

recreational use, including foot traffic and motorized vessels, can disrupt feeding activities.

In addition, National Park Service biologists provided information related to disturbance from motorized vessels to birds and other wildlife, and information pertaining to the sensitive shoreline areas around Lakes Mead and Mohave. This information was used in the draft and final EIS for developing mitigation and monitoring activities, and in establishing protective measures for wildlife within the recreation area. These measures, including establishing primitive and semi-primitive zones in the selected shoreline areas, will protect sensitive bird species from disturbance associated with the use of motorized vessels, including noise that flushes the birds, and wakes that disrupt nests.

30. There was concern expressed about the occurrence of the Yuma clapper rail. One commenter references the draft rule where it states that while the inflow areas of the Muddy and Virgin Rivers contain habitat that might support the endangered Yuma clapper rail, no confirmed sightings have occurred within the recreation area. The EIS concurs with this statement. However, on page 56788, the proposed rule contradicts itself, and states incorrectly that the Yuma clapper rail resides at Lake Mead NRA.

Clearly, the Yuma clapper rail cannot be said to "occupy" the shoreline or habitat of Lake Mead NRA if no one has ever seen it at the lake. This mistake should be corrected in the final rule.

NPS Response: Suitable habitat for the Yuma clapper rail does occur within the recreation area, in particular, in the inflow areas of the Muddy and Virgin Rivers. The commenter is correct that no Yuma clapper rail have been recorded within the recreation area. They have been recorded nearby in the Virgin River area. This has been corrected in the final rule.

31. There was one comment on the razorback sucker. The commenter points out the proposed rule states that biologists have studied the effect of motorized vessels on razorback sucker spawning areas at Lake Mead NRA for 10 years, and have concluded that such vessels, when passing through these areas interrupt spawning and generally interfere with the reproductive process. Nor do they include the studies or their data as appendices. As a result, the public and other scientists have no ability to determine whether the conclusions drawn by the "biologists" are valid. This is poor science. In addition, it appears that the proposed rule may be overstating the effects of PWCs and other vessels on the

spawning habitats of the razorback sucker, given that the fish spawn between January and April, when few people visit Lake Mead NRA.

NPS Response: Fish species have been shown to be negatively affected by motorized watercraft emissions (Oris, *et al.* 1998). As stated in the draft and final EIS, temporary disturbance to spawning razorback suckers from the use of motorized vessels has been observed by biologists conducting fish monitoring activities (Marsh 2001). Visitation is currently low during spawning, and is likely to remain low between January and April, when the fish are spawning. Therefore, the impact from the continued use of motorized vessels is considered not likely to adversely affect the razorback sucker, and is not likely to jeopardize the continued existence of this species. In addition, under the mitigation outlined in the U.S. Fish and Wildlife Service Biological Opinion and in the draft and final EIS, biologists from Lake Mead NRA will continue to work with the Native Fish Work Group to monitor fish species and visitation to determine if temporal zoning of spawning areas is necessary to further protect razorback suckers and their habitat. The Native Fish Workgroup is composed of representative of Federal and State agencies as well as scientists with the respective state universities.

32. One commenter noted the proposed rule claims that use of motorized vessels, including PWCs "likely" disturbs bonytail chubs attempting to spawn in Lake Mead NRA. Again, no technical studies have been conducted to support these hypotheses.

NPS Response: According to the U.S. Fish and Wildlife Service Biological Opinion, appendix G of the final EIS, the largest remaining populations of bonytail chub in the wild are in Lake Mohave and in Lake Havasu. Both populations are the result of stocking young fish born from the existing broodstock into the declining wild populations. Efforts are underway by the U.S. Fish and Wildlife Service and the Bureau of Reclamation to refine rearing techniques and develop additional rearing facilities to increase production.

While it is true that no technical studies have been conducted to study the impacts of recreational use on the bonytail chub, as stated in the draft and final EIS, scientists who have studied native fish in the recreation area in the past 10 years have observed that motorized use around spawning areas of razorback suckers can temporarily disrupt spawning activities, and the same is likely true for bonytail chub (Marsh 2001). Since bonytail chub are

known to spawn in April and May, it can be hypothesized that some disturbance impacts from recreational use could temporarily affect the bonytail chub spawning activities. In addition, bony tail chub are known to spawn in the southern portion of Lake Mohave, just north of Katherine Landing. This area receives increased use starting in May, when spawning activities are known to occur.

Fish species have also been shown to be negatively affected by motorized watercraft emissions (Oris, *et al.* 1998). Reduced water quality could harm aquatic organisms through algae blooms, suspended solids and turbidity, and oxygen depletion. However, Lake Mohave holds an immense amount of water, with a large volume of water flowing through the system. Therefore, even though there are contaminants entering the system from motorized vessels and from other sources such as fuel spills and parking lot runoff, these contaminants have not been recorded at concentrations that are known to result in impairment to the aquatic system or to human health.

The National Park Service is required by law and policy to survey for, protect, and strive to recover all species native to the national park system units that are listed under the Endangered Species Act (Management Policies 2001). The policy further states that the National Park Service will undertake active management programs to inventory, monitor, restore, and maintain listed species' habitats, including controlling detrimental visitor access, and enhancing critical habitat. The National Park Service and the U.S. Fish and Wildlife Service have determined that the temporal zoning which could be imposed around spawning habitat would protect these species, and could enhance critical habitat. As stated in the Biological Opinion, the use of temporal zoning will not be imposed until recommended by Federal biologists working in consultation with the Native Fish Workgroup.

Comments Related to Soundscape

33. One commenter suggested the National Park Service should insist that all watercraft have the quieter four-stroke engines.

NPS Response: The final rule would phase out the carbureted two-stroke engines over a 10-year period. The rule would only allow the use of direct injection two-stroke engines and four-stroke engines. Direct inject two-stroke and four-stroke engines have been shown to be quieter than the carbureted two-stroke engines. The NPS does not