean Water Act section 404 permits for dredging or filling in wetlands, and placement of seawalls or other shoreline modifications on all rivers and streams within the U.S. range of the species. The number of such actions varies between river systems.

Actions by Reclamation in managing the lower Colorado River have the greatest potential to destroy large marsh habitats or disturb individual birds during dredging, bank stabilization, and other channel maintenance activities. Past Federal actions to construct dams, diversion structures, and other management actions have increased the amount and longevity of marsh habitats in several locations on the lower Colorado River. These same actions eliminate the variable physical conditions that provide for marsh regeneration, and habitat quality is reduced over time. Measures are in place under the LCR MSCP to provide conservation to address the effects of current management on remaining marshes. Effects to the Salton Sea Yuma clapper rail habitats from changes in water flow to the Sea that have a Federal nexus are being addressed under section 7.

Consultation History

The range of the Yuma clapper rail extends across several states and FWS office jurisdictions. The number of informal and formal consultations completed for this species is significant. We only have information for Arizona, and formal consultations completed after 2000 are listed in Appendix A.

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.

Description of the Action Area

The action area for the proposed action is the lowest 0.5 miles (0.8 kilometer) of the Bill Williams River measured from its confluence with Lake Havasu and an area of Lake Havasu measured out 0.5 miles (0.8 kilometer) from the Bill Williams River. This area is delineated based on the risk to aquatic and marsh species from construction noise and the potential for

effects of a containment breech. Lake Havasu is a large body of water, and contaminants would be expected to be diluted to low toxicity levels shortly after reaching the main part of the Lake. This action area is essentially the same as provided in the proposed action.

Lake Havasu is a man-made impoundment on the lower Colorado River. The Bill Williams River originally flowed into the Colorado River, and is now tributary to the reservoir. The lower portion of the Bill Williams River that is below the normal operational level of the reservoir is influenced by lake level and not riverine inflows. Lake Havasu is elevation-controlled and normally fluctuates about five feet (between elevation 445 and 450 mean sea level) over the course of a year. This relatively stable water level provides for the establishment of cattail marsh vegetation at the inflow area.

A. Status of the species and critical habitat within the action area

Bonytail

Bonytail introductions to Lake Havasu were initiated by the Bureau of Land Management (BLM) and continue under the aegis of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). Bonytail released into Lake Havasu have been recaptured in or adjacent to the Bill Williams River inflows to the lake (Minckley and Thorson 2006). The action area represents a small portion of the habitat available to the bonytail in Lake Havasu and the lower Colorado River. The primary factor affecting the bonytail in the action area is the presence of non-native fish species that compete with and prey on the bonytail.

Critical habitat in Lake Havasu extends up the Bill Williams River through the action area. The water and physical habitat constituent elements, although modified by the presence of the reservoir in place of the river, are suitable for at least sub-adult and adult bonytail as evidenced by the survival of stocked fish (Minckley and Thorson 2006). The presence of robust populations of nonnative fish species in the reservoir and the Bill Williams River are of concern for successful recruitment of wild-born fish. Lake Havasu is important to the conservation of the bonytail due to the documented survival of individuals stocked into the system. Other critical habitat units also have stocking programs; however, few fish are recaptured. It is not clear if the lack of recaptures represents fish not surviving or some other factor that reduces the probability of recaptures.

Razorback sucker

Razorback sucker introductions to Lake Havasu were initiated by the BLM and continue under the aegis of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). Razorbacks released into Lake Havasu have been recaptured in or adjacent to the Bill Williams River inflows to the lake (Minckley and Thorson 2006). The action area represents a small portion of the habitat available to the razorback sucker in Lake Havasu and the lower Colorado River. The primary factor affecting the razorback sucker in the action area is the presence of non-native fish species that compete with and prey on the razorback sucker.

