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December 9, 2016

Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

SENT VIA EMAIL AND FIRST CLASS MAIL (COMMENTLETTERS@WATERBOARDS.CA.GOV)

Re: Comment Letter – Cachuma Project Draft Order
In the Matter of Permits 11308 and 11310 (Applications 11331 and 11332) Held by the United States Bureau of Reclamation for the Cachuma Project on the Santa Ynez River

Dear Ms. Townsend:

This firm represents the Santa Ynez River Water Conservation District, Improvement District No. 1 (I.D. No. 1) and these comments are submitted on behalf of I.D. No. 1 with respect to the Draft Order issued by the State Water Resources Control Board (State Board) on September 7, 2016 Amending Permits 11308 and 11310 held by the United States Bureau of Reclamation (Reclamation) for the Cachuma Project on the Santa Ynez River (Draft Order).[1] I.D. No. 1 appreciates the opportunity to submit these comments on the Draft Order. With these comments, and for the many reasons set forth herein and in previous submittals, I.D. No. 1 opposes the State Board's proposed adoption of Alternative 5C and respectfully requests the State Board to incorporate the comments and recommendations below in fashioning any Final Order in this matter.

I. Background

I.D. No. 1's water service area encompasses a portion of the Santa Ynez River watershed closest to and downstream of Lake Cachuma and Bradbury Dam. One of I.D. No. 1's primary

[1] Previously, I.D. No. 1 and the Santa Ynez River Water Conservation District (Parent District) have submitted numerous comments, testimony, briefing, and related materials to the State Board and have participated actively in hearing proceedings concerning the State Board's consideration of modifications to Reclamation's Permits 11308 and 11310 to protect public trust values and downstream water rights on the Santa Ynez River below Bradbury Dam (the Cachuma Project). The previous submittals by I.D. No. 1 and the Parent District are expressly incorporated into this comment letter.

functions is to protect its downstream water rights and, as a participating agency in the Parent District,[2] its interests in the preservation of all water rights of landowners and residents in and to the use of Santa Ynez River water below Bradbury Dam, including groundwater supplies and water released from Lake Cachuma to satisfy priority downstream water rights. Because I.D. No. 1 is a downstream interest, and the Parent District is the responsible agency for placing orders with Reclamation for downstream water rights releases in accordance with State Board Order WR 73-37, as amended by Order WR 89-18, I.D. No. 1 is reliant on those water rights releases for its licensed appropriative supplies. In addition to its appropriative water rights issued by the State Board to serve water within its service area, I.D. No. 1 is a Cachuma Project Member Unit and a direct beneficiary of contractual water entitlement from the Cachuma Project pursuant to Contract No. I75r-1802R, which rights and benefits are preserved, protected and secured through a contract with the Santa Barbara County Water Agency.

In 1959, the Parent District formed I.D. No. 1 as a separate and distinct agency pursuant to Sections 74000 and 75000 of the California Water Code, with its primary responsibility to serve water to domestic, commercial, institutional, and agricultural water customers within its service area. As indicated above, I.D. No. 1 is a Cachuma Project Member Unit and retains a contractual right to receive water service from Reclamation pursuant to Contract No. I75r-1802R and the Cachuma Project Member Unit Contract with the County of Santa Barbara for 10.31 percent of the Cachuma Project's yield, which is about 40 percent of I.D. No. 1's annual water supply. In addition, I.D. No. 1 has appropriative water right licenses issued by the State Board to divert underflow of the Santa Ynez River below Bradbury Dam, which water is made available through downstream water rights releases that are required pursuant to WR 73-37, as amended by WR 89-18.

In WR 94-5, the State Board ordered Reclamation to submit reports or data compilations developed pursuant to a 1994 Memorandum of Understanding (1994 MOU)[3] to address and resolve outstanding fish and fish habitat issues related to the portion of the Santa Ynez River below Bradbury Dam. (WR 94-5, Finding Nos. 10 & 11, Order No. 3(b).) The Board also

[2] The Parent District was formed in 1939 to protect the water rights and supplies of its landowners and residents. Its boundaries include most of the lands within the watershed downstream of Lake Cachuma. The water rights of the Parent District's constituents are not before the State Board, however, the State Board and its predecessor have long recognized that Cachuma Project operations can have adverse impacts on downstream water rights and that such rights must be protected, including I.D. No. 1's rights. (See, e.g., D-886, pp. 29, 33; D-1486, p. 15, fn. 11.) Accordingly, the Parent District historically has been involved in Cachuma Project proceedings before the State Board.

