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In Reply Refer To:

AESO/SE
22410-2007-F-0122

January 11, 2007

Memorandum

To: Refuge Manager, Havasu National Wildlife Refuge, Fish and Wildlife Service,
Needles, California

From: Field Supervisor

Subject: Biological Opinion for Crystal Beach Prescribed Burn, Mohave County, Arizona

Thank you for your request for intra-Service formal consultation with the Arizona Ecological Services Office (AESO) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated January 5, and received by us on January 5, 2007. At issue are impacts that may result from the proposed Crystal Beach Prescribed Burn located in Mohave County, Arizona. The proposed action may affect the endangered Yuma clapper rail (*Rallus longirostris yumanensis*).

In your memorandum, you requested our concurrence that the proposed action would not effect the endangered California brown pelican (*Pelecanus occidentalis californicus*), threatened bald eagle (*Haliaeetus leucocephalus*), endangered southwestern willow flycatcher (*Empidonax traillii extimus*), endangered razorback sucker (*Xyrauchen texanus*), bonytail (*Gila elegans*), and designated critical habitat for the bonytail in Lake Havasu. We concur with your findings of no effect for the three bird species and, after review of the information, can concur with findings of may affect, not likely to adversely affect for the two fish species and the designated critical habitat for the bonytail. Our rationales for these concurrences are presented in Appendix A.

This biological opinion is based on information provided in the December 22, 2006, biological assessment, the December 22, 2006, fire management plan, and other sources of information. Literature cited in this opinion is not a complete bibliography of all literature available on the species of concern, the effects of fire on cattail marsh management and its effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation history

Consideration of the Crystal Beach prescribed burn was initiated in 2005 for a potential 2006 implementation. The management staff of Havasu National Wildlife Refuge (HNWR) determined that a 2006 initiation was not feasible and elected for implementation in early 2007. The issues for the burn plan were discussed between AESO and HNWR staff on December 12, 2006. With the desire to burn at Crystal Beach before March 15, 2007, the HNWR staff and Regional Office fire staff committed to providing the burn plan and intra-Service biological evaluation to AESO in late 2006-early 2007. AESO committed to providing a biological opinion as soon as possible thereafter.

The burn plan and intra-Service biological evaluation were provided to AESO on December 22, 2006. Formal consultation was initiated on January 5, 2007.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the ignition of a prescribed burn on the HNWR near the development at Crystal Beach, north of Lake Havasu City, Mohave County, Arizona. The particulars of the ignition, management, and operations of the prescribed burn are contained in the burn plan, which is incorporated herein by reference. This is the first of three prescribed fires that are planned for this area of the HNWR. The action area for the proposed action is the northern (upper end) of Lake Havasu from the southern boundary of the HNWR to Blankenship Bend at the lower end of Topock Gorge. The prescribed burn would only occur on the Arizona side of the lake, although smoke and visual disturbance will occur on both the Arizona and California sides due to the narrowness of the lake in this area. The HNWR will coordinate with the Chemehuevi Tribe as their reservation borders the lake on the California side.

The Crystal Beach cattail marshes are dominated by overgrown cattails. The marsh extends along the Arizona shore of upper Lake Havasu into Topock Gorge. Only one-third of the cattail marsh area would be burned in this operation (approximately 280 acres); the remaining area would serve as a reference for recovery of the Yuma clapper rail populations in the burned area and are subject to future prescribed burns as part of the ongoing study. The monitoring for the results of the burn will be accomplished by Dr. Courtney Conway of the Cooperative Fish and Wildlife Research Unit at the University of Arizona as part of his ongoing study of the use of prescribed fire in clapper rail management.

There are conservation measures built into the burn plan that provide additional protection for the clapper rail during the ignition and management of the prescribed burn. These are fully described in the burn plan and biological evaluation and are summarized below:

1. The go/no-go provisions of the burn plan evaluate the risks of a successful burn within the prescribed boundaries, and environmental conditions not favorable to success would preclude the start or continuation of a burn once ignited.

