

**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**

October 31, 1995

In Reply Refer To:
AESO/SE
2-21-96-F-051

MEMORANDUM

TO: Project Coordinator, Parker Fisheries Resources Office, Fish and Wildlife Service,
Parker, Arizona

FROM: Field Supervisor

SUBJECT: Developing rearing facilities for native fish at the Lake Las Vegas Resort, Las
Vegas, Nevada: intra-Service biological opinion

The Arizona Ecological Services Office has reviewed the biological assessment (BA) for the subject project. Your October 26, 1995, request for formal intra-Service consultation was received on October 27, 1995. This document represents the Fish and Wildlife Service's biological opinion on the effects of the that action on the endangered bonytail (*Gila elegans*) and razorback sucker (*Xyrauchen texanus*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

This biological opinion is based on information provided in the October 26, 1995 BA, telephone conversations between Service offices involved, and letters between the Lake Las Vegas developers and the Parker Fisheries Resources Office and between the PFRO and AESO and other sources of information. A complete administrative record of this consultation is on file at this office.

Consultation history

The PFRO contacted the Lake Las Vegas Resort developers by letter on April 10, 1995 to discuss the availability of their golf course ponds to use as rearing areas for native Colorado River fish. The developers responded by letter on May 15, 1995 and indicated they were interested in the proposal, however they had some concerns about accidental take of individuals should they escape from the ponds and enter Lake Las Vegas. From this lake there is a potential for the fish to reach Lake Mead. The PFRO and AESO discussed ways to resolve this question and AESO suggested that a formal consultation be done in which the potential for accidental escape and taking be addressed in the incidental take section. The PFRO prepared a BA and submitted the request for formal intra-Service consultation on October 26, 1995.

BIOLOGICAL OPINION

Description of the proposed action

The proposed action would utilize existing or to be constructed ponds on the Lake Las Vegas Resort to raise native fish for reintroduction into the lower Colorado River. This project is a joint effort of the Service, Bureau of Reclamation, Nevada Division of Wildlife, Lake Las Vegas Resort, and the University of Nevada, Las Vegas. Two ponds are currently available, with another nine potentially available in the future. The two ponds are small (one and three acres respectively) and less than 15 feet deep. They are filled by pumping water from Lake Las Vegas via pumps fitted with entrainment devices to prevent fish entry. Both ponds can be drained, facilitating recovery of native fish once they have reached size for stocking (approximately 250 millimeters) into waters of the lower Colorado River. The ability to drain the ponds also contributes to renovation should the ponds become inhabited by non-native fish species.

Bonytail and razorback suckers would be introduced into the ponds as fry or fingerlings. Razorback suckers for the project may come from wild larvae taken from Lake Mohave, from larvae resulting from paired matings of Lake Mohave adults or from fingerlings produced at the Dexter National Fish Hatchery and Technology Center using Lake Mohave broodstock. All bonytails will be produced at Dexter from Lake Mohave broodstock. The young fish would be kept in the ponds until large enough to be stocked into various receiving waters. All stocked fish would be identified by a Passively Integrated Transponder (PIT) tag inserted in the body cavity before release. Both species would be stocked into Lake Mohave or Lake Havasu.

Status of the species: razorback sucker

Background information

Considerable information on the life history and status of the razorback sucker has been compiled in Minckley and Deacon 1991 and USFWS 1993. Please refer to these references for more detailed information about this species.

Species description

The razorback sucker is a large catostomid fish native to the Colorado River basin. It was once one of the most widely distributed of the large native fish species. Populations declined due to construction of dams and diversions, changes in seasonal water flows and the introduction of non-native aquatic species to the basin and other reasons. The razorback sucker was listed as an endangered species on November 22, 1991. Critical habitat for the species was designated on April 20, 1994.

The present range of the razorback sucker is much reduced from the historic range. In the upper Colorado River basin, small populations remain in the lower Yampa and Green Rivers, the mainstem Colorado River and the lower San Juan River. The largest population remaining anywhere in the Colorado River basin is in Lake Mohave. Small, natural populations persist throughout the mainstem Colorado River. Reintroductions to the Gila, Salt and Verde Rivers in Arizona have not yet resulted in self-sustaining populations. Augmentation of existing populations in the lower Colorado River basin is continuing.

Life history and population dynamics

The razorback sucker was found throughout the Colorado River basin in a variety of habitats. They have been shown to utilize backwaters and main channel habitats. Spawning takes place in

the spring over a fairly long period (January or February to April or May). Gravel or cobble bars appear to be a preferred spawning site, however other substrates are used. Little is known about the habits of young razorback sucker since the larvae disappear within a few days. Predation by non-native fishes and other aquatic predators is a primary reason for the disappearance.

Lack of recruitment has resulted in populations dominated by old, large adults nearing senescence. Only in Lake Mohave can the species reliably be found, and that during the spawning season. Razorback suckers produce many viable eggs, and fecundity is not an issue. In the absence of predators, razorback sucker larvae do survive and grow. The species has not yet gone extinct largely due to the long (40 to 50 year) life span of the individual. There is an immediate crisis in that the only large and genetically diverse population is in Lake Mohave and has reached the 40 to 50 year old mark and numbers have begun to decline sharply. Without efforts to augment this and other natural populations, much of the existing genetic diversity would be lost, and the loss of the species from the wild becomes more certain.

Status of the species: bonytail

Background information

Considerable information on the life history and status of the bonytail has been compiled in USFWS 1990 and 1993. Please refer to these references for more detailed information about this species.

Species description

The bonytail is a native chub of the Colorado River basin. It was once widespread and abundant in the larger mainstem rivers, it is now the rarest of the four "big river" listed species. Populations have declined due to construction of dams and diversions, changes in seasonal water flows and the introduction of non-native aquatic species to the basin and other reasons. The bonytail was listed as an endangered species on April 23, 1980. Critical habitat for the species was designated on April 20, 1994.

The present range of the bonytail is much reduced from the historic range. In the upper Colorado River basin, small populations may remain in the areas of Yampa and Green Rivers and portions of the mainstem Colorado River. In the lower Colorado River basin, the bonytail is only now found in Lake Havasu and Lake Mohave. Augmentation of these populations is ongoing.

Life history and population dynamics

The bonytail is primarily a main channel species, utilizing eddies and pools. Spawning occurs in the spring to early summer. Little is known about the habits of juvenile or adult bonytail due to the extreme rarity of the species.

Lack of recruitment has resulted in populations dominated by old, large adults nearing senescence. Only in Lake Mohave can the species reliably be found, and that during the spawning season. In hatchery situations, bonytail produce many viable eggs, and fecundity is not an issue. In the absence of predators, bonytail larvae do survive and grow. The species has not yet gone extinct largely due to the long (40 to 50 year) life span of the individual. The very small size of these populations make them even more vulnerable to extinction. Without efforts to augment natural populations, the loss of the species from the wild becomes more certain.

Environmental baseline

Status of the species in the action area

A population of razorback suckers persists in Lake Mead. There was a population of bonytail in the Grand Canyon area, but no individuals have been recorded in many years. Both species retain populations in Lake Mohave, the reservoir below Lake Mead.

Effects of the action

Implementation of the proposed action would benefit the razorback sucker and bonytail by providing rearing habitats to raise fish for augmentation of the existing lower Colorado River populations. These populations are critical to the survival and recovery of both species. While there are other facilities engaged in this activity, there is a significant shortage of rearing space to obtain large quantities of 250mm or larger fish for stocking.

There are, however, two areas of concern. The first involves the potential for individuals of both species to escape from the golf course ponds into Lake Las Vegas. During heavy rainfall events, the ponds have overflowed into the lake. Lake Las Vegas supports a warm-water recreational fishery. Very small bonytail or razorback suckers would not be expected to survive the predatory non-native species in the lake for the same reasons they apparently do not survive in similar situations. Larger fish have a better chance of survival if they are larger than the usual size of prey species taken by predators. If they did survive, our information indicates that both species could grow and live in the lake as adults. While there are no records of razorback sucker being caught by fishermen, there are records of bonytail being caught by fishermen in Lake Havasu and Lake Mohave. Section 9 of the Act prohibits the taking of listed endangered species without a special exemption.

The second area concerns the potential for either or both species escaping from Lake Las Vegas to Lake Mead. Lake Las Vegas is located on Las Vegas Wash, but obtains its water from Lake Mead. The distance between the two lakes is approximately two miles. Lake Las Vegas has a capacity of 10,000 acre-feet of water and will be maintained at a stable water level at 1,403 mean sea level. There is the potential for the lake to spill into Las Vegas Wash during high flow events. Las Vegas Wash empties into Lake Mead. Transport of fish via such events has been well documented, and if there were razorback suckers and/or bonytail in Lake Las Vegas, they could be transported to Lake Mead. For the razorback sucker this is not an issue since the species is known to still exist there. The persistence of a bonytail population in Lake Mead has not been verified, thus release of bonytail into Lake Mead could be a reintroduction and not an augmentation. The Service does not unilaterally reintroduce species to their historic range and this project is not intended to violate that policy.

The loss of individual razorback suckers or bonytails from the rearing ponds means potentially fewer fish for the recovery efforts in the lower Colorado River. Catching the escapees in Lake Las Vegas would not likely be feasible and it would be impossible to catch them out of Lake Mead.

Cumulative effects

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The ponds identified to be used for rearing native fish are part of golf course development in a master-planned resort and residential community. Over time, development of the local area would occur. This is not expected to have any additional effects to the proposed action since the Service has already taken this into account in proposing the action.

Conclusion

After reviewing the current status of the razorback sucker and bonytail, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the use of ponds on the Lake Las Vegas Resort is not likely to jeopardize the continued existence of these two species or destroy or adversely modify designated critical habitat for the razorback sucker.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 a prohibited taking 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 implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Service has a continuing duty to regulate the activity covered by this incidental take statement. If the Service (1) 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, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or extent of incidental take

For this action, the Service remains the responsible entity. The other partners in this project are not applicants under the definitions of this section.

The Service's permits under the Act and other authorities cover the losses of individual razorback sucker and bonytail during the process of rearing them to stocking size and releasing them to the receiving water. It is assumed that management of the lands immediately surrounding the ponds would be discussed by all partners in order to provide acceptable habitat conditions for growth of the fish in the ponds.

The escape of individual fish into Lake Las Vegas does not remove them from the oversight of the Service. Lake Las Vegas is not the designated receiving water for these species. Individuals that escape to the lake should properly be counted with other losses inherent in the rearing process. The exact number or percentage of fish that would be lost to the program in this manner

is not known, nor can it be predicted. There are many factors involved (number, size and duration of spills; size and numbers of fish introduced to the lake) that contribute to the uncertainty. It can be surmised that the risk is not significantly large enough to make use of the ponds infeasible, or that the loss of these fish would significantly affect the overall rearing effort. If this project does expand from two ponds to nine or more, the same reasoning holds true. The numbers of fish that will be produced by the ponds that will contribute to the survival of these critically endangered species far outweigh the potential loss of a few to Lake Las Vegas.

The accidental capture of an individual razorback sucker or bonytail by anglers in Lake Las Vegas is possible. Since these fish would still be under Service oversight, since they are not considered to have been released to the wild, these captures would be considered as incidental taking under the Act with no penalties to the angler, provided that the terms and conditions included in this statement are followed.

The transport of individual razorback suckers to Lake Mead could be considered as augmenting the existing population and can be covered under the existing program on the lower Colorado River. Lake Mead should be designated as a receiving water for these accidental releases. It is very unlikely that many fish would ever reach Lake Mead, but those that did would be considered part of the program.

The accidental release of bonytail to Lake Mead is a different problem since there is no known extant population to augment. The degree of risk is very small, but the Service must consider it. The Lake Mead area was historic habitat for the species, so an eventual program to establish a population would not be inappropriate.

While the amount of incidental take cannot be quantified, it is possible to construct a scenario to define when that take has been exceeded. The incidental take will have been exceeded if any of the rearing ponds spills to Lake Las Vegas more than twice a year. This figure does not include planned releases in which fish are controlled and not allowed to leave the ponds.

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 measures are necessary and appropriate to minimize take of razorback sucker and bonytail.

- 1) Measures be taken to limit the opportunity for fish to move out of the rearing ponds to Lake Las Vegas.
- 2) Measures be taken to reduce the likelihood of angler related mortality to fish that reach Lake Las Vegas.
- 3) Measures be taken to address the establishment of bonytail in Lake Mead.

Terms and conditions

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

To implement reasonable and prudent measure 1:

- 1) Management of pond water levels, evaluation of flood risks and potential methods to reduce flood flows into the ponds will be examined and implemented if feasible and appropriate. This applies to ponds used in this initial project and any that are later added.
- 2) Provide for a public information program to discourage unauthorized individuals from moving fish from one pond to another.
- 3) Because of the potential for introduction to Lake Mead, ponds either closest to Lake Las Vegas or with the highest risk of spilling should be used for rearing razorback suckers. Those ponds furthest from the lake or with the lowest risk of spilling should be used for rearing bonytails.

To implement reasonable and prudent alternative 2:

- 1) Provide information for anglers at appropriate locations around Lake Las Vegas describing the razorback sucker and bonytail. Photographs or drawings would be useful. Anglers should be directed to release alive any individuals of either species back to Lake Las Vegas and provide a report of the capture to the Service or designated representative.

To implement reasonable and prudent alternative 3:

- 1) The Service, as part of ongoing or new recovery and conservation programs, should determine if establishment of a bonytail population in Lake Mead is a desirable survival or recovery action. In concert with potential partners, the means to establish that population should be developed.

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.

Because this action is contributing to the survival and recovery of the razorback sucker and bonytail, and is a partnership effort between Federal agencies, State agencies and private interests, additional conservation recommendations are not needed.

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 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.

This type of cooperative effort to provide for the survival and recovery of endangered species highlights the intent of the Act to involve all interested parties in the protection of listed species. If we can be of further assistance with this project, please contact Ted Cordery or Lesley Fitzpatrick.

/s/ Sam F. Spiller

cc: Regional Director, Fish and Wildlife Service, Albuquerque, New Mexico
(GM:GSV/LCR)

Director, Arizona Game and Fish Department, Phoenix, Arizona

LITERATURE CITED

Minckley, W.L., and J.E. Deacon. 1991. Battle Against Extinction: Native fish management in the American West. University of Arizona Press, Tucson. 517pp.

U.S. Fish and Wildlife Service. 1990. Bonytail Chub Recovery Plan. U.S. Fish and Wildlife Service, Denver, Colorado. 35pp.

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