Yuma clapper rail

The Yuma clapper rail lives in the cattail marsh at the inflow of the Bill Williams River to Lake Havasu. Survey reports from 2006 (completed before the fire on the bridge burned approximately 280 acres of marsh) found 14 rails in the marsh. The 2007 and 2008 surveys found seven and six birds respectively within the survey area. The action area supports the only significant marsh habitat for rails on the southern end of Lake Havasu. The marshes at the northern end of the lake are much larger and connect to the important rail habitats in Topock Marsh. The marshes at Bill Williams River are important for occupied habitat and also as resting habitat for rails dispersing up and down river. The primary factor affecting the rail in the action area is the lack of natural cycling of cattails that result in aged and overgrown stands with abundant dead stems that reduce the suitability of the area for rail habitat.

B. Factors affecting species environment and critical habitat within the action area

The entire action area is within the boundaries of the Refuge, with the open waters of Lake Havasu beyond the Refuge managed by the BLM for recreation under the terms of the Land Management Plan and the Bureau of Reclamation (Reclamation) for water storage and delivery and hydropower production. As part of the Reclamation management, the LCR MSCP provides conservation for bonytail and razorback suckers in Lake Havasu. The status of the bonytail and razorback sucker in the action area remains precarious due to the presence of non-native fish species. Actions under the LCR MSCP are providing benefits to the bonytail and razorback sucker.

No specific LCR MSCP actions for Yuma clapper rail are within the action area; however, conservation benefits to this species are included in the program. The Refuge itself is managed for wildlife values under the Refuge Management Plan. The status of the Yuma clapper rail in the action area is affected by the lack of normal marsh successional processes resulting from the creation and management of Lake Havasu. Management of marshes to re-set them to an earlier successional stage includes the use of prescribed fire to remove the overgrowth of dead stems. The fire that resulted in the need for the proposed action accomplished this re-set, and the Yuma clapper rails in the action area are expected to continue to occupy the site.

EFFECTS OF THE ACTION

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

The proposed action will repair damage done to the existing bridge by the fire in July, 2006. The work will involve removal of damaged concrete, cleaning of surfaces, repair to damaged area through the placement of new concrete and final sealing as described in the Description of the

Proposed Action and ADOT 2008. The primary issue is the direct effects of materials falling into the water or the marsh from the bridge deck or the underside of the bridge during the repair process. This material ranges from dust from and pieces of damaged concrete removed from the bridge, accidental spills off the bridge of the various construction materials (including lubricants, Portland cement, anti-corrosion treatments, curing compounds, polymer epoxy, and adhesives), and accidental spills of toxic materials from the staging areas adjacent to the bridge. ADOT has included a commitment to require the contractor to develop a containment system for the work area on the bridge and a Spill Plan and Stormwater Control Plan to manage the risks from potential spills on the staging areas. The plan will be reviewed and approved by ADOT and the Refuge Manager prior to initiation of the project. Proper implementation of the work tasks and use of the containment system should minimize the potential for a spill into the water or the marsh. The Spill Plan and Stormwater Control Plan will contain measures to address the spill should one occur.

If materials used or created during the bridge repair project were to enter the water or marsh habitat through a breech in the containment system or failure of the spill prevention plan, toxic materials would enter the water or fall onto the marsh vegetation. The specific toxicity of the materials to fish and birds is not clear from the Materials Safety Data Sheets provided by ADOT; however, for several of the materials, there are statements to not allow a material spill to enter waterways. A spill of toxic materials could result in potential injury, sickness, or mortality of individual bonytails, razorback suckers, and Yuma clapper rails exposed to the material. Materials falling into the water may degrade the water quality and affect critical habitat for the bonytail.

If a spill was to occur, there could be remnants of toxic materials remaining in the water or marsh after the clean-up is complete that could have long-term effects to individuals and habitat contamination that could affect both individuals of the three species and bonytail critical habitat. Inclusion of appropriate and aggressive clean-up requirements in the Spill Plan should work to minimize the potential for any such long-term adverse effects.

Other direct effects of the proposed action involve the noise and disturbance associated with the repair work. This disturbance may not have any measurable effect on the bonytail and razorback sucker but could result in Yuma clapper rails moving from habitats adjacent to the work area to habitats where the ambient noise level is lower. There is an existing amount of noise and disturbance associated with normal vehicular traffic on the bridge, so there is some level of acclimatization to noise. The construction activity would not occur during the breeding season for the species, so any effects of displacement from the vicinity of the project is not likely to affect breeding or nest success. Displaced Yuma clapper rails may have reduced foraging success or be at greater risk from predation than those remaining in familiar territory. It is extremely unlikely that falling debris reaching the marsh from a breech in the containment system could physically harm or kill a Yuma clapper rail; however, this risk should be mentioned.