2. The burn plan provides for personnel and equipment to be on site to manage the prescribed burn and initiate control activities if the burn moves out of prescription.
3. A test fire will be initiated prior to full implementation of the burn to document the effects on the representative fuels and determine that assumptions made on fuels and fire behavior under the environmental conditions present are correct.
4. The unit will be hand-ignited with thrown firing grenades, pistols, and drip torches where possible. Backing and flanking fire will be the primary type of ignition pattern for this burn in an attempt to slowly move fire through the unit allowing maximum escape time for animals while still achieving objectives. Feral hogs are present in the burn unit and the use of a backing fire is an attempt to allow them adequate escape ahead of the burn. Ignition will be accomplished from either fireboats or other watercraft capable of safely transporting burn personnel into close proximity to burn areas. Ignition patterns may be altered based on burn-day weather conditions as determined by the Burn Boss.
5. If prescription parameters are exceeded during project execution, the Burn Boss will terminate ignition operations at a safe and appropriate location based on firefighter safety, fire behavior, fuels, and weather conditions. If the project area comes back into prescription based on current and forecasted weather, ignition operations may continue. If not, the project area will be put into a patrol status. Holding actions shall maintain control of the fire until a decision to continue, postpone, or extinguish the prescribed fire is made and the agency administrator or his or her designee is notified. The Burn Boss will document this decision process on a unit log.
6. If fire becomes established in fuels north of Unit 1 and cannot be suppressed, ignition on the intended burn unit will cease at an appropriate location and the remainder of the 280-acre burn unit will not be fired to allow this area to serve as the un-burned control area. The specific locations and allocations of holding forces will be determined by the Burn Boss and Holding Boss prior to ignition of the test fire. The specific locations will likely be determined the day of burn ignition based on weather and firing patterns used. As the ignition phase progresses, holding forces will move as needed to critical holding areas to prevent fire from moving outside of the intended burn unit. As ignition nears or progresses from the northern section of this unit, forces should be concentrated in this area to allow rapid response times.

STATUS OF THE SPECIES

Listing and Life 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 (USFWS 1983). The clapper rail is protected under the Migratory Bird Treaty Act.

Habitat for the Yuma clapper rail is in freshwater and brackish marshes with dense vegetation, dominated by cattails (*Typha spp.*) including 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 through 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 (USFWS 1983), Todd (1986), Eddleman (1989), and Rosenberg *et al.* (1991).

Distribution, Abundance, and Status (Rangewide)

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 2000 through 2005 documented between 503 and 885 clapper rails observed (via calls or visual observation) at the survey sites. Surveys in 2005 documented 885 birds (survey reporting data for 2006 is

incomplete at this time). 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 6,300 birds in 2000 (Hinojosa-Huerta *et al.* 2000); however, that population declined to 4,850 by 2002, likely due to an overgrowth in cattails in the Cienega de Santa Clara (Hinojosa-Huerta *et al.* 2003). The amount of movement between the United States and Mexican populations is unknown.

Declines in actual numbers heard or seen on survey transects since the early 1990s 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 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.

Since 1983, AESO has processed 38 formal section 7 consultations involving the clapper rail. Of these, 15 were completed prior to 1991, and most of these involved Bureau of Reclamation (Reclamation) dredging, bank stabilization, and dike construction projects, and general management plans by Bureau of Land Management (BLM) along the lower Colorado River and lower Gila River. Habitat losses due to Reclamation activities were offset by the creation of mitigation areas and backwaters as part of these projects. From 1991-2006, the 23 formal consultations involved use of prescribed fire to benefit habitat and management plans for wildfire, permits under section 404 of the Clean Water Act, and large-scale agency plans by Reclamation, BLM, and Environmental Protection Agency (EPA). There was one jeopardy opinion issued for the clapper rail. There are two Habitat Conservation Plans (HCP) with issued section 10(a)(1)(B) permits that address conservation of the clapper rail; the Roosevelt HCP in central Arizona and the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) for the Colorado River from Lake Mead to the Southerly International Boundary with Mexico.

The FWS-Carlsbad Fish and Wildlife Office processes informal and formal consultations concerning the clapper rail in California away from the Colorado River. Many of these address issues with irrigation system maintenance in the Imperial Valley. A formal consultation for a geothermal plant adjacent to the Sonny Bono Salton Sea National Wildlife Refuge was recently completed. The most significant recent formal consultation addressed Reclamation's voluntary fish and wildlife conservation measures and associated conservation agreements with California water agencies in 2002 (USFWS 2002). This consultation is connected to the 400,000 acre-foot per year water exchanges that were the subject of consultation between AESO and Reclamation (USFWS 2001) for the Colorado River and address effects to listed species near the Salton Sea from water conservation actions of the Imperial Irrigation District. Reclamation and state partners will fund the conservation measures.

