

NPS Response: Safety is an issue for all boaters, including PWC users. Boating safety issues for the Lake Mead NRA are described in the "Recreational Use of the Lake" section of the "Affected Environment" of the FEIS. Under the modified preferred alternative, unified boating laws for Lake Mead and Lake Mohave are proposed, including the requirement of boater safety education for any boater born after 1983. When applicable, the operator of a boat/vessel would be required to have in his/her possession, proof of completion of a safety course meeting the requirements of the National Association of Boating Law Administrators while operating a boat/vessel.

Safety is further addressed under the modified preferred alternative in the final EIS, where a 200-foot flat wake zone would apply to beaches occupied by swimmers, boats at the shoreline, and people at the shoreline or in the water. Coordination with the states of Nevada and Arizona would be required in order to achieve the desired uniformity of the proposed boating regulations.

When implemented, these safety measures would increase the safety of participating in all forms of recreation at Lake Mead NRA. Consequences of the preferred alternative in relation to PWC safety are described in the "Environmental Consequences" section of the draft and final EIS.

11. We received comments that cited user conflicts. Specific incidents included conflicts between PWC and kayakers, fishermen, and swimmers. A few PWC supporters said these conflicts resulted from a minority of inconsiderate PWC operators and that we should regulate inappropriate behavior or enforce existing regulations rather than prohibit PWC use.

NPS Response: The National Park Service is pursuing specific measures to provide a safe shoreline environment and to minimize conflict between user groups. Specifically, a 200-foot flat wake zone is proposed around beaches occupied by bathers, boats at the shoreline and people in the water or at the water's edge. This rule is designed to improve the shoreline environment on both reservoirs.

In addition, 5% of the park waters have been zoned as primitive or semiprimitive where the management objectives are for a more quiet and tranquil setting. Visitors seeking this environment can visit these areas with some expectation of slower speeds and quieter boat operations. In these areas PWCs are prohibited and other boating

use will be limited to flat wake speeds and/or electric trolling motors.

Comments Related to the Phaseout of Carbureted Two-Stroke Engines

12. Some commenters cited the inefficiency of the carbureted two-stroke engines.

NPS Response: We are concerned about pollution in any form, and exhaust gasses from two-stroke marine engines is no exception. We recognize that a certain amount of exhaust smoke and smell is inherent with any two-cycle engine and that the comments addressed excessive amounts from PWC. We acknowledge the findings of the Environmental Protection Agency's (EPA) 1991 study that indicate two-stroke engines lose roughly 25% of the fuel they consume unburned into the water, resulting in high levels of hydrocarbon emissions from these engines. The excessive smoke and smell from PWC could be attributed to unique operational characteristics of those vessels. PWCs are often operated with throttle settings that transition from idle to full throttle and back to idle, typically in a rapid and repeated sequence. In response to these concerns, the rule will phase out the carbureted two-stroke engines over a 10-year period.

13. There were comments that suggested the 2012 prohibition on carbureted two-stroke engines is unnecessary.

NPS Response: As noted in alternative C in the draft and final EIS, two-stroke PWC and outboard vessels would be barred from Lake Mead NRA beginning in 2012 as a result of the prohibition on carbureted two-stroke engines. However, even with the increasing availability of new technology four-stroke and direct injection two-stroke engines, it is estimated by EPA that by 2012, they would only comprise approximately 50 percent of PWC in use at that time.

According to the Personal Watercraft Industry Association, PWC models on the market today include the new technology reduced-emissions vessels (http://www.pwia.org/facts_release.htm#qa) and the two top selling models in 2002 were four-stroke models. The NPS has also learned in discussion with local PWC retailers that the majority of new PWC purchases have been four-stroke engines. The industry shows this trend, combined with the relatively short operating life of PWC, which range from 5 to 10 years (depending on the source), would result in only a small number of PWC users who would be displaced when the restrictions go into effect. The NPS hopes the industry prediction is correct.

But if less than 100% of the PWCs in 2012 are the new technology reduced emission PWCs, then the PWC restriction will take effect and ensure that the resources of the park will be protected.

Comments Related to General Environmental Impacts

14. Some commenters were concerned that the Service often lacks site-specific studies upon which to base a sound judgement on PWC use at Lake Mead. The commenters also pointed out that the National Park Service appears to overlook important studies which detail the damage these machines cause to the environment and wildlife.

NPS Response: The NPS utilized site specific studies to evaluate air quality, water quality, cultural resources and visitor use in the LMP/FEIS. Shoreline vegetation in this arid setting is primarily composed of exotic salt cedar so site specific inventories were limited to sensitive inflow areas. Specific studies were not initiated for the wildlife and soundscape analyses.

The NPS determined that site-specific studies of PWC impacts on wildlife were not necessary given the limited extent of native shoreline vegetation and its limited value to wildlife. As stated in the "Natural and Cultural Resources" section of the "Affected Environment" chapter of the draft and final EIS "* * * the majority of the shoreline in the recreation area contains nonnative salt cedar (*Tamarix* spp.), with relatively few areas supporting native vegetation. Fluctuating water levels along the shoreline make restoration of vegetation communities impossible in most situations."

In those few areas where there is shoreline habitat that is valuable for wildlife, such as in the willow scrub inflow areas of the Virgin and Muddy Rivers where neotropical migratory songbirds potentially nest, primitive and semiprimitive zones are proposed under the modified preferred alternative which would prohibit PWC use, waterskiing, and wakeboarding. Given the overall lack of wildlife habitat along most of the remainder of the National Recreational Area's shoreline, and the fact that PWC would be prohibited in the few areas that are deemed valuable for wildlife, the park has identified sensitive vegetation and shoreline habitat and has incorporated appropriate mitigation measures into the modified preferred alternative in the final EIS. Regarding fisheries of Lake Mead NRA, the modified preferred alternative in the final EIS proposes to use temporal shoreline zonings to