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In Reply Refer To:
AESO/SE
2-21-02-F-074

March 21, 2002

Ms. Marjorie Blaine
Tucson Project Office
Corps of Engineers
5205 East Comanche Street
Tucson, Arizona 85707

RE: Willow Valley Marina

Dear Ms. Blaine:

This biological opinion responds to your request for consultation with the U.S. Fish and Wildlife Service (Service) 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 22, 2002, and was received by us on January 24, 2002. At issue are impacts that may result from the proposed maintenance dredging of the Willow Valley Marina in Mohave County, Arizona.

This biological opinion is based on information provided in the March 25, 2001 biological assessment 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 effects of dredging in a river ecosystem, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation History

The Corps of Engineers (COE) is in the process of issuing a permit under section 404 of the Clean Water Act and section 10 of the River and Harbors Act of 1899 for the proposed maintenance dredging project. The COE sent a letter dated January 16, 2002 to the Service asking for our concurrence with a finding of "may affect, not likely to adversely affect" to the razorback sucker from the proposed action. Based on the methods used to isolate the marina area and remove the built up sediments, the Service could not concur with this finding. This was discussed with you in a telephone call on January 22, 2002 from Ms. Lesley Fitzpatrick of my staff. The result of that discussion was your request of January 22, 2002 to initiate formal consultation. We responded with a letter on January 29, 2002, stating that the 90-day consultation period had begun on January 24, 2002, the date of receipt of your request.

At your request, the Service provided the COE with a draft biological opinion on March 1, 2002. Comments on the draft were provided by you to the Service in a letter dated March 13, 2002. Your comments were used to finalize this biological opinion.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the removal of approximately 10,000 cubic yards of material from the 1-2 acre lagoon at Willow Valley Marina, on the Colorado River in Mohave County, Arizona. Removal of this material would deepen the lagoon by 3-4 feet. The marina was constructed approximately 30 years ago and was re-dredged 10 years ago. Since then there has been considerable siltation into the area that makes navigation and access difficult. In addition, water circulation within the marina is poor and water quality has degraded. The action area for this project is the Willow Valley Marina lagoon and the mainstem Colorado River in the Mohave Valley Division.

The project would be done during the low water period on the Colorado River. The entrance to the marina would be closed off using a temporary dam (Portadam), and water remaining in the marina lagoon would be mechanically pumped out to the river. Excavation of material would be done with land-based equipment. Disposal of excavated material would be in an upland site. In addition to the sediment removal, 3 foot diameter inlet/outlet pipes would be installed in the existing levee at the north and south ends of the marina to provide additional water circulation within the marina lagoon. The proposed action would not take place in the January-July breeding period for the razorback sucker.

STATUS OF THE SPECIES RANGEWIDE

Listing/Life History/Rangewide Status

The razorback sucker was listed as an endangered species on October 23, 1991, with an effective date of November 22, 1991. Critical habitat was designated in 15 river reaches in the historic range of the razorback sucker on March 21, 1994 with an effective date of April 20, 1994. There is no designated critical habitat in the action area. The Razorback Sucker Recovery Plan was released in 1998 (USFWS 1998).

Life history information on the razorback sucker can be obtained in the recovery plan (USFWS 1998), and background information in recently released recovery goals documents (SWCA 2001).

The range-wide trend for the razorback sucker is for a continued decrease in wild populations due to a lack of sufficient recruitment and the loss of old adults due to natural mortality (USFWS 1997, 1998, 2001; SWCA 2001). Natural recruitment has been documented in Lake Mead, the

Parker Strip area of the Colorado River, and in the Green River of Utah. This level of recruitment is not known to be sufficient to provide for self sustaining populations in these areas. The survival in the wild of the razorback sucker is being provided by augmentation programs in Lake Mohave, Lake Havasu, the Colorado River below Parker Dam, the Verde River in Arizona and several locations in Utah and Colorado. In 2001, the Bureau of Land Management and their cooperating partners completed the stocking of 30,000 sub-adult razorback suckers into Lake Havasu. Also in 2001, the Bureau of Reclamation and their cooperating partners met the initial goal to stock 50,000 sub-adult razorback suckers into Lake Mohave. The Lake Mohave program will continue to stock sub-adult fish to meet a population goal of 50,000 adults in the lake.