ENVIRONMENTAL BASELINE

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

A. STATUS OF THE SPECIES WITHIN THE ACTION AREA

The HNWR encompasses approximately 37,500 total acres and includes native upland desert, riparian, marsh, and aquatic communities as well as non-native riparian (salt cedar) and agricultural soil units managed for wildlife. Active and passive management of the various vegetation communities is practiced as appropriate to achieve wildlife goals. The action area is a subset of the entire refuge.

The marshes at Crystal Beach are located near the southern end of the HNWR. The burn area is surrounded by water but is in places close to the shore on the Arizona side of Lake Havasu.

Status of the species within the action area

The Yuma clapper rail is found in the action area where suitable cattail marsh habitat developed at the head of Lake Havasu. This area is a delta for the LCR as water flows out of the narrow Topock Gorge and slows as the wider area of the lake is reached. The relatively stable water level in Lake Havasu also contributes to supporting the marshes since water depths vary less than five to seven feet over the year.

Annual surveys for Yuma clapper rails are conducted on HNWR through this area by Bureau of Reclamation. Table 1 shows the number of rails found on the site from 2003-2006. As shown in the table, the number of clapper rails in the overall Crystal Beach area has declined over the 2003-2006 period. The hypothesis is that the overgrowth of the cattails over time has reduced the suitability of the area for clapper rails and they have moved to other available habitats on or near HNWR (including to Topock Marsh and other locations on Lake Havasu). For the purposes of this consultation, we assume there may be at least as many birds present on the burn sites in 2007 as there were in 2006, totaling 21 individuals.

B. FACTORS AFFECTING SPECIES ENVIRONMENT WITHIN THE ACTION AREA

All extant cattail habitats in the action area are subject to declines in habitat quality through overgrowth of the marsh and the subsequent accumulation of dead plant material. Prior to the LCR being controlled, normal flow patterns cyclically created and destroyed marsh habitats and reduced the likelihood that a marsh would be static long enough to become choked with dead plant material. These processes no longer function, and many marshes in the LCR action area have declined in quality as dead material accumulated. The stability of Lake Havasu prevents

the type of natural processes that destroyed marshes. Wildfires, either lightning- or human-caused, are a significant risk to clapper rail habitats, because they can burn during breeding seasons and are uncontrolled in their extent. A study evaluating the use of prescribed fire to burn marshes and remove accumulated material to restore habitat quality is currently underway on the LCR and Salton Sea areas. The managed fire does not kill the cattail roots, but does eliminate the dead vegetation on the surface. Initial results indicate that, when habitats where clapper rail use has declined due to overgrowth are burned, clapper rails return to the areas within a year once new growth of cattails appears, and clapper rail numbers in the restored habitat increase. Active burn programs under this study are in place on Havasu and Imperial NWRs. Unlike wildfires that may occur at any time, these programs plan for burns outside of the clapper rail breeding and molting season to reduce adverse effects.

Other threats to the Yuma clapper rail in the LCR include selenium contamination of the forage base, noise and other disturbance from recreational activity, and elimination of habitat for development. The significance of existing selenium levels to Yuma clapper rail reproduction is not known; however, the levels of selenium in clapper rail habitats are high enough to be of concern (Roberts 1996, Andrews *et al.* 1997, King *et al.* 2000, 2003; Garcia-Hernandez *et al.* 2001). There is no current evidence that reproductive failures have occurred; however, no specific research looking for eggs and young birds to evaluate the potential for effects has been conducted.

Implementation of the 1983 recovery plan in the LCR action area includes the multi-agency cooperative survey and efforts to define proper management for clapper rail habitat and eventually provide continuity for such management in written management plans. Development of management plans for the FWS refuges on the LCR is in preliminary stages.

Implementation of the LCR MSCP conservation measures for the clapper rail will lead to increased acreage of managed marsh habitats along the LCR and funding to maintain the quality of existing habitats. Because the river conditions that lead to the degradation of existing habitats (as previously discussed) remain in place, this funding will provide for active management to ensure these marshes remain in suitable habitat condition over the 50-year term of the LCR MSCP. Because the action area is within the covered area for the LCR MSCP, benefits from the program may occur here in the future.

