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AESO/SE  
2-21-02-F-0129

September 23, 2002

Mr. Grady L. McNure  
Chief, St. George Regulatory Office  
U.S. Army Corps of Engineers  
321 North Mall Drive, Suite L-101  
St. George, Utah 84790-7310

Dear Mr. McNure:

Thank you for your request for consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request for formal consultation was dated August 13, 2002, and was received by us on August 14, 2002. At issue are impacts that may result from the proposed issuance of a section 404 permit under the Clean Water Act for the Colorado River Marina, located in Laughlin Lagoon, south of the city of Laughlin, on the Colorado River in Clark County, Nevada. The species of concern are the endangered bonytail chub (*Gila elegans*), razorback sucker (*Xyrauchen texanus*), southwestern willow flycatcher (*Empidonax traillii extimus*) and Yuma clapper rail (*Rallus longirostris yumanensis*). There is no designated or proposed critical habitat within the project area.

In your letter, you stated that the Corps of Engineers (COE) had made a finding of "no effect" for the bonytail chub and southwestern willow flycatcher. These species will not be considered further in this biological opinion. You also requested our concurrence with a finding of "may affect, not likely to adversely affect" for the Yuma clapper rail. The FWS concurs with this finding and justification is provided in Appendix A to this biological opinion.

This biological opinion considers the effects of the proposed action on the razorback sucker, and it is based on information provided in the June 2002 biological assessment, past section 7 consultations on projects in Laughlin Lagoon and the lower Colorado River, 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 general activities included in the proposed action and their effects, or other subjects considered in this opinion. A complete administrative record of this consultation is on file in this office.

### **Consultation History**

- February 21, 2002: We met with the COE and project proponent to discuss the draft project proposal.
- March 18, 2002: We received a request for a list of species in the project area. We responded with a species list on March 27.
- August 14, 2002: We received a request for formal consultation from COE.
- August 21, 2002: We sent a 30-day letter acknowledging start of formal consultation to COE.

## **BIOLOGICAL OPINION**

### **DESCRIPTION OF THE PROPOSED ACTION**

#### **Description of the Action Area**

Laughlin Lagoon is a 127 acre, artificially isolated backwater of the Colorado River south of Laughlin, Nevada. It was created in 1962 by the Bureau of Reclamation (BOR) when a river training structure was placed across a bend in the river to reduce erosion and control channel movement. The shoreline area of the lagoon is privately owned with at least two residences and one hotel/resort currently located along the shoreline.

The proposed Colorado River Marina is on a 30-acre site at the western end of Laughlin Lagoon. The upland area is extensively disturbed, with only limited vegetation remaining on the site. This is largely the result of past development efforts that were never completed. The shoreline of Laughlin Lagoon is vegetated with arrowweed (*Pluchea sericea*), small willows (*Salix gooddingii*), salt cedar (*Tamarix* sp.), cattails (*Typha* sp.), bulrush (*Juncus* sp.) and rushes (*Scirpus* sp.).

The action area for this consultation is defined as Laughlin Lagoon and the lower Colorado River upstream to Davis Dam and downstream to the Nevada state line with California including both the Nevada and Arizona sides of the river. This area represents the likely area affected directly by construction of the marina and indirectly through boat traffic originating from the marina.

### **Description of the Proposed Action**

The proposed project requiring the section 404 permit is a new public marina with a 3-lane boat ramp, 110 small boat slips for transient and short-term use, a handicap-accessible boat dock, parking for cars and boat trailers, dry storage for boats and trailers, boat maintenance facilities, a swimming beach, marina office with a store, café, and restrooms, a greenbelt area, and wildlife protection measures for Laughlin Lagoon. The proposed action does not include a gasoline refueling site for boats, or a sewage pump-out facility associated with the project. The proposed project is more fully described in the biological assessment (Himes 2002).

Construction of the marina and facilities would require dredging for the boat launch ramp and the marina's floating docks. Dredging for the launch ramp would use shoreline excavators. The 150 foot by 53 foot concrete ramp would be cast-in-place above the waterline and finished using pre-cast concrete panels below the waterline. An aluminum sheet pile seawall would stabilize the shoreline around the ramp.