Analysis of the Species Likely to be Affected

The proposed action would take place in occupied habitat for the razorback sucker in the Mohave Valley Division of the Colorado River. Because backwater type habitats are important for the razorback sucker, and razorback suckers are currently found in the main channel of the river in the immediate vicinity of the Willow Valley Marina, there is a potential direct effect on the species from the proposed action.

ENVIRONMENTAL BASELINE

The environmental baseline includes the 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.

In 1997, the Service prepared a biological opinion for Bureau of Reclamation operations and maintenance in the lower Colorado River (USFWS 1997) that contained an extensive discussion of the physical and biological conditions present in the lower Colorado River at that time. That baseline was updated in a 2001 biological opinion for Bureau of Reclamation on the Interim Surplus Criteria for Lake Mead and the implementation of Secretarial Implementation Agreements for the intra-State transfer of 400,000 acre-feet of water within the 4.4 million acre-foot allocation for the State of California (USFWS 2001). The environmental baseline information in those biological opinions is incorporated herein by reference.

Status of the Species in the Action Area

A small population of razorback suckers are resident in the Mohave Valley Division. Most of the fish encountered in monitoring over the last 2-3 years have been identified as fish stocked in Lake Havasu by Bureau of Land Management, although one fish may have come through Davis Dam from Lake Mohave. Although these individuals are stocked fish, they are fully protected under the Act. It is anticipated that as the sub-adults stocked into Lake Havasu mature, more of them will move into and out of the action area. Our information is too fragmentary to assess how these fish will utilize the river, backwater and reservoir habitats available to them.

Monitoring of fish in the Mohave Valley Division by Gordon Mueller in 2000-2001 resulted in the capture of 70 razorback suckers, all of which appeared to be sub-adults stocked into Lake Havasu (Mueller 2001). This brings the total captured during this study to 142. Most fish were captured from the backwaters (Park Moabi, Pulpit Rock, Blankenship Bend, Laughlin Lagoon); however, visual identification of fish in the river channel indicate that razorback sucker were found throughout the Division. No estimate of population was made. Six larvae were found in the Park Moabi and Blankenship Bend areas, indicating that spawning is occurring downstream of the Willow Valley Marina. Since most of the stocked razorback suckers are too young to spawn, it may be expected that additional spawning sites and nursery areas will be identified in the future.

Factors Affecting Species Environment Within the Action Area

The 42.1 miles of the Colorado River in the Mohave Valley Division is largely confined to a maintained channel by 44.1 miles of levees and 33.3 miles of stabilized banks. The river channel was dredged during placement of the stabilization and levees. The confined channel is sediment starved by the presence of Davis Dam and the bank stabilization and may have become incised in some locations. Marshes and backwaters in the historic floodplain were either cut off from the river by the levees and bank stabilization or were provide with direct river access via inflow/outflow pipes, openings in the levee, or indirectly via permeable dikes. Because the river is controlled in the Mohave Valley Division, natural channel meandering no longer occurs, and no new backwaters or marshes are formed.

Water flow in the Division is highly variable due to the presence of Davis Dam at the head of the Division. Water is released from Davis Dam on a daily, weekly, and monthly schedule to provide water for downstream users and to generate electrical power. Variable flows may cause the water surface elevation of the river to change as much as 5 feet over a day (USBR 1996). This variation attenuates downstream, but is still significant at the area in front of the marina lagoon. These changes in flow regime from the natural hydrograph have had several effects to the river channel and connected backwaters and marshes. Without normal flood flows, elimination and creation of new backwaters and marshes is precluded (this is also related to the channelization of the river). There may be more damage from flood releases that deposit sediment in the remaining backwaters that are not offset by changes to the river channel that would naturally follow such events. The normal aging process of backwaters is to become shallower and more marsh-like as sediments and organic material build up on the bottom of the backwater reducing the depth. The result of channelization and controlled flows is that backwaters in the Mohave Valley Division require periodic maintenance to prevent this aging process from eliminating the open water component. Aside from Topock Marsh at the southern end of the Division, there are very few connected backwaters remaining in the Division.

