

objectives strive to create a visitor experience without these vessels or where sensitive park resources must be protected. The modified preferred alternative in the final EIS includes mitigation measures to protect other park users from potential conflicts with PWC (see the modified preferred alternative in the "Environmental Consequences" section of the FEIS), as well as other measures to protect species of special concern, water, and air resources.

The conclusion of the modified preferred alternative in the final EIS, was that continued PWC use, would not result in an impairment of park resources and values for which the Lake Mead Recreation Area was established to protect for future generations.

7. We received one comment from an individual who suggested we establish a Citizens Recreational Taskforce to address the future management of recreational use at Lake Mead NRA.

NPS Response: The rule takes a balanced approach to the management of PWC use within Lake Mead NRA. It takes into consideration resource impacts, conflicts with other visitors' use and enjoyment and safety concerns. It requires promulgation of park-specific regulation which is the same regulatory approach the National Park Service has taken to manage off-road vehicle use (36 CFR 4.10), aircraft, including powerless hang-gliders (36 CFR 2.17), and use of bicycles outside of developed areas (36 CFR 4.30(b)). This rule prohibits PWC use in areas where their use is inconsistent with the management objectives based on the Organic Act, enabling legislation, resources, values, and other visitor uses.

The National Park Service met with a wide variety of user groups concerning the management of recreational use of park waters. A listing of these meetings and organizations is included in the final EIS. These meetings represent the National Park Service approach to seeking specific user group input into the planning and decision making process. Because the park plans to continue this process, we do not think that a citizen's recreational taskforce is necessary.

Comments Related to Socioeconomic Resources

8. There were one or more commenters who expressed concern for the impact of the rule on the local economies of Laughlin/Bullhead City and the Las Vegas area.

NPS Response: The estimates (under alternative C) presented in the Economic Analysis of Personal Watercraft Regulations in Lake Mead

NRA (NPS 2002), use 2012 as engine phase-in date when all two-stroke and four-stroke engines would have to become fuel injected, in accordance with EPA regulations. This date would cover the current life expectancy specified by the Personal Watercraft Industry Association of 5 to 7 years and the EPA estimate of 10 years. Under alternative C (the modified preferred), the National Park Service assumes that, as a result of PWC restrictions, businesses could experience a 5% reduction in PWC sales, service, and rentals related to the park. Some of this impact could occur as a result of engine-type restrictions, but there are also geographic restrictions proposed under this alternative that were taken into account. However, even under alternative A, as detailed in the draft and final EIS, where there would be a 100% reduction in PWC revenues related to the park, the impact on the regional economy would be very small, less than 0.1% of total economic activity.

The National Park Service expects that by 2012, most boat owners would already be in compliance with the 2006 EPA marine engine standards. The impact from the engine standards on boat owners is expected to be minimal. PWC manufacturers currently offer some models that are compliant with EPA's 2006 standards and PWC purchased after 2006 would be made compliant. Because the life of a PWC is estimated at 5 to 10 years (see final EIS, the "Introduction" section in the "Purpose and Need for the Plan" chapter), it is expected that the majority of noncompliant PWCs would no longer be in operation when the engine restrictions proposed under alternative C take effect in 2012. In addition, according to industry reports, it appears that the trend for conversion is toward the four-stroke model engines instead of direct injection two-stroke models. According to the PWIA, the two top selling PWC models for 2002 incorporated the four-stroke technology. Also, in discussions with PWC retailers in the vicinity of Lake Mead, NPS has been informed that the majority of new PWC purchases have been four-stroke engines.

It may be reasonable to assume that people shopping before 2006 for new watercraft would only consider purchasing those models with compliant engines in response to the public announcement that only 2006-compliant engines would be allowed at Lake Mead NRA after 2012. It is the NPS intention that the 10-year advance notice will provide ample opportunity

for people to consider engine compliance when making a purchase.

Comments Related to Safety and Visitor Conflicts

9. There were numerous comments stating that "much attention has been given to so-called 'cleaner and quieter' PWC." They say these machines do not solve all problems associated with the PWC and cite recent research studies that find that the new technology emits as much or more carbon monoxide and nitrogen oxide.

NPS Response: The NPS agrees that the new technology will not solve all the problems, but they do provide major improvements in a number of areas specifically in air quality and water quality. Although the cleaner four-stroke and two-stroke direct injected engines will emit more nitrogen oxide due to a higher ratio of fuel actually being burned, they emit less hydrocarbons, which reduces the likelihood of ozone formation. The newer engine technology will not reduce impacts to wildlife from factors such as noise or use of the craft in close proximity to wildlife but this problem is common to all vessels to various extents. However, phasing in of the new technology would reduce impacts to aquatic and shoreline species by greatly reducing the discharge of fuel components such as benzene, toluene, ethyl benzene, and BTEX into the water as stated in the draft and final EIS in the "Methodology" section in the "Environmental Consequences" chapter.

The safety record of PWC at Lake Mead can be improved by measures such as boater safety education. The preferred alternative in the draft EIS and the modified preferred alternative in the final EIS proposes a requirement of boater safety training for all vessel operators born after 1983. States such as California report operator inexperience as the leading cause of PWC-related accidents (NTSB 1998). Boater education incorporating PWC-specific instruction has been shown to reduce PWC accidents in Connecticut and Michigan (NTSB 1998).

The industry's conversion to the four-stroke technology and the use of resonators is reducing the noise. Manufacturers are using noise absorbing foam and rubber padding in the construction of PWCs. Consequently, the newer technology used in PWC construction is addressing noise concerns and improvements are being observed at Lake Mead NRA.

10. There were additional comments concerning the safety record of PWC.