The area containing the marina docks would be cleared and shaped approximately 73 feet by 800 feet to create room for the docks and maintain the existing open channel for navigation. This would require dredging an average of 20 feet out from the existing ordinary high water mark. Work would be done from the shore. The new shoreline would be a 2:1 slope stabilized with filter cloth under a polyethylene honeycomb confinement material filled with 3-inch-minus aggregate. A 6 to 7 foot wide wetland mitigation area at the landward side of the slope would not have the underlying filter cloth so that cattails, bulrush, or rushes can establish on the substrate. Behind the access walk to the docks, the 12 foot wide greenbelt would also be on a 2:1 slope and would support plantings of native Mohave desert plants which would not be manicured to enhance values for wildlife. The docks would be floating and anchored to pilings in the lagoon floor.

The sand swimming beach would require dredging from the shore out 25 feet beyond the existing ordinary high water mark (approximate area 2,500 square feet) and the placement of 190 cubic yards of sand within a 50x150x1 foot area along the inshore edge of the beach.

The project description in the biological assessment indicates that most use of the site would be during the summer months (May through August). This generally corresponds to the peak recreation time on the lower Colorado River. Use of the marina and launch ramp would be expected at other times of the year since boating is a year-round feature of river recreation. Maximum boat launches are estimated at 75 per day based on parking and ramp capacity. The project description also states that the 110 slips would be for short-term and transitory use, not rented out seasonally or yearly. This management would also limit the amount of use possible at the marina during a single day. Use of the swimming beach is likely to be limited to the summer months due to water temperatures.

Several mitigation measures are included in the proposed action. Construction work below the ordinary high water mark would not occur during the January through June spawning season for the razorback sucker. The project proponent is working with Nevada Department of Wildlife to position and maintain buoy lines to restrict access by boats into sensitive parts of the lagoon where fish and wildlife values are higher than at the site of the proposed marina. An information kiosk and other signs at the marina would advise recreationists of restricted areas and no-wake rules as well as to not feed fish at the dock and to maintain a clean marina environment to reduce pollution reaching the water. The marina operator will monitor and report boating violations within the lagoon to Nevada Department of Wildlife or other appropriate regulatory entities.

### **Status of the Species Range-wide**

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 within the historical habitat of the razorback on March 21, 1994, with an effective date of April 22, 1994. Constituent elements of critical habitat include water, physical habitat, and biological environment. Critical habitat on the Colorado River includes Lake Mead, Lake Mohave, and the river between Parker Dam and Imperial Dam. The Razorback Sucker Recovery Plan was signed in 1998 (USFWS 1998). Life history information on the razorback sucker can be obtained in the recovery plan and in background materials presented in the recently finalized recovery goals document (USFWS 2002a).

The range-wide trend for the razorback sucker is the continued decrease in wild populations due to lack of sufficient recruitment of wild-born and reared young adults to offset the loss of old adults due to natural mortality. The remaining wild populations are extremely small and the loss of all but one population is expected to occur within a few years. The exception to this is the Lake Mead population, which is made up of wild-born and reared young to middle-aged adults from a second and possibly third post-impoundment generation. Extinction of the remaining wild populations is being forestalled by augmentation stockings of wild-born and hatchery-born juveniles and sub-adults into these populations. These stockings are taking place in the Upper Colorado River Basin, in lakes Mohave, Havasu, and in the river below Parker Dam on the lower Colorado, and in the Verde River of central Arizona. These stockings are expected to result in adult populations that will persist for 40 to 50 years and provide options for future management of the species and retention of existing genetic variance. More detailed information on range-wide status and distribution of the razorback sucker can be obtained from the background sections of the recovery goals document (USFWS 2002a), and the recent biological opinion on Bureau of Reclamation's operations and maintenance of the lower Colorado River (2-21-95-F-216R; USFWS 2002b).

