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Comments on Calaveras Dam Replacement Project

Please accept these comments from the Alameda Creek Alliance and the Center for Biological Diversity on the Draft Environmental Impact Report (DEIR) and on the U.S. Army Corps of Engineers Project Notice for the San Francisco Public Utilities Commission (SFPUC) Calaveras Dam Replacement Project (CDRP) in the Alameda Creek watershed. We will be submitting additional comments regarding the adequacy of the analysis and disclosure of the potential environmental impacts of the CDRP under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Our comments are organized as follows: an introduction; a summary of the flaws in the fisheries and aquatic habitat and hydrology sections of the DEIR; comments on the approach to analysis; more detailed discussions of some of the fisheries, hydrology, and greenhouse gas issues; and the inadequacy of proposed mitigation measures. Detailed comments on specific sections of the DEIR follow.

We incorporate by reference previous scoping and CEQA comments on the CDRP by the Alameda Creek Alliance (ACA), California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), and Alameda County Water District (ACWD), including scoping and CEQA comments on the Programmatic EIR for the Water System Improvement Program, scoping comments on the CDRP, and comments submitted on the Biological Assessment for the CDRP.¹

Sincerely,

¹ For the WSIP Programmatic EIR, ACA submitted comments on 10/12/05, 11/10/05, 10/1/07, and 10/28/08; ACWD submitted comments 9/26/07; and CDFG submitted comments 10/1/07. For the CDRP, ACA submitted comments 11/8/05, 11/23/05, and 12/20/05; NMFS submitted comments 11/30/05, 4/4/08, 10/21/08 and 2/23/09; and CDFG submitted comments 11/22/05. For the Biological Assessment, ACA submitted comments 7/15/09; NMFS submitted comments 6/23/09; and ACWD submitted comments 7/8/09.

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Introduction

The Alameda Creek Alliance (ACA) is a community watershed group dedicated to the protection and restoration of the natural ecosystems of the Alameda Creek watershed, and has more than 1,700 members that live in or near the watershed. The Alliance has been working to restore steelhead trout and salmon to Alameda Creek and to protect endangered species in the watershed since 1997. The Center for Biological Diversity is a national nonprofit conservation organization with more than 240,000 members and online activists dedicated to the protection of endangered species and wild places. The Center has worked since 1997 to secure protections under the Endangered Species Act for imperiled west coast salmon and steelhead trout populations and to promote recovery of steelhead trout in the Central California Coast.

Alameda Creek is a regional asset with significance for restoration of steelhead trout in the greater San Francisco Bay Area and contributing to the recovery of the listed central California coast population of steelhead. Numerous fish passage projects downstream of SFPUC dams have been completed since 2001 and several major fish ladder and dam removal projects will be completed by the time Calaveras Dam is rebuilt, allowing anadromous fish to access approximately 20 miles of suitable spawning and rearing habitat in upper Alameda Creek.

Our organizations support the SFPUC rebuilding Calaveras Dam to benefit public safety, ensure a reliable water supply, and potentially enhance fish habitat. However, we have serious concerns about how the SFPUC is proposing to operate its water system once the dam is rebuilt, and whether these operations will allow for the restoration of steelhead trout and salmon below the dam. San Francisco's water system can and should be operated in a sustainable manner that provides adequate stream flow for native fish and wildlife. Our organizations believe that numerous conservation, recycling, and groundwater projects can be implemented that will make up the water needed for healthy fisheries in Alameda Creek, as well as the Tuolumne River and the Peninsula watersheds managed by the SFPUC.

We are disappointed with the approach to fisheries issues in the DEIR given the extensive communication and input the ACA has given the SFPUC regarding the CDRP and the Programmatic EIR for the Water System Improvement Program, and the involvement of the SFPUC in the Alameda Creek Fisheries Restoration Workgroup, which has been coordinating restoration efforts over the past decade. Over 70 Bay Area conservation groups have called on the SFPUC to improve its stewardship of the Alameda Creek watershed and restore stream flows in Alameda Creek sufficient to sustain steelhead trout. The Alliance submitted formal scoping comments on the Calaveras Dam project in 2005 and has met continuously with SFPUC staff since 2003 regarding providing adequate stream flows for steelhead trout as part of the project.

Summary Statement

The fundamental flaw of the DEIR and the CDRP in general is the failure to include native fish restoration as one of the project purposes and goals. The ACA requested that fisheries restoration be included as part of the project purpose in our formal scoping comments on the CDRP. Having consistency with steelhead restoration efforts be a co-equal goal of the project would avoid many of the conflicts over the adequacy of the proposed mitigations for fisheries and hydrology impacts. We suggest that the final EIR include consistency with steelhead restoration as a co-equal purpose of the project, with a goal of restoring a self-sustaining steelhead run below the SFPUC's major dams.

A first major flaw of the DEIR is the selection of the baseline condition for analysis of the project impacts. By choosing the period during which the Division of Safety of Dams (DSOD) restrictions were in place and the water system was under somewhat constrained operation, the DEIR attempts to avoid complete analysis of the impacts of the normal operation of the SFPUC water system on hydrology and fisheries in Alameda Creek. The EIR should analyze and compare the impairment of stream flows under the proposed project operations with a baseline of unimpaired flows and pre-DSOD operations for full disclosure of the impacts of the project.

A second major flaw is the reliance on flows agreed to in the 1997 memorandum of Understanding (MOU) with the California Department of Fish and Game (CDFG) as the basis of mitigations for fisheries and hydrology impacts of the CDRP. The 1997 MOU flows are a pre-existing legal obligation that has nothing to do with the CDRP, and it is inappropriate to use them as mitigation for project impacts. The fact that the SFPUC has failed to abide by this agreement for over 12 years does not allow for promised future compliance to be packaged as mitigation for project impacts. Furthermore, the 1997 MOU flows were designed for the habitat needs of resident rainbow trout in a limited stream reach, and do not address the migratory flows needed for steelhead trout or chinook salmon in the watershed. The DEIR also fails to characterize what percentage of compliance flows under the 1997 MOU will be provided by natural runoff in different water year types, and what portion will be actually released or bypassed past SFPUC facilities to benefit fisheries. The actual mitigation measures that will be provided under the project must be disclosed under the guidelines and statutes that govern adequate environmental review.

A third major flaw is the proposed operation of the Alameda Creek Diversion Dam (ACDD), in conflict with state Fish and Game Codes, the federal Endangered Species Act, and the SFPUC's Watershed Stewardship Policy. The DEIR does not analyze the implications of operating the ACDD in a manner that contravenes state and federal laws. The DEIR does not fully analyze the impacts of the proposed operation of the ACDD on fish passage downstream and at ACDD, or on fisheries habitat quality and quantity, nor does it provide adequate mitigations for these potentially significant impacts.

A fourth major flaw is the approach to mitigations for direct and cumulative project impacts in the DEIR, which seems to be avoidance of mitigation or reliance on

ineffective and insufficient mitigation measures. Some of the proposed “mitigations” for direct construction impacts on habitat for sensitive species, greenhouse gas emissions, and fisheries and hydrology impacts are particularly disingenuous and hollow.

The fisheries and aquatic habitat and hydrology sections of the DEIR for the CDRP do not reflect a full analysis of the effects of SFPUC water supply operations via Calaveras Dam and Reservoir and the ACDD on the affected environment. Since the CDRP will allow the SFPUC to resume diversions of upper Alameda Creek flows, the impact of these diversions on the environment must be evaluated in the EIR, preferably in the direct impacts section of the report or, at a minimum, through the cumulative impacts analysis. The approach taken in the DEIR instead examines the impact of changes between DSOD-restricted conditions and future conditions after the restrictions are removed (*i.e.*, to pre-DSOD conditions), with inadequate consideration of cumulative impacts. For a variety of reasons, this approach is unsatisfactory logically, procedurally, and legally.

With regard to the impacts on fisheries and aquatic habitat in particular, the DEIR incorporates flawed assumptions in the method by which it presumes to measure changes between “current conditions” and post-project conditions, resulting in inadequate analysis. First, the DEIR assumes that “current” conditions, including fish populations and habitat distribution and quality, are based on DSOD-restricted conditions. In fact, current habitat conditions have resulted from water management practices in place since the construction of SFPUC diversion and storage facilities, and not since DSOD restricted their operation.

The DEIR fails to adequately characterize the effects of re-diverting flows currently bypassed downstream to Alameda Creek under the DSOD restrictions. Where there should be a direct (*i.e.*, non-cumulative) impact assessment based on changes to flow after the CDRP is implemented, the DEIR conspicuously avoids a clear comparison of before and after conditions in terms of stream flow, and distribution and quality of fish habitat. The EIR needs to include an evaluation of stream flow and suitable fish habitat compared to the baseline, which the SFPUC has chosen to be during the DSOD-restricted conditions. Even with the short period of record since 2001, the analysis must attempt to characterize the hydrologic regime on a reasonable time-step in the study area with the DSOD restrictions (and corresponding increased unregulated instream flows) in place, and speculate about resulting habitat implications such as available spawning, rearing, and migration opportunities. The impact analysis should then evaluate conditions with such flows withdrawn from the various affected reaches, as is proposed in the project.

The EIR must consider the full operational effects of the ACDD and Calaveras Dam in the cumulative impacts analysis. A cumulative impact is an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. As SFPUC water supply operations cause fishery and aquatic habitat impacts, these are cumulative impacts of the CDRP. The DEIR does not adequately analyze the cumulative effects of the proposed SFPUC operations which will divert upwards of 85 percent of the stream flow from upper Alameda Creek.

Understanding the cumulative impacts of the CDRP and related projects will require comparing conditions without water supply operations with conditions resulting from CDRP implementation. While information concerning fish populations and habitat resources prior to the existence of Calaveras Dam and ACDD may be minimal, basic analytical tools such as regional curves or other standard hydrologic methods allow for, and should be used in, developing “unimpaired” flow models and evaluating the effects of cumulative water diversions on the watershed and fish habitat.

Further, reasonable standards of flow impairment are available with which to correlate diversion rates and impacts to fisheries and aquatic habitat, for example from restoration efforts on the Owens River (Mono Lake), Trinity River, and San Joaquin River. The EIR needs to define how much water must be left instream in the watershed and the timing of suitable flows to allow fisheries to function and characterize an “acceptable” level of flow impairment, and identify what percentage of unimpaired flows will be allowed to flow down the creek to provide suitable steelhead and salmon habitat.

