United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021
Telephone: (602) 242-0210 FAX: (602) 242-2513

AESO/SE
02-21-04-F-0080 January 29, 2004

Memorandum

To: Refuge Manager, Imperial National Wildlife Refuge, Fish and Wildlife Service, Yuma, Arizona

From: Field Supervisor

Subject: Prescribed Burns on Imperial National Wildlife Refuge at Field 12 and Island Lake, Yuma County, Arizona

Thank you for your request for intra-Service consultation with the Arizona Ecological Services Office (AESO) of the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request for formal consultation was dated January 24, 2004 and received by us on January 27, 2004. At issue are impacts that may result from two prescribed burns on the Imperial National Wildlife Refuge (INWR) in Yuma County, Arizona. The listed species of concern are the Yuma clapper rail (*Rallus longirostris yumanensis*), southwestern willow flycatcher (*Empidonax traillii extimus*), bald eagle (*Haliaeetus leucocephalus*), California brown pelican (*Pelecanus occidentalis californicus*), and razorback sucker (*Xyrauchen texanus*). The mountain plover (*Charadrius montanus*), a species proposed for listing, and the yellow-billed cuckoo (*Coccyzus americanus*), a candidate for Federal listing, are also found in the vicinity of the proposed action. Critical habitat for the razorback sucker includes the Colorado River and the 100-year floodplain in the vicinity of INWR.

You requested our concurrence that the proposed action was not likely to adversely affect the southwestern willow flycatcher, bald eagle, and razorback sucker. No effects to critical habitat for the razorback were identified. You also found the proposed action would not affect the California brown pelican and mountain plover and is not likely to jeopardize the yellow-billed cuckoo. We concur with these findings. Our justification is found in Appendix A to this biological opinion. In this biological opinion, we analyze effects of the proposed action on the Yuma clapper rail only.

This biological opinion is based on information provided in the January 24, 2004 intra-Service section 7 biological evaluation form 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, use of prescribed fire in 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

- Consultation on prescribed burns for Field 11 and the Headquarters Pond on INWR was done in 2003. The action under consultation now is for similar activities in 2004.

- AESO received the request for formal consultation with the biological evaluation on January 24, 2004.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action consists of two prescribed burns on INWR: Field 12 and Island Lake. The prescribed burns will be conducted by the Interagency Fire Group (IFG) consisting of Bureau of Land Management, Bureau of Indian Affairs, and the Fish and Wildlife Service. The burn plans provided with the intra-Service consultation form provide details on how and when the burns would be conducted, the safety measures to be employed, and contingency plans should the burns move out of control. These documents are incorporated herein by reference. The burns would be conducted in February, with provisions to allow burning as late as March 14, 2004.

Field 12

Field 12 is a 14-acre prescribed burn. The perimeter of the field will be mowed to act as a fireline, and the a sprinkler system will be placed along the western, southern, and eastern boundaries to prevent the fire from moving out of the treatment area. Fields 11 and 13 adjacent to Field 12 will be flooded prior to the burn to reduce the risk of fire spreading into them. The burn will be considered successful if 50-100 percent of the vegetation is removed.

The purpose of this burn is to improve habitat for the Yuma clapper rail and is part of a future rotational management program for Fields 10-14. Prescribed fire or mechanical removal will be used to remove most or all of the vegetation in these fields on a 5-year cycle to keep the cattail habitat (*Typha* sp.) from becoming so dense that clapper rails are not able to use it. Portions of the fields may also be treated as needed if exotic or invasive plants are present. The only portion of the rotational management under consultation is the burning of Field 12 in 2004.

Island Lake

The area to be burned at Island Lake is 616 acres. At the western edge of the unit, a buffer zone 30-40 feet wide will be cleared of vegetation prior to the burn and a sprinkler system placed within 100 feet of the edge to reduce the risk of the fire spreading out of the treatment area. A successful burn will remove 50-100 percent of the vegetation. This burn is to improve habitat for the Yuma clapper rail.

STATUS OF THE SPECIES (RANGE-WIDE)

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 (USFWS 1983).

Species Description

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

Habitat for the Yuma clapper rail is freshwater and brackish marshes with dense vegetation, dominated by cattails 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 March though early July (Todd 1986, USFWS 1983). The start of the survey season, March 15, is used as the official beginning of the breeding season. 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 likely 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), Todd (1986), Eddleman (1989), and Rosenberg et al. (1991).

Distribution, Abundance and Status (Range-wide)

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, Picacho Reservoir in Pinal County, and the Bill Williams River in La Paz County, Arizona (USFWS annual survey data). A new record for the species in 2002 comes from Roosevelt Lake in Gila County, Arizona. 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 2003 documented between 464 and 1,076 rails (via calls or visual observation) at the survey sites. Surveys in 2003 documented 809 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.

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.

New 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 difficult 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 the Bureau of 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 biological opinions issued for Reclamation's maintenance activities to reduce or eliminate adverse effects of current management on some remaining marshes. Changes to water releases in the lower Colorado River are in part subject to Reclamation oversight and are also addressed for reduction of effects and replacement of lost habitat. 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.

Habitat conservation planning requires the Fish and Wildlife Service to consult under section 7 prior to issuing a section 10 permit allowing take of species by non-Federal parties. Conservation for Yuma clapper rails at Roosevelt Lake, Salton Sea, and on the lower Colorado River are part of ongoing HCP efforts in those areas.

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 INWR encompasses 25,625 total acres and includes native upland desert, riparian, marsh, and aquatic communities as well as non-native riparian (salt cedar) and moist soil units managed for wildlife. Active and passive management of the various vegetation communities is practiced as appropriate to achieve wildlife goals.