EFFECTS OF THE ACTION

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

Direct and Indirect Effects

The prescribed burn at Crystal Beach Slough on HNWR would temporarily eliminate habitat for the Yuma clapper rail on up to 280 acres of cattail marsh. The cattails will grow back, beginning in the 2007-growing season, and habitat values will be restored. The burns would take place prior to the breeding season, and clapper rails displaced by the fires would have opportunities and adjacent habitat to set up nesting territories for the 2007 season. Efforts to protect adjacent habitat from the spread of fire are part of the proposed action and serve to limit the risk to these areas.

Occupied clapper rail habitat at Crystal Beach will be burned in this action. In 2006, 21 rails were documented in the area proposed to be burned. While the prescribed burn would take place before the rails set up nesting territories and both adults and last year's young are capable of flight to leave the area, there is a risk of injury or mortality of rails present on the burn site. Short-term effects would be from the elimination of habitat, with adjacent areas containing clapper rails and rail habitats subject to increased density of clapper rails as those from the burn area move in, coupled with increased noise from the fire crews and equipment and possibly some smoke passing over the area (depending on wind conditions).

Pre- and post-burn monitoring of clapper rail habitat and use of the burned areas will be accomplished as part of an ongoing research project led by Dr. Courtney Conway of the Cooperative Fish and Wildlife Research Unit at University of Arizona. The use of prescribed burns to manage clapper rail habitat over the long-term is the focus of the research. Results will guide habitat management for clapper rails in the future.

Interrelated and Interdependent Actions

No interrelated or interdependent actions have been identified for the 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.

Because the action area is entirely within the boundaries of a National Wildlife Refuge, we have determined that there are no cumulative effects.

CONCLUSION

After reviewing the status of the Yuma clapper rail, the environmental baseline for the action area, the effects of the proposed prescribed burns, and the cumulative effects, it is our biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the Yuma clapper rail.

This finding is based on the following factors:

- The prescribed burn at Crystal Beach will not permanently remove clapper rail habitat and will contribute to the long-term maintenance of suitable habitat on HNWR.
- Substantial amounts of suitable habitat remain adjacent to the areas to be burned to provide habitat for resident clapper rails until the burned areas recover.
- Restoration of the habitat will provide a larger and higher quality habitat area than now exists which can support higher numbers of clapper rails.
- The proposed action will not take place during the breeding season for the clapper rails, so no chicks would be at risk. The proposed action would also take place at a time when the adults are able to fly and escape a localized fire. The method of fire ignition will provide pathways of escape for the rails.

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

INCIDENTAL TAKE STATEMENT

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

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

AMOUNT OR EXTENT OF TAKE

The FWS anticipates that up to 21 individual Yuma clapper rails may be taken as a result of the prescribed burns. This take is based on the number of individual clapper rails documented in surveys of the burn area in 2006. The incidental take is expected to be in the form of harassment from the temporary elimination of habitat. Within this number, up to five individuals may be killed if they are unable to escape the flames, or are affected by heat and smoke. Up to an additional seven clapper rails in the adjacent habitats may be disturbed by noise and smoke during the burn itself. These effects will be transitory and are not likely to result in permanent effects to clapper rails in the unburned area.

The FWS 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, we determine that this level of anticipated take is not likely to result in jeopardy to the species.

REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

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

The proposed action contains adequate measures to reduce the extent of the take. These include the timing of the prescribe burns, the on-site preparation to contain the extent of fire to the desired areas, and the plan to immediately suppress fires that escape the prescription. We have not identified any additional measures that would further reduce the extent of the take, except to provide for a report on the outcome of the prescribed burn and documentation of any clapper rails observed during the operation or affected by the operation.

1. The HNWR shall monitor incidental take resulting from the proposed action and report to the FWS the findings of that monitoring.
 - A. The HNWR shall designate staff or other responsible parties to monitor the project area and other areas that could be affected by the proposed action to ascertain take of individuals of the species. This monitoring will be accomplished by visual survey of the area being burned during the operation to watch for clapper rails leaving the area. If possible, a visual survey of the area post-burn should be accomplished. Surface conditions at the burn site may not allow for this type of survey to be done.