**Analysis of the species/critical habitat likely to be affected**

The razorback sucker population in this area is small, and is largely derived from stockings into the reach as well as stocked fish coming upriver from Lake Havasu. Many of the stocked sub-adults are not reproductively mature, but are expected to attain maturity within a few years. No critical habitat is present within the project area.

**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 from which to assess the effects of the action now under consultation.

**Status of the Species in the Action Area**

The biological assessment contains a summary of the most recent capture and stocking records of razorback sucker in the Laughlin Lagoon area (Himes 2002). This information is incorporated herein by reference.

Laughlin Lagoon is the furthest north of the few, large backwaters open to the Colorado River in the Mohave Valley Division (Davis Dam to Interstate 40 Bridge). Although created by a training structure, the lagoon is structurally and biologically the same as a backwater naturally formed by the river. Historically, such backwaters and isolated oxbow lakes were important habitat for the razorback sucker in the lower Colorado River, and were used in conjunction with main channel habitats by all life stages. Backwaters were also important nursery areas for young razorback suckers. The shallower water was warmer than the mainstem in the spring, there was more cover from aquatic, marsh, and riparian vegetation, and food resources were more abundant in these sheltered habitats.

What were likely wild-born and reared razorback suckers were captured in the lagoon most recently in 1986 and 1987 by Nevada Division of Wildlife (NDOW). Since 1999, razorbacks have been captured in and immediately outside the lagoon by BOR or U.S. Geological Survey (USGS) contractors. The origin of all post-1999 captured fish is uncertain. Two stockings of captive-bred razorback suckers were made to the lagoon; one in December 2000 (60 fish) and one in December 2001 (740 fish) that have contributed re-captures in the area. One fish stocked into Lake Havasu has also been captured within the lagoon. Some of the captured fish were sexually mature, but no spawning has been observed in the river and no larvae found in the lagoon as of spring 2002. There is some indication of razorback sucker spawning in the upper end of Lake Havasu, and as the population matures, spawning may occur in the river nearer to the lagoon if suitable sites are available. Razorback suckers spawn on gravel/cobble bars, and this type of substrate is present in the river in the vicinity of the lagoon. Flannelmouth suckers

(*Catostomus latipinnis*) are found outside the lagoon and may spawn nearby. Razorback suckers have been captured or observed accompanying the flannelmouth suckers during the spring in the vicinity of the lagoon. Within the river reach of the action area, razorback suckers have been reported as far upstream as the tailrace of Davis Dam.

Based on survey data, razorback suckers may be present in the lagoon at any time of the year. The size of the population within the action area is unknown; however, it is likely to increase by some amount over the next few years as fish stocked into Lake Havasu move around in the system. Information developed from sonic-tagging studies in the Imperial Division of the lower Colorado River indicates that razorback suckers preferentially use backwaters, small channels and other habitats off the main channel (Gurtin and Bradford 2000). With this information, we may assume that razorback suckers will select similar types of habitat. Overall, this habitat type is limited in the Mohave Valley Division; but is more prevalent in the immediate vicinity of the lagoon due to the presence of the Boy Scout Camp backwater immediately downstream of the lagoon.

#### **Factors Affecting the Species' Environment within the Action Area**

The Mohave Valley Division is extensively modified by levees, bank stabilization, and controlled flows from Davis Dam at the upstream end of the Division. Water from the dam is cold and clear and has stripped fine sediments from the river channel, leaving it dominated by gravel and cobble. Daily flow variations cause surface water elevation to vary as much as 5 feet over a 24 hour period (USBR 1996). Residential and commercial developments line parts of the Arizona and Nevada shores and contribute to increasing areas of bank stabilization and modification. Because the Colorado River is controlled through the action area, it does not meander and new backwaters are not formed while old ones naturally age to marsh and upland areas. Laughlin Lagoon has been aging since its formation, with emergent vegetation becoming more prevalent as the inflow of silt from washes and growing vegetation on the shoreline decreased the size and depth of the lagoon. In 1999-2000, several channels to improve shoreline access for landowners in the lagoon and improve water circulation were dredged by BOR. One of the areas dredged by the BOR is in front of the proposed marina development and would provide access to the river for boats launching at the marina, eliminating the need for the proposed action to dredge its own access channels to accommodate the project.

