requires shutting down the facilities and manual removal of the mussels through pressurized hot water, the application of high saline solution, smothering through the wide-spread application of plastics for many weeks, or mechanical removal through sand blasting or manual scraping. California's Response, *supra*, at pp. 12-13. Already, the eastern portions of the United States have already suffered direct economic costs of over $100,000,000 annually. California's Response, *supra*, at p. 8. In the west, impacts are likely to be as severe if not more so due to the "greater vulnerability of western waters, the greater dependency on transporting water over long distances, and the highly stressed aquatic ecosystems." California's Response, *supra*, at p. 9. In sum, "[t]he significance and potential impact of [Quagga and Zebra mussels] cannot be overstated." California's Response, *supra*, at p. i.

Reclamation's DEIS acknowledges that Alternatives 2 and 3 would both increase boat use at Lake Cachuma. DEIS pp. 4-27, 4-31. The DEIS also states that this increased boat usage comes with an increased risk that Quagga and/or Zebra mussels could be introduced into Lake Cachuma. DEIS at p. 4-37. Moreover, Reclamation agrees that these "mussels can multiply quickly and clog waterways and pipelines, affect lake ecosystems, and create costly maintenance issues. [N]o safe remedy is currently available for eliminating them for a waterbody once it is infested." DEIS at p. 2-12. However, the DEIS concludes that, through the implementation of inspection procedures, there would be "no impact" caused by Quagga or Zebra mussels. DEIS at p. 4-71 (Table 4.12-1). The analysis is contradictory and incomplete.

R-1-17, Cont.

First, Reclamation states that quarantine and inspection protocols will be re-evaluated from time to time to determine their effectiveness and, should exotic mussels be found in the Lake, further protective measures would be suggested. However, Reclamation also admits that once a water body is infested, there is no means to completely eradicate the mussel species. Compare DEIS at p. 4-37 with DEIS at p. 2-12. Although efforts are being made to develop methods of controlling the growth and spread of these mussels, no effective eradication method in a natural system currently exists. Moreover, inspection and quarantine procedures are far from fool-proof. Quagga and Zebra mussels can be difficult to see when hidden on the mechanical assemblages of boats, and are often so small that they "feel like sandpaper to the touch." California Department of Fish and Game, "Zebra Mussels Found in California Reservoir" (Jan. 16, 2008). Moreover, the mussels can survive for several days even when out of water (California's Response, *supra*, at p. 11 and fn. 26), and their microscopic offspring can be transported in a minimal amount of water (*ibid.*; California Department of Fish and Game, "Frequently Asked Questions Quagga/Zebra Mussels"). Federal and state wildlife agencies have hypothesized that the recent spread of the mussels from the eastern United States to Lake Mead and other western water bodies resulted from microscopic mussels being transported in the water sitting in the hull of recreational boats. California Department of Fish and Game, "Zebra Mussels Found in California Reservoir" (Jan. 16, 2008).

Second, the DEIS concedes that Quagga and Zebra mussels can clog pipelines and create costly maintenance issues, but the DEIS fails to explain what this means in terms water supplies from Lake Cachuma specifically. If exotic mussels infest Lake Cachuma, they are likely to spread and clog the water delivery infrastructure that delivers water to hundreds of thousands of Santa Barbara County residents, businesses, farms and Cachuma Park. Not only would this

greatly reduce the quantity of water that could be delivered, but it would also greatly reduce the quality of that water as putrefying mussels and secondary contaminants excreted by mussels cloud the water supply. Moreover, given the aggressive growth patterns of the mussels, total occlusion of the water delivery system is a distinct possibility. In the absence of a redundant system for water delivery and given the increasingly difficult task of finding alternative drinking water supplies, the effects of shutting down that infrastructure to remove mollusk populations would be devastating to the entire region.

Third, Quagga and Zebra mussel infestations tend to spread either through human activities, transport of microscopic mollusks by native fish or aquatic animals, and water currents. Accordingly, the impacts of Quagga or Zebra mussel infestation of Lake Cachuma would not be limited to the Lake but would likely spread throughout the water supply systems associated with the Santa Ynez River. As Reclamation is aware, the Southern California Steelhead (*Oncorhynchus mykiss*) has been listed as a federally endangered species pursuant to the federal Endangered Species Act ("ESA"). 16 U.S.C. § 1531 et seq. Federal ESA protections extend to "all naturally spawned anadromous *O. mykiss* (steelhead) populations below natural and manmade impassable barriers" on the Santa Ynez River. 50 Code Fed. Regs. § 224.101. Additionally, "critical habitat" for this species has been designated along the Santa Ynez River up to Bradbury Dam, an impassable barrier, inclusive of the River tributaries' upstream endpoints in Alisal, Hilton, Quiota, and San Lucas Creeks and one unnamed tributary. 50 Code Fed. Regs. § 226.211; 70 Fed. Reg. 52509, 52517, 52580 (September 2, 2005). As such, no federal or federally supported action may adversely affect that habitat without first complying with the terms of the ESA. Finally, and as Reclamation's DEIS acknowledges (DEIS at p. 1-2), a Biological Opinion has been prepared for a variety of Fish Management Plan projects which will improve steelhead habitat. One of these projects is a supplemental watering system located on Hilton Creek and involves diverting water from Lake Cachuma through pipeline into Hilton Creek where it runs downstream into the Santa Ynez River below Bradbury Dam. This project expands the habitat available to steelhead by enhancing natural stream flows in Hilton Creek. If Quagga mussels infest Lake Cachuma, they would almost certainly block the diversion pipeline and prevent this project from benefiting steelhead as planned for in the Fish Management Plan and Biological Opinion. Reclamation's DEIS states that "[r]ecreational uses and improvements must also not interfere with protection of … Southern California steelhead" (DEIS at p. 1-1), yet Reclamation's proposed Alternatives may increase the risk of infestation of Lake Cachuma and downstream areas by exotic mussels due to spill and releases from Lake Cachuma operation of the Hilton Creek supplemental watering system, and other activities. The potential effects of such an infestation on listed fish should be analyzed and discussed in the DEIS.

R-1-17, Cont.

The consequences of a quagga or zebra mussel invasion should be specifically set forth for the public to fully informed (pg. 4-22). For example, if larvae from these exotic mussels were to attach and colonize in the intake for the Hilton Creek Watering System (HCWS), then this small pipeline delivery system from Cachuma Lake could become severely clogged and inoperable. The HCWS supplies water to endangered steelhead below Bradbury Dam and is mandated by the Biological Opinion (NMFS, 2000). The loss of habitat in the lower Hilton Creek and the Santa Ynez River reach below Bradbury Dam would most likely be mitigated by use of the outlet works instead of the HCWS. This would result in significantly limiting the

delivery of State Water Project (SWP) water to the South Coast. In addition, the introduction of the exotic mussels downstream could disrupt the food base for the endangered steelhead and other species.

R-1-17, Cont.

Based on the above, Reclamation's Plan to allow and encourage greater boating and/or kayaking uses at Lake Cachuma comes with a potentially major environmental effect that must be addressed. This need is emphasized by the fact that Quaggo mussels have been found in water bodies on the west coast, including those both north and south of Lake Cachuma. Additionally, ID NO. 1 asks that Reclamation broaden its definition of the "Plan area" and provide an analysis of the effects that may occur at areas not immediately adjacent to Lake Cachuma. Cf. DEIS at p. 1-1 and Figure 1-3 (the "Plan area" includes only Lake Cachuma and its immediate area). Finally, ID NO. 1 requests that Reclamation consider potential mitigation for any environmental effects. For example, one means of reducing the potential effect would be to limit all boating to resident boats only.

B. Effects Related to Stocking and Fisheries

The interaction of introduced fish with native fish populations is an issue that is of great importance with regard to Lake Cachuma. Lake Cachuma is formed by Bradbury Dam, and water releases from Lake Cachuma will carry stocked fish into the lower river, which is designated critical habitat for the federally endangered Southern California Steelhead. The impacts of stocked fish on the listed fish population downstream must be examined.

R-1-18

First, predation can play a major role in the decline of fish species, and at least one study[8] has concluded that the predation impact of striped bass on another federally endangered anadromous species, the winter-run Chinook salmon (*Oncorhynchus tshawytscha*), would introduce cause "a serious extinction risk." Lindley, Steve T., and Michael S. Mohr. "Modeling the effect of striped bass (*Morone Saxatilis*) on the population viability of Sacramento River winter-run Chinook salmon (*Oncorhychus tshawytscha*)," Fishery Bulletin 101.2 at p. 1 (April 2003). Indeed, this study explains that the striped bass was introduced to the Sacramento River to support commercial and recreation sport fishing, but that the bass prey upon juvenile winter-run Chinook salmon as a food source. *Ibid.* at p. 3.

Second, stocked fish interbreed with native populations and thus dilute the wild population's genetic makeup. This is of particular concern because wild "fishes exhibit complicated patterns of genetic differentiation … that demonstrate local adaptations [whereas] domesticated strains … have in most cases been found to exhibit reduced genetic diversity."

[8] Many other studies concur that predation of bass species upon juvenile trout and other fish is a serious concern and that predation is a major source of mortality for a variety of fish species. See, e.g., Naughton, George P. and David H. Bennett, "Predation on Juvenile Salmonids by Smallmouth Bass in the Lower Granite Reservoir System, Snake River," N. Amer. J. of Fisheries Mngmt., 24:534-544 (2004); Bolding, Bruce D. et al., "Effects of Introduced Fishes on Wild Juvenile Coho Salmon in Three Shallow Pacifica Northwest Lakes," Transactions of the Amer. Fisheries Soc'y, 134:641 (2005); Tabor, Robert A. et al., "Smallmouth Bass and Largemouth Bass Predation on Juvenile Chinook Salmon and Other Salmonids in the Lake Washington Basin," N. Amer. J. of Fisheries Mngmt., 27:1174 (2007).

Hansen, Michael M., "Estimating the long-term effects of stocking domesticated trout into wild brown trout (*Salmo trutta*) populations; an approach using microsatellite DNA analysis of historical and contemporary samples," Molecular Ecology at pp. 1003-1004 (2007). Further, intrusion by domesticated salmonids into wild populations "may lead to domestication selection that results in lowered fitness." *Id.* at p. 1004.

The DEIS explains that the Southern California Steelhead has been listed an endangered species under the federal Endangered Species Act since 1997. DEIS at p. 1-2. Additionally, the DEIS discloses that water releases from Bradbury Dam are mandated by the protection of the steelhead. *Ibid.* Finally, Reclamation states that any recreational uses approved as part of the RMP must not adversely affect the listed fish. DEIS at p. 1-1. Despite these statements, the *analysis* provided in the DEIS is overly narrow and does not account for impacts to the Southern California Steelhead. Instead, the DEIS makes clear that its analysis focuses only on the "Plan area," which includes only Lake Cachuma and the immediately surrounding areas. The analysis in the DEIS should be expanded to account for the Plan's potential downstream impacts to the Southern California Steelhead.

R-1-18, Cont.

As part of its analysis of alternatives, Reclamation anticipates increasing, or at a minimum maintaining, the population of stocked sport-fish in Lake Cachuma. E.g., DEIS at p. 4-27. These fish would include bass, trout, and other species. The DEIS, however, fails to analyze the potential effects that such a stocking program would have on endangered steelhead downstream. For example, bass prey upon smaller fish as a food source and can have a major effect on population size of the prey species. *See* DEIS at p. 4-27 (acknowledging bass preying on small species); Modeling the Effect of Striped Bass, *supra*, at pp. 1-2 (stating that bass contribute to extinction risk of other anadromous species). Although Reclamation acknowledges that water releases from Lake Cachuma are mandatory for steelhead/rainbow trout, it provides no discussion regarding the potential escape of bass into the lower river through spill and releases and the predation impacts that they have upon endangered Southern California Steelhead. Similarly, the DEIS contains no analysis of the potential for interbreeding of listed Southern California Steelhead and stocked trout which escape from Lake Cachuma during spill and releases. Interbreeding of stocked fish listed steelhead would dilute the gene pool of the listed fish and potentially result in a less fit fish population. See estimating the long-term effects of stocking domesticated trout, *supra*, at p. 1004. Both of these issues should be discussed in the DEIS. Finally, and as part of this discussion, Reclamation should describe mitigation that might avoid these impacts. For example, stocking only sterile fish might eliminate inter-breeding impacts to the endangered fish below Bradbury Dam.

C. Effects Related to Carbureted 2-Cycle Engine Recreational Boats

R-1-19

Recreational boating includes a wide variety of surface water and seagoing, motorized and non-motorized, registered and unregistered vessels. Among that mix of watercraft are those boats powered by carbureted 2-cycle engines. These engines were generally manufactured prior to 1999, and are "high emission engines" which emit high quantities of air and water pollutants during operation. Specifically, carbureted 2-cycle engines dump as much as 30% of their fuel and oil directly into the water. DEIS at p. 3-6; California Department of Boating and

Waterways, "Two-Stroke Vessel Engines" (2007). In addition to the problems associated with 2-cycle engines, "[f]uel can [also] be introduced to lakes by overfilling boat fuel tanks by careless pump operators, leaking hoses, nozzles, or storage tanks and pumpage from bilges." Lico, Michael S. and Thomas Johnson, "Gasoline-Related Compounds in Lakes Mead and Mohave, Nevada, 2004-06," U.S. Dept. of the Interior and U.S. Geological Survey at p. 12 (2007). This fuel contains such compounds as benzene, toluene, ethylbenzene, xylene, oxygenated additives, and other compounds. *Id.* at p. 1. These compounds "are known to have adverse effects on human health and aquatic life." *Ibid.* Additionally, these compounds are carcinogenic and, when exposed to the ultraviolet rays of the sun, can reform into secondary byproducts with increased toxicity. *Id.* at pp. 1-2.

Because of the need to protect drinking water quality and wildlife, many lakes throughout California are now restricting or prohibiting carbureted 2-cycle motor boats. See California Department of Boating and Waterways, "Local Restrictions on Personal Watercraft and/or Two-Stroke Engines" (2007). Specifically, two-cycle carbureted motor boats are forbidden or severely restricted at Anderson Reservoir, Calero Reservoir, San Pablo Reservoir, Los Vaqueros Reservoir, Lake Tahoe, Cascade Lake, Fallen Leaf Lake, Echo Lake, Diamond Valley Lake, and Lake Skinner. *Ibid.*

R-1-19, Cont.

Reclamation's DEIS confirms that the use of carbureted two-cycle engines has resulted in "measurable water quality degradation in some of the nation's lakes and reservoirs." DEIS at p. 3-6. The DEIS also acknowledges that the boats for rent at Lake Cachuma are all four-cycle engines, and that the only two-cycle boats on the Lake are those brought to the Lake by recreational boaters. *Ibid.* Additionally, the DEIS states that – until a five year phase out program is complete – these two-cycle boats will be allowed to continue operations at Lake Cachuma. The DEIS also points to an 11-year-old study (from 1997) in support of Reclamation's conclusion that petroleum byproducts are not an issue at Lake Cachuma. *Ibid.* Finally, the DEIS concludes that the effect of allowing two-cycle boat use on Lake Cachuma is minor. DEIS at p. 4-70 (Table 4.12-1). Again, the DEIS does not contain any specific analysis regarding the potential effects that these recreational boats may have on Lake Cachuma's wildlife and/or the drinking water from the Lake or downstream in Santa Ynez River to communities throughout Santa Barbara County. Nor does it contain any discussion whatsoever of the mitigation measures that would be required if hydrocarbon contamination at Lake Cachuma exceeds allowable limits. Further, the DEIS fails to include any discussion of the responsibility of Reclamation or the local managing partner with respect to the implementation of such measures.

First, the DEIS states that Lake Cachuma's primary purpose is to supply drinking water. The DEIS should explain the possible impacts of boat use on that supply. The increasing prohibition on the use of 2-cyle engines at other lakes throughout California may result in a concentration of these boats at Lake Cachuma. E.g., DEIS at p. 3-62 (Lake Cachuma provides recreational facilities for residents of various counties, including Los Angeles and Santa Barbara). This concentration of boats would result in a larger concentration of pollutants than is anticipated by the DEIS. This effect would also require the installation of costly water quality treatment facilities to specifically target the petroleum-based pollutants and could have a major

effect on providing a clean and reliable water supply to Santa Barbara County. The DEIS lacked an analysis should ID NO. 1 need to take its Cachuma Project water deliveries directly from the lake and this type of water treatment facility be required.

Similarly, Lake Cachuma is located immediately upstream of federally listed critical habitat for the Southern California Steelhead. Mandatory water releases from Lake Cachuma for the benefit of the fish would carry with them any pollutants released by carbureted 2-cycle engines. These pollutants, in sufficient concentrations, could harm the listed species unless additional restrictions on boat use or water treatment obligations were put into place.

R-1-19, Cont.

Again, the DEIS appears to limit the area of analysis to a "Plan area" that includes only Lake Cachuma and immediately adjacent acreage. DEIS at p. 1-1 and Figure 1-3. However, the effects of the Plan may not be limited to this narrow construction. Due to the potentially outdated information presented in the DEIS, the effects on wildlife species, and the need to protect water supply, ID NO. 1 requests Reclamation broaden its area of analysis and consider other alternatives to the Plan. For example, instead of encouraging the public to bring additional boats to Lake Cachuma, Reclamation should consider as an alternative limiting additional boating to the expansion of a rental fleet – which include more modern, less polluting boats. As another example, ID NO. 1 would ask that Reclamation consider an immediate phase-out program for carbureted two-cycle engines rather than a five-year phase program. Finally, ID NO. 1 insists that if Reclamation intends to allow the long term use of 2-cycle carbureted engines at Lake Cachuma, it also acknowledge that it, and its local managing partner, will be responsible for the development and implement of mitigation measures related to the effects such motors may have on the public water supplies developed and shared at Lake Cachuma as well as the effects such motors may have on listed species.

D. Effects Related to Body Contact and Increased Equestrian/Cattle Activities

The issue of how to strike a balance between letting the public use government-managed drinking water reservoirs for recreation yet still protecting the drinking water has arisen throughout the United States and the state of California. While a small number of places have chosen to allow body contact activities in drinking water reservoirs, such activities are generally forbidden due to serious public health concerns, as well as increased water treatment costs.

R-1-20

Anderson et al., "Modeling the Impact of Body Contact Recreation on Pathogen Concentrations in a Source Drinking Water Reservoir," Dept. of Soil & Env'l Sciences, at 3293 (July 10, 1998). Indeed, because of these concerns, California law explicitly forbids body contact uses in drinking water reservoirs, with only a few limited exceptions. Health & Safety. Code, § 115825(b) ("recreational uses shall not, with respect to a reservoir in which water is stored for domestic use, include recreation in which there is bodily contact with the water by any participant."). A specific exemption from this law is required for reservoirs with mixed drinking water storage and body contact uses, of which only a handful have been granted.

Human body contact with a water body increases the pathogenic concentrations in that water body and, in turn, the risk of waterborne infection and disease for those using the reservoir for drinking water.[9] Anderson, *supra*, at pp. 3293, 3305. Studies show that, due to shedding of residual fecal material and accidental fecal releases, body contact recreation can significantly elevate the levels of *Cryptosporidium*, rotavirus, poliovirus, *Escherichia coli*, *Shigella*, and Giardia concentrations in a water body.[10] *Id.* at pp. 3293, 3305; Anderson, Michael A., "Predicted Pathogen Concentration and Consumer Health Risks Resulting from Body-Contact Recreation on the East and West Branch State Water Project Reservoirs," Final Report to the State Water Contractors (Aug. 2000). Indeed, a study of several drinking water reservoirs in California concluded that "[b]ody-contact recreational activity is predicted to have significant effects on the pathogen concentrations in all of the SWP reservoirs." Predicted Pathogen Concentration, *supra*, at p. 32.

R-1-20, Cont.

The DEIS explains that the one of the primary differences between Alternatives 2 and 3 is that Alternative 3 would designate a portion of Cachuma Lake for swimmers and allow body contact with the water for the first time. DEIS at p. 4-61. The DEIS itself recognizes the problematic nature of mixing body contact and drinking water, noting that "[i]ntroducing body contact to the lake has an obvious impact on water quality." DEIS at p. 4-61. This is due to the fact that "[c]urrently water delivered to Goleta West by the Goleta Water District is chlorinated at the Goleta Sanitary District, but not filtered....[U]ninformed customers could consume unfiltered water that has received body contact." DEIS at p. 4-6. For this reason, the impact from the addition of a swim beach "would be major" and have "an obvious [negative] impact on water quality." *Id.* Nonetheless, Reclamation rationalizes its conclusion that swimming should be allowed because "physical and chemical controls have been implemented at other drinking water reservoirs where body contact is allowed, which have been proven to be acceptable (see Section 3.9.1.2)." *Id.* There are multiple problems with this conclusion.

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[9] Similarly, allowing increased equestrian uses or expanded cattle grazing near Lake Cachuma could also raise the risks of contamination. DEIS at pp. 4-6, 4-8. The DEIS fails to adequately analyze this risk. The DEIS repeatedly refers the reader to Section 4.1.3 for an analysis of the impacts of cattle and horse waste contamination of the Lake, but this section contains only two sentences discussing this impact. DEIS at p. 4-8. This is insufficient. Additionally, there is no evidence in the DEIS supporting its conclusion that signs and educational materials and maintenance of the existing fences, the only proposed mitigation measures, would fully mitigate for increased Lake contamination from animal waste.

[10] Both *Cryptosporidium* and Giardia are of particular concern in drinking water reservoirs because they can cause disease outbreaks at very low concentrations, and their effects include vomiting, diarrhea, fever, and even death. Central Valley Regional Water Quality Control Board, "Development of a Drinking Water Policy for Surface Waters of the Central Valley," Staff Report at p. 3 (July 2008). *Cryptosporidium* is a microscopic parasite. Department of Health and Human Serv., Centers for Disease Control & Prevention website, available at http://www.cdc.gov/crypto/. It lives in a protective "shell" known as an oocyst, which allows it to survive a variety of environmental conditions and resist disinfection through chlorination. Assembly Bill ("AB") 1934 (2003-2004), Bill Analysis by Senate Committee on Environmental Quality. *Giardia intestinalis*, a one-celled, microscopic parasite is likewise protected by an outer shell and can survive outside the body in the environment for long periods of time. See Division of Parasitic Diseases website, available at: http://www.cdc.gov/ncidod/dpd/parasites/giardiasis.

First, no support is given for the conclusion, no studies, factual data, or citations, other than the internal citation to the DEIS itself. The internal citations offered, to Section 3.9.1.2, actually contradicts the DEIS's conclusion rather than supporting it. This section involves a discussion of eight area lakes, including Lake Cachuma, and the recreation opportunities they afford. DEIS at pp. 3-58 to 3-62. Of these eight lakes, three of them are used as drinking water reservoirs, Lake Cachuma, Lake Margarita, and Lake Casitas. DEIS at pp. 3-58 to 3-62. Of the eight lakes, there are also three that do not allow body contact recreation: the exact same three lakes, Lake Cachuma, Lake Margarita, and Lake Casitas. DEIS at p. 3-58. Indeed, Section 3.9.1.2 actually contains such statements as "Casitas Municipal Water District manages Lake Casitas as a drinking water reservoir, and therefore no body contact is allowed, " and "[a]s a drinking water reservoir for the City of San Luis Obispo, body contact is forbidden [at Santa Margarita Lake]." DEIS at pp. 3-59 and 3-61. Thus, the referenced section actually shows that body contact recreation is specifically not allowed where a reservoir is used primarily for drinking water.

R-1-20, Cont.

Second, the mitigation measures that would be necessary to diminish the impacts from the introduction of full body contact recreation into the drinking water reservoir are infeasible due to exorbitant costs. The primary mitigation measures proposed are to build a new potable water treatment facility or upgrade existing treatment facilities. DEIS at p. 4-8. This is the most egregious example of the DEIS's failure to analyze the cost or feasibility of the mitigation measures it proposes. Elsewhere, the DEIS states that "[d]uring an emergency, ID NO. 1 would need to notify customers that are receiving untreated water and would need to supply alternative water (e.g., bottled water)." DEIS at p. 4-8. Again, there is no discussion of how much this would cost or the fact that funding is so limited that such mitigation is infeasible and illusory. Moreover, the available evidence shows that such mitigation is prohibitively expensive. Metropolitan Water District ("MWD") previously performed studies assessing the health risks of allowing body contact recreation in the Eastside Reservoir (a.k.a. Diamond Valley Lake), a drinking water reservoir. See "To Protect Water Quality, MWD Board Bars Body Contact Recreation at Reservoir Project," Business Wire, Oct. 14, 1998. MWD's studies showed that is would cost $20.6 to $62.4 million (in 1998 dollars) to install the necessary upgrades to existing water treatment facilities, plus an additional $10 million in annual operations, maintenance, and increased annual treatment costs. *Id.* In light of enormous costs and limited benefits, MWD prohibited body contact activities. *Id.* Unless Reclamation performs studies that determine how much its proposed mitigation will cost and provides funding, such mitigation will never be performed and a serious, unmitigated impact to human health and safety will remain. Accordingly, and absent funding, the only feasible mitigation is to forbid swimming in the Lake.[11]

Because of the importance and primacy of the Lake as a drinking water reservoir, the danger of contamination from waste products and body contact with that water, the infeasibility of the proposed mitigation measures, the existence of other swimming opportunities in the area, and that fact that allowing swimming in the Lake could violate California law, ID NO. 1 objects

[11] There are plenty of other swimming opportunities in the area: Lake Cachuma has a public swimming pool, and a number of other area Lakes do allow swimming. DEIS at p. 3-58.

R-1-20, Cont.

to allowing swimming in Lake Cachuma. Moreover, because of the potentially severe health and safety impacts, approving this option as part of a preferred alternative would violate Reclamation's non-discretionary duty to protect natural resources and the water supply.

E. Effects Related to Existing and Antiquated Infrastructure and Lake Level

As is often the case with reservoirs, Lake Cachuma's water level fluctuates depending on the availability of incoming flows, precipitation, and withdrawals used to provide the area with necessary water services. In the case of Lake Cachuma, and as Reclamation is aware, releases of water from Bradbury Dam are also necessary to provide water for the federally endangered Southern California Steelhead and downstream rights. DEIS at p. 1-2. These water level fluctuations have the potential to impact recreational uses through reduced Lake surface and fishing areas and drawdown of the Lake affecting boat launches and docks. Despite these challenges, the balancing of recreational uses with water supply is one that has been largely successfully over the past 50 years.

Because Lake Cachuma's primary purpose is to serve as a drinking water reservoir (DEIS at p. 1-1), ID NO. 1 is concerned that Reclamation's Plan may impede the management of the reservoir for those purposes. For example, should Reclamation approve a Plan which places new recreational resources below the Lake's maximum permitted elevation line, recreational resources would be inundated when the Lake fills. For these reasons, ID NO. 1 asks that Reclamation verify the elevations and locations of any proposed new recreational facilities to assure that they are not in the inundation area of the Lake.

R-1-21

Specifically, the draft resource management plan cites the following as the current policy: "For planning purposes and consideration of any future new facilities addressed in this RMP, the maximum 3-foot surcharge with an additional safety buffer for wave run-up of 7 feet was assumed (lake level 760 feet)." The draft DEIS does not address the rationale for this policy, which is apparently being asserted for the first time. This policy is also not discussed in regards to other pertinent plans or policies including the maximum design level for Lake Cachuma during storm events, the original contract between the County and Reclamation, and FEMA regulations. Also, the policy for renovating or rebuilding existing structures below 760 feet elevation is not stated.

In addition, the following information and any updates regarding the below should be disclosed under either current policy (Section 2) or existing baseline conditions (Section 3):

- Surcharging Lake Cachuma will be in accordance with the Amended Memorandum of Understanding (MOU) Regarding the Surcharge of Lake Cachuma and the Protection of Recreational Resources at the Lake, executed in April 2005 operative for a 3-foot surcharge after February 14, 2009 (currently allowed to 2.47').

- County Parks has received and spent a grant of approximately 2.4 million dollars from the Department of Boating

and Waterways for the construction of the new boat ramp to accommodate the 3-foot surcharge and completed in 2007.

- Stetson Engineers 2005 survey at a lake elevation of 753.18 feet demonstrating there would be no inundation of the facilities (including water treatment plant, water intake facility, manholes and sewage lift station No.2) at present locations and elevations. The result of this survey and memorandum (attached) was also provided to the Chief of Operations Division of Reclamation at the South-Central California Area office.

- County personnel's concern regarding wave run-up prompted the Cachuma Member Units to construct a gabion basket barrier wall around the water treatment plant at a finished elevation of 756 feet to protect the plant from potential wave run-up. The construction plan for protection against a possible wave action was submitted to ID No.1 in a technical memorandum dated March 22, 2005 (attached). Cachuma Project water users paid for this construction in order to make sure the fish conservation pool was secured above elevation 750 feet in 2005. Subsequently, no impacts from wave run-up or inundation have occurred to the water treatment plant or any of its associated facilities during surcharge periods.

R-1-21, Cont.

- The Revised Draft Environmental Impact Report (Consolidation of Modifications to the U.S. Bureau of Reclamation's Water Right Permits 11308 and 11310 (Applications 11331 and 11332) to Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River below Bradbury Dam (Cachuma Reservoir)) by the SWRCB dated July 2007 addresses effects of the EIR alternatives on the County Park . The RMP-DEIS should include pertinent and pending information developed by that SWRCB process.

- Current plans are to re-build both the water and wastewater treatment plant at higher elevations and due to antiquated facilities. The secured and planned funds obtained should be disclosed.

R-1-22

Additionally, and with the exception of the new boat ramp, most of the recreational facilities at Cachuma Reservoir and essential support facilities such as the water treatment plant, sewer lift stations and wastewater treatment plant are very old and outdated. Similar to the concern expressed above, Reclamation should also verify that any upgrades to existing recreational facilities and essential support facilities are well above the permitted Lake level elevation to avoid inundation. Additionally, and if these facilities are to continue providing recreational value under Reclamation's Plan, some discussion of the funding necessary for those

R-1-22, Cont.

improvements should be included in the DEIS. ID NO. 1 has already been held responsible for some of the costs of certain upgrades to existing facilities that were allegedly impacted by the Lake's level, and it is not in a position to continue to bear the costs of upgrades – particularly when impacts can so readily be avoided through locating recreational facilities up-gradient of the maximum permitted Lake elevation.

F. Water Service for any area outside of the current park area would violate Reclamations permitted place of use.

ID NO.. 1 is the water service provider for the existing County Park facilities on the Tequepis peninsula (area with the current boat ramp facilities) and the adjacent Mohawk campground facilities. ID No.1's current service area includes both of these areas. However, both Alternatives 2 and 3 propose increased camping (including hookups for RVs) and associated resort facilities at Live Oak Camp which are not within the current service boundary of ID No.1. Specifically, Alternative 2 proposes additional camping facilities at Live Oak, while Alternative 3 proposes "resort-like accommodations as an upgrade to permanent cabin camping provided in Alternative 2." Likewise, Alternative 3 also includes some unidentified areas "east of Mohawk" which should be developed for camping facilities. Because areas contemplated for expansion (Live Oak and unspecified areas "east of Mohawk") are not within the service area of ID No. 1, issues associated with the necessary expansion (including annexation) of ID. NO. 1 service area should be discussed in the DEIS.

R-1-23

Similarly, there are place of use permit issues concerning the water rights of Cachuma Project which also should be disclosed. Reclamation, on behalf of Cachuma Member Units including ID No.1, has petitioned the SWRCB for changes in place of use. While there was a hearing in 2000 on the place of use issues, the change petition has not yet been approved by the SWRCB. This petition includes the place of use boundary which coincides with the service boundary of Cachuma Project members.

Accordingly, it is appropriate for the DEIS to discuss the proposed increases in areas of water use from Lake Cachuma under both Alternatives 2 and 3 which are not currently in the service area of the water service provider for the County Park.

G. Cumulative Effects on Both Water Supply Exchange Agreements through Existing Pipeline and Effects on Downstream Water Users

NEPA's implementing regulations define cumulative impacts as

> "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.... Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

R-1-24

(40 CFR 1508.7.)

An agency when doing environmental analysis must provide "more than perfunctory; it must provide 'a useful analysis of the cumulative impacts of past, present, and future projects.' (*Kern v. U.S. Bureau of Land Management*, 284 F.3d at 1062, 1075 (9th Cir. 2002) (quoting *Muckleshoot Indian Tribe v. United States Forest Serv.*, 177 F.3d 800, 810 (9th Cir.1999))." (*Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846, 868 (9th Cir. 2005).)

R-1-24, Cont.

First an DEIS must describe related projects including identifying the environmental effects of those projects. Second, it must consider the interaction of multiple activities and cannot focus exclusively on the environmental impacts of an individual project. (*Oregon Natural Resources Council Fund v. Brong*, 492 F.3d 1120, 1133 (9th Cir.2007).) The DEIS must offer quantified or detailed data about the effects. (See *Klammath-Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 995 (9th Cir.2004) (problem with cumulative effects tables is that they do not provide objective quantification of the impacts).) To this end, the DEIS must supply adequate data of time, place, and scale and detail how different project plans and methods affect the environment. (See Brong, supra, 492 F.3d at 1133.)

1. Effect on Water Supply Exchange Agreement Through Pipeline

R-1-25

As set forth above, the issue of Quagga mussels and body contact (swimming) may impact the Exchange Agreement and the pipeline utilized to effectuate this agreement. ID 1 entered into an exchange agreement with the South Coast Member Units and sold Central Coast Water Authority (SWP contractor) its pipeline from Santa Ynez to Lake Cachuma. Under the terms of the Agreement, the South Coast Member Units receive their allocation of SWP water through this pipeline. The Agreement terms also provide for an exchange of water whereby South Coast Member Unit's take ID. NO. 1's Lake water, and ID No.1 receives an equal amount from the Member Units allocation of SWP water. However, in an emergency, the terms of the Agreement maybe effected.

This emergency situation may be triggered if the Quagga mussel infest the Lake and this pipeline. This analysis is absent from the DEIS. Similarly, if an emergency condition is triggered, additional treatment of water is needed to ensure safe drinking water supplies for ID. NO. 1. There is no discussion of whose burden this expense will be.

2. Effect on Downstream Water Users

R-1-26

As set forth above and detailed in Santa Ynez River Water Conservation District (SYRWCD) letter incorporated by reference here, the DEIS only generally mentions past, present and reasonably foreseeable future actions downstream of Bradbury Dam, and does not evaluate the impacts of the recreational activities at the Lake (as described in the RMP alternatives) downstream of Bradbury Dam even though Lake water readily spills and is released downstream. Past, present and reasonably foreseeable future actions include Water Rights Releases, Fish Releases, Reclamation's FMP/BO project (including 3-feet of surcharge of the Lake), and fish recovery plan efforts involving the Lake and Bradbury Dam. In addition, the DEIS does not evaluate the impacts of another reasonably foreseeable future action, invasion of the Lake by Quagga and/or Zebra mussels.

R-1-26, Cont.

Given the geographic proximity and practical interaction between these activities which include the contemplated expansion of recreational activities at the Lake to be provided for by the RMP, a cumulative impact analysis would be appropriate to evaluate appropriate mitigation. Even if recreational activities proposed by the RMP alternatives only produce minor direct and indirect impacts, when viewed in isolation, they may produce significant adverse impacts to downstream water rights holders when other related actions are considered in the impact analysis.

V. CONCLUSION

R-1-27

ID NO. 1 thanks Reclamation for providing the opportunity to comment upon the proposed Cachuma Lake Resources Management Plan and Environmental Impact Statement. For the reasons discussed above, ID No.1 believes the DEIS can be corrected and requests Reclamation consider these comments reflecting the concerns it, the Member Units and downstream water right interests face regarding both water quantity and quality issues while protecting public trust resources. Specifically, ID NO. 1 respectfully requests consideration of the following: additional reasonable alternatives, conducting further study and evaluation of impacts, further discussion of appropriate mitigation measures, and take whatever further actions necessary to develop an DEIS in compliance with NEPA which can serve as the basis for informed decision-making and public scrutiny, as well as approval of an appropriate RMP for future Cachuma Lake operations.

Very truly yours,

Chris Dahlstrom
General Manager
Santa Ynez River Water Conservation District

Enclosures: Supporting Materials

cc: CCRB
SYRWCD
City of Solvang
Gary M. Kvistad, District Counsel, Brownstein Hyatt Farber Schrek
Greg Wilkinson, District Counsel, Best Best & Kreiger

Note: The remainder of this submittal contains material that does not comment on the Draft RMP/EIS and therefore requires no response from Reclamation. Because it is not comment material, it is not included in the Final RMP/EIS, but it will be included in the administrative record for this project and is available upon request.

Responses to Comment R-1

R-1-1
The RMP/EIS recognizes that recreation must be compatible with the project purpose of water supply. Sections 1.1 and 1.2 of the Final RMP/EIS have been revised to provide additional background about the project purposes, including recreation.

This issue, as well as currency of data in the EIS, sources of mitigation funding, and place of use related to Plan Area water supply, is discussed further in subsequent responses to more specific comments in this letter.

R-1-2
This introductory comment is addressed in subsequent responses to specific comments in this letter. See the responses to Comments R-1-17 through R-1-20.

R-1-3
The Draft EIS proposes three alternatives that meet the purpose and need of the proposed action and are compatible with the objective to operate Cachuma Lake for water delivery. The range of impacts from the No Action Alternative (Alternative 1), Enhanced Recreation Alternative (Preferred Alternative), and Expanded Recreation Alternative (Alternative 3) is described in Section 4. The Preferred Alternative is distinguished from Alternative 3 by having fewer and lower-magnitude environmental impacts.

R-1-4
The comment is noted. The general comments about impacts to water quality and quantity are addressed in responses to more specific comments below.

R-1-5
Reclamation's efforts to solicit and consider local views on the RMP are described in EIS Section 2.2.4 and the Public Scoping Report (URS 2006a), which is incorporated by reference into the EIS. A discussion of the public outreach efforts and activities for the Draft RMP/EIS has been added to Section 2.2.4.

Although County Parks is not a formally designated cooperating agency, it participated in the NEPA process at the earliest possible time by:

- Participating in the scoping process;

- Helping to develop background information for the EIS and reviewing environmental analyses, including portions of the EIS for which County Parks has special expertise; and
- Making staff support available at the lead agency's request to enhance the lead agency's interdisciplinary capabilities.

County Parks also reviewed and commented on the Administrative and Public Draft RMP/EIS. Comments on the Draft RMP/EIS provided by County Parks are presented in Comment R-3; Reclamation's responses follow the letter.

The comments about potential inconsistencies with existing land uses and failure to consider state law are addressed in the responses to Comments R-1-6 and R-1-7, respectively.

R-1-6
Section 3.8.1.1 of the Final RMP/EIS has been revised to include details about applicable land use and zoning policies, including the AG-100 zone referenced in the comment. This zone (designated in current Santa Barbara County mapping as "100-AG") has been replaced in other parts of the county with the newer designations of AG-I, AG-II, AG-III, etc. under the Ordinance 661 Consistency Rezone Project. While the residual 100-AG zoning designation does not include recreational uses other than riding, the current equivalent agricultural zone (AG-II-100) allows for a greater range of rural recreation with a Conditional Use Permit (such as recreational camps, hostels, campgrounds, retreats, guest ranches, trout farms, rifle ranges, and duck shooting farms, for example). The Plan Area is composed of federal lands that are not subject to county regulations (personal communication with Derek Johnson, Santa Barbara County Planning & Development, Long Range Planning Division). However, proposed RMP management actions are consistent with applicable Santa Barbara County planning policies and reinforce county goals for land use and preservation.

R-1-7
The proposed action is implementation of the RMP, not a local management contract. Therefore, CEQA analysis is not required. This EIS deals only with federal actions, not County of Santa Barbara actions should the County become the local managing partner. As stated in EIS Section 2.4.2.2, depending on the potential for significant impacts, the local managing partner will likely to have to conduct CEQA analysis for new activities or facilities that would be implemented under the RMP.

The reference to CEQA in the public notice was an editorial error that was corrected in subsequent notice materials.

R-1-8
The EIS is a programmatic document, as specified in Section 1.3 and elsewhere. The environmental analysis of potential future activities and facilities is specific where possible and where a project footprint has been identified. Where the exact footprint of an activity or facility has not been determined, the EIS makes informed projections about what types of effects could result from construction and operation of an action. For example, the exact location of one or more new trails has not been determined, but in Section 4.4.7, Impact BI-3 identifies the

foreseeable effects that would be associated with the construction of new trails, and Mitigation BI-3 lists measures that would be implemented that have been shown to be effective.

Contrary to the comment, Alternative 2, the Preferred Alternative, would not substantially expand recreation. Furthermore, implementation of any new activity or facility would only take place if demand warranted and if funding was available. In California v. Block (690 F.2d 753, 761 [9th Cir. 1983]), the Ninth Circuit Court of Appeals states: "The critical inquiry . . . for a large scale, multi-step project is not whether the project's site specific impact should be evaluated in detail, but when such detailed evaluation should occur. . .. When a programmatic EIS has already been prepared, we have held that site-specific impacts need not be fully evaluated until a 'critical decision' has been made to act on site development. This threshold is reached when, as a practical matter, the agency proposes to make an irreversible and irretrievable commitment of the availability of resources to a project at a particular site." In the case of the RMP, no critical decision to act on any of the proposed activities or facilities has been made.

The RMP identifies suitable types of activities and development for different parts of the Plan Area but does not obligate the local managing partner to implement those activities and developments. As stated in Section 2.4.2.1, new or modified recreational uses would be considered based on (1) sufficient public demand, (2) sufficient staffing and funding to manage the new or modified uses in accordance with the RMP, and (3) potential for increased public benefits and use. Such actions would also require a tiered level of environmental review that would evaluate the specific impacts of the action and identify appropriate mitigation. In addition, Section 2.4.2.1 of the Final RMP/EIS has been revised to state that the local managing partner has the option of continuing existing uses based on the three factors listed above.

The Final RMP/EIS has been updated to include additional information about biological resources (invasive mussels, stocking and fisheries, steelhead protection and genetic makeup), water quality (nonconformant boat engines), air quality, greenhouse gases and climate change, and other resources, as well as additional discussion of reasonable mitigation measures and impact conclusions after the application of mitigation. Also see the response to Comment R-1-14 in regard to mitigation.

R-1-9
See the response to Comment R-1-1. The statement in the Draft RMP/EIS that public recreation is an incidental benefit of the Cachuma Project was based on language in the Federal Water Project Recreation Act regarding cost sharing between federal and nonfederal partners (Section 3(a) of Public Law [PL] 89-72, 89th Congress, S.1229, July 9, 1965, 79 Stat. 213, 214; as amended by Public Law 93-251, March 7, 1974, 88 Stat. 33, Sec. 77; and Public Law 102-575, October 30, 1992, 106 Stat. 4690, Title XXVIII). The use of the term “incidental recreation” in PL 89-72 and the Draft RMP/EIS does not indicate that recreation is a subordinate purpose of any Reclamation project. In fact, PL 89-72 states that “full consideration shall be given to the opportunities, if any, which the project affords for outdoor recreation and for fish and wildlife enhancement” (Section 1). “This allocation of costs and water supply to recreation or fish and wildlife purposes allows these uses to be considered and planned for in their own right, rather than as *incidental uses of facilities which are authorized for other purposes*” (Memorandum: Authorization and Cost Share Requirements for Facilities Provided for Under PL 89-72, U.S.

Department of the Interior, Office of the Solicitor, January 27, 1995; emphasis added). Therefore, the policy set forth in PL 89-72 makes recreation an approved, primary purpose of Reclamation projects. The text of the Final RMP/EIS has been modified to clarify this point.

Reclamation believes that the goals of protecting water quality and enhancing natural resources and recreation opportunities can both be achieved. The purpose and need includes providing recreational opportunities to meet the demands of a growing, diverse population and ensuring recreational diversity and the quality of the recreational experience. These objectives are consistent with the stated Congressional policy in PL 89-72. The Preferred Alternative identified in the Final EIS is protective of water quality in Cachuma Lake. Specific comments about water quality are addressed in subsequent responses.

R-1-10
The Draft RMP/EIS considered the potential enhancement of recreation in response to numerous comments received during the public scoping period that requested additional recreational opportunities. The comments are summarized in EIS Table 2-1, detailed in EIS Section 3.9.3.1, and presented in the Public Scoping Report (URS 2006a), which is incorporated by reference into the EIS. Several comments on the Draft RMP/EIS from individuals requested body contact, trail enhancement, and other recreational opportunities (see Comments I-1-1 through I-71-1).

The comment that the EIS describes population growth in the surrounding counties as "low" is inaccurate. The Final EIS states that Santa Barbara and Los Angeles counties are projected to have lower growth rates up to the year 2030 (approximately 20 percent) in comparison to the projected State of California growth rate (approximately 34 percent) (Section 4.9.4). Therefore, the statement in Section 4.9.4 that "growth in recreational demand for Cachuma Lake is somewhat unknown, although some growth is assumed" is considered reasonable and justified.

The RMP does cite some decreases in boating in the Plan Area. Current vehicle count data indicate that the annual number of vehicles entering the Plan Area has been increasing (see Final RMP/EIS Section 3.10.2). The planning horizon for the RMP is for 20 years after a Record of Decision is issued on the EIS. Therefore, the RMP seeks to identify trends over a longer period than a few years. Trend variations will inevitably take place. As stated in Section 2.4.2.1 and elsewhere in the document, the local managing partner has the option of option of continuing existing uses or pursuing new or modified recreational uses based on public demand, sufficient funding, and potential for increased public benefits and use.

R-1-11
Reclamation disagrees with the comment that none of the alternatives would enhance the protection of water quality. Both Alternatives 2 and 3 would impose a timed phaseout of nonconformant marine engines, whereas the No Action Alternative would not. The Preferred Alternative (Alternative 2) would impose a shorter phaseout for nonconformant engines than Alternative 3 (2 vs. 5 years) and would not allow the body contact proposed in Alternative 3. Moreover, the water quality testing regime proposed in Mitigation WQ-1 for both action alternatives could impose a phaseout of nonconformant engines within 6 months if pollutants are

found to exceed state limits. Reclamation considers the Preferred Alternative to be protective of water quality.

The comment that both action alternatives generate more impacts than the No Action Alternative even with mitigation is not supported by the impact analysis. In many cases, the impacts of the action alternatives before the implementation of mitigation are essentially the same as for the No Action Alternative. In some cases (Impacts SG-4, BI-8, and R-3), the impacts of the No Action Alternative are greater than the residual impacts of the action alternatives, either because a current condition continues or is not addressed by the mitigation proposed for the action alternatives.

In regard to the assumed need for recreation being at odds with the primary purpose of water supply, it should be noted that no recreational activities or facilities would be implemented unless demand was warranted and funding was available. In contrast, the water supply function would continue regardless.

The Final EIS has been revised to include new Section 2.9, which discusses the reasons that an alternative that would reduce recreational opportunities in the Plan Area was eliminated from detailed study.

R-1-12
The range of alternatives considered in the EIS addresses the issues and concerns raised by the public. As shown in Table 2-1 and the Public Scoping Document (URS, 2006a), a wide range of comments was received during public scoping, not only in regard to water quality but recreation, land use, grazing, and other issues. Some commenters expressed support for waterskiing and other body contact.

The comment states that the alternatives and mitigation measures contain unrealistic provisions, citing the construction of a water treatment plant to allow for body contact swimming. Although body contact will not be allowed in the Preferred Alternative, it should be noted that some water bodies that serve as drinking water reservoirs allow body contact. In California, body contact is allowed in Modesto, Nacimiento, Sly Park, Bear Lake, and Canyon Lake reservoirs, as well as San Diego County reservoirs, provided that specific treatment conditions are met (California Health and Safety Code Sections 115825–115850). The comment does not clarify what other provisions are unrealistic.

As stated in Section 2.4.2.1, new or modified recreational uses would be considered based on sufficient public demand, sufficient staffing and funding to manage the new or modified uses in accordance with the RMP, and potential for increased public benefits and use. Such actions would also require a tiered level of environmental review that would reference this programmatic document. That additional environmental review would identify the source of funding. Note also that mitigation would be included in any future project if needed, and the funding would cover both project and mitigation costs. The responsibility for funding, designing, and implementing (or constructing) the management actions and improvement projects will be specified in an agreement with the local managing partner. The source of funding will depend on many factors that will vary over the planning period, such as use fees, availability of grants, etc.

Reclamation believes that the Preferred Alternative is responsive to public comments and protective of water quality. The comment does not clarify which actions under Alternatives 2 and 3 entail conflicts with water quality. Specific comments about such conflicts are addressed in subsequent responses.

R-1-13
The Final EIS has been revised to include new Section 2.9, which discusses the reasons that an alternative that would reduce recreational opportunities in the Plan Area was eliminated from detailed study. The RMP is a program-level document that identifies suitable types of activities and development for different parts of the Plan Area but does not obligate the local managing partner to implement those activities and developments. As stated in the response to Comment R-1-12, new or modified recreational uses would be considered based on sufficient public demand, sufficient staffing and funding to manage the new or modified uses in accordance with the RMP, and potential for increased public benefits and use. Moreover, existing uses or new recreational uses or activities may also be discontinued (see Section 2.4.2.1).

That being the case, the Alternative 4 proposed in the comment is similar to the Preferred Alternative identified in the Final EIS, and the Preferred Alternative includes many of the proposed Alternative 4 elements. Alternatives 5 and 6 are versions of the Preferred Alternative with improvements to infrastructure and limited recreation expansion, respectively. The Alternative 7 proposed in the comment, which would analyze enhanced recreation outside of the Plan Area, would not satisfy the purpose of the RMP, which is to guide future actions in the Plan Area. In addition, Reclamation does not have jurisdiction in several of the lakes given as examples for Alternative 7.

Reclamation notes the comment in Footnote 6 that certain activities should be excluded under any alternative. Body contact will not be allowed under the Preferred Alternative, and nonconformant marine engines will be phased out within 2 years. The Preferred Alternative would not increase equestrian use in the Plan Area; no additional equestrian trails or access is proposed, and the current permit program for equestrian access on the North Shore would continue. Finally, the Preferred Alternative would not expand boating capacities beyond No Action conditions: the motorized boat density would remain at 40 BAOT at minimum pool and 120 BAOT at maximum pool.

It should also be noted that, as stated in Section 2.4.2, existing uses or new recreational uses or activities allowed under the RMP may also be discontinued in the future at the discretion of the local managing partner if demand decreases, the activity is not economically viable, new security or safety considerations arise, and/or unforeseen significant environmental impacts occur that cannot be mitigated.

R-1-14
The Final EIS includes additional discussion of reasonable mitigation measures in Sections 4.1.7 (invasive mussels), 4.2.7 (air quality during construction and operation of facilities implemented under the RMP), 4.3.7 (grazing management), and 4.4.7 (Southern California DPS steelhead).

These additional discussions do not change the conclusions of the Final EIS. Note that body contact in Cachuma Lake will not be allowed under the Preferred Alternative.

The RMP provides detailed mitigation measures where appropriate. As stated above, the RMP is a programmatic document. Implementing specific actions under the RMP would require a tiered level of environmental review that would reference this programmatic document.

The comment states that funding is an issue, and any action that may have a significant impact without mitigation should be rejected because the entities that ultimately implement the actions under the RMP will likely not have the necessary funds. The comment also states that Reclamation must take responsibility for performing and/or funding the mitigation.

Mitigation would be included, if needed, in any future action implemented under the RMP. Funding for the action would have to cover both implementation and mitigation costs. The responsibility for funding, designing, and implementing (or constructing) the management actions and improvement projects will be specified in an agreement with the local managing partner. The source of funding will depend on many factors that will vary over the planning period, such as use fees, availability of grants, etc. Reclamation's ability to share costs is subject to federal funding and congressional appropriations.

R-1-15

As stated in the response to Comment R-1-08, the Final EIS has been updated to include additional data pertinent to the evaluation for biological resources, water quality, air quality, greenhouse gases and climate change, and other resources. The additional data do not change the conclusions of the EIS and have been used to address the No Action and action alternatives.

In regard to the comment about gasoline compounds and total dissolved solids (TDS), Section 3.1.2.1 of the Final RMP/EIS has been revised to include updated information about levels of TDS, Cryptosporidium, and gasoline compounds. The information was updated using detailed water quality data for Cachuma Lake from the City of Santa Barbara Public Works Department, which are included in Appendix A.

A list of federal special-species in the Plan Area was confirmed with the USFWS in February 2010. Protocol-level species surveys would be conducted when projects and their exact locations are identified. Species surveys have an "expiration date," and performing them too early would render them obsolete.

The RMP Guidebook language allows for additional data gathering but does not mandate it. Any facilities developed under the RMP must undergo additional environmental review. However, funding and demand for the facility must exist to justify additional data gathering and investigation.

The comment is correct that the RMP will have a planning horizon of 20 years. However, the RMP will not go into effect until the environmental clearance process is completed and a Record of Decision is issued. The text of Section 1.3 has been revised to state that the planning horizon will begin when a Record of Decision is issued.

The comment refers to a delay between the alternative development process and the environmental process. The existing conditions sections and impact analyses were updated before the Draft RMP/EIS was issued, and additional information has been incorporated in response to public comments on the Draft RMP/EIS. None of the updated information resulted in the identification of new alternatives.

R-1-16
Reclamation acknowledges the approval and implementation of the 2004 Final EIS/EIR for the Fisheries Management Plan/Biological Opinion as well as the development of the NMFS Steelhead Recovery Plan and accompanying outline. Section 2.5.5 of the Final RMP/EIS has been revised to state that the stocking program at Cachuma Lake will comply with the NMFS 2007 Recovery Plan Outline and resulting Recovery Plan, when it is published. Sections 3.4.4.2 and 4.4.7 of the Final EIS have been revised to discuss the 2007 Recovery Plan Outline, the plan in development, and the conformity of RMP fisheries management actions with Recovery Plan provisions. Section 1.1.4 of the Final EIS has been revised to include additional information about the ongoing consultation with NMFS.

As stated in EIS Section 1.1, the 3-foot increase in the maximum lake level (which was an outcome of the 2004 Final EIS/EIR) was assumed as part of current and future conditions.

R-1-17
The following sections of the Final EIS have been revised to include additional information about the consequences of a quagga or zebra mussel invasion:

- 3.4.4.2, “Invasive Species” subsection (general information about invasive mussels)
- 3.9.2.2 (updated watercraft inspection protocol)
- 4.1.3 (potential impacts to Plan Area water quality, infrastructure, and downstream water quality)
- 4.1.7 (additional mitigation, including funding)
- 4.4.3.2, “Fisheries and Aquatic Resources” subsection (impacts on steelhead and other endangered species)
- 4.4.7 (revised impacts and mitigation)

The definition of the Plan Area remains as it was established in the Draft RMP/EIS; however, the Final RMP/EIS has been revised to discuss downstream facilities (Sections 1.1.2 and 1.1.4), planning principles related to downstream water quality and endangered species protection (Section 2.2.2), and impact thresholds related to downstream water quality and endangered species protection (Sections 4.1.1 and 4.4.2). The additional information about quagga and zebra mussel impacts described above also includes impacts downstream of Cachuma Lake.

The maximum allowed boat densities would be the same for the Preferred Alternative and the No Action Alternative (see Table 2-4). Potential increases in boat use would be slight and would be

associated with increased visitation from forecasted population growth in Santa Barbara County (Section 4.4.4.2).

As stated in Section 4.1.3 of the Final RMP/EIS, recreational watercraft use at Cachuma Lake is not the only means by which invasive mussels could be introduced to the Plan Area. Continued implementation of the vessel inspection and quarantine program at Cachuma Lake would reduce the potential for inadvertent transfer of invasive mussels via recreational watercraft that are currently allowed under all alternatives, and other reasonable measures are described in Mitigation WQ-6.

R-1-18
The comment raises two issues related to the interaction of introduced fish with native fish populations, particularly in regard to Southern California steelhead: predation and stocking. Each issue is discussed in detail below. Additional information has also been added to Sections 3.4.5.2 and 4.4.7 of the Final RMP/EIS.

Potential for Predation of Steelhead by Predatory Fish in the Santa Ynez River Downstream of Cachuma Lake

Historically, the Santa Ynez River had one of the largest steelhead *(Oncorhynchus mykiss)* runs in southern California (NMFS undated). Steelhead in the Santa Ynez River are within the Southern California Coast Distinct Population Segment (DPS), are listed as endangered species under the FESA, and are considered a species of special concern by the State of California. Steelhead within the Santa Ynez River face many challenges including predation by stocked game fish. This response addresses the potential for predation on steelhead within the Santa Ynez River by game fish stocked in Cachuma Lake.

Cachuma Lake contains nonnative centrarchids including largemouth bass *(Micropterus salmoides),* smallmouth bass *(M. dolomieui)* and spotted bass *(M. punctulatus).* According to Mitch Medeiros, park operations manager, no bass have been stocked in Cachuma Lake in over 30 years, and may have never been officially stocked in the lake (see changes to text in Final EIS Section 3.4.4.2). In all likelihood, the lake was stocked immediately after construction or bass were introduced sometime thereafter by sport fisherman (Medeiros, pers. comm. 2009). These species have subsequently been found in the lower Santa Ynez River and were presumably washed downstream from Cachuma Lake during spill events or other water releases (AMC 2008). Largemouth bass and other centrarchid species have been observed in the lower Santa Ynez River during all years of recent fish surveys (Tim Robinson, pers. comm. 2009). Several large pools within this stream segment provide habitat suitable for bass survival, spawning, and juvenile rearing. It is assumed that largemouth bass are able to successfully reproduce in the lower Santa Ynez River. However, no studies have been conducted to determine the extent of the bass population in the river or whether successful reproduction is occurring within this reach.

Bass are important game fish, and studies have shown that they often prey on juvenile salmonids. Naughton and Bennett (2004) found that juvenile salmonids accounted for between 5 and 11 percent of the diet of smallmouth bass in Lower Granite Reservoir on the Snake River. The highest incidences of predation occurred when smallmouth bass and juvenile Pacific salmonids

coexisted within littoral areas. A similar study in the Lake Washington basin found that juvenile salmonids accounted for up to 50 percent of the diet of smallmouth bass at times (Tabor et al. 2007). However, this report estimated that mortality rates of juvenile salmonids resulting from bass predation were less than 1 percent of the production of young-of-the-year salmonids. This report concluded that predation by smallmouth and largemouth bass has a minor impact on Chinook salmon *(O. tshawytscha)* and other salmonid populations in the Lake Washington system (Tabor et al. 2007). The study referenced in the comment relates to predation of juvenile salmonids, specifically winter-run Chinook salmon, by striped bass *(Morone saxatilis)* in the Sacramento River (Lindley at al. 2003). However, striped bass and Chinook salmon do not occur within Cachuma Lake or the lower Santa Ynez River, making this reference less than ideal.

While these studies are important and provide valuable information regarding the effects of nonnative predatory fish on salmonid populations, they are not comparable to the issues at Cachuma Lake and the lower Santa Ynez River. All of these studies measured the effect on juvenile Chinook salmon and other Pacific salmon species rather than steelhead. Juveniles of these species tend to emigrate downstream during their first year, when they are between 3 and 5.25 inches in length (NOAA 2008). On the other hand, steelhead (the only salmonid species found in the lower Santa Ynez River), spend at least one full year and usually two years in freshwater before emigrating to the ocean as smolts, ranging between 10 and 25 cm in length (Moyle 2002). The larger size of steelhead smolts presumably results in lower predation rates by nonnative predators as they are migrating downstream. “In general, predation rates on salmon(ids) are considered by most investigators to be an insignificant contribution to the large declines observed in west coast populations. However, predation may significantly influence salmonid abundance in some local populations when other prey are absent and physical conditions, such as narrow river mouths or human-made barriers such as fishing locks, lead to the concentration of adult and juvenile salmonids” (NMFS 2000b).

Steelhead tend to utilize different habitat types than nonnative centrarchids within river systems. Whereas young steelhead will typically be found in riffles, runs, and other fast-moving areas, centrarchids prefer deep, slow-moving water such as pools. Therefore, the opportunities for predation of young-of-the-year steelhead by centrarchids is limited to times when fish are moving through pools and other slow-water habitats or emigrating to the ocean as larger individuals. This migration takes place in the spring, and the fish are typically between 5 and 10 inches in length around the time of migration (Entrix 1995).

Predation on juvenile steelhead by introduced centrarchids undoubtedly occurs within the lower Santa Ynez River. However, these effects are not documented. Based on other studies, predation by centrarchids does not appear to be a major issue for juvenile salmonids. Due to the larger size of steelhead smolts and the different habitat requirements for the two types of fish, it is likely that predation is not a major impact on steelhead populations in the lower Santa Ynez River.

The Preferred Alternative does not include a stocking program for bass or other nonnative centrarchids and therefore would not contribute to any future increase in predation that may occur downstream of Bradbury Dam. Predation control measures for any existing predation would need to be addressed as part of programs outside the RMP process.

Genetic Makeup

The comment also raises the issue of the effects of stocked rainbow trout on the population of wild steelhead in the lower Santa Ynez River. Rainbow trout have been stocked in streams within the Santa Ynez River basin since the 1930s (Entrix 1995). The majority of historically stocked trout have been from northern and central California hatcheries including the Coleman, Whitney, Hot Creek, and Shasta hatcheries. However, some trout stocked in the Santa Ynez River have been from out of state, including strains from Wyoming, Virginia, Washington, and British Columbia.

Before the issuance of the Draft RMP/EIS, two sources of trout were used for stocking Cachuma Lake: the CDFG planted trout from the Fillmore Hatchery, and the County of Santa Barbara planted trout from the Calaveras Trout Farm (CTF). Neither sources provide triploid trout, which have been modified through environmental means and are unable to reproduce. Trout planted from the Fillmore fish hatchery were composed of stock provided by a variety of hatcheries throughout California. As these fish were not sterile triploids, they had the potential to interbreed with wild populations of trout upstream of the reservoir as well as steelhead downstream of the dam. The CDFG has halted stocking of trout within Cachuma Lake due to a pending lawsuit over the genetic makeup of hatchery trout.

The effect of hatchery trout on wild populations within the Santa Ynez River has been studied. Recent genetic analysis has been conducted on hatchery-origin trout as well as steelhead within the Santa Ynez River system (Nielsen 1998; Nielson et al. 2003; Greenwald and Campton 2005; Girman and Garza 2006; Garza and Clemento 2007). Greenwald and Campton (2005) found significant genetic divergence between fish in the upper Santa Ynez watershed (upstream of Juncal Dam) and those downstream of Juncal Dam. However, Girman and Garza (2006) found no substantial genetic differentiation between trout populations above and below dams in the Santa Ynez River. This indicates that populations of trout breeding in streams tributary to the dam reservoirs are recently derived from a common ancestral population with trout populations breeding below the dams. This also suggests that breeding populations in these upstream tributaries are likely dominated by trout descended from steelhead isolated above the dams following dam construction (Girman and Garza 2006). The discrepancy between the Greenwald and Campton (2005) results is likely an artifact of the weak power associated with using a single mitochondrial locus during the Greenwald and Campton study (Girman and Garza 2006).

While the results of the Girman and Garza (2006) study indicate that trout raised at Fillmore Hatchery have not made a substantial contribution to reproduction in the populations of *O. mykiss* in the Santa Ynez River, this does not mean that there has been no introgression of hatchery fish into populations of native trout in this system (Girman and Garza 2006). It appears that reproductive success of hatchery fish is less than that of wild fish. During a study of summer-run steelhead in southwestern Washington, the success of hatchery steelhead in producing smolt offspring was only 28 percent of that for wild fish (Chilcote et al. 1986). Hatchery trout are different enough in life history and physiology that they do not successfully reproduce with naturally spawning fish (Garza and Clemento 2007). This may help explain why planted trout have not contributed to reproduction of trout populations in the Santa Ynez River. It is possible that some hatchery fish have reproduced successfully and contribute to the population within the system. However, a signal of reproduction of hatchery fish in the Santa Ynez River

appears to be largely or totally absent (Garza and Clemento 2007). Subsequent generations of trout produced by hatchery fish may have greater reproductive success and contribute to the wild population.

Based on the results of recent genetic studies of steelhead/rainbow trout within the Santa Ynez system and other nearby river systems, it does not appear that hatchery trout have influenced wild population structure or genetics. This is most likely a result of the high percentage of hatchery fish caught within the reservoir, as well as low reproductive success of hatchery fish in comparison to wild trout (Chilcote et al. 1986). While hatchery trout may have some influence on the genetic structure of the Santa Ynez steelhead, it is not likely to be significant. Regardless, if all trout stocked with the Santa Ynez system were triploids, no reproduction of planted trout would occur. This would ensure that no mixing of genetics occurred between hatchery trout and wild steelhead.

Reclamation will work with CDFG to determine the appropriate stocking program for Cachuma Lake. Section 4.4.7 has been revised to state that the Fisheries Management Plan will comply with the Recovery Plan for Southern California DPS steelhead and CDFG's stocking program, and may involve stocking only sterile triploid trout in Cachuma Lake.

R-1-19
As stated in the response to Comment R-1-11, the Preferred Alternative would impose a 2-year phaseout of nonconformant engines. See text changes in Sections 3.1.2.1 and 4.1.3 for a discussion of boat emissions for newer conformant engines. Furthermore, the water quality testing regime identified in Mitigation WQ-1 would impose an accelerated phaseout of nonconformant engines by the local managing partner if pollutants are found to exceed state limits.

Through 2009, none of the annual monitoring data at the William B. Cater Treatment Plant show detection of BTEX compounds that are associated with nonconformant outboard marine engines (Appendix A). Therefore, no evidence exists that current boating practices affect wildlife, drinking water, or downstream areas.

The comment states that prohibition of 2-cycle engines at other lakes in the state could result in a concentration of these boats at Cachuma Lake and a higher level of pollutants than is anticipated by the Draft EIS. Again, any potential impacts would be eliminated once the 2-year phaseout is in effect, and Mitigation WQ-1 allows for a shorter phaseout if necessary to maintain water quality. Moreover, the Preferred Alternative would not expand boating beyond No Action conditions—the motorized boat density would remain at 40 (BAOT) at minimum pool and 120 BAOT at maximum pool.

Reclamation acknowledges that actions under the RMP could affect downstream conditions and considers the Preferred Alternative to be protective of water quality.

R-1-20
No body contact would be allowed under the Preferred Alternative; therefore, the impacts associated with body contact described in Section 4.1.7 (Mitigation WQ-5) would not occur. See the response to Comment R-1-12 in regard to water bodies that serve as drinking water reservoirs and allow body contact.

The Preferred Alternative (Alternative 2) would not increase equestrian use in the Plan Area; no additional equestrian trails or access is proposed, and the current permit program for equestrian access on the North Shore would continue. The Preferred Alternative would not expand cattle grazing in the Plan Area. Section 4.1.3 of the Final RMP/EIS has been revised to state that sanitary surveys and other water quality data indicate that levels are low for microbiological contaminants such as Giardia, Cryptosporidium, and enteric viruses that could be associated with animal waste. Additional water quality data have been incorporated into the Final RMP/EIS in Section 3.1.2.1 and Appendix A.

R-1-21
Reclamation notes the comment including the statement that "the balancing of recreational uses with water quality has largely been successful over the past 50 years." The policy for building boat ramps and other facilities below the 760-foot lake level is that the structures must be compatible with being submerged for extended periods of time. The rationale for the policy is the issue of concern expressed in the comment, which is to prevent construction of facilities that are not compatible with being submerged for extended periods. Facilities below the 760-foot lake level elevation have either been moved or provisions have been made to protect them. Future facilities would be subject to the same provisions.

A discussion of the April 2005 MOU has been added to the end of Final EIS Section 1.1. Text has been added to Section 3.9.2.2 to reference the construction of the new boat ramp. Sections 3.11.1.6 and 3.11.1.7 have been revised to mention the construction of the gabion basket barrier wall around the water treatment facility and the findings of the 2005 Stetson Engineers survey, respectively.

Additional information about the Environmental Impact Report: Consideration of Modifications to the U.S. Bureau of Reclamation's Water Right Permits 11308 and 11310 (Applications 11331 and 11332) to Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River below Bradbury Dam (Cachuma Reservoir)) has been added to Section 1.1.4. The environmental process for the proposed flow modifications is separate from the evaluation presented in the RMP/EIS, which is limited to the implementation of a Resource Management Plan for Cachuma Lake.

The issue of funding the relocation of the water treatment plant and other infrastructure is not related to the purpose or implementation of the RMP. Funding for such improvements are being sought separately by the County and Reclamation.

R-1-22
As stated in Section 2.4.2.1, existing uses or new or modified recreational uses would be considered based on the availability of sufficient funding. The responsibility for funding, designing, and implementing (or constructing) the management actions and improvement projects under the RMP will be specified in an agreement with the local managing partner. Funding sources are discussed in the response to Comment F-1-15.

See the response to Comment R-1-21 in regard to the issue of funding the relocation of the water treatment plant and other infrastructure.

Any potential recreational facilities proposed in this RMP or other Plan Area facilities will be located above the surcharge zone (760-foot lake level elevation) or be compatible with being submerged for extended periods. Any new construction, relocations, or improvements would be compatible with the management actions under the Preferred Alternative.

R-1-23
Section 3.11.1.6 of the EIS states that the County Park is within the ID #1 service area, and water supply for the Park is purchased from ID #1. The Final EIS has been revised to clarify that potable water for the rest of the Plan Area comes from Cachuma Lake as allocated to Santa Barbara County.

As noted in the comment, Reclamation has filed petitions to conform the authorized places of uses for permitted applications to the district boundaries and to make the authorized purposes of use common to the permitted applications, but the SWRCB has not yet issued an order approving those requested changes. Over the RMP's planning horizon, a demand for more water as a result of RMP activities or facilities could be addressed when the SWRCB approves the place of use changes; in addition, the existing well, existing storage tank, and filtration plant that is being constructed near Live Oak Camp could be a source for future water supply. An increase in consumptive water use for future projects at Live Oak Camp would have to be addressed in site-specific environmental review.

R-1-24
Discussions of cumulative impacts are provided for each resource area evaluated in the EIS, except those for which no cumulative impacts have been identified. Additional information has been added to the cumulative impact discussions for water quality (Section 4.1.7), air quality (Section 4.2.7), and biological resources (Section 4.4.7) as a result of public comments on the Draft EIS. Specific issues raised in Comments R-1-25 and R-1-26 are addressed in the responses to those comments, below.

Reclamation believes the level of analysis and scope of the cumulative impacts discussions are commensurate with the potential impacts, the resources affected, and the scale of the proposed actions. The EIS analysis of impacts from potential management actions is programmatic, as stated in Section 1.2, and therefore any future actions that would result in new facilities, ground disturbances, or environmental impacts beyond the programmatic analysis provided would be subject to subsequent environmental review, including assessment of cumulative impacts.

R-1-25
No body contact would be allowed under the Preferred Alternative; therefore, the impacts associated with body contact described in Section 4.1.7 (Mitigation WQ-5) would not occur.

An infestation of invasive mussels at Cachuma Lake would have the potential to reduce or disrupt flows to water customers. Sections 4.1.3 and 4.1.7 have been revised to address potential effects to ID #1 water customers in emergencies, natural disasters, or failure of the State Water Project, when unfiltered water may need to be delivered from the historic Santa Ynez pipeline. Cost is addressed in Mitigation WQ-6 (Section 4.1.7). Additional discussion of the impacts from invasive mussels and reasonable mitigation has been included in the Final EIS, as described in the response to Comment R-1-17.

R-1-26
The comment that the Santa Ynez River Water Conservation District letter is incorporated by reference is noted. Please refer to the responses to Comment R-2 in addition to those listed here.

The past, present, and reasonably foreseeable future actions listed in the comment are addressed in the following locations:

- Water rights releases – Final EIS Sections 1.1.1 and 1.1.2
- Fisheries releases – Final EIS Section 1.1.4
- Reclamation's FMP/BO project – Final EIS Section 1.1.4
- Fish recovery plan efforts – Final EIS Section 4.4.7

See the responses to Comments R-1-17 and R-1-18 in regard to potential downstream impacts related to invasive mussels and steelhead, respectively.

As described in the response to Comment R-1-8, the Preferred Alternative would not substantially expand recreation. See the response to Comment R-1-24 in regard to cumulative impacts.

R-1-27
This summary comment is noted. Specific comments about additional alternatives, further study and evaluation of impacts and mitigation measures, and other further actions are addressed in previous responses.