The DEIR disregards cumulative impacts related to reducing the range of steelhead due to water diversions and passage barriers, which should involve a mandatory finding of significance. The project as proposed does not include adequate migration flows for steelhead, and the DEIR does not acknowledge migration impacts or include associated mitigation. In general, meaningful mitigation must be provided to reduce the unavoidable cumulative adverse impacts of altering the unimpaired flow regime (~42,000 acre-feet per annum) to the proposed levels (~6,300 AFA minus the planned future diversions of up to 20 cfs at the proposed SFPUC Upper Alameda Creek Filter Gallery Project).

As previously noted, the DEIR also errs in assuming that flow provisions agreed to under the 1997 MOU are not part of the environmental baseline. This agreement was made before the DSOD restriction and is outside of the project scope. Ascribing the CDRP with beneficial impacts because the SFPUC proposes to comply with a legal agreement that the SFPUC has not complied with for over 12 years is inappropriate and disingenuous, and detracts from the quality of the environmental analysis. Since the SFPUC has not complied with this MOU for 12 years there is no reasonable expectation that alleged future compliance can be offered as a feasible “mitigation.”

While it is reasonable to consider post-project conditions with fish flows in place, and discuss the new low-flow discharge valves and an ACDD bypass that will facilitate providing fish flows, there is no project alternative that proposes water supply operations without fishery flows. Therefore the baseline for impacts analysis should not be considered to be “water supply operations without fishery flows.” The three flow regimes affecting the CDRP environmental analysis (*i.e.*, unimpaired flows, pre-project flows, and post-project flows) must be clearly defined and flows should not be used in a “shell game” either to hide adverse impacts or try to show beneficial ones at the whim of the project proponent.

Another major flaw of the DEIR analysis is that potential construction impacts on the resident trout population in Calaveras Reservoir and its tributaries are inadequately

assessed and mitigated. This invaluable and genetically unique trout population must be protected for its inherent value as well as for possible incorporation in a future steelhead supplementation program. The extensive activities associated with barging materials on Calaveras Reservoir are dismissed in the DEIR as mitigated by incorporating standard Best Management Practices (BMPs). The effects of building docks, running large barges, loading and unloading vast quantities of cut and fill materials, and other related actions are well beyond the scope of standard construction practices that runoff management BMPs are designed to mitigate. The section of the report addressing construction impacts on the reservoir and upstream trout populations should be revisited.

The DEIR fails to discuss the potential for listed steelhead trout to migrate into the project area during construction of the dam, due to the proposed schedule for downstream fish passage projects. The EIR should analyze the potential impacts of operating Calaveras Dam during the four years of construction without bypass flows from the dam. Appropriate mitigation would be an interim operation plan for providing sufficient water downstream of SFPUC dams, if needed during the construction period to keep fish downstream in good condition.

The EIR requires a more thorough analysis of the cumulative impacts of the proposed Upper Alameda Creek Filter Gallery Project, a reasonably foreseeable future project that is intimately related to the CDRP and should be considered a “related project” under CEQA. This project will recapture bypass and release flows purported to benefit anadromous steelhead, reducing the benefits of promised mitigations in the CDRP, and has the potential to impact stream flow, fish passage, and habitat quality downstream.

In summary, the CDRP represents an opportunity to progress on several of the last remaining obstacles to steelhead restoration in the Alameda Creek watershed. Most importantly, the project and its associated EIR should propose and evaluate flow regimes that reflect natural seasonal streamflow patterns and account for all life stages of the ocean-run form of the primary target species for restoration – steelhead trout - in all portions of the watershed affected by SFPUC operations. Consistency with the SFPUC’s adopted watershed stewardship policy requires that flow release schedules should incorporate the input received through collaborations with other stakeholders in the watershed. As currently presented, however, the project description and the impact assessment methodology demonstrate a retrograde parochialism that is contrary to the long-standing cooperative relationships established through the Alameda Creek Fisheries Restoration Workgroup.

We sincerely hope the SFPUC chooses to reassess its approach rather than embark on a potentially long-term, adversarial process to implementing this important water supply project. To this end, the final EIR should include a revised project purpose that has steelhead restoration as a co-equal goal, should be supplemented with more thorough analysis of fisheries and hydrology impacts and attendant meaningful mitigations, and should make proposed water system operations consistent with anadromous steelhead habitat needs.

Approach to Analysis

Baseline Conditions

Under the DEIR, only relative effects of two SFPUC operating conditions are described, and habitat conditions with proposed provision of instream flows are considered almost universally to be better than baseline conditions (with only incidental flows going to the creek). Readers are not provided with the information or analytical approach to understand the absolute effects of SFPUC operations and the CDRP.

CDRP permitting and environmental review processes are appropriate avenues in which, for the first time since the inception of water supply activities in the watershed, to characterize the effects of SFPUC operations and to ensure that future operating plans are consistent with steelhead recovery. The environmental baseline should assess the impacts of Calaveras and ACDD regarding blockage of spawning and rearing habitat for steelhead, impairment of flows in Alameda Creek, and changes to downstream channel morphology and habitat. The EIR must fully quantify the project effects on streamflow, fish passage, water temperature, and fish habitat. After modification of downstream passage barriers, operations at ACDD and Calaveras Dam (*i.e.*, the project being assessed) will comprise the greatest single influence on habitat conditions and recovery. The EIR must: provide information concerning conditions prior to, or without, the project; analyze the effects of operations; and provide mitigation measures adequate to address these effects.

In particular, a logical and acceptable assessment framework would examine proposed flow regimes in a context of flows existing under unimpaired conditions. The EIR should present side-by-side the unimpaired and impaired flow conditions in reaches affected by diversions at ACDD and Calaveras Dam. Data regarding Calaveras Reservoir inflow and disposition of these flows are conspicuously lacking from the EIR and must be presented to aid in understanding the biological effects of the project.

Primary Study Area

The DEIR defines a “primary study area” and an “extended study area.” The primary study area terminates at the confluence of Alameda Creek and Arroyo de la Laguna. According to the DEIR, this is “because the proposed Calaveras Dam operations would have limited influence on flows downstream of the confluence (the extended study area). In addition, the effects of Alameda Creek flows could not be distinguished from runoff flowing out of Livermore Valley and Delta water imported by the Alameda County Water District and discharged into the Arroyo de la Laguna from the South Bay Aqueduct Vallecitos turnout.” These assumptions are unsupported in the DEIR. The primary study area should extend all the way to San Francisco Bay, since future CDRP operations have the potential to affect stream flows all the way to the Bay. Also, the quantity, proportion, temperature, water quality, and habitat value of Alameda Creek flows can easily be distinguished from Arroyo de la Laguna flows.

Regulatory Requirements

The DEIR has an incomplete discussion of regulatory requirements. Despite comments by the ACA, NMFS, and CDFG on the Programmatic EIR (PEIR) for the Water System Improvement Program, scoping comments on the CDRP, and comments on the Biological Assessment for the CDRP raising these issues, the DEIR has an incomplete discussion of compliance with state Fish and Game Code and Endangered Species Act requirements to protect native fish and wildlife.

State Fish and Game Codes

California Fish and Game Code §5937 requires that the owner of a dam allow sufficient water to pass through a fishway or dam, to keep in “good condition” any fish that may be planted or exist below the dam. The law applies to any dam regardless of when it was built.

CDFG submitted comments on the PEIR on November 22, 2005, stating that “at this time, both the Alameda Creek Diversion Dam and Calaveras Reservoir are out of compliance with Fish and Game Code 5937 which requires dam owners to release enough water to keep downstream fish populations in good condition,” and that the SFPUC “will need to assess adequate flows for anadromous steelhead trout and will need to renegotiate with DFG such that adequate flows are released to comply with Fish and Game Code 5937.” The EIR should discuss exactly how the proposed operations of the ACDD and Calaveras Dam will come into compliance with §5937.

CDFG also commented that the PEIR should “consider utilizing the SFPUC’s related water storage facilities within the Alameda Creek watershed (i.e., San Antonio Reservoir) to meet the needed minimum bypass flows in the affected reach of Alameda Creek and in particular passage flows needed through Sunol Valley.” The CDRP does not include consideration of any minimum flows from San Antonio Reservoir.

Under the CDRP, the SFPUC proposes to operate the ACDD in a manner that appears to violate §5937, diverting almost the entirety of late fall through spring flows from upper Alameda Creek. The EIR should discuss how this operation is compatible with keeping fish populations downstream of the diversion dam in good condition. The SFPUC also has not demonstrated that the proposed operation of Calaveras and San Antonio Reservoirs under the WSIP will keep fish populations downstream of these dams in good condition. The SFPUC must show that the minimum flows proposed for Calaveras Reservoir will maintain healthy fish and wildlife populations downstream.

The proposed operation of the ACDD without fish passage also violates California Fish and Game Code §5901, which makes it illegal to maintain any device which prevents or impedes the passing of fish up and down stream. The ACDD blocks the upstream and downstream movements of both resident and transient fishes, including resident rainbow trout. Once fish passage projects in lower Alameda Creek are completed, the ACDD could block upstream and downstream migration of steelhead trout. Operation of the

ACDD will not only affect fish migration past ACDD, but also potential fish passage through Little Yosemite, by diverting the majority of the annual flow of upper Alameda Creek. As acknowledged in SFPUC studies for the CDRP (EDAW and Hagar 2008), reducing the frequency of high flow periods downstream of ACDD will reduce fish passage opportunities through Little Yosemite. The proposed operation of Calaveras Dam without fish passage provisions also violates California Fish and Game Code §5901.

Endangered Species Act

The federal Endangered Species Act (ESA) prohibits unauthorized take of listed species. The DEIR does not ensure that the CDRP will be in compliance with the ESA, specifically with regards to adequate stream flows for steelhead trout in Alameda Creek. In a NMFS letter of June 23, 2009 to the SPUC regarding the CDRP, the federal agency noted that “Our preliminary review of the project and its future operation suggests the project will adversely affect CCC steelhead and their habitat in the Alameda Creek watershed.” The Biological Assessment for the CDRP prepared by the SFPUC and submitted to the Corps in September 2009 concluded that the CDRP could result in adverse construction-related effects to CCC steelhead trout and that operations have the potential to adversely affect CCC steelhead trout.²

NMFS issued protective rules under section 4(d) of the ESA governing take for listed Central California Coast steelhead trout in 2000 (65 FR 42422; July 10, 2000), which were amended in 2005 (70 FR 37160; June 28, 2005). The 4(d) rules identify those activities that would constitute a violation of Section 9 of the ESA, such as: maintaining barriers that eliminate or impede a listed species’ access to habitat or ability to migrate; removing water or otherwise altering streamflow when it significantly impairs spawning, migration, feeding or other essential behavioral patterns; or constructing or operating dams or water diversion structures with inadequate fish screens or fish passage facilities in a listed species’ habitat. Many of the operations and activities contemplated under the CDRP could result in unauthorized take of listed CCC steelhead.