Recreational use of backwaters and the main channel of the river by boats and personal watercraft can have adverse effects to razorback suckers and their habitat. Boats and watercraft operated at high speeds leave wakes that cause shoreline erosion, displace eggs and newly-hatched larvae from spawning bars (this is exacerbated by variable water levels over those bars), and may injure young fish in shallow nursery areas where wakes can cause stranding of fish on the shore. Boats and watercraft also contribute pollutants to the water through exhaust from engines and spills of fuel and other chemicals. The existing resort on the lagoon has a launch ramp and rents personal watercraft. Private landowners also have private launch ramps for their own use. Two such private ramps were approved for rehabilitation or new construction since

2000. Access from the river to the lagoon is also available, so that boats and watercraft launched elsewhere can come into the lagoon. Although much of the lagoon is a no-wake area, this is not always observed by boaters or watercraft users. Noise from boats, watercraft, and other human activities may also affect fish using the lagoon. Existing recreational boating levels in the lagoon are high during the summer months, and existing no-wake and other restrictions are ignored by some of the users.

The presence of non-native fish species in the Colorado River has been identified as the major factor inhibiting natural recruitment of young razorbacks to the adult population. Species such as carp (*Cyprinus carpio*), channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), and sunfish (*Lepomis* spp.) have all been implicated in predation on razorback sucker eggs, larvae, and fry. Because these species also prefer the more sheltered habitats available in backwaters such as Laughlin Lagoon, the predation pressure on razorback suckers is extremely high.

The BOR dredging project (2-21-99-F-205), the Betty Laughlin boat dock and beach (2-21-00-I-369), and the Ken Mourton boat dock (2-21-01-I-382) are the only recent projects within the lagoon requiring section 7 consultation. In the river through the action area, recent section 404 permits that required section 7 consultation included maintenance dredging at Willow Valley Marina (2-21-02-F-074), the California Edison powerplant (2-21-00-I-301), and construction of a personal watercraft dock at the Flamingo Casino in Laughlin (2-21-01-I-222). Maintenance by BOR of existing bank stabilization and levees is covered by a biological opinion (2-21-95-F-216R). Files on these projects are maintained in our office.

## **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 or 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**

Construction of the boat ramp, marina, and swimming beach would alter the natural shoreline of Laughlin Lagoon due to placement of sand, concrete, filter cloth, polyethylene honeycomb mesh, and rock that will replace the silts and gravels currently on the site. Initial construction would also increase sediment in the lagoon, remove aquatic plants that provide cover, disturb substrates and the associated invertebrate populations, and increase ambient noise levels. There is also a potential for a chemical spill from equipment used on site and from wash water used to rinse trucks and other equipment used in pouring concrete for the boat ramp and other construction

activities associated with the marina. These effects would last until construction is completed. Razorback suckers would likely avoid the project area during the active construction period. When work is not actively in process, fish may move back into the area.

The razorback sucker may be present in Laughlin Lagoon at any time of the year. This is because the lagoon contains the type of habitat preferred by razorback suckers (Gurtin and Bradford 2000). The most critical time would be the spawning season (January through June) when adult fish are staging for spawning. The winter months may also be a time of higher use of the lagoon by razorback suckers because the water is warmer than in the river. Because no construction would occur below the ordinary high water line during the spawning season, there should be no effects to spawning fish or young of the year from the construction. Effects to late winter and early spring use by non-breeding fish would also be minimal since construction in the water would not occur. During the construction of the boat ramp, marina docks, and swimming beach, razorback suckers would be displaced from the area due to noise and destruction of habitat components on site. There is a risk of mortality to any fish that remained in the work area from the dredging activity.

The discussion in the preceding paragraphs relates to the actual construction on the shoreline and in the water. The risk of toxic spills from equipment or concrete wash water exist throughout the construction period regardless of where on the site construction is taking place. These effects would continue through the entire construction period.