Bureau of Reclamation operations of Davis Dam are covered by the 1997 biological opinion, as is any work done on levees, bank stabilization or maintenance dredging under the Colorado River Front Work and Levee System. Changes in flows due to Interim Surplus Criteria for Lake Mead or the Secretarial Implementation Agreements are also part of the baseline.

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 that 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 would remove approximately 10,000 cubic yards of sediments from the existing Willow Valley Marina lagoon. This would deepen the lagoon by 3 to 4 feet, providing improved access to the marina. This enhanced depth, combined with the placement of the inlet/outlet pipes to improve water quality would result in improved habitat for fish, including the razorback sucker. Poor water flow exacerbates water quality and contaminant issues associated with marinas (i.e. waste disposal, fuel spills) that reduces the value of the backwater. Although the marina would remain in place, the amount of use is not expected to increase, and the improved water flow would dilute contaminants to the river more efficiently. Whether the razorback sucker would use the lagoon once depth and water flow have been improved is not known; however, information by Mueller (2001) and research in the Imperial Division by Arizona Game and Fish Department (Gurtin and Bradford 2000) have indicated a marked preference of razorback suckers for backwaters over main channel habitats. Since there is a scarcity of available backwater habitats in the Mohave Valley Division, the restoration of this lagoon for human uses contributes to the overall amount of backwaters available for fish. The project would also be done outside of the breeding season of the razorback sucker, reducing the risk to larval fish that may use the backwater as a nursery area. Because non-native fish will also benefit from the improvement of habitat in the marina lagoon, this improvement would benefit adult and sub-adult razorback suckers only.

However, there also is a risk of death or injury to razorback suckers using the lagoon prior to the project being completed. There is a reasonable probability that a few razorback suckers use the marina lagoon now, and if trapped in the lagoon by the Portadam, would be injured or killed during the pumping or excavating activities.

Disposal of the excavated material on the uplands in a site without drainage back to the river would not of itself adversely affect the razorback sucker.

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.

Under the Law of the River, the laws, contracts, legal decisions and other policies that determine the flood control, and water and power operations of the Colorado River, the States of Arizona, California, and Nevada share 7.5 million acre-feet of water each year for agricultural, municipal and industrial, and other uses. In addition, the Republic of Mexico receives 1.5 million acre-feet of water each year under international treaty. This water is released by Bureau of Reclamation when requested by contract holders in the 3 States and Mexico. This release is at the discretion of the contract holders, and will continue to occur during the period covered by this consultation and into the future.

CONCLUSION

After reviewing the current status of the razorback sucker, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the razorback sucker. We present this conclusion for the following reasons:

- The environmental baseline is one of severe degradation to both the river ecosystem and the historic population of razorback suckers in the Colorado River. One of the significant issues is the slow elimination, through natural aging, of the remaining backwaters of the river. The proposed action would rehabilitate one of these remaining backwaters and provide improved habitat and water quality for sub-adult and adult razorback sucker in the action area.
- The proposed action is of limited scope and duration, and will not contribute to additional degradation of the river ecosystem as a whole. No additional indirect effects or, interrelated or interdependent actions are expected to result. No additional cumulative effects are anticipated.
- The population of razorback suckers in the action area is small, but is likely to grow over time as recently stocked fish from Lake Mohave make their way into the riverine reaches upstream of the reservoir. Additional habitat may be beneficial to survival of stocked fish in the reach.
- This population of razorback suckers is not currently reproductively self-sustaining and is supported by stocking. Loss of a few individuals is not likely to jeopardize the continued existence of the species or its genetic integrity. Loss of a few individuals is also not likely to affect the success or failure of the stocking program.

Critical habitat for this species has been designated at Lake Mohave, however this action does not affect that area and no destruction or adverse modification of that critical habitat is anticipated.