We have not identified any inter-related or inter-dependent actions for this proposed action.

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 continued use of the Bill Williams River bridge to convey traffic on SR95 will result in ongoing noise and disturbance effects to Yuma clapper rail habitats at and adjacent to the bridge. Since the land area around the bridge is part of the Refuge and the BLM and Reclamation provide management for recreation and water storage and delivery, there is limited scope for other non-Federal activities to occur in the action area.

CONCLUSION

After reviewing the current status of the bonytail, razorback sucker, and Yuma clapper rail, the environmental baseline for the action area, the effects of the proposed repair of the Bill Williams River Bridge on SR95 and the cumulative effects, it is the FWS's biological opinion that the repair actions, as proposed, are not likely to jeopardize the continued existence of the bonytail, razorback sucker, or Yuma clapper rail. Critical habitat for the bonytail is located within the action area, and it is our biological opinion that the repair actions, as proposed, are not likely to destroy or adversely modify critical habitat.

Our conclusion is based upon the following reasons:

Bonytail and razorback sucker:

- Both species are known to utilize the Bill Williams River area of Lake Havasu. The number of individuals that may be in the action area at any one time is likely to be very small and not represent a significant portion of the populations in the lake.

- The conservation measures included in the proposed action significantly reduce the risk of toxic materials entering the water and affecting individuals of these two species.

- With the inclusion of an ADOT and FWS approved Spill Prevention and Containment Measures Plan, the risk of long-term adverse effects from a toxic material spill is very remote. Further, the limited habitat area potentially affected by remaining toxic materials is very small and not a significant reduction in habitat availability.

Bonytail critical habitat:

- The conservation measures included in the proposed action significantly reduce the risk of toxic materials entering the water and causing a reduction in water quality that would be significant enough to result in permanent degradation.

Yuma clapper rail:

- The species is known to inhabit the Bill Williams River arm of Lake Havasu. The number of individuals that may be present during the implementation of the proposed action does not represent a significant component of the rail population on the Colorado River.

- The conservation measures, including the containment system and restrictions on construction during the breeding season significantly reduce the potential for adverse effects to any rails in the action area.

- With the inclusion of an ADOT and FWS approved Spill Prevention and Containment Measures Plan, the risk of long-term adverse effects from a toxic material spill is very remote. Further, the limited habitat area potentially affected by remaining toxic materials is very small and not a significant reduction in habitat availability.

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

INCIDENTAL TAKE STATEMENT

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

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

AMOUNT OR EXTENT OF TAKE

The FWS anticipates the take of bonytail and razorback sucker is not likely to occur except in the event of a significant breech in the containment structure or a spill of materials from the staging areas. We cannot be certain that an individual bonytail or razorback sucker would be in the immediate vicinity of the spill, or that the dilution factor would not render the material sub-toxic before any individual encountered it. Additionally, because the likelihood of finding an injured or dead bonytail or razorback sucker after a spill event is very low, documenting the take would be difficult. However, the following level of take for these species can be anticipated by the occurrence of a spill of 10 gallons or more of material from the containment structure or the staging areas that reaches the water. The Spill Plan and containment structure should, if properly implemented, prevent a significant release of materials that could result in take. The failure of the Spill Plan or containment structure in small ways may indicate the potential for a larger failure. Re-evaluation of the plans after a small incident may prevent a larger one.

The FWS anticipates the take of up to seven Yuma clapper rails from harassment by noise and disturbance such that normal movements through the marsh in the action area are curtailed. We base this level of take on the distribution of recorded individuals during surveys in 2007 and 2008 where pairs were found on both the east and west side of the bridge. The take will be difficult to detect for the following reasons: (1) rails are very secretive and movements are hidden so observations of rails moving through or leaving an area are unlikely; (2) the exact number of rails likely to be within the area where noise levels will be increased during construction is not known. Surveys in 2008 did detect rails at one survey site closest to the bridge; and (3) the degree of habituation to noise of rails already at the bridge is a factor in the response to additional noise stimulus. The level of incidental take will be exceeded if the construction work continues beyond February 15. This is based on the difference in level of effects from disturbance inside and outside the breeding season. Individuals may be more sensitive to disturbance during the breeding season with delay of nesting or abandonment of nests a possibility for additional take not addressed in this consultation.

The Fish and Wildlife Service will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. '' 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. '' 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

EFFECT OF THE TAKE

In this biological opinion, the FWS determines that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat for the reasons stated in the Conclusions section.

REASONABLE AND PRUDENT MEASURES and TERMS AND CONDITIONS

Reasonable and prudent measures and terms and conditions should minimize the effects of take,

and provide monitoring and reporting requirements [50 CFR 402.14(i)(3)]. The conservation measures included as part of the proposed action provide significant minimization of the effects of take for bonytail, razorback sucker, and Yuma clapper rail, so we are only including the monitoring and reporting requirement in this statement.

The following reasonable and prudent measure is necessary and appropriate to minimize take of the three listed species:

1. The Corps shall require that ADOT monitor the amount of incidental take resulting from the proposed action and provide a report to the FWS on the findings of that monitoring. The monitoring plan will be developed jointly by FWS and ADOT and will focus on observations taken at the project site and not on detailed survey work.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the (agency) must comply with the following term(s) and condition(s), which implement the reasonable and prudent measure(s) described above and outline required reporting/monitoring requirements. This term and condition is non-discretionary.

1. The Corps shall submit or cause ADOT to submit a report to the FWS within 90 days after completion of the repairs to the bridge that includes a discussion of the effectiveness of the conservation measures, locations of listed species observed, and, if any are found dead, suspected cause of mortality.

Review requirement: The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Corps or ADOT must immediately provide an explanation of the causes of the taking and review with the FWS the need for possible modification of the reasonable and prudent measures.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 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 have not identified any conservation recommendations for this proposed action.

REINITIATION NOTICE

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

The FWS appreciates the Corps and ADOT's efforts to identify and minimize effects to listed species from this project. For further information please contact Lesley Fitzpatrick (602) 242-0210 (x236) or me (x244). Please refer to the consultation number, 22410-2008-F-0219 in future correspondence concerning this project.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

cc: Refuge Manager, Bill Williams River National Wildlife Refuge, Fish and Wildlife Service, Parker, AZ

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Yuma, AZ

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Appendix A
Section 7 Consultations

The following lists of formal consultations do not include those formal consultations where the finding for the species was "may affect, not likely to adversely affect." Those consultations are listed as informals.

Formal Consultations: Bonytail 2000-2008

Consultation Number	Title	Finding
2000-0273	Interim Surplus Guidelines	Non-jeopardy No adverse modification
2000-0349	EPA Livestock	Non-jeopardy No adverse modification
2001-0058	Bill Williams River NWR Water Supply	Non-jeopardy No adverse modification
2002-0129	Colorado River Marina	Non-jeopardy No adverse modification
2002-0268	AzPDES	Non-jeopardy No adverse modification
2002-0504	WQ standards	Non-jeopardy No adverse modification
2003-0210	BLM Statewide Fire Management Plan	Non-jeopardy No adverse modification
2004-0036	Colorado River Refuges Pesticide Use Proposal	Non-jeopardy No adverse modification
2004-0161	Lower Colorado River Multi-Species Conservation Program	Non-jeopardy No adverse modification
2005-0784	BLM Lake Havasu Field Office Land Management Plan	Non-jeopardy No adverse modification
2006-0224	Lower Colorado River Shortage Criteria	Covered under LCR MSCP
2008-0219	SR 95 Bridge over Bill Williams River	Non-jeopardy No adverse modification
2008-0348	Rotenone Treatment of Cibola High Levee Pond	Non-jeopardy No adverse modification

Total Informal consultations over the period: 242

Ms. Cindy Lester

Formal Consultations: Razorback Sucker 2000-2008

Consultation Number	Title (brief)	Finding
2000-0273	Interim Surplus Guidelines	Non-jeopardy No adverse modification
2001-0058	Bill Williams River NWR Water Supply	Non-jeopardy No adverse modification
2002-0074	Willow Valley Marina	Non-jeopardy No adverse modification
2002-0129	Colorado River Marina	Non-jeopardy No adverse modification
2003-0022	Statewide Safe Harbor for Gila Topminnow and Desert Pupfish	Non-jeopardy
2003-0210	BLM Statewide Fire Management Plan	Non-jeopardy No adverse modification
2004-0036	Colorado River Refuges Pesticide Use Proposal	Non-jeopardy No adverse modification
2004-0161	Lower Colorado River Multi-Species Conservation Program	Non-jeopardy No adverse modification
2004-0329	Oxbow Recreation Area Boat Ramp	Non-jeopardy No adverse modification
2005-0331	HCP for Horseshoe and Bartlett Lakes	Non-jeopardy No adverse modification
2005-0784	BLM-LHFO-RMP	Non-jeopardy No adverse modification
2006-0224	Lower Colorado River Shortage Criteria	Covered under LCR MSCP
2006-0414	Gila River livestock permit	Not completed
2006-0428	Gila River bridge at 8th Avenue, Safford	Non-jeopardy No adverse modification
2007-0081	Central Arizona Project	Non-jeopardy No adverse modification
2007-0196	BLM-YFO-RMP	Non-jeopardy No adverse modification
2007-0197	Fossil Creek Allotment Management Plan	Not completed
2007-0198	Hackberry Allotment Management Plan	Not completed
2007-0218	Five Tonto NF grazing allotments	Not completed
2007-0233	Bonita Creek Restoration	Non-jeopardy No adverse modification
2008-0219	SR 95 Bridge over Bill Williams River	Non-jeopardy
2008-0348	Rotenone Treatment of Cibola High Levee Pond	Non-jeopardy No adverse modification
2008-0498	Little Green Valley Allotments	Not completed

Total Informal consultations over the period: 494

Ms. Cindy Lester

Formal Consultations: Yuma clapper rail 2000-2008

Consultation Number	Title	Finding
2000-0273	Interim Surplus Criteria	Non-jeopardy
2000-0349	EPA animal feeding	Non-jeopardy
2002-0299	Tilapia Removal in Virgin River	Non-jeopardy
2003-0003	Roosevelt Incidental Take Permit	Non-jeopardy
2003-0022	Statewide Safe Harbor for Gila Topminnow and Desert Pupfish	Non-jeopardy
2003-0107	Field 11 and Headquarters Pond Prescribed Burn	Non-jeopardy
2003-0210	BLM Statewide Fire Suppression Program	Non-jeopardy
2004-0161	Lower Colorado River Multi-Species Conservation Program	Non-jeopardy
2004-0255	Cotton Lane Bridge	Non-jeopardy
2005-0176	Mittry Lake and Imperial Ponds Prescribed Burn	Non-jeopardy
2005-0231	Field 13 and Triangle Prescribed Burn	Non-jeopardy
2005-0277	Whiskey Slough Prescribed Burn	Non-jeopardy
2005-0751	Quigley Ponds Wildlife Area Prescribed Burn	Non-jeopardy
2005-0784	BLM Lake Havasu Field Office RMP	Non-jeopardy
2006-0001	Marsh Creation and Prescribed Burn at Arlington Wildlife Area	Non-jeopardy
2006-0174	Field 14 and Imperial Ponds Prescribed Burn	Non-jeopardy
2006-0224	Colorado River Shortage Guidelines	Covered by LCR MSCP
2007-0122	Crystal Beach Prescribed Burn	Non-jeopardy
2007-0196	BLM Yuma Field Office RMP	Non-jeopardy
2007-0212	Limitrophe Vegetation Clearing Project	Non-jeopardy
2007-0463	BLM Arizona Strip RMP	Non-jeopardy
2008-0126	City of Tempe Safe Harbor Agreement	Non-jeopardy
2008-0219	Bill Williams River Bridge Fire Repair Project	Non-jeopardy
2008-0348	Rotenone Treatment of Cibola High Levee Pond	Non-jeopardy

Total Informal Consultations: 171