Field 12 is within the farmlands unit of the refuge and contains extremely dense cattail stands with areas of phragmites, and salt cedar. Island Lake a backwater of the Colorado River. The proposed burn area is dominated by dense cattail, phragmites, bulrush, and salt cedar that surround the open water component.

Status of the species within the action area

Annual surveys for Yuma clapper rails are conducted on INWR. Data from 1993-2002 are presented in the biological evaluation. The prescribed burns would occur before the breeding season of the clapper rail and adult birds will have completed their molt and will be able to fly.

Field 12 is part of the Farmfields survey route and up to 6 rails were documented on the burn site in 2003. Yuma clapper rails were not detected in 2003 in the burn area for Island Lake.

Factors affecting species environment within the action area

Yuma clapper rails prefer dense marsh habitats with access to open water and shorelines for foraging. Cattail habitat that becomes too dense with large amounts of previous-year dead stalks forming a thatching mat is less suitable for clapper rails due to the difficulty of accessing the interior of the stand. When the Colorado River had a natural hydrograph with high and low water cycles, marshes were created and destroyed with regularity and seldom were in place long enough to become overgrown. With the control of river conditions since the construction of Hoover Dam, natural river processes are constrained and marshes are stabilized. Such stability enables overgrowth to occur.

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 burns at INWR would temporarily eliminate habitat for the Yuma clapper rail in the areas burned. The cattails will grow back, beginning in the 2004 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 time and adjacent habitat to set up nesting territories for the 2004 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.

The occupied habitat at Field 12 will be burned in this action. In 2003, three pairs of rails were documented in Field 12. Survey information indicates that clapper rails in the entire Farmfields area move among the areas of suitable habitat, with differences in rail locations seen between surveys (in the same year as well as different years), so the exact number of clapper rails that may be present is unknown. Effects would be from the elimination of habitat, with adjacent fields containing rails and rail habitats subject to 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 Effects

No interrelated or interdependent effects 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 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 burns will not permanently remove clapper rail habitat and will contribute to the long-term maintenance of suitable habitat on INWR.

- 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.

- 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.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation 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 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 INWR so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The INWR has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the INWR (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 INWR 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 the take

The FWS anticipates that up to 6 individual Yuma clapper rails may be taken as a result of the prescribed burns. This take is based on the highest number of individual clapper rails documented in surveys of Field 12 from 1993-2003. The incidental take is expected to be in the form of harassment from the temporary elimination of habitat. Up to an additional 10-20 rails 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 area.

Effect of the take

In the accompanying biological opinion, the FWS determined that this level of anticipated take is not likely to result in jeopardy to the Yuma clapper rail.

REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the INWR 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.

Review requirement

If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review. The INWR must immediately provide an explanation of the causes of the taking and review with the AESO the need for 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 Law Enforcement Office in Mesa, Arizona, 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 will 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 identified no conservation recommendations for this proposed action.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR§402.16, reinitiation of formal consultation is required where discretionary Federal 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 habitats 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.

We appreciate INWR's efforts to identify and minimize effects to listed species from this project. For further information, please contact Lesley Fitzpatrick (x236) or Tom Gatz (x240). Please refer to the consultation number 02-21-03-F-0107, in future correspondence concerning this project.

/s/ Steven L. Spangle

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)
Director, Fish and Wildlife Service, Arlington, VA
Field Supervisor, Fish and Wildlife Service, Carlsbad, CA

John Kennedy, Arizona Game and Fish Department, Phoenix, AZ
Supervisor, California Department of Fish and Game, Blythe, CA

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Appendix A: Concurrences

Southwestern willow flycatcher

We concur with the finding of "may affect, not likely to adversely affect" for the flycatcher from the proposed action. Habitat for the southwestern willow flycatcher would not be affected by the prescribed burns. Only migrating flycatchers have been recorded on INWR and the burns would be completed before any migrants arrive in May and June.

Bald eagle

We concur with the finding of "may affect, not likely to adversely affect" for the eagle from the proposed action. Bald eagles winter along the Colorado River and use riparian areas with tall trees for roosting and foraging perches. These habitats would not be directly affected by the prescribed burns; although the smoke and noise could be a disturbance to any eagles in the area. This disturbance is not considered significant.

Razorback sucker

We concur with the finding of "may affect, not likely to adversely affect" for the razorback from the proposed action. Razorbacks are found in the open waters of the INWR, and due to their preference for backwaters, may utilize the open water at Island Lake. The burn there may temporarily affect water quality in the pond, but this effect is not likely to be significant enough to result in a fish kill. If the helicopter is needed to suppress fires, there is a risk for a razorback being taken as the water bucket is filled, but this risk is discountable since it is extremely unlikely to occur. No effects to critical habitat are anticipated.

Yellow-billed cuckoo

We concur with the finding of "not likely to jeopardize" for the cuckoo from the proposed action. Cuckoo habitat will not be affected by the proposed action, and, as a migratory species, individuals are not present on the INWR during February and early March.

Mountain plover

We concur with the finding of "no effect" for the mountain plover from the proposed action. This species has not been observed on the INWR and the types of habitat preferred by the species would not be affected by the proposed action.

California brown pelican

We concur with the finding of "no effect" for the California brown pelican from the proposed action. The pelican is a transitory species on the INWR and is most often observed in late summer, not early spring. The open water habitats used by the pelican would not be directly affected by the proposed action. Filling of the helicopter water bucket could disturb any pelicans in the area; however, it is not likely that any would be present.