[3] In addition to Reclamation and representatives for all the downstream water right interests, including the City of Lompoc, the Cachuma Member Units (Member Units), the California Department of Fish and Game, and the United States Fish and Wildlife Service were parties to the 1994 MOU. (WR 94-5, Finding No. 11.)

ordered Reclamation to submit information developed and conclusions reached during negotiations among the City of Lompoc and the Cachuma Member Units regarding water quantity and quality issues related to the Lompoc Plain. (WR 94-5, Finding No. 15, Order No. 3(d).)

As directed by WR 94-5, the parties to the 1994 MOU conducted studies and worked together to develop and implement a Fish Management Plan (FMP). The FMP protects and provides habitat enhancements for steelhead/rainbow trout[4] in the Santa Ynez River below Bradbury Dam through a combination of measures including modifications to reservoir operations and releases of fish surcharge account water stored behind the Dam in Lake Cachuma. In 1997, during development of the FMP, the National Marine Fisheries Service (NMFS) listed the Southern California Evolutionary Significant Unit of steelhead as an endangered species under the federal ESA. The parties to the 1994 MOU worked with NMFS to develop a Biological Opinion (BO), issued in September 2000, that provides for steelhead protection consistent with the FMP. The FMP, which was first presented to the State Board in 1999 and finalized in 2000, provides for water releases below Bradbury Dam as described in Alternative 3C of the State Board's 2011 Final EIR for the Cachuma Project.

The release regime provided for in the FMP and the 2000 BO (Alternative 3C) also formed the basis for negotiations among downstream water right interests and the Cachuma Conservation Release Board (CCRB) representing the south coast Cachuma Member Units relating to resolution of outstanding water quantity and quality issues downstream of Bradbury Dam. The compromise reached by these various interests is set forth in the Settlement Agreement between CCRB, the Parent District, I.D. No. 1, and the City of Lompoc, relating to operation of the Cachuma Project, dated December 17, 2002 (Settlement Agreement). The Settlement Agreement is the first and only time since proceedings commenced before the State Board that all parties – including Reclamation, the Cachuma Member Units, and all downstream interests – agreed on a mechanism for operation of the Cachuma Project that protects downstream water right interests and is consistent with the FMP and 2000 BO protections for steelhead and other public trust resources. Importantly, the Settlement Agreement is supported by extensive studies, hydrologic modeling, and negotiations that took place over several years to reach historic resolution among the parties for the protection of public trust resources and downstream water rights. The Settlement Agreement and the flow regime contained therein was

[4] The Draft Order states: "The species *Oncorhynchus mykiss* includes both rainbow trout and steelhead. Fish that exhibit a non-anadromous resident life history are referred to as rainbow trout and fish that exhibit an anadromous migratory life history are referred to as steelhead." (See, e.g., Draft Order, pp. 40-41.) For purposes of this comment letter, references herein to steelhead may apply to steelhead and/or resident rainbow trout as applicable.

subject to peer-review and thorough cross-examination in the State Board hearings for the Cachuma Project.

The Draft Order accepts the proposed minor modifications to WR 89-18 and implementation of the Settlement Agreement, which complies and is consistent with one of the key project objectives identified by the State Board, i.e., "the maintenance of percolation of water from the stream channel as such percolation would occur from unregulated flow, in order that the operation of the project shall not reduce natural recharge of groundwater from the Santa Ynez River below Bradbury Dam." (2nd RDEIR, pp. 1.0-2, 3.0-1.). Subject to the comments set forth herein, I.D. No. 1 supports the Draft Order's acceptance of the minor modifications to WR 89-18 and implementation of the Settlement Agreement. In addition, I.D. No. 1 joins in the comments on the Draft Order submitted by the Parent District.

II. Summary of Comments and Recommendations

The Draft Order's selection of Alternative 5C is not legally or scientifically supportable. As explained in greater detail below, the proposal to release more water from Cachuma Project water supplies beyond Alternative 3C during wet and above normal years for the purpose of restoring steelhead below Bradbury Dam to good condition is not supported by substantial evidence. To the contrary, substantial evidence demonstrates that increased flows under Alternative 5C during such years will increase the proliferation of steelhead predators such as bass and beavers, cause unknown and potentially harmful impacts to water temperature and dissolved oxygen levels and, as conceded by the Draft Order, result in only speculative benefits to the steelhead, at best.