The conclusions of this biological opinion are based on the 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 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 by the Service 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, and sheltering. Harass is defined by the Service 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 below are non-discretionary, and must be undertaken by the COE 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 COE has a continuing duty to regulate the activity covered by this incidental take statement. If the COE (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 COE or the applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)]

AMOUNT OR EXTENT OF TAKE

The Service anticipates that up to 2 adult or sub-adult razorback suckers will be taken as a result of the proposed action. This incidental take will result in the death of the individuals. Willow Valley Marina lagoon has not been surveyed for the razorback sucker, however they are known to be in the Colorado River above and below the marina lagoon and in backwaters within the Mohave Valley Division. Information from Mueller (2001) indicate that the majority of the razorback suckers located are in the lower portion of the Division where the main channel and backwater habitats are more complex and integrated. Only 3 razorback suckers were reported from Laughlin Lagoon, a larger backwater upstream of Willow Valley Marina during the survey period. Given the size of the razorback sucker population in the action area, the apparent distribution of the individuals, and the preference for backwaters, the Service has determined that an area the size and suitability of Willow Valley Marina lagoon could contain one or more razorback sucker.

The assumption is made that any fish in the lagoon at the time the Portadam is placed across the access channel would be killed either by passing through the pump removing the water from the lagoon or by the act of excavating the sediment from the drained area.

EFFECT OF THE TAKE

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

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize take of razorback sucker:

The COE will minimize the risk of direct mortality from the proposed action.

TERMS AND CONDITIONS

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

The following terms and conditions implement the reasonable and prudent measure for the razorback sucker:

1. The applicant will, prior to placement of the Portadam, attempt to chase fish out of the lagoon. This may be done using sound, a net floated between boats, or other methods as appropriate for the site. Complete removal of fish from the lagoon is not necessary.
2. During the time the lagoon is being drained, the applicant will provide for an observer on site to look for stranded razorback suckers in the lagoon. If a razorback sucker is found, it should be captured and placed in the river outside of the lagoon.
3. If, during the course of the excavation, a razorback sucker is found dead or injured, the specimen should be salvaged. If the injuries are minor, the fish should be released to the river. In the case of more serious injuries, the fish should be held in a suitable tank, live well or floating net cage until the need for treatment is determined. Dead individuals should be frozen. Initial notification to the Service's Law Enforcement Office at:

Federal Building, Room 8
26 North McDonald
Mesa, Arizona 85201
(480) 835-8289

must be made within 3 working days of its finding. Written notification must be made within 5 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.

4. The applicant will provide a report on the implementation of reasonable and prudent measures and terms and conditions to the Service via the COE within 3 months of finishing the proposed action. This report will also include information on any razorback suckers observed or found during the project implementation.

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 or 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. The Service has the following conservation recommendations for this proposed action:

1. The COE discuss, with the Service, the current practice of disposal of excavated materials in upland areas and what would be required to consider placement of such material into the river channel instead. In some instances, there may be benefits from use of the channel for disposal of this material and these opportunities should be evaluated.
2. The COE put the applicant in contact with Arizona Game and Fish Department or Bureau of Land Management in Lake Havasu City to obtain educational information on the razorback sucker to post at the marina to educate the public about this native fish. With the increase in razorback suckers in the area, there is a risk of inadvertent taking of this species by anglers.

REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal action agency involvement over the action has been maintained (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 biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat not considered in this biological 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 Service appreciates the COE's efforts to reduce effects to the razorback sucker from the issuance of permits under section 404 of the Clean Water Act. For further information please contact Lesley Fitzpatrick (x236) or Tom Gatz (x240). Please refer to consultation number 2-21-02-F-074 in future correspondence concerning this project.

Sincerely,

/s/ David L. Harlow
Field Supervisor

cc: Director, Fish and Wildlife Service, Arlington, VA
Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)
Lower Colorado River Coordinator, Fish and Wildlife Service, Phoenix, AZ

John Kennedy, Arizona Game and Fish Department, Phoenix, AZ

Literature Cited

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