Once construction is complete and the marina is operational, there will be an increase in the amount of boat traffic using the shoreline channel and exiting through the lagoon to the river. This increase is attributable to boats launched at the marina, as well as those launched elsewhere that come into the lagoon to use the marina facilities. The 110 boat slips available for transient and short-term use will also foster the increased use. There would not be a re-fueling dock at the marina; however, re-fueling of boats by their operators using portable gas cans is likely to occur and may result in small spills of gasoline and oil products. Small spills may also occur during launching and retrieval operations at the boat ramp. Other substances may be introduced to the water from cars and trucks launching boats, and other activities conducted while boats are readied for use. Operation of boats also results in fuel mixtures entering the water through leaks in fuel systems, draining of bilge water, and exhaust. The marina is located along the main shoreline channel and a smaller circulation channel, that leads to the main parts of the lagoon. Water movements within the lagoon would carry water and contaminants from the marina, past the swimming beach into the circulation channel, then to the main part of the lagoon. Some of this material would be transported out of the lagoon through the outlet structures to the river channel. The magnitude of the new contaminant load resulting from operation of the marina is not known, nor is the level of the existing load from ongoing boating activities. The daily variation in river flows that result in significant changes to water levels in the lagoon do result in more water flowing through the lagoon, especially now with the inlet and outlet structures and the existing dredged channels, and this may minimize the build-up of concentrations of pollutants in the vicinity of the marina.

Razorback suckers may, once the construction is complete, utilize the habitat at the marina area. The majority of the new substrates would be small rock and gravel which provide foraging areas. Noise from boats and localized pollution may make the area less desirable as fish habitat, but fish of many species can be found around docks. In Lake Mead, the two known razorback sucker spawning areas are in close proximity to marinas, and razorback sucker use of the general area has been confirmed (Holden et al. 2001) although no fish have been tracked into the marina proper. Most of the razorback sucker spawning season is outside the high-use period for the marina, so disturbance and water quality issues would be reduced from the high-use summer period. The suitability of the marina area to serve as nursery habitat for young razorback suckers would be modified but not eliminated. The daily water level fluctuations and the presence of non-native fish that also affect nursery habitat would remain, with the non-native fish becoming more of an issue if the presence of the marina maintains their populations at a higher level during the razorback sucker breeding season than is currently experienced.

Razorback sucker use of the circulation channel and the rest of the lagoon area is likely to continue. Channels and backwaters are preferred habitat for the razorback sucker and are in limited supply in the Mohave Valley Division. Diffusion of normal levels of pollutants generated by the operation and maintenance of the marina facilities into the lagoon and to the river channel may affect water quality, but not likely to the extent that toxicity occurs. Large fuel spills or other releases of contaminants could cause toxic conditions that result in fish kills. Increased boating use of the lagoon may increase the level of noise disturbance, especially within the dredged channels. The amount of this increase is unknown.

The conservation measures built into the proposed action serve to reduce the risks to razorback suckers. Already mentioned is the prohibition on in-water construction during the January to June breeding season. Information provided to marina users on maintaining a clean marina environment, following no-wake restrictions within the lagoon, restrictions on boat use in sensitive areas of the lagoon, and not feeding fish off the docks contributes to reduction of pollution threats, disturbance of other lagoon habitats, and concentrating non-native fish on site.

### **Interrelated and Interdependent Actions**

Additional residential and commercial development that is planned by the project proponent for the upland sites adjacent to the marina facilities are not part of the proposed action and have independent utility from it so are not considered to be interrelated and interdependent actions. Future dredging of Laughlin Lagoon to maintain the existing dredged channels for boat access may be considered an interrelated or interdependent action for the proposed project. The BOR dredged the channels in response to landowner assertions that the agency had a maintenance responsibility to provide access to the river that was lost to them when the training dike was constructed. If BOR continues to maintain the dredged channels under its own responsibility, then that maintenance is not connected to the proposed action as an interrelated or interdependent

action. If BOR does not, then future dredging projects would be the responsibility of the landowners, including the marina owners. It is estimated that additional dredging will not be needed for at least 10 years.