Despite the speculative and untested benefits to steelhead from increased flows, Alternative 5C will have significant and unavoidable adverse impacts on the public interest by substantially diminishing local water supplies and rendering them less reliable. Previous written comments submitted by I.D. No. 1 and the Parent District identify that the State Board has not adequately analyzed the impacts of Alternative 5C on water quality and quantity downstream of Bradbury Dam, specifically including potential impacts on the Above Narrows Account (ANA). In this regard, the Parent District and I.D. No. 1 provided detailed modeling runs of the Santa Ynez River Hydrology Model (SYRHM) quantifying, among other adverse impacts, the additional loss of ANA credits that will result from implementation of Alternative 5C in contrast to Alternative 3C, during drought periods.[5] Nevertheless, the State Board failed to actually quantify the reduction of ANA releases or analyze the potential management implications of

[5] See, e.g., Parent District comment letter dated September 28, 2007 regarding the Revised Draft EIR for the Cachuma Project, pp. 15-18.

such reductions, nor has the State Board analyzed or determined based on substantial evidence whether such reductions are consistent with all of the project objectives. (CEQA Guidelines § 15126.6(a).)

Furthermore, as discussed below, Alternative 5C will not avoid or lessen significant impacts to fishery resources in any way that is not already accomplished by Alternative 3C. Alternatives that do not avoid or lessen significant impacts caused by the proposed project should not be considered. (CEQA Guidelines § 15126.6(a).) In addition to other fishery comments provided herein, I.D. No. 1 concurs with the Parent District and CCRB that the Draft Order fails to address or account for substantial evidence in the record regarding all lifestages and habitat relationships of steelhead in the Lower Santa Ynez River and fails to account for habitat bottlenecks in selecting Alternative 5C. Specifically, substantial evidence in the record demonstrates that any benefits to steelhead associated with Alternative 5C (compared to 3C) during spawning and fry rearing lifestages are negated by limited habitat availability during the juvenile lifestage prior to becoming adults. Thus, the State Board has ignored substantial evidence that Alternative 5C would not be expected to increase adult populations relative to Alternative 3C. I.D. No. 1 also concurs with and incorporates CCRB's comments that the Draft Order ignores substantial evidence of harmful interactions between individually benefited species such as resident bass and steelhead that result from additional higher flows under Alternative 5C. The administrative record is clear that bass prey on fry and juvenile steelhead, and that increased bass populations will increase the rates of predation on those steelhead life stages. In other words, any purported benefit from higher flows for steelhead are likely negated by the benefits provided to the bass population. However, in selecting Alternative 5C, the Draft Order has ignored substantial evidence regarding harmful species interactions (e.g., predation) resulting from a higher artificial flow regime in the Lower Santa Ynez River. As further set forth below, other biology comments set forth in the comment letter on the Draft Order submitted by CCRB are incorporated herein.

From a local water supply standpoint, implementation of Alternative 5C will unjustifiably create a permanent regulatory drought condition for local water agencies. Under Alternative 5C, Cachuma Project water supplies refilling the reservoir in wetter years will now be released instead of being retained to accommodate water supply needs of the public in future dry years. Further, as explained below, the State Board has not acknowledged the true scope of water supply impacts for purposes of the Draft Order because the estimated water supply costs do not account for the actual water supply conditions associated with the current drought and other factors.

As a result, the Draft Order does not and cannot undertake a proper balancing supported by substantial evidence regarding the needs of the species in comparison to the needs and public interest for an adequate and reliable water supply. Thus, the balancing discussion in the Draft

Order does not comport with the National Audubon case (below), the public trust doctrine, and other applicable law. The Draft Order is also inconsistent with the "reasonable use" requirement of Article X Section 2 of the California Constitution by requiring substantial additional releases of Cachuma Project water from Bradbury Dam based on benefits to steelhead that are speculative and unsupported in the record. The California Constitution does not equate beneficial use with reasonable use (*Joslin v. Marin Mun. Water Dist.* (1967) 67 Cal.2d 132, 143; *People ex rel. State Water Resources Control Bd. v. Forni* (1976) 54 Cal.App.3d 743), and prohibits unreasonable and wasteful uses of water. (Article X, § 2; see also, Water Code §§ 100, 275; *United States v. Gerlach Live Stock Co.* (1950) 339 U.S. 725, 751; *Peabody v. City of Vallejo* (1935) 2 Cal. 2d 351.)

