

engines would result in reduced PAH emissions. However, the two-stroke carbureted outboard engine emitted higher levels of benzene than the two-stroke direct-injected engine model (CARB). PWC engines follow the same patterns of emission rates as outboard engines (CARB). The TRPA Study confirms other findings regarding emissions into the water and does not substantially change National Park Service conclusions regarding water quality impacts.

According to the Kado Study the higher levels of PAHs from two-stroke direct-injection engines may be due to differences in the characteristics of combustion such as temperature, spray location or spray pattern of the fuel and oil, timing of fuel delivery, and high levels of unburned fuel and oil in the two-stroke direct inject engines.

As shown by the commenter, using Kado data, the combined PAH emissions of one direct-injection two-stroke engine and one four-stroke engine would be slightly less than the PAH emissions of the two carbureted two-stroke engines that would be replaced. Therefore, the increase or decrease of PAH emissions as carbureted two-stroke engines are converted to cleaner engine types would depend on the relative numbers of the types of cleaner engines. In addition, in speaking with local PWC businesses, the majority of newer PWC models being sold are four-stroke engines, not two-stroke direct-injection engines, but no specific data is available. The speculation of the mix of engine types would not appreciably change National Park Service conclusions concerning PAH emissions made in the Final Environmental Impact Statement.

Comments Related to Cultural Resources

53. One commenter stated that the National Park Service identifies a potential concern that the ability of PWC operators to access remote areas of Glen Canyon National Recreation Area unit could intrude on traditional tribal activities and make certain cultural sites vulnerable to trampling, looting, and vandalism. The analysis does not document any instances where these problems have occurred. Nor is there any reason to believe that PWC users are more likely to pose these concerns than canoeists, kayakers, hikers, or others who might access these same areas. Even so, alternative B proposes to prohibit PWC use in several areas to protect against potential adverse impacts on these resources.

NPS Response: Navajo practitioners conduct traditional activities as

individuals, and generally do not share this information with others. Almost universally, American Indians are extremely reticent to share sensitive information about personal religious activities with the public. Out of respect for these traditional beliefs, and in keeping with various laws and mandates, the National Park Service does not include descriptions of specific traditional activities or their locations in a public document. For these reasons, Glen Canyon National Recreation Area does not have documentation of specific instances where PWC users have intruded on traditional activities by tribal practitioners. However, the National Park Service is aware of the potential for conflicts with visitor use along the shorelines, particularly in more isolated areas. The effects on cultural resources, including sacred sites within the recreation area used by Native Americans, as a result of nonmotorized use as well as other uses of the lake will be assessed under the lake management plan. Even though the lake management plan is an element of alternative B, a separate NEPA assessment will be prepared to evaluate its effects.

54. One commenter stated that there is no legitimate reason for National Park Service to impose restrictions on PWC users only to protect cultural resources and activities from intrusion.

NPS Response: The plan was not designed to determine if PWC caused more damage to park resources than other boats or users, but rather, to determine if PWC use was consistent with Glen Canyon National Recreation Area's enabling legislation and management goals and objectives. An analysis was done on the management of PWC and with completion of the Final Environmental Impact Statement, the National Park Service is taking action to adopt special regulations to manage PWC use at Glen Canyon.

Comments Related to Visitor Use and Experience

55. One commenter requested that the Final Environmental Impact Statement include a map that identifies the Natural Zone and the Recreation and Resource Utilization Zone in the analysis area, and include additional detail regarding the purposes and objectives for these two zones. The impact of each alternative on whether the Natural Zone qualifies for wilderness designation, as recommended in the last Management Plan, should be described in the document.

NPS Response: A map of Glen Canyon National Recreation Area's management zones has been added to the "Affected

Environment" chapter of Final Environmental Impact Statement, along with an additional description of the zones' objectives. All of the Federal lands in the natural zone were proposed as wilderness in the General Management Plan in 1972.

56. Some commenters cited user conflicts. Specific incidents included conflicts between PWC users and kayakers, fishermen, and hikers. 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 modified preferred alternative B will restrict PWC use on portions of the Escalante, Colorado, Dirty Devil, and San Juan Rivers and implement a flat-wake zone for PWC on a portion of the Escalante River. Based on the best available information, the National Park Service will implement these restrictions on the rivers to reduce visitor conflicts with river rafters, fishermen, and backcountry hikers; promote visitor enjoyment; and ensure visitor safety.

The modified preferred alternative B also provides for a three-year pilot study to further evaluate PWC use areas. Potential restrictions of PWC use in other locations of the recreation area will be evaluated at that time. The purpose of the pilot study and a description of how it will be implemented are provided in appendix C in the Draft and Final Environmental Impact Statements.

57. One commenter stated that the overall conclusions in the Draft Environmental Impact Statement and in the proposed rule regarding visitor perceptions of PWC were inconsistent with the data presented in the University of Minnesota study used in the analysis.

NPS Response: Conclusions of the Minnesota study (James 2000) were based on their professional analysis and statistical limitation of the data they collected. During the summer of 2000, the University of Minnesota conducted three on-site visitor surveys at Glen Canyon National Recreation Area. This survey was followed by a mail-back questionnaire sent to visitors after their trip to the recreation area. The study focused on visitors using the resources, as well as looking specifically at the population of visitors who used and also those who did not use PWC during their visit to the area. The analysis of impacts on visitor use and experience presented in the Draft and Final Environmental Impact Statements was based on the Minnesota study visitor's