The CDRP will directly impact 12.2 acres of designated critical habitat for the Alameda whipsnake and proposed critical habitat for the California red-legged frog. The red-legged frog critical habitat will be finalized (under court order) before the CDRP begins. Critical habitat is areas identified as essential for the survival and recovery of listed species. Destruction or adverse modification of critical habitat cannot be authorized by federal agencies, and direct impacts to critical habitat should be avoided as part of the CDRP.

The EIR should also discuss published recovery plans for listed species potentially affected by the CDRP and ensure that proposed CDRP operations are consistent with these recovery plans.

² EDAW and Turnstone Consulting, 2009. Biological Assessment/Essential Fish Habitat Assessment for Calaveras Dam Replacement Project. September 30, 2009.

The SFPUC completed a fish passage report for the EIR (EDAW and Hagar 2008)³ that analyzes the potential habitat benefits to steelhead by providing fish passage at the ACDD and Calaveras Dam. The conclusions reached from this analysis do not remove the obligation of the CDRP and SFPUC operations to comply with §5901 and the Endangered Species Act.

The SFPUC has prepared Biological Assessments for the U.S Army Corps of Engineers that will form the basis of formal consultation under the ESA with NMFS for listed steelhead trout and the U.S. Fish and Wildlife Service (USFWS) for listed terrestrial species. The final EIR should incorporate the requirements and conditions of the Biological Opinions issued by USFWS and NMFS on the project so that the document reflects exactly what protection the agencies agree is necessary and gives the public an opportunity to determine if the federal regulatory agencies have properly carried out their responsibilities under the ESA.

California Endangered Species Act

Under state law, the CDRP must fully mitigate for impacts to species listed under the California Endangered Species Act (CESA). CESA listed species potentially impacted by the CDRP include the Alameda whipsnake (threatened), bald eagle (endangered), and peregrine falcon (endangered). In addition, the California tiger salamander was made a state candidate species under CESA in 2009, giving it the legal protections of a CESA protected species. No “take” is allowed under CESA for those species designated as “fully protected.” Fully protected species potentially impacted by the CDRP include the bald eagle, golden eagle, white-tailed kite, and peregrine falcon. The DEIR acknowledges that the project has the potential to cause “take” through harassment of bald eagles.

Compliance with SFPUC Policies

The SFPUC Water Enterprise Environmental Stewardship Policy, adopted by the SFPUC in 2006, reads in part:

The SFPUC will proactively manage the watersheds under its responsibility in a manner that maintains the integrity of the natural resources, restores habitats for native species, and enhances ecosystem function... To the maximum extent practicable, the SFPUC will ensure that all operations of the SFPUC water system (including water diversion, storage and transport), construction and maintenance of infrastructure, land management policies and practices, purchase and sale of watershed lands, and lease agreements for watershed lands protect and restore native species and the ecosystems that support them... It is the policy of the SFPUC to operate the SFPUC water system in a manner that protects and restores native fish and wildlife downstream of SFPUC dams and water diversions, within SFPUC reservoirs, and on SFPUC watershed lands.

³ EDAW and Hagar. 2008. Calaveras Dam Replacement Project Fisheries Technical Report. Prepared for EDAW Turnstone Joint Venture and SFPUC by Hagar Environmental Science.

Releases from SFPUC reservoirs will (consistent with the SFPUC mission described above, existing agreements, and applicable state and federal laws), mimic the variation of the seasonal hydrology (e.g., magnitude, timing, duration, and frequency) of their corresponding watersheds in order to sustain the aquatic and riparian ecosystems upon which these native fish and wildlife species depend.

The implementation strategy in the policy includes the following: “Ensure that the policy guides development of project descriptions, alternatives and mitigation for all SFPUC projects during the environmental review process under CEQA and/or NEPA.”

As discussed throughout this document, the DEIR for the CDRP suggests water system operations that do not protect and restore native species and the ecosystems that support them to the maximum extent practicable, and releases from the reservoirs may not be consistent with applicable state and federal laws.

Operations Description

For the purposes of the EIR, the CDRP’s most important element is its capacity to divert the majority of upper Alameda Creek flows, and an adequate assessment of the project’s effects must evaluate these operations in detail, with particular respect to how the project would alter the timing and quantity of instream flows. The DEIR is incomplete on this issue, particularly concerning Calaveras Dam operations and the resulting changes to stream flows.

To characterize effects of the CDRP, the EIR must compare timing and quantity of Calaveras inflow with the timing and quantity of reservoir releases to Calaveras Creek. Also, the overall effect of the project would be clarified by comparing the total average inflow by water year type during the entire period of record with total average Calaveras Creek releases. Our review of the information presented in the DEIR suggests that the proposed instream flow “releases” would comprise at most, approximately 9,600 AF/annum (AFA) in a normal year, for an average impairment of a minimum of about 77 percent of local flows (42,000 AFA), without development of the proposed recapture facility. This CDRP effect must be stated and addressed.

The process of developing appropriate conservation measures and analyzing their benefits also must be informed by an understanding of system impairment at biologically meaningful time scales (e.g., daily, hourly, and in relation to storm events). The CDRP permitting process should provide the basis from which to revise the “maximize conservation of runoff on a long-term basis” operational objective for consistency with the steelhead ESA listing status.

Proposed Flows Assessment Criteria

The DEIR states that the proposed flow schedules were developed to provide habitat functions necessary to meet the primary constituent elements (PCEs) for Central

California Coast steelhead as defined by NMFS (70 FR 52488) and that consideration was given to mimicking the variability of unimpaired flows downstream of SFPUC facilities. However, the proposed flow schedules do not account for several of the PCEs, nor are they consistent with mimicking the natural hydrograph.

In particular, the proposed flow schedules neglect to address: a) adequate stream flows for adult attraction and upstream passage following storms; b) periodic high flow events that maintain channel form, geometry, and other geomorphic functions; or c) adequate stream flows during and following storms for smolt out-migration. The DEIR provides virtually no analysis of the effects of the proposed flow schedules in regard to meeting these particular PCEs. The effects of the CDRP on in-migration and out-migration conditions in the Sunol Valley and downstream should be presented for without-project (*i.e.*, unimpaired) and with-project conditions, and effects determined from this basis.

The proposed flow schedules do not appear to address, nor does the DEIR evaluate, the accepted definition of natural hydrograph mimicry, which consists of variability on hydrologically important time scales (*e.g.*, daily, hourly, and in relation to storm events) that would be reflected in such management approaches as pulse flows for channel shaping or flushing, or migration flows.

The flow schedules should: mimic natural runoff conditions; provide bypass flows which represent an acceptable level of flow impairment for ecological integrity; adequately meet the PCEs for Central California Coast steelhead; and ensure restored stream habitat function to the greatest degree possible. The flow schedule should include periodic high flow events for channel formation and salmonid habitat development processes. There should trigger points that allow the water year type determination to be changed and the flows to be adjusted upwards if there is increased late precipitation in any given year.

The EIR should present hydrographs of Alameda Creek and Calaveras Creek and depict the percent impairment under the CDRP project. The effects of the proposed flow schedule on other anadromous fish expected to be present in the project area, such as chinook salmon and Pacific lamprey, should be discussed in the EIR. We note that the flow targets in the EIR do not represent flows that are required to be released by the SFPUC from Calaveras Reservoir or bypassed at the ACDD, but rather represent stream flows which may be met by natural runoff. It appears that in wet and normal year types, the instream flows for much of the year (excluding summer and fall) may already be met by natural runoff conditions and under the proposed flow targets the SFPUC would release or bypass very little water.

The DEIR calculates flow effects in Alameda Creek only using flow data from water years since 2000, even though over 100 years of stream flow records are available. The DEIR model uses monthly average stream flows rather than daily stream flows, a method which is not adequate for evaluating fishery impacts of flows.

Water Rights Issues

As noted by the State Water Resources Control Board in a scoping comment letter to the SFPUC on the PEIR for the Water System Improvement Program dated October 3, 2005, “an appropriative water right issued by the State Water Board is also required for any increased diversion from Alameda Creek.” The CDRP proposes increased diversions from Alameda Creek. As noted by the SWRCB, “the DEIR should include sufficient information for the State Water Board to use the document for water right permitting purposes. Therefore, the document should evaluate the availability of unappropriated water after taking into consideration prior rights and the water required to maintain public trust resources. Division staff recommends that any evaluation utilize a cumulative flow impairment methodology, such as the assessment method described in the *Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams (Draft)* prepared by NOAA Fisheries Service and the Department of Fish and Game and dated June 17, 2002.”

The impact evaluation in the DEIR does not employ a cumulative flow impairment methodology and falls short of answering the question of whether there is sufficient water available to maintain public trust resources. The EIR should mention that in 2001 the SWRCB estimated that the entire Alameda Creek watershed is 72% “impaired,” impairment representing the ratio of water appropriation under existing water rights to estimated stream flow, and that in 2002 the state Department of Water Resources concluded that the Alameda Creek watershed is “fully appropriated” and no further water diversions will be considered.

Fisheries and Hydrology Issues

1997 MOU Flows and Steelhead Flows

The proposed base stream flows (in cubic feet per second, cfs) in the DEIR, starting in winter of 2015 are:

Jan 15-Mar 15	20 cfs
April 5-Oct 31	7 cfs
Nov 1-Jan 14	5 cfs

These are the flow schedules that the SFPUC committed to in the 1997 MOU but has not yet implemented.

The SFPUC will release 2 cfs from Calaveras Dam year-round. An additional 10 cfs will be bypassed past the Alameda Diversion Dam from December 1 to April 30 when sufficient stream flow is generated by precipitation events. These flows would be bypassed by the ACDD when possible to provide water in a greater stream reach – and from Calaveras Reservoir in the summer and fall to provide cold water.