As explained herein and in written comments, testimony, and briefs previously submitted by I.D. No. 1, the Parent District, and CCRB, Alternative 5C would result in greater significant unavoidable impacts to water supplies than Alternative 3C, yet the purported benefits of Alternative 5C for steelhead are not supported by substantial evidence or a complete record, as the Draft Order acknowledges. Thus, particularly when compared to Alternative 3C, Alternative 5C is not reasonable under California law[6] and should be rejected in favor of Alternative 3C which is identified in the 2011 Final EIR as the environmentally superior alternative under the California Environmental Quality Act (CEQA). For similar reasons, the draft Statement of Overriding Considerations is not adequately supported. Among other shortfalls, the Draft Order's assertion that I.D. No. 1 and the other Cachuma Member Units can find alternative water sources is speculative, unrealistic, and fails to adequately evaluate the difficulty and environmental impacts associated with obtaining such alternative supplies.

I.D. No. 1 agrees with the conclusion reached in the Final EIR that Alternative 3C is the environmentally superior alternative, and still supports continued implementation of Alternative 3C, including the proposed minor modifications to WR 89-18 presented by Reclamation in the technical amendments in Exhibit "C" to the Settlement Agreement. Furthermore, before

[6] Courts have not reallocated water from consumptive uses to public trust uses without first finding that the reallocated water was being wasted or used unreasonably. (See, e.g., *Joslin v. Marin Municipal Water Dist.* (1967) 67 C.2d 132; *Imperial Irrigation Dist. v. SWRCB* (1990) 225 Cal.App.3d 548; *Cal Trout, Inc. v. SWRCB* (1989) 207 Cal.App.3d 585.) In making allocation decisions, the State Water Board is charged with balancing the interests of competing water users supported by factual analysis. (See *U.S. v. SWRCB* (1986) 182 Cal.App.3d 82.) This includes consideration of "all factors involved." (*Tulare Irrigation Dist. v. Lindsay-Strathmore Dist.* (1935) 3 C.2d 489.) In its Draft Order, the State Board describes a public trust analysis requiring higher release rates of water from the Cachuma Project without properly determining whether such water is currently being wasted or put to unreasonable use. In the absence of any such findings, the State Board should refrain from arbitrarily rendering any decision that effectively reallocates water on the unsubstantiated implication that the operation of the Cachuma Project constitutes a waste or unreasonable use of water.

certifying the Final EIR[7] and issuing the Final Order, the State Board must consider and evaluate certain relevant information that has become apparent since the Final EIR hearing in 2012 to ensure a proper balancing is conducted in accordance with state law:

1. The drought from 2012 to present (5+ years) is worse than the critical drought period that is addressed in the Draft Order (1947-1951, 5 years). The result is that actual impacts on Cachuma Project water supply (shortages) have been underestimated because new and actual critical drought conditions were not considered in the Draft Order.

2. One component of Alternative 3C, the 1.5 cubic feet per second (cfs) flow target at Alisal Bridge in the year after a spill, should be removed from the proposed project operations because there is no biological benefit of releasing additional water in the year after a spill, particularly if the year after the spill is dry.

As noted herein, I.D. No. 1 respectfully requests that the State Board adopt Alternative 3C. However, *if* the State Board selects Alternative 5C and requires additional studies, the following terms be added to the Permits:

A. Until the studies listed in the Draft Order are completed and the benefits of Alternative 5C flows are proven, the releases required under Alternative 5C, Table 2 will not be triggered until inflows into Cachuma Reservoir are greater than 70,000 acre-feet (instead of 33,707 acre-feet).[8]

B. The 1.5 cfs flow target requirement at Alisal Bridge in the year after a spill is suspended until the studies of Alternative 5C target flows and flow-habitat-species relationships are completed and the benefits of this flow requirement is proven. The 1.5 cfs flow target will still apply in the year of a spill and may be superseded by a higher flow target if the water year after the spill year is above normal.