### **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.

Completion of the BOR dredging project in Laughlin Lagoon provided significantly improved access to the shoreline of the lagoon, and thus to the river, for the private landowners. The two section 404 permits for boat ramps and docks are indicative of the benefits provided to the landowners. The existing resort facility has made use of the newly dredged channels for boats and personal watercraft from their facility to access the lagoon and the river. The proposed action itself has benefitted from not having to provide dredged channels to access the lagoon and the river.

The lands surrounding the lagoon are subject to development for residential or commercial purposes. The rate of such future development is not known, but the likelihood of it occurring is high. The Laughlin, Nevada area is a growing one, and that growth is predicted to continue. Growth on the uplands adjacent to the lagoon may not require Federal permits or funding to be put in place. Effects to the lagoon from such growth may include runoff from streets and yards that imports pollutants to the lagoon and increased visitation of the area for unstructured recreation. Such effects may affect the quality of the lagoon as fish and wildlife habitat. Most future development that would affect the remaining shoreline of the lagoon would likely require some form of Federal permit (likely under section 404) and would undergo section 7 consultation and is not considered under cumulative effects.

### **CONCLUSION**

After reviewing the current status of the razorback sucker, the environmental baseline for the action area, the effects of the proposed action and cumulative effects, it is our biological opinion that the construction and operation of the Colorado River Marina in Laughlin Lagoon is not likely to jeopardize the continued existence of the razorback sucker. Critical habitat has been designated for this species in portions of the lower Colorado River in Lake Mohave and below Parker Dam; however, this action does not affect those areas and no destruction or adverse modification of that critical habitat is anticipated.

The razorback sucker is a severely endangered species throughout its range. The lower Colorado River wild populations, augmented by captive-reared sub-adults, are the largest remaining in the species' range and are a critical component in maintaining the genetic heritage for the species. Major river operation and management activities by BOR that encompass the action area were found to jeopardize the continued existence of the razorback sucker and extensive reasonable and prudent alternatives have been put into place as a result. Smaller, site-specific actions, such as the dredging of Laughlin Lagoon and Willow Valley Marina, have not been found to jeopardize the razorback sucker, in part because they also restore some of the remaining backwaters in the Mohave Valley Division that provide important habitat for the species. Since new backwaters are no longer formed by natural river processes, rehabilitation of existing backwaters maintains at least the status quo.

Our finding of no jeopardy for the Colorado River Marina is based the following factors:

1. There is not a permanent elimination of a significant amount of aquatic or shoreline habitat from construction and operation of the facility. Significant areas of natural shoreline remain along the edge of the lagoon to the east and south of the facility.
2. The construction period avoids the spawning season for the razorback sucker.
3. Accessibility to the remainder of Laughlin Lagoon, and the extensive area of habitat it contains, is not compromised by the facility, and may be enhanced if boating restrictions are more stringently enforced due to the facility.
4. The amount of additional boat traffic in the river is not likely to be significant, given present use levels. Increased boat use in the lagoon will be concentrated in the dredged areas, not the lagoon as a whole if access restrictions are effectively enforced.
5. Introduction of pollutants to the lagoon through marina operation are not likely to create a toxic situation in the lagoon or the river. This is because of the limited likelihood of large spills of gasoline, oils, or other pollutants, and the improved water flow through the lagoon from the previous BOR dredge project.

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 and in the biological assessment, including any conservation measures 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 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 COE so that they become binding conditions of any grant or permit issued to the project proponent, 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 project proponent 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 the incidental take, the COE must report the progress of the action and its impact on the species to the FWS as specified in the incidental take statement [50 CFR §402.14(i)3].