It is important to keep in mind that except for the potential 10 cfs Dec1 – April 30 and the guaranteed 2 cfs from Calaveras year-round, the base flows are not flow releases or

bypasses, they are flows required to be in the creek at the junction of Alameda and Calaveras creeks. They are instream flows that may be met by natural runoff most of the year in most water year types. The SFPUC would have to actually release very minimal amounts of water below the dams in the summer of most years and a small amount in the winter and spring during dry years. Natural runoff will provide most of the base winter and spring flows in Alameda Creek in normal and wet years, but in these years the SFPUC would not be required to contribute meaningful flows from the largest sub-watershed, Calaveras Creek, which they completely impound.

The proposed stream flows when steelhead return to the upper watershed are:

Dry years

Nov–Jan 11	5 cfs
Jan 12–Mar 31	20 cfs
April–Oct	7 cfs

Normal years

Nov–Jan 11	5cfs
Jan 12–Mar 31	20cfs
April–Sept 30	15 cfs
Oct	7 cfs

Wet years

Nov–Jan 11	5cfs
Jan 12–Mar 31	42cfs
April	32-18 cfs
May 1–Sept 30	15 cfs
Oct	7 cfs

The 2 cfs will be released from Calaveras Dam year-round and potentially 10 additional cfs will be bypassed at the ACDD from December 1 to April 30, when available.

In dry years the steelhead flows would be the same as the trout flows. In normal water years the steelhead flows would be essentially the same as the trout flows plus 8 cfs from April to September. In wet years the steelhead flows would be essentially the same as the trout flows plus 22 cfs mid-January through March, ramped down to an additional 8 cfs from April to September. Since the flows under 1997 MOU are not a mitigation, but should be considered as a baseline condition, the dedicated mitigation in the CDRP for steelhead trout is the “steelhead” flows minus the currently required 1997 MOU flows: no flow releases in dry years; 8 cfs from April to September in normal years; and 22 cfs mid-January through March, ramped down to 8 cfs from April to September in wet years.

The proposed steelhead flows are based on the 1997 MOU, an agreement designed to create a tail-water resident rainbow trout fishery in a limited stream reach below the dam, not for migratory steelhead. The DEIR acknowledges that the identified ranges of flows are intended to provide habitat for resident rainbow trout spawning, not for steelhead migration (EJTV 2008). The proposed flow schedules neglect to address: a) adequate

stream flows for adult steelhead attraction and upstream passage following storms; b) periodic high flow events that maintain channel form, geometry, and other geomorphic functions; or c) adequate stream flows during and following storms for smolt outmigration in Alameda Creek. The flows do not provide for adequate steelhead migration, with only 7-15 cfs flow proposed for large portions of presumed steelhead smolt outmigration periods (April-May), flow that also may be entirely recaptured downstream at the recapture facility, frustrating smolt outmigration. Proposed flows during adult steelhead in-migration periods are only 20-42 cfs at the confluence with Calaveras Creek. The flows do not address potential chinook salmon migration or spawning. The flows do not mimic the natural hydrograph of the stream.

The proposed resident rainbow trout monitoring mitigation measure provides that the SFPUC will monitor the effects of operation of the CDRP on resident trout in Alameda Creek downstream of the ACDD. If monitoring demonstrates that the MOU flow bypasses are not adequate to sustain the resident trout fishery downstream of the ACDD, the SFPUC will implement a proposed adaptive management mitigation measure that could either modify the flow release schedule, implement seasonal restrictions on Alameda Creek diversions during the spawning period, or install a fish screen at the diversion tunnel. These mitigation measures defer mitigation for up to 10 years, while continuing potential impacts, and do not specify how the flow release schedule would be modified, or what criteria would be used to determine that “flow bypasses are not adequate to sustain the resident trout fishery downstream of the ACDD.”

The DEIR provides no analysis of how much flow will actually be released from Calaveras Reservoir or bypassed past ACDD in a typical wet, normal or dry year. The EIR should provide analysis of how much of the compliance flow will be met by natural runoff in typical wet, dry, and normal years and calculate the SFPUC release obligations (and characterize them as a percentage of the available SFPUC water supply in the watershed), so the public can understand both the mitigation that is being provided and the potential impacts on water supply.

CDFG stated in their November 22, 2005 scoping comments on the PEIR for the Water System Improvement Program that the SFPUC must:

“provide flow releases to the stream channel below Calaveras Reservoir dam to encourage riparian vegetation growth, invertebrate productivity, adequate dissolved oxygen, low water temperatures, and provide some rearing habitat for juvenile steelhead trout and spawning adult steelhead trout. The SFPUC, under the aforementioned 1997 MOU with DFG, agreed to specific flow releases to provide habitat for resident rainbow trout and other native fish species downstream of Calaveras Reservoir based on the knowledge of fish migration barriers being present in the lower downstream reaches of Alameda Creek. At this time, however, there is active fish passage remediation at these barriers. The SFPUC will need to assess adequate flows for anadromous steelhead trout and will need to

renegotiate with DFG such that adequate flows are released to comply with Fish and Game Code 5937.”

ACDD Operation and Fish Passage

The CDRP proposes to operate the ACDD to divert almost all of the late fall, winter and spring stream flows from upper Alameda Creek. Aside from the questionable legality of this plan, the DEIR acknowledges that this would nearly eliminate low and moderate (1 to 650 cfs) flows in Alameda Creek downstream of the diversion dam that currently occur when the diversion gates are closed, and substantially reduce many higher (greater than 650 cfs) flows. The DEIR categorizes this as a significant and unavoidable impact. We concur that the impact would be significant but the impact is clearly avoidable if the SFPUC removes the diversion dam or operates it in a lawful manner that protects fish and wildlife downstream of the dam.

The proposed operation of the diversion dam would be to divert all but 1 cfs of flow when the gates are open up to a flow of 650 cfs. Diverting the entire stream flow (except 1 cfs) and cutting the frequency of peak flows during December through May will clearly affect downstream fish passage, fish rearing, amphibian populations, and stream temperatures. The SFPUC has bypassed most flows past the diversion dam since 2002, and trout and aquatic resources below the diversion dam are dependent upon these natural stream flows.

The DEIR acknowledges that the CDRP would continue to exclude steelhead from Alameda Creek upstream from ACDD, but does not list corresponding conservation measures. The assessment similarly acknowledges operational effects (substantially reduced or no flow conditions downstream) on Alameda Creek between the Calaveras Creek confluence and ACDD but fails to provide conservation measures.

The DEIR acknowledges that the proposed operation of the ACDD would result in significant change in hydrologic conditions in Alameda Creek downstream of the diversion dam when compared to existing conditions. “Diversion of most or all flows during the late winter and spring months could adversely affect the ability of resident rainbow trout to spawn and for eggs to successfully incubate in this reach.”

The DEIR acknowledges that the proposed operation would increase diversion and reduce winter stream flow up to 18% in the Alameda Creek flood control channel and up to 45% in the Sunol quarry reach and upstream during wet and normal years. These flow reductions will have potentially significant effects on fish passage and spawning for steelhead.

The DEIR proposes the following mitigations for operation of the Alameda Creek Diversion Dam:

“The SFPUC will establish and implement written operational criteria for the Alameda Creek Diversion Dam that directs that the diversion dam and

tunnel shall be operated to pass flows down Alameda Creek when diversion of those flows is not required to maintain desired levels in Calaveras Reservoir in order to provide the maximum possible days of winter and spring flows in Alameda Creek below the diversion dam. This measure reinforces the way the SFPUC generally operates the diversion tunnel now: that diversion gates are closed in the spring once desired Calaveras Reservoir storage have been reached. However, at times additional flows have been diverted from Alameda Creek after reservoir storage levels have been achieved such that the “excess” water has subsequently been released from the reservoir to maintain the appropriate water level. This measure would formalize Alameda Creek diversion procedures to maintain flows in Alameda Creek to the extent they are not needed to achieve required reservoir storage. This measure would reduce the flow reduction impact but not to a level that is less than significant.”

This is a ridiculous mitigation measure, essentially promising to not divert the remainder of stream flows that are not diverted. Bypassing stream flows based solely on whether or not they are needed for water supply, without regard for the instream flow needs of downstream fish and wildlife is not an adequate mitigation measure.

The proposed mitigation measures also include the potential for diversion restrictions or fish screens:

“If, after 10 years of monitoring results for Measure 5.4.5-3a, Minimum Flows for Resident Trout in Alameda Creek, indicate that the measure does not sustain the resident trout population in Alameda Creek below the diversion dam, then the SFPUC shall also implement additional measures as follows: either implement seasonal restrictions on Alameda Creek diversions to Calaveras Reservoir to protect the downstream resident trout fishery during the critical spawning period (December 1 through April 30) or install and operate a fish passage barrier to “screen” the diversion facility (screening could consist of a behavioral barrier, such as electrical or sound barrier that deters fish, or a physical barrier – such as a screen facility).”

This mitigation measure is also inadequate, since it promises to continue to illegally divert Alameda Creek stream flow for another decade, without necessarily bypassing flows sufficient to keep fish and wildlife downstream in good condition during that decade. Similarly, if the diversion tunnel is currently injuring or harming fish, it legally needs to be screened now, not in 10 years. The DEIR acknowledges that Fish and Game Code Section 5980 contains requirements for an intake screen or other suitable method for avoiding and minimizing fish entrainment at the ACDD. The DEIR also acknowledges that the ACDD could block migration to any migrating steelhead that travel upstream of the Little Yosemite area. This would be a significant impact that is not mitigated in the CDRP. If and when steelhead trout migrate upstream to the Little

Yosemite and the diversion dam, the SFPUC has an obligation to ensure adequate stream flow, and a fish ladder or dam removal for fish passage at that time.

California Fish and Game Code §5901 requires fish passage at ACDD if it prevents or impedes the passing of fish up and down stream. Fish passage at the ACDD will be required by the Endangered Species Act if the ACDD blocks migration of listed CCC steelhead. *Oncorhynchus mykiss* upstream from ACDD should be provided passage downstream to the extent feasible, and the CDRP should include design elements to prevent entrainment of fish into the diversion tunnel and to allow for migration via bypass flows. The ACDD is required to be screened to NMFS and CDFG screening criteria. The EIR should note that *O. mykiss* in this reach presently cannot migrate downstream (except possibly under extreme high flows) and propose conservation measures to address this operational effect. The EIR should fully discuss the impacts of proposed ACDD operations on fish passage at Little Yosemite and other locations downstream of the ACDD.

The ACA scoping comments of November 8, 2005 proposed options for providing fish passage at the ACDD, including complete removal of the dam, building a fish ladder at the dam, installing a fish screen at the diversion, and providing bypass flows for fish migration. The EIR should evaluate the potential implications of removal of the ACDD.