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[7] Under CEQA, I.D. No. 1 has the right to submit comments and evidence until the Final EIR is certified. (See, e.g., *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1121 ["Any party may bring an action [under CEQA] if it has raised an objection to the adequacy of an EIR prior to certification."]; see also, Pub. Res. Code § 21167.6(e)(7) [administrative record in CEQA action includes "all written evidence or correspondence submitted to . . . the respondent public agency with respect to compliance with this division or with respect to the project."]; Pub. Res. Code § 21177 [alleged grounds for noncompliance with CEQA may be brought prior to the close of the public hearing on the project before the issuance of the notice of determination].)

[8] Please see additional information in the Conclusion section below.

Alternatively, if the 1.5 cfs flow requirement at Alisal Bridge in the year after a spill is not suspended, the effects of this requirement should be studied as part of the further evaluation of the Alternative 5C target flows.

Furthermore, as reflected in comments submitted by other parties, the Draft Order should be amended to expressly allow the active participation by I.D. No. 1 in the development and implementation of any additional studied ordered by the State Board in relation to the Cachuma Project.

III. Additional Comments

1. Biological Benefits from Increased Flows Under Alternative 5C and For 1.5 CFS at Alisal Bridge in the Year After a Spill Have Not Been Demonstrated with Substantial Evidence and Are Admitted to be Possibly Detrimental

The Draft Order's determination that the flow targets in Table 2 (Alternative 5C flows in above-normal and wet years) and the 1.5 cfs flow target at Alisal Bridge in a year after a spill are necessary to help restore steelhead below Bradbury Dam to good condition are not supported by substantial evidence. As further set forth below, the Draft Order repeatedly acknowledges that the purported benefits of Alternative 5C flows are unknown and based on an incomplete record, and that Alternative 5C flows may result in harmful impacts to the steelhead population and its habitat.

a. The Record Does Not Show That Simply Increasing Flows in the Reaches Below Bradbury Dam Will Improve Steelhead Populations and Habitat

The Draft Order is based upon the unsupported assumption that simply increasing instream flow releases to the Lower Santa Ynez River will improve habitat functions sufficiently to produce a meaningful benefit to steelhead and critical habitat. These assumptions are inaccurate.

The geomorphic conditions and habitat functions of the mainstem river downstream of Bradbury Dam cannot be made suitable for steelhead simply through the release of more water through the dam. For example, water temperature regimes in the lower river are elevated during the summer and riparian vegetation is inadequate or not biologically beneficial in some areas. Simply releasing more water will not improve these conditions and may, in fact, lead to worse conditions for the species.

As described below, releasing more water per implementation of the flow regime in Alternative 5C/Table 2 is likely to adversely affect steelhead by increasing the number of non-

native species that have colonized the lower river. Historically, the lower reaches of the mainstem river dried out during the summer months. This precluded large populations of warm water predatory fish from becoming established, reduced proliferation of vegetation such as willows that encroach on the river channel, and reduced colonization by species such as beavers that, through dam construction, alter habitat conditions (e.g., by creating low velocity pools and reducing pool-riffle complex habitat favorable for juvenile steelhead rearing). As a result of these conditions, the Santa Ynez River reaches below Bradbury Dam are not, and are unlikely to become through greater water releases, more suitable for steelhead.

i. Greater Perennial Flow Releases Below Bradbury Dam Are Likely to Increase Populations of Beavers, Bass and Other Predators, to the Detriment of Steelhead

The existing 2000 BO/Alternative 3C operations require perennial instream flows to the Highway 154 Reach to support steelhead habitat. However, monitoring data indicate that this increased year-round flow in the mainstem river has allowed a substantial expansion in areas covered and increase in numbers of non-native predatory species that were likely extirpated periodically from the mainstem river below the dam prior to 2000.

Year-round target flows have also resulted in the proliferation of beaver (a species not observed in the lower river prior to 2000) and an increase in beaver dams and pond habitat which appears to favor bass and other non-native predators (Reclamation 2013a, Reclamation 2013b).[9] Beaver dams can act as barriers or impediments to upstream and downstream migration of steelhead. Spawning habitat quantity has decreased as a result of beaver dam sedimentation and conversion of spawning riffles and runs to pool habitat. Observations of beaver dams increased in the lower mainstem following implementation of perennial dam releases for steelhead under the 2000 BO. Since 2007, there has been a substantial increase in the abundance of beaver dams with the greatest number in the lower river observed in 2013 (132 dams). This increase in beaver dams corresponds with implementation of long-term perennial dam releases for steelhead that started in January 2005.