#### AMOUNT OR EXTENT OF TAKE

We anticipate that up to 6 adult or sub-adult razorback suckers will be taken as a result of this proposed action. This take is expected to be in the form of harm and harassment that may kill or injure individual razorback suckers. The level of take has been established as the highest number of razorback suckers recorded in Laughlin Lagoon since the completion of the BOR dredging project that were not associated with a direct stocking into the lagoon. Individual fish using the lagoon, especially the marina area, would be subject to harm from disturbances to habitat during the construction period and future introductions of pollutants or contaminants through marina operation. There would also be harassment due to the actual construction actions in the water wherein a razorback sucker may be killed or injured by the equipment or placement of materials below the ordinary high water line. Use of the boat ramp and marina facilities by boaters may have seasonal but long-term effects on the suitability of the lagoon at the marina to provide feeding, breeding, and sheltering areas for the razorback sucker. No take of young-of-the-year razorback suckers is anticipated for the construction phase of the project; however, if non-native fish populations in the vicinity of the marina increase as a result of the marina operations, young razorback suckers may be more vulnerable to predation while using the habitat. Given the

existing level of predation, determining if there has been an increase in predation is almost impossible.

Documentation of the incidental take for the razorback sucker may be difficult to provide. Fish that are displaced from the habitat but not directly killed are not likely to be found. Mortalities resulting from dredging materials from the lagoon to form the marina site, or the placement of materials into the lagoon to develop the marina and beach areas as finished facilities would also be very hard to locate. Individuals that are displaced by the noise and pollution inputs from boat use during the operation of the facility would not, unless killed directly, be easily located. We therefore suggest surrogate measurements to be used to assess the amount of incidental take that has occurred. Because there are several types of take that could occur, there are two surrogates provided.

The first surrogate addresses the potential for mortality during construction due either to physical disturbance of the habitat, or spills of toxic materials (fuels, concrete wash water) into the lagoon from the work site. This surrogate would be the finding of dead or injured carp (a more common species) either in the materials dredged from the site, or in the water within 24 hours after a spill has occurred. If more than 20 carp are found dead or injured in one, or collectively more than one incident, the level of incidental take will have been exceeded. Because dead or injured razorback suckers may be found in these instances, if more than 6 are found, incidental take will be considered to be exceeded regardless of the number of carp located.

The second surrogate would address the potential for mortality during operation of the marina and associated facilities. Disturbances caused by boat use would be very difficult to document even with a surrogate, and this type of take cannot be measured effectively. However, changes in water quality caused by operations at the marina can be measured and assessment of effects to fish in the lagoon made. Because of flows through the marina are assumed to disperse the small amounts of pollutants before they reach significant levels, daily operations may not have measurable effects to water quality; however, there is a risk of larger spills or other inflows from the facility that do cause significant water quality problems that can result in the death of fish. Examples of other inflows are water from the storage and repair facility that may contain fuels or other substances from activities on the site or significant spills of gasoline or oil at the launch ramp. In the event of a significant spill or introduction of toxic materials to the lagoon, the finding of 20 or more dead carp within 24 hours of the incident will also serve to have exceeded the incidental take. Because dead or injured razorback suckers may be found in these instances, if more than 6 are found, incidental take will be considered to be exceeded regardless of the number of carp located.

## EFFECT OF THE TAKE

In this biological opinion the FWS 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 AND IMPLEMENTING TERMS AND CONDITIONS

The following reasonable and prudent measures are necessary and appropriate to minimize the take of razorback sucker. In order to be exempt from section 9 of the Act, the COE must comply with the terms and conditions that implement the measures described herein and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. During the construction phase of the project, the COE shall require the project proponent to reduce the risk of direct take from physical actions in the lagoon and from activities within the project site. The following terms and conditions will be in place:
  - a. The construction site will be barriered off from the rest of the lagoon by nets placed in the water at the upper and lower ends of the marina site. These nets will remain in place for the duration of construction work in the water on the boat ramp, marina shoreline and docks, and the swimming beach.
  - b. Once the nets are in place, the marina site will be surveyed for the presence of razorback sucker adults and sub-adults. This may be done using nets, electrofishing, or other suitable techniques. Surveys will be done by biologists holding the appropriate State and Federal permits for this work. Any razorback suckers found will be removed from the marina site to another area of the lagoon.
  - c. All vehicles, fuels, and other hazardous materials will be stored away from the lagoon in such a way that any spills of toxic materials will not drain into the lagoon.
  - d. Equipment in use for dredging, placement of substrate materials, or other construction activities will be in good condition with no significant leaks of fuel or other substances that could be toxic to fish.
  - e. Washing of equipment on the marina site will not be conducted where wash water could drain into the lagoon. This is especially important for equipment involved with pouring concrete. Washing stations set back away from the lagoon and suitably diked to prevent runoff will be used.
  - f. Materials to absorb small spills of toxic materials will be available on site.
  - g. All construction personnel will be given a briefing on the need to minimize the risk of toxic materials reaching the lagoon. Information to this effect will also be posted on the work site. Persons delivering materials, such as concrete, will be supervised by on-site personnel to ensure compliance with safety measures.

2. During the operation of the marina and associated facilities, efforts to reduce the risk of toxic spills into the lagoon will be made. The following terms and conditions will be in place:
  - a. All potentially toxic materials will be stored away from the lagoon in areas where a spill would not result in drainage of the materials into the lagoon.
  - b. A spill contingency plan will be in place to address the types of materials on the marina site and where they are used. Materials to control spills (absorbent materials, portable barriers, and other appropriate items) will be kept at the marina site near the lagoon to limit the extent of a spill should one occur.
  - c. Along with other public information posted at the facility, best management practices information on proper re-fueling procedures and disposal of potentially toxic substances will be posted and, to the extent possible, enforced by the marina operators.
  
3. The operators of the marina will provide a report to the FWS to document implementation of the terms and conditions and any take that occurs.
  - a. If any spills occur that require use of spill containment equipment, the spill will be reported our office within 48 hours. If fish are killed as a result of the incident, an estimate of the number of fish killed will be included in the report.
  - b. Once construction of the marina and associated facilities are completed, the project proponent or the COE will notify us that the project has been completed.

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 construction or operation of the marina and associated facilities as described in the attached biological opinion, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The COE must immediately provide an explanation of the causes of the taking and review with us the need for possible modification of the reasonable and prudent measures

### **Disposition of Dead or Injured Listed Species**

Upon locating a dead, injured, or sick listed species, initial notification must be made to our Las Vegas Law Enforcement Office (702 388 6380) within three working days of its finding. Written notification must be made within five calendar days, and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation measures 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.

The COE has already worked with the project proponent to build conservation measures into the project itself that reduce the effects of the action on the razorback sucker. We have not identified any additional conservation recommendations for this project.

### **REINITIATION NOTICE**

This concludes formal consultation in the actions outlined in your 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.

We appreciate the efforts shown by the COE and the project proponents to identify and minimize effects to listed species from this project. For further information on this project, please contact Lesley Fitzpatrick (x236) or Tom Gatz (x240). Please refer to consultation number 2-21-02-F-129 in future correspondence concerning this project.

Sincerely,

Steven L. Spangle  
Field Supervisor

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

Mr. Grady McNure

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## **Appendix A: Concurrences**

### *Yuma clapper rail*

Yuma clapper rails have sporadically been recorded from Laughlin Lagoon; however, no birds have been recorded in recent surveys. Suitable habitat exists in the lagoon and in areas up and downstream from the project site in the action area, so it can be assumed that individuals are in the general area. The area proposed for construction of the marina does not provide cattail or bulrush cover for rails.

We concur with the finding of “may affect, not likely to adversely affect” for the rail from the proposed action for the following reasons:

- Habitat for the rail will not be removed or significantly altered by the construction and operation of the marina. Rails in the vicinity may be temporarily disturbed by the noise from construction, however, no rails are resident within the area most affected by noise.
- Additional monitoring and enforcement of the no-wake provisions for Laughlin Lagoon that are part of the proposed action will reduce the effects of boats and watercraft on rail habitat in those portions of the lagoon away from the marina.