The NMFS comment letter of April 4, 2008 on the CDRP stated that “Additional project features that should be considered include alternatives that include a fish ladder for adult steelhead to access areas upstream of Calaveras Dam and areas upstream of the Alameda Creek Diversion Dam. These structural features of the project should be evaluated prior to the Corps’ issuance of a permit to ensure the CDRP does not limit or preclude future actions to restore steelhead in Alameda Creek.”

Migration Flows

The DEIR demonstrates confusion regarding adequate flows for steelhead in-migration and out-migration. It must be recognized generally in the EIR and in SFPUC flow schedule development that minimum passage flows over critical riffles do not equate to “suitable migration conditions.” Alameda Creek spawning steelhead are known to move on flows in the vicinity of 400 cfs (FarWest 2005) and out-migrants typically move on spring freshets. It is inappropriate to measure the adequacy of overall migration conditions based on criteria developed for passing individual riffles (or, more accurately, culverts).

The DEIR claims less than significant or no impact on fisheries and hydrology based on unsubstantiated claims such as “proposed CDRP flows would constitute an improvement over existing conditions.” The DEIR also uses specious metrics, such as “annual average flow” to ascribe beneficial impacts. For example, “the net result of these changes would be a slight increase in the average annual amount of water flowing in Alameda Creek and no appreciable change in the average annual flow in Calaveras Creek.” Despite the fact that the claim of increased annual flow is likely false, annual flow change is not an

acceptable metric for measuring impacts to hydrology and fisheries. The CDRPP will have significant negative impacts on winter and spring flows, critical periods for fish migration.

Fisheries Protections Plans Requested by CDFG

The EIR should include the fisheries protections plans requested by CDFG in their comments on the PEIR for the water System Improvement Program. CDFG requested a plan to preserve the existing reservoir population of steelhead trout during interim operations (preconstruction) and post construction operations of Calaveras Dam; a plan to screen (per DFG screening criteria) the new reservoir intake tower/adit(s) at Calaveras Reservoir and at the intake of the diversion at the Alameda Creek Diversion Dam so as to be in compliance with Fish and Game Code Section 6100; a plan to provide fish passage at the new Calaveras Dam and ACDD so as to be in compliance with Fish and Game Code Section 5901; and consideration of minimum flows from San Antonio Reservoir.

Recapture Facility

The DEIR cites a future flows recapture facility downstream from the Sunol Valley Water Treatment Plant, whose construction is not dependent on the CDRP. Nevertheless, proposed instream flows being analyzed through CDRP permitting are proposed to be re-diverted through this project. We suggest that it is impossible to assess CDRP effects without considering recapture facility operations.

According to the DEIR, the 1997 flows MOU was not implemented pending implementation of the project to recapture these releases further downstream, implying implementation of proposed flow schedules continues to be tied to recapture facility development. At a minimum, SFPUC policy and EIR analysis must decouple the start of releases with recapture facility development to allow for a reasonable understanding of CDRP effects and mitigation.

Although recapture of summer rearing flows released from Calaveras may be achievable in a manner consistent with steelhead recovery, by definition, a recapture facility that “recaptured” natural flow or recaptured spring and winter releases for steelhead in- and out-migration flows would undermine potential benefits of these flows to anadromous species, and have a potentially significant impact on steelhead. The recapture project would create additional impacts to passage and downstream habitat that must be addressed in the EIR.

Greenhouse Gas Issues

According to the DEIR, construction of the CDRP could produce up to an estimated 24,012 metric tons of CO₂ equivalent greenhouse gasses during the 4-year construction period (or approximately 6,003 metric tons per year, or 21 metric tons per day). The DEIR concludes that since these emissions are minimal relative to state-wide emissions the proposed project would not conflict with state greenhouse gas reduction goals or

result in substantial contribution to global climate change. The DEIR asserts that there is no methodology or threshold that can be applied to the significance of an individual project regarding greenhouse gas emissions. However, the DEIR's greenhouse gas analysis is based on the flawed assumption that seemingly small contributions of greenhouse gases do not have a cumulative impact on global warming.

The DEIR incorrectly reasons that because the CDRP's construction and operational emissions represent a small percentage of California's total emissions, its cumulative impact is less than significant. Under CEQA, "[t]he determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible *on scientific and factual data.*" CEQA Guidelines § 15064(b) (emphasis added). Accordingly, a significance threshold for greenhouse gases must reflect the grave threats posed by the cumulative impact of additional new sources of emissions into an environment where deep reductions from existing emission levels are necessary to avert the worst consequences of global warming. See *Communities for Better Env't v. California Resources Agency*, 103 Cal. App. 4th 98, 120 (2002) ("the greater the existing environmental problems are, the lower the threshold for treating a project's contribution to cumulative impacts as significant."); see also *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508, 550 (9th Cir. 2007) ("we cannot afford to ignore even modest contributions to global warming."). The more new emissions are added to the atmosphere, the more difficult it will be to attain the emission reduction targets required to minimize the risk of dangerous climate change. Given the deep emission cuts necessary to stabilize the climate, a net zero threshold is the most scientifically supportable threshold for greenhouse gas emissions.

Based on the severe impacts already observed as well as future impacts and risks posed by additional warming to which we are committed due to inertia in the climate system, climatologists are increasingly concluded that current climate conditions already constitute "dangerous" climate change and that greenhouse gas emissions ultimately must be drawn down to net negative levels through the rapid phase-out of coal and improved forest and agricultural management.⁴ Atmospheric concentrations of CO₂ have risen from a pre-industrial concentration of 280 ppm to 383 ppm in 2007.⁵ Annual mean global temperature has increased by 0.76°C relative to pre-industrial times and is increasing at a rate of 0.17°C/decade.⁶ Impacts from this anthropogenic interference with the climate has already resulted in tens of thousands of climate-related deaths, species extinction, ocean acidification and loss of coral reefs, and the significant retreat of glaciers and sea ice. In addition to the impacts already observed, additional warming "in the pipeline" due to

⁴ James Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* 2 OPEN ATMOSPHERIC SCIENCE J. 217, 226-27 (2008); see also Matthews H.D. & Caldeira, K., *Stabilizing the Climate Requires Near-Zero Emissions*, 35 GEOPHYSICAL RESEARCH LETTERS L04705 (2008) ("future anthropogenic emissions would need to be eliminated in order to stabilize global-mean temperature.").

⁵ Global Carbon Project, *Carbon Budget and Trends 2007* (2008), available at: <http://www.globalcarbonproject.org/carbontrends/index.htm>.

⁶ Kevin E. Trenberth et al., *2007: Observations: Surface and Atmospheric Climate Change in CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS, CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE* 252 (Susan Solomon et al. eds., Cambridge Univ. Press 2007).

inertia in the climate system and their feedback loops will result in further increases in temperature posing significant risks of severe and irreversible impacts.⁷ The climate is locked into anywhere from 0.3 to 0.7°C additional warming relative to late 20th century levels due to the eventual impacts of past historical emissions.⁸ On account of additional warming to which we are committed, Ramanathan and Feng (2008) found that there is a “high probability that the [dangerous anthropogenic interference] threshold is already in our rearview mirror.”⁹ Similarly, on the basis of paleoclimate evidence and ongoing climate change, James Hansen and other leading climate scientists concluded the present CO₂ levels of 385 ppm are “already in the dangerous zone” and that “[i]f humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm, but likely less than that.”¹⁰ In looking at dangerous climate change through the lens of risk tolerance, Harvey concluded that, at a 10% risk tolerance, atmospheric CO₂ concentrations close to present levels “violates the UNFCCC” for a range of assumptions of climate sensitivity.¹¹ Accordingly, as the climate change to which we are committed is already dangerous, there is little scientific basis to conclude that any new source of emissions is innocuous.

Based on the abundant scientific evidence that *any* increase in greenhouse gas emissions has a cumulatively significant impact on the environment, there is a “fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect.” *Protect the Historic Amador Waterways v. Amador Water Agency*, 116 Cal. App. 4th 1099, 1109 (2004). Accordingly, the EIR should properly recognize that the CDRP greenhouse gas impacts are cumulatively significant and adopt all feasible mitigation and alternatives to reduce project emissions.

The DEIR mentions San Francisco’s Climate Action Plan and the City’s greenhouse gas reduction goal of 20% by 2012. The SFPUC, as a San Francisco City agency, should be leading the way in greenhouse gas reduction measures and mitigation for greenhouse gas impacts for each and every one of the SFPUC’s projects.

The DEIR states that “no state, local, or regional air quality agency has adopted a methodology or quantitative threshold that can be applied to a specific development or construction project to evaluate the significance of an individual project’s contribution,” but then goes on to discuss current development of just those quantitative thresholds. The DEIR discusses BAAQMD efforts to define quantitative CEQA thresholds of

⁷ V. Ramanathan & Y. Feng, *On Avoiding Dangerous Anthropogenic Interference With the Climate System: Formidable Challenges Ahead*, 105 PNAS 14245, 14249 (Sept. 23, 2008); James Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* 2 OPEN ATMOSPHERIC SCIENCE J. 217, 226 (2008).

⁸ Michael E. Mann, *Defining Dangerous Anthropogenic Interference*, 106 PNAS 4065, 4066 (Mar. 17, 2009).

⁹ V. Ramanathan & Y. Feng, *On Avoiding Dangerous Anthropogenic Interference With the Climate System: Formidable Challenges Ahead*, 105 PNAS 14245, 14249 (Sept. 23, 2008)

¹⁰ James Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* 2 OPEN ATMOSPHERIC SCIENCE J. 217, 217-18 (2008).

¹¹ Danny Harvey, *Dangerous Anthropogenic Interference, Dangerous Climatic Change, and Harmful Climatic Change: Non-Trivial Distinctions With Significant Policy Implications*, 82 CLIMATE CHANGE 1, 20 (2007).

significance for construction-related air quality impacts, and consideration of two significance thresholds: one based on total construction-related CO₂ equivalent emissions over the duration of project construction exceeding 35,250 metric tons; and a second based on daily construction emissions exceeding 10 metric tons. However, in April 2009 the BAAQMD also discussed a recommended greenhouse gas threshold of 3,750 metric tons of CO₂ equivalent construction-related emissions annually. The DEIR acknowledges that greenhouse gas emissions under the CDRP would likely exceed the proposed daily threshold of significance of 10 metric tons per day, characterized as potentially significant and unavoidable impacts on climate change in accordance with the proposed Option 2 BAAQMD threshold of significance. The CDRP would likely exceed the recommended annual threshold as well.

The DEIR contains token greenhouse gas reduction measures such as maintaining tire inflation pressure on construction vehicles and a worker education program and erroneously concludes that “No other feasible mitigation exists that would reduce construction-related emissions of GHG to below the BAAQMD draft daily threshold of significance.” The DEIR should include full mitigation for all the CO₂ equivalent greenhouse gasses produced during the construction period and project operation to reduce the level of impact to less than significant, such as through purchase of offsets for 100% of the emissions from a fund or project certified by the California Climate Action Registry.

Inadequacy of Mitigation Measures

Construction Impacts

The DEIR acknowledges significant direct impacts from construction on 343 acres of habitat, much of it habitat for numerous listed species, such as the Callippe silverspot butterfly, California tiger salamander, California red-legged frog, and Alameda whipsnake. Mitigation for these direct biological impacts of the CDRP is through four proposed “compensation” sites, which are located on protected, public SFPUC land. This mitigation is highly inappropriate. There is a fundamental problem with proposing mitigation for impacts with enhancements on public land that is already owned by the SFPUC. These lands are under no threat of development, are already owned by the public, and presumably are being managed in accordance with the SFPUC’s Environmental Stewardship Policy as protected watershed lands. If they are not being managed in this manner, using these lands as mitigation banks rewards the SFPUC for bad management policies and contributes no net benefit to special-status species. Management of SFPUC properties in accordance with the Environmental Stewardship Policy should not be considered mitigation for project impacts.

Presumably the SFPUC mitigation lands are disturbed areas that could benefit from habitat restoration, invasive plant removal, management changes, and/or species reintroduction. These projects should be done under the auspices of the SFPUC Watershed and Environmental Improvement Program (WEIP), approved in 2006 and with committed funding of \$50 million over 10 years. The stated purpose of the WEIP is

for the SFPUC to more proactively manage, protect and restore environmental resources critical to or affected by SFPUC operations, such as the land in the proposed “reserves.” These projects to improve management should be done under the WEIP, which was set up to do just this, and not used as mitigation for construction impacts of SFPUC projects.

The DEIR does not specify compensation ratios for the direct impacts of loss of habitat for special-status species from dam construction, but rather defers quantification of mitigation to a nebulous decision-making process based on undefined success criteria. The compensation ratios for destruction of endangered and threatened species habitat should be clearly spelled out in the EIR.

To provide meaningful mitigation, compensation should consist of protecting privately owned lands under threat of development with habitat value for special status-species, at a minimum of a 1:1 ratio. If already protected areas are used as mitigation banks for SFPUC project impacts, the mitigation ratios should be much, much higher than 1:1 to provide real conservation and ecosystem benefits. These lands are mitigating for permanent loss of areas known to harbor special-status species. If degraded public lands are enhanced as compensation for permanent impacts from the SVWTP project, the mitigation ratio should be 5:1 or 6:1. In this case the EIR would also need to describe how the SFPUC would ensure mitigation lands will be managed for special-status species habitat and ecosystem values in perpetuity and describe the dedicated funding and monitoring program and who will be responsible for ensuring this outcome.

Deferred Avoidance and Minimization Measures

The DEIR reflects an apparent SFPUC policy of deferring conservation measures until such a time as NFMS notifies the SFPUC of the presence of steelhead in the upper watershed. However, recovering Alameda Creek steelhead depends on implementing such measures, and the SFPUC has a responsibility to account for steelhead restoration in conjunction with its ongoing water supply operations. The DEIR uses circular logic in proposing flows purported to support steelhead will be provided only if steelhead occur in the absence of such flows. As provisions are in place to allow spawning steelhead to move into areas affected by SFPUC operations associated with ACDD and Calaveras Dam, and life history forms of the species currently occur in Alameda Creek and tributaries downstream from these facilities, conservation measures should be implemented concurrently with the CDRP.

Relationship to Habitat Conservation Plan

The DEIR notes that the SFPUC will develop a Habitat Conservation Plan (HCP) that will be the primary plan for coordinating operations and steelhead restoration in the watershed. Since ACDD and Calaveras Dam operations constitute the single most important factor affecting the species in the watershed, planning cannot be forestalled until development of an HCP.¹² The mitigation measures and habitat benefits in this

¹² The HCP may be an appropriate venue for addressing Alameda Creek watershed impacts of SFPUC activities including grazing, gravel mining, and agricultural leases, although the ACA urges the SFPUC to

proposed HCP are completely speculative and cannot be relied upon to reduce significant impacts. The SFPUC began this HCP in 2004 (and abandoned the effort in 2005, reviving it in 2006). There is no guarantee this HCP will be completed in a timely fashion. It is also not certain that regulatory agencies will agree to give the SFPUC a permit to “take” steelhead under this HCP, or that the mitigation measures will be adequate to sustain steelhead trout in the watershed. The SFPUC has thus far failed to incorporate most of the comment letters and extensive information submitted by the ACA on the HCP. The EIR must address operational effects of the CDRP and provide conservation measures consistent with steelhead restoration to ensure proper implementation of the project, not rely on a speculative HCP.

Comments on Specific Sections

p 1-8, *Primary Objectives*. The project involves adding facilities for fisheries flows, but does not include providing fish habitat as an objective. Add as an objective, “Achieve maximum consistency with on-going efforts to restore steelhead in the Alameda Creek watershed.”

p 1-13, *Project Description*. Operating the project involves an unscreened diversion (the ACDD) that must be screened according to California Fish and Game Code. Add as a main element of the project, “Install a fish screen at the ACDD intake structure that complies with CDFG and NMFS screening criteria.”

p 1-17, *Outlet Pipe*. The DEIR cites “the 1997 MOU” without reference to its provisions or implementation status. Explain the relevance of the MOU to the proposed project.

p 1-24, *Changes in Reservoir Operations*. The DEIR notes a decrease in diversions from the ACDD and an increase in releases from Calaveras Reservoir for fish flows pursuant to the 1997 MOU. These flows should be part of the environmental baseline as they were stipulated (and should have been implemented) in a process unrelated to the CDRP.

p 1-24, *Fishery Releases*. The DEIR states, “Because of the DSOD restrictions on the reservoir, the MOU flow requirements could not be met...” As the MOU is dated 1997 and the DSOD restriction happened in 2001, and no fishery flows were released between 1997 and 2001, the asserted cause-effect is false and should be omitted. The EIR and the PEIR for the Water System Improvement Program claim that the MOU flows “not been fully implemented because of the current limitations on storage.” However, this is a misrepresentation of the limitations the DSOD drawdown has placed on the SFPUC’s ability to release flows from the reservoir. Although current water storage in Calaveras Reservoir is at 60% less than the maximum before the DSOD drawdown, the SFPUC’s yield (available treated water supply) from Calaveras has not been proportionally affected by the DSOD operating restrictions. According to the Notice of Preparation for the Water System Improvement Program PEIR published by the SFPUC in 2005, Calaveras yield for the previous year was 219 mgd, fully 98% of the normal system yield of 223 mgd.

pursue appropriate mitigation for previously-identified limiting factors to habitat as soon as possible, and not to wait for adoption of an HCP.

This meant that water was available for flow releases to Calaveras Creek and Alameda Creek, but that the SFPUC chose to divert this water to its water treatment plant instead.

p 1-25, *Fishery Releases*. The DEIR uses the word “high” to describe winter flow under the MOU. As the MOU flow is 20 cfs and all flow from upper Alameda Creek between 20 and 650 cfs will be diverted, the use of this term is inappropriate.

Similarly, the flow schedule is characterized as coinciding with the seasonal habitat requirements for steelhead trout, when in fact there is no provision for adequate steelhead migration flows or channel shaping flows, both of which must be considered in seasonal habitat requirements for steelhead.

The SFPUC proposes to implement flows to support steelhead when steelhead have regained access to the upper watershed. As a program is in place to move in-migrant steelhead upstream from the BART weir, flows to support the anadromous form of the species should not be deferred. With provision of flows, the areas downstream of ACDD and Calaveras Dam offer the best habitat in the Alameda Creek watershed and should be available to steelhead.

p 1-30, *Fisheries and Aquatic Habitat*. Flows associated with the 1997 MOU cannot reasonably be evaluated as part of this project, nor can the impact analysis claim beneficial effects of the CDRP merely because the SFPUC has not yet implemented the flows agreement and claims it will implement it in the future.

Here and throughout the DEIR, the use of the qualities “stable” and “reliable” regarding flows should not be incorporated as criteria to measure suitability for fish. A flow may be both stable and reliable and be entirely inappropriate for fish habitat purposes.

The claim that high magnitude channel maintenance flows would continue similar to existing conditions is inaccurate – high flows will not be similar under the proposed project. The project proposes to re-divert flows now bypassed at ACDD due to the DSOD restriction. The DEIR here and throughout the report switches “existing conditions” at its convenience for the sake of minimizing impacts.

p 1-31, *Cumulative Impacts*. A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. As SFPUC water supply operations cause significant steelhead habitat impacts, these are cumulative impacts of the CDRP (regardless of baseline). As the CDRP would not mitigate these to less than significant levels and would involve increasing the impacts from the baseline (DSOD restricted operations), it has significant cumulative impacts that are not identified in the DEIR.

p 1-55, *Impact 4.5-5*. The DEIR notes that the project could have a significant impact on fish in Alameda Creek downstream from ACDD, but that the significance level is reduced by monitoring and adaptive management. To maintain logical consistency, the impact needs to be identified as less than significant (and stay less than significant with

implementation of monitoring and adaptive management), or it needs to be identified as significant, and be mitigated by flow releases.

p 1-56, *Mitigation Measure 5.5.5b*. Use of the term “fish passage barrier” is inappropriate in this context. The report should say “fish screen” or use the generic term “entrainment prevention method.”

p 1-56, *Impact 4.5.6*. The impact level assigned implies that re-operating diversions at ACDD and Calaveras Reservoir will not restrict the range of steelhead. We strongly disagree, especially as there are not steelhead migration flows proposed as part of the project. This impact involves a mandatory finding of significance.

p 1-56, *Impact 4.5.8*. See previous comment regarding Impact 4.5.6.

p 3-6, *Project Objectives*. Add consistency with steelhead restoration as a primary project objective.

p 3-62, *Section 3.5.6*. To avoid possible impacts to the reservoir trout population, the project should state clearly that surface elevation of the reservoir will not be lowered to less than 690 feet.

p 3-64, *Section 3.6.2*. The statement that there will be a decrease in annual diversions at ACDD from DSOD restricted conditions to future conditions is inaccurate. The CDRP propose just that – to increase annual diversions at ACDD from the baseline conditions. Specific discharge values should be assigned to pre- and post-project conditions for the sake of adequate environmental analysis.

p 3-67, *Section 3.6.5*. The 1997 MOU was meant to address inadequacies in water supply operations in relation to maintaining a resident rainbow trout fishery in a limited stream area. A sophisticated, multi-stakeholder process is in place through the Fisheries Restoration Workgroup to define appropriate flows to support a restored viable steelhead run in the upper Alameda Creek watershed. Seventeen public agencies and nonprofit organizations, including the Alameda Creek Alliance and the SFPUC, began flow studies in 2006 to determine how much water might be needed at critical times to support a viable steelhead population in Alameda Creek - while also considering other native fish and wildlife and minimizing potential impacts to drinking water supplies. These studies are ongoing. The project should commit to supplying instream flows as dictated by the needs of steelhead trout as expressed through this stakeholder process. The DEIR must incorporate mitigation (including appropriate flows) for the reasonably expected impacts of CDRP implementation on steelhead habitat.

The DEIR refers to potential future modification of the proposed flow regime via a Habitat Conservation Plan (HCP) process. Such a process is not sufficiently developed as to provide adequate mitigation for project impacts, and reliance on unspecified future actions must be viewed as deferring mitigation. The mitigation measures and habitat benefits in this proposed plan are completely speculative and cannot be relied upon to

reduce significant impacts. The SFPUC began this HCP in 2004, abandoned the effort in 2005, and revived it in 2006. After 5 years, a draft HCP is not completed and there is no guarantee this HCP will be completed in a timely fashion. It is also not certain that regulatory agencies will agree to give the SFPUC a permit to “take” steelhead under this HCP, or that the mitigation measures will in any way be adequate.

p 3-69, *Section 3.6.6*. Flow releases associated with the project should address the full range of steelhead habitat requirements. The project proposes only spawning and rearing flows, and does not address other important habitat considerations including migration and channel shaping and flushing flows essential to accommodate the needs of steelhead. Further, flow regimes should be structured to mimic storm hydrographs as much as possible. The proposed regime does not account for the natural variation of flow conditions on which steelhead depend.

The DEIR notes that flows may be modified through the federal permitting process. Please refer to the comments on Section 3.6.5 regarding deferring mitigation.

p. 4.4-84, *Effect of CDRP on California red-legged frog*. The DEIR states that “Compared to the baseline, minimum flows would provide more water during the California red-legged frog breeding and rearing season. This is not true, in fact the opposite is proposed – reducing flows in Alameda Creek during winter and spring frog breeding and rearing season under the CDRP. The DEIR notes that minimum flows under the CDRP would provide less water than under baseline years without diversion, “however, they would maintain habitat availability for California red-legged frog in Alameda Creek downstream of the ACDD by providing sufficient flow to sustain breeding habitat.” This claim is unsubstantiated.

p 4-16, *Table 4.1.2*. Impact 5.4.1-2 in the WSIP EIR correctly identifies a significant unavoidable impact on Alameda Creek downstream of ACDD from water supply operations. The corresponding analysis states, “On a storm-by-storm basis, even when stream flows exceed 650 cfs, WSIP diversions would substantially reduce the flows and alter the hydrograph, leaving only brief periods of high flows in major storm events... (WSIP p. 5.4.1-27).” The DEIR for the CDRP states that this impact has been re-evaluated as a project-specific impact when in fact this has not occurred. The analytical sleight-of-hand represented here must be addressed or the EIR must be found deficient in this regard.

p 4.2-17, *Water Enterprise Environmental Stewardship Policy*. Compliance with the 1997 MOU is unrelated to the proposed project. Providing flows agreed to through the MOU does not constitute CDRP compliance with stewardship policies or mitigation for CDRP impacts. The CDRP fails to release water consistent with the needs of steelhead, indicating that the project would in fact conflict with the stewardship policy.

p 4.5-2, *Extended Study Area*. The statement, “While operation of Calaveras Reservoir and the ACDD influences flow conditions in the extended study area, it is difficult to distinguish this influence from the effect of these other water projects” is inaccurate and

should be deleted. Not only is it perfectly possible to characterize how operations of SFPUC water supply facilities reduce flow into Alameda Creek downstream from the Alameda Creek/Arroyo de la Laguna confluence, it is at the heart of the project's impact.

p 4.5-4, *Fisheries, Existing Conditions*. As the SFPUC is well aware, the Alameda Creek watershed historically supported coho and possibly salmon as well as steelhead and trout (ACA 2009).¹³

p 4.5-6, *Alameda Creek Fisheries Restoration Workgroup*. The EIR should discuss the context of extensive fish passage projects being pursued by the Workgroup downstream of the SFPUC facilities and their schedule for completion.

p 4.5-10, *Water Enterprise Environmental Stewardship Policy*. The DEIR notes that the stewardship policy obligates the SFPUC to release flows in such a way as to mimic the variation of the seasonal hydrology. This is not accomplished by the proposed flow schedule, which has different flow schedules for different water year types, but does not account for variation within any given year-type. Proposed flows are inconsistent with this element of the stewardship policy.

p 4.5-17, *Table 4.5.1*. It would be appropriate in this EIR section to quantify the baseline flows (under "existing conditions"). What is the diversion rate of unimpaired flows averaged over this period? In particular, assessing the flow regime of water years 2004-5, 2005-6, and 2006-7 would allow for understanding of the impact of the project on habitat and hydrology.

p 4.5-39, *Steelhead/Rainbow Trout Regulatory Status*. The DEIR states that "the resident rainbow trout that occur in the watershed upstream of the BART weir are not designated as a listed species nor proposed for listing." However, NMFS has proposed listing these fish as part of the CCC steelhead population once adult steelhead have access to Alameda Creek above the BART weir, under the similarity of appearance provision (71 FR 834; January 5, 2006). In addition, adult steelhead that are moved annually upstream of the BART weir under a relocation and monitoring program permitted by NMFS and CDFG are listed CCC steelhead trout.

p 4.5-52, *Section 4.5.2.1 Significance Criteria*. Steelhead restoration in the Alameda Creek watershed occurs primarily through the auspices of the Alameda Creek Fisheries Restoration Workgroup. Revise the significance criteria to reflect consistency with the efforts and plans of this group.

p 4.5-55, *Impact 4.5.2*. While the impact of destroying 945 lineal feet of stream may (or may not) be less than significant, it nevertheless should be mitigated. No mitigation is offered for this impact. Restoring the portion of Arroyo Hondo affected by recent landslide activity would be appropriate mitigation.

¹³ ACA documentation at:

<http://www.alamedacreek.org/Historical%20photos/recent%20fish%20documentation/Alameda%20Creek%20salmonid%20documentation%2012-13-06.pdf>

p 4.5-56, Calaveras Replacement Dam. The DEIR states that “No facilities or provisions for fish passage are proposed; therefore, the proposed replacement dam would not change the extent to which fish passage or migration is impeded by the existing dam.” Claiming that there is no effect because the existing condition

p 4.5-56, *Impact 4.5-3*. The project would involve re-operation of ACDD at full capacity, which clearly has the potential to affect the movement of sensitive species (*i.e.*, upper Alameda Creek rainbow trout). This effect has a mandatory finding of significance that may be mitigated only through installation of a fish screen at ACDD.

Further, the EIR must examine the effects of ACDD and Calaveras Dam re-operation on movement and migration opportunities downstream of these facilities (including in the Extended Study Area). The proposed diversion rate of approximately 86 percent of unimpaired flow has the potential to create an impact with a mandatory finding of significance. The EIR does not address the effect of diversions on downstream passage conditions; the “no impact” designation therefore is inadequate, as is the lack of mitigation for this significant unavoidable impact.

An adequate evaluation of the impacts of the CDRP on downstream movement and migration of steelhead must also consider the effects of proposed new diversion points in the Sunol Valley, such as is proposed by the SFPUC under the related Upper Alameda Creek Filter Gallery Project. As new facilities to “recapture” instream flow releases will adversely impact passage conditions downstream, they will be subject to a mandatory finding of significance and will conflict with the stewardship policy. Recapture is proposed as part of implementing the 1997 MOU and must be included in the context of the current environmental review. The DEIR does not set forth releases or bypass flows associated with the recapture facility or attempt to evaluate the cumulative effects of the CDRP and recapture facility operations on steelhead migration.

p 4.5-57, *Impact 4.5.4*. This section vastly underestimates the potential impacts of Haul Route Option 2, which involves using barges to cross the reservoir. This option would require that a rock-fill jetty up to 1,000 feet long be constructed along with either a floating dock or two jetties up to 500 feet long. Further, timber or sheet piles would be driven along the jetties, and dredging for access lanes could occur, including materials disposal at sites that would be inundated by reservoir refilling. Finally, six round trips of two boats hauling three 560-ton barges are envisioned. The impacts of these collective activities are dismissed with the analysis that “these effects would be localized and temporary, and the reservoir would provide substantial area for escape.”

The reservoir trout population is of unique importance to restoring steelhead to the Alameda Creek watershed, due to its genetic legacy as descended from the original steelhead trout run in the watershed. Potential harm to a population already stressed by reduced reservoir volume must be reduced through more elaborate mitigation than reliance on standard construction BMPs. A plan should be developed in consultation with CDFG to protect the trout population of the reservoir during construction. Appropriate

further mitigation could include improving access to suitable stream habitat for this trout population in the portion of Arroyo Hondo affected by recent landslide activity.

p 4.5-60, *Operational Impacts*. Bypass of flows envisioned under the 1997 MOU at the ACDD should not be analyzed as part of this EIR. Rather, since these flows were proposed under a 1997 MOU, the baseline condition includes these bypass flows, regardless of where they are released, and the bypass structure proposed at ACDD is impact-neutral. Proposed operations at ACDD having a continuing impact on entrainment, movement, and habitat for fish should be mitigated by installation of a fish screen and fish ladder at the ACDD, coupled with a new, robust, steelhead-based flow schedule. Facilities and a monitoring program for flow measurement at the ACDD diversion also should be incorporated into the project.

The DEIR claims that “The proposed bypass flows would ensure that the flows in Alameda Creek downstream of the ACDD would either be increased or remain unchanged for purposes of supplying adequate fish spawning habitat for resident rainbow trout.” In fact, the CDRP proposes to dramatically decrease the flows in Alameda Creek downstream of the ACDD, compared to baseline conditions.

p 4.5-62, *Impact 4.5.5*. The impact discussion relies on a standard of “more predictable and stable” flows to ascribe beneficial impacts to the project. “Stable flows are not necessarily a benefit to fish, particularly if the stable flows are lower post-project than under the baseline. It is universally recognized, including in the SFPUC stewardship policy, that flows that mimic the natural hydrograph are desirable for native fish. The “more predictable and stable” criterion should be discarded unless it can be justified.

The DEIR claims that “Over all years, flows would increase on an average annual basis.” In fact, the CDRP proposes to dramatically decrease flows on an average annual basis, compared to baseline conditions.

p 4.5-64, *Diversions and Bypass Flows*. This section states that “The bypass flows would occur whenever streamflow is naturally present and therefore would provide more stable and reliable habitat compared to the existing condition, which includes variable periods of flow with no bypasses.” This statement, the crux of the analysis, is inconsistent with a defensible EIR impact approach and should be deleted. For purposes of the EIR, the existing condition is increased bypasses at ACDD because of the DSOD restriction as compared to a proposed future decrease in instream flows without the DSOD restriction. The impacts resulting from re-operation of ACDD should be based on analysis of these flow reductions. Further, bypass flows must legally be provided with or without CDRP implementation, and compliance with existing laws cannot be used to mitigate CDRP project impacts.

p 4.5-65, *Channel-Forming Flows*. This section shifts the baseline for analysis to the “longer period of pre-DSOD operation,” seemingly for the sake of attempting to minimize the perceived effects of the project. Also, the statement that the DSOD-restricted period is “too short and too variable to have had a changed effect on channel

form” is unsupported and should be deleted. Channel forming occurs on high-flow events. The project proposes to change the high flow event regime. The EIR should quantify the change, evaluate the impacts, and propose suitable mitigations, such as allowing periodic channel-shaping flows. The adopted approach and conclusions are disturbingly unscientific and self-serving.

p 4.5-66, *Redd Scour and Erosion*. This section again implies beneficial impacts from re-operating ACDD that simply don't occur. The “redd scour hypothesis” as somehow limiting to the trout population of upper Alameda Creek is unsubstantiated, and its use in this context is inappropriate and self-serving. The analysis implies that nature needs help creating habitat in the form of radical alteration of the natural hydrograph. This reasoning is unsupported, and this section of the EIR should be deleted.

The DEIR claim that “the more regular diversions and consistent bypass flows whenever flows are naturally present would be expected to contribute to improved reproductive success of those fish spawning within the reach,” is completely false and unsupported. The CDRP proposes reducing flows for spawning as compared to the baseline – to claim that this is a beneficial impact for fish is deceptive and disingenuous.

p 4.5-66, *Fish Entrainment at the Diversion Tunnel*. The EIR must discuss the fact that mortality of fish entrained in the diversion tunnel may be significant, and that some of these fish may be *O. mykiss* smolts, that could become steelhead. The DEIR does not discuss the relationship of stream fish to anadromous steelhead populations and the conservation significance of resident rainbow trout.

p 4.5-67, *Summary*. This long, tortured “evaluation” of entrainment essentially finds that since the trout population upstream from ACDD is “small and isolated,” it is somehow not subject to protections guaranteed by environmental review processes or the state Fish and Game Code. This section of the report should be deleted, and the project should adopt installing a fish screen at the ACDD that is required for diversions of this size and as mitigation for an impact with a mandatory finding of significance.

p 4.5-71, Impact 4.5.6. The DEIR claims that the ETJV report “indicated that the existing hydrologic conditions appear to sustain aquatic habitat in a manner that supports a native fish community, which includes resident rainbow trout, in good condition,” implying that conditions for cold water fish are good under current conditions. In fact, the conclusion of ETJV (2008) was that the warm water native fish community “appears relatively healthy in the reach of Alameda Creek below the Calaveras Creek confluence,” not the rainbow trout or coldwater fish.

The rainbow trout population in this reach is decidedly not in good condition. Populations of native resident rainbow trout below the dams, in Alameda Creek and its tributaries in the upper Sunol Valley, are very small, with few to no trout found in most reaches in dry

years.¹⁴ These populations are severely constrained by lack of rearing habitat and high summer temperatures,¹⁵ due to lack of minimum flow releases from Calaveras Reservoir. 2007 monitoring of trout (the latest year of published information) found only 4 trout redds and 13 rainbow trout (no more than 3 at one time) in this reach during spawning surveys; and an additional trout during snorkeling surveys. The SFPUC population estimate for rainbow trout in this reach is only 25 fish.¹⁶

p 4.5-73, *Impacts During Filling and Normal Restored Storage Operations*. Again, the CDRP cannot use implementation of the 1997 MOU as a project element for the purposes of evaluating impacts. The EIR also must not shift the baseline from pre-DSOD restriction to DSOD restriction as it does throughout this section. Flows (even with the minimal proposed bypass flows) would be substantially reduced by the project and the impacts of this reduction must be recognized, evaluated, and mitigated. Further, “reliable and stable” are not standards of significance for flow regimes and this specious metric should be purged from the EIR.

p 4.5-75, *Cone Valve section*. The hypothetical trout-death-by-cone-valve scenario culminating with “juveniles...would inevitably die,” while decidedly dramatic, is inappropriate for an environmental review document. If there is a point in this section beyond “ramping will be part of the project,” please state it in the Final EIR.

p 4.5-76, *Impact Conclusion*. The claim that reducing instream flows (post-CDRP) is better for fish habitat than leaving them higher (current conditions) is not supported. This impact needs to be thoroughly revisited in a focused EIR section that addresses the inadequacies of the current one. In particular, the project’s impacts on steelhead migration in Little Yosemite, the Sunol Valley and downstream areas, on nursery (rearing) habitat, and on channel-shaping and flushing flows must be adequately characterized and mitigated.

p 4.5-76, *Impact 4.5.7*. Please see the comment regarding Impact 4.5.4. Protecting the Calaveras Reservoir trout population is of the utmost importance, and a plan should be developed in cooperation with CDFG that avoids unforeseen construction-period impacts.

p 4.5-80, *Impact Conclusion (Impact 4.5.8)*. The EIR inappropriately relies on flows from other portions of the watershed to minimize the magnitude of CDRP effects on hydrology and fish habitat suitability in lower Alameda Creek. As structured, the project proposes zero dedicated outflow as measured at the Arroyo de la Laguna confluence. This flow regime must be compared to the baseline of bypassed ACDD and Calaveras flows which

¹⁴ San Francisco Public Utilities Commission. 2000, 2001, 2002, and 2004. Alameda Creek aquatic resource monitoring reports: summer and fall 1998; summer and fall 1999; 2000; 2001; and 2002. Prepared by SFPUC Water Quality Bureau, Sunol, CA.

¹⁵ San Francisco Public Utilities Commission. 2000, 2001, 2002, and 2004. Alameda Creek aquatic resource monitoring reports: summer and fall 1998; summer and fall 1999; 2000; 2001; and 2002. Prepared by SFPUC Water Quality Bureau, Sunol, CA.

Hanson Environmental, Inc. 2002. Air and water temperature monitoring within Alameda Creek. Draft report submitted to the San Francisco Public Utilities Commission. March 30, 2002.

¹⁶ SFPUC. 2009. Alameda Creek Aquatic Resource Monitoring Report 2007.

provide flow at the confluence, a mandatory finding of significance made regarding migration (and potentially nursery) habitat, and meaningful mitigation developed.

p 4.5-80, *Impact 4.5.9*. The EIR must acknowledge the inconsistency of the project and its environmental review as represented in this EIR with the efforts and plans of the Alameda Creek Fisheries Restoration Workgroup. The Workgroup has been the forum for coordinating restoration of steelhead to the watershed, and the CDRP and its EIR conflict with ongoing and planned restoration plans of the non-SFPUC members of the Workgroup.

p 4.6-86, *Hydrology Impact Conclusion*. Here and elsewhere the DEIR concludes that “the proposed project would not substantially alter streamflows in Alameda Creek downstream of the ACDD such that they would be outside the range of pre-project conditions and result in substantial hydrologic changes.” On the contrary, the CDRP proposes substantially changing the hydrology of Alameda Creek downstream of the ACDD by resuming ACDD diversions.

p 6-28, *Operational Impacts*. This section of the EIR must recognize the cumulative impacts on steelhead related to water supply operations in the upper watershed and propose meaningful mitigation. Rather, the analysis relies on the current inaccessibility of the habitat and associated information limitations to avoid commitment to necessary flow regimes. An appropriate analysis of cumulative fisheries impacts would compare unimpaired and post-project flow regimes, applying relevant (and available) standards of impairment, and proposing post-project flows that account for the habitat needs of all life stages of steelhead.

While MOU-related flow releases will begin to provide spawning and rearing opportunities in relatively small portions of the SFPUC-operations-affected areas, as proposed they will not mitigate the cumulative effects of the CDRP and other related SFPUC water supply projects such as the Upper Alameda Creek Filter Gallery Project to less than significant levels. The Final EIR must acknowledge these significant unavoidable impacts or, preferably, reduce the impact level through new flow provisions.

Availability of Reference Documents

On November 4, 2009 the ACA sent a representative to the address listed in the DEIR to review the supporting documents and reports referenced in the DEIR, but not posted on the Planning Department web site or included as appendices in the DEIR. The documents that the Planning Department confirmed as constituting the entirety of the references for the DEIR appeared to be missing the following references:

Chapter 4.4

#15 Condor Country Consulting. 2008. CTS Survey Report.

#18 EBRPD. Unpublished data. GIS records.

#25 EDAW & Turnstone Joint Ventures. 2007. Unpublished data. CRLF, CTS, and FYLF data from Arroyo Hondo.

#xx Hanson Environmental Inc. 2002. Air and water temperature monitoring within Alameda Creek.

#xx SFPUC. Unpublished data. Incidental wildlife sightings.

#xx EDAW. Unpublished data. CRLF and CTS habitat assessment for the Calaveras Dam Replacement.

#xx EDAW. Unpublished data. Spring 2006 and 2007 breeding bird surveys for the Calaveras Dam replacement.

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