In 2015 and 2016, releases from the dam were greatly reduced due to critical drought operations, and target flows under the 2000 BO were no longer required to be met at the

[9] (Reclamation. 2013a.) 2010 Annual Monitoring Report and Trend Analysis for the Biological Opinion for the Operation and Maintenance of the Cachuma Project on the Santa Ynez River in Santa Barbara County, California. Report prepared for National Marine Fisheries Service; Long Beach, California. (Reclamation. 2013b.) 2011 Annual Monitoring Report and Trend Analysis for the Biological Opinion for the Operation and Maintenance of the Cachuma Project on the Santa Ynez River in Santa Barbara County, California. Report prepared for National Marine Fisheries Service; Long Beach, California.

Highway 154 Reach monitoring location. The corresponding reduction in beaver dam abundance observed in the mainstem (and observed beaver mortalities in dry sections) during that period supports the conclusion that the perennial water provided by long-term rearing flow releases is supporting the proliferation of beaver.

In addition, non-native predator removal from the Stilling Basin and fish rescue efforts in the Long Pool in 2016 resulted in the capture of numerous non-native fish, but no steelhead, despite suitable water quality conditions. This further suggests that warm water species are currently limiting steelhead presence in the Highway 154 Reach. These observations are counter to the Draft Order's assumption that increasing perennial flows in the mainstem will improve quality and availability of habitat for steelhead in the Highway 154 reach and further downstream.

ii. The Draft Order's Reliance on the 1989 IFIM Study is Unjustified

The proposed instream flow regime identified in Alternative 5C/Table 2 is at least partially based on results of an IFIM study conducted in 1989. (Draft Order, p. 64.) Imposing an increased flow requirement based on the results of this study is inappropriate. First, the lower Santa Ynez River has experienced a wide range of high and low flows since 1989 and the IFIM study results may thus not be representative of current geomorphic channel conditions in the river. As a result, the 1989 may misrepresent the current flow-habitat relationships for each of the lifestages of steelhead.

Second, the technology, data analysis, many of the basic assumptions, data collection protocols, and interpretation of results from IFIM studies have been revised and refined substantially since 1989. Accordingly, the results of the 1989 study may no longer be relevant or accurate.

Third, the IFIM study estimated relationships between weighted usable area (WUA) and instream flows for each steelhead lifestage included in the analysis, but did not consider the effects of exposure to seasonally elevated water temperatures or depressed dissolved oxygen concentrations as factors effecting habitat suitability. Results of WUA alone can be misleading in suggesting habitat availability because such habitat may not, in fact, be suitable to steelhead or may cause stress to the species due to adverse water quality.

Prior to mandating new instream flow requirements based on the 1989 IFIM study, a new study should be conducted using current protocols and analysis methods for use as the basis for management recommendations. Results of a contemporary IFIM study would also provide a transparent basis for estimating the change in suitable habitat and carrying capacity for various lifestages of steelhead as a function of instream flows under Alternatives 3C and 5C. These

estimates of WUA, which include consideration of lifestage habitat suitability and preference, would be more robust, reliable, and scientifically supportable than the index of habitat presented in the Draft Order on Table B (page 71) and Table C (page 72). Given the concerns and uncertainties with the 1989 IFIM study, many of which were acknowledged in the State Board staff report accompanying the Draft Order, and the Draft Order's requirement to conduct a new IFIM study using contemporary protocols and analyses, instream flows under Alternative 5C should not be implemented until results of the new study are available and have been reviewed by the scientific community.

iii. Higher Flows into the River's Lower Reaches is Unlikely to Lead to a Healthy Steelhead Community

The Draft Order notes that the lower mainstem river fish assemblage does not meet the criteria offered by Dr. Moyle for a healthy fish community as a result of the abundance of warm water fish species, such as bass, and impacts of beavers on habitat and abundance of steelhead. (Draft Order, p 54.) The changes in the aquatic community observed in response to providing perennial flows downstream of Bradbury Dam to date could become worse for the native fish community under the higher flows proposed in the Draft Order. As a consequence of these and other factors, the Santa Ynez River steelhead management strategy emphasized improving habitat and access to suitable spawning and juvenile rearing habitat in the major tributaries located downstream of Bradbury Dam. However, the Draft Order largely disregards the strategy's recommendations.