- B. 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.
- C. The HNWR shall submit a report to AESO within 90 days after completion of action. This report shall briefly document locations and numbers of listed species observed or found dead or injured. The report shall make recommendations for modifying or refining conservation measures to enhance listed species protection during this type of operation in the future.

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 HNWR must immediately provide an explanation of the causes of the taking and review with the AESO the need for possible modification of the reasonable and prudent measures.

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 additional conservation recommendations for the 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 AESO appreciates the HNWR's efforts to benefit listed species and to identify and minimize effects to listed species from this project. For further information please contact Lesley Fitzpatrick at (602) 242-0210 (x236) or me at (x244). Please refer to the consultation number, 22410-2007-F-0122, in future correspondence concerning this project.

/s/ Steven L. Spangle

cc: Chairman, Chemehuevi Tribe, Havasu Lake, CA
Branch Chief, Arizona Game and Fish Department, Phoenix, AZ

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TABLES AND FIGURES

Table 1: Recent Survey Information for Yuma Clapper Rail in the Area of the Crystal Beach Prescribed Burn

Location	Area 1	Area 2	Area 3	Area 4a	Area 4b
Status	Control	Control	Burn	Burn	Burn
Year 2003	1	9	10	16	9
2004	7	13	7	23	5
2005	0	5	8	11	4
2006	3	4	7	11	3

Appendix A

Concurrences with Findings of No Effect/ Not Likely to Adversely Affect (Required for FWS Actions)

Southwestern Willow Flycatcher (*Empidonax traillii extimus*) - endangered

The area of the proposed action site is the river corridor of Havasu NWR on the Arizona shoreline at Castle Rock. The proposed action site does not contain suitable southwestern willow flycatcher habitat. Annual surveys conducted by SWCA Environmental Consultants in 2005 and 2006 did not detect flycatchers in the area.

We concur that this proposed action will not affect the flycatcher

California Brown Pelican (*Pelicanus occidentalis*) – endangered

Juvenile brown pelicans have been recorded on the refuge in small numbers during the summer. They are considered accidental to the action area. Given the time of year for the proposed action (winter-spring), it is unlikely that brown pelicans would be in the area. If brown pelicans are present during the proposed action, they might be temporarily displaced during and shortly after the prescribed burn.

We concur that this proposed action will not affect the brown pelican

Bald Eagle (*Haliaeetus leucocephalus*) – threatened

Bald eagles winter within the refuge. Three immature bald eagles were sighted in the Devil's Elbow region of Topock Gorge the winter of 2005-06. If bald eagles are present during the proposed action, they might be temporarily displaced during and shortly after the prescribed burn. No roosting areas or foraging areas would be destroyed or damaged by the proposed action.

We concur that this proposed action will not affect the bald eagle

Razorback Sucker (*Xyrauchen texanus*) - endangered

Razorback suckers have been reintroduced into Lake Havasu and are often found in the river corridor within Havasu NWR in the open water of the proposed action area. Water quality may temporarily be affected during the burn from ash and other burning material. The area of Lake Havasu surrounding the prescribed burn is open to both the Colorado River upstream and the bulk of the lake below, and fish can move easily away from the burned areas. The amount of ash and burned materials that will enter the water is unknown, but not likely to be a significant water quality issue. The dilution factor of the river and reservoir will quickly reduce any toxic effects of ash or other burned material to non-lethal levels. The proposed action will not affect the river overall or habitat for the razorback suckers.

We concur that this proposed action is not likely to adversely affect the razorback sucker.

Bonytail (*Gila elegans*) – endangered with critical habitat

Bonytail have been reintroduced into Lake Havasu and are often found in the river corridor within Havasu NWR in the open water of the proposed action area. Water quality may temporarily be affected during the burn from ash and other burning material. The area of Lake Havasu surrounding the prescribed burn is open to both the Colorado River upstream and the bulk of the lake below, and fish can move easily away from the burned areas. The amount of ash and burned materials that will enter the water is unknown, but not likely to be a significant water quality issue. The dilution factor of the river and reservoir will quickly reduce any toxic effects of ash or other burned material to non-lethal levels. The proposed action area will not affect the river overall or habitat for the bonytail.

We concur that this proposed action is not likely to adversely affect the bonytail or its designated critical habitat.