b. The Draft Order Fails to Address the Progress Made to Benefit Steelhead and Habitat in Tributary Areas

Tributaries to the lower Santa Ynez River offer diverse habitat opportunities for steelhead spawning and juvenile rearing. The tributary habitats typically have steeper channel slopes, a greater habitat diversity with pool and riffle complexes, and more riparian vegetation that provides stream shading, organic material, greater large woody debris and instream cover complexity to support steelhead populations. Also, these tributary areas have not been colonized by either non-native predatory fish or extensive beaver populations.

Implementation of the existing steelhead management program has led to increased access to high quality habitat conditions, including through installation and operation of the Hilton Creek watering system to provide cool water instream flows suitable for steelhead. Indeed, Hilton Creek supports the highest production of O. mykiss in the lower watershed. Other major Santa Ynez River tributary systems, such as Salsipuedes Creek, have also benefited from implementation of passage facilities to provide better migration conditions and access to upper reach areas . As of November 2016, 11 tributary passage projects have been completed in the

lower watershed, resulting in approximately 15 more stream miles of tributary habitats being made available to steelhead. Six additional barrier removal projects are in design and/or under construction and will open an additional 4.91 miles of habitat. When completed, these projects will have opened 19.9 stream miles of tributary habitat that were formerly inaccessible to steelhead. The Draft Order fails to acknowledge these improved tributary conditions and access.

c. The Draft Order Improperly Discounts the Potential Benefits of Continuing Alternative 3C Flows for a More Extended Period

The Draft Order is based on an assumption that the current fishery management strategy for the lower Santa Ynez River is not performing as expected to adequately protect steelhead. However, given ongoing drought conditions and the nature of the watershed, the strategy has not been given sufficient time for benefits to materialize. Indeed, given that ongoing severe drought conditions have led to widespread reductions in reproductive success and abundance in steelhead populations across the state, it is not surprising that the Santa Ynez River system steelhead population is not increasing as quickly as expected.

Interim instream flow releases from Bradbury Dam began in 2000 with long-term flow releases starting in 2005. However, only a few years into implementation of the fishery management strategy, the drought began. The watershed has suffered the current, ongoing 5-year (and potentially longer) drought since the last reservoir spill in 2011.

As a result of the short period of time that instream flows and other management actions have been in place on the lower Santa Ynez River, coupled with impacts of record drought conditions, there has been insufficient time to assess the performance of the existing management program in increasing steelhead population abundance. Restoration of habitat conditions and functions in the lower Santa Ynez River is expected to takes decades to mature and provide the full level of expected benefits. Steelhead efforts in the lower Santa Ynez River are expected to take many generations to build a robust and sustainable population. The Draft Order acknowledges the testimony of Dr. Charles Hanson who estimated the process could take 100 years. Steelhead typically have a 3 to 5 year lifecycle and it will take a succession of generations to see substantial increases in population abundance and life history diversity. Drought and other biotic and abiotic conditions, such as changes in climate and hydrology, impacts of predatory warm water fish, ocean conditions, and other factors, all have a strong impact on the population dynamics of Santa Ynez River steelhead. Given the conditions that have occurred on the river over the past decade, and the relatively short time since implementation of the fishery management actions, the conclusion of the Draft Order that the current program is not functioning effectively to benefit the Santa Ynez River steelhead population is premature.

In addition to the above, habitat, water quality, and fishery monitoring has been performed in the lower mainstem river and major tributaries for over two decades to assess and identify management actions that would benefit steelhead in the lower watershed. A large body of this scientific monitoring information is available, but has not been considered by the State Board.

d. The Draft Order's Requirement for a New Steelhead Passage Study is Unnecessary

A collaborative investigation of steelhead passage and relocation in the watershed upstream of Bradbury Dam has been completed. A number of limitations and constraints were identified regarding potential relocation of steelhead into the upper watershed, including limited access, limited suitable habitat, transportation challenges, particularly during the winter and early spring months of adult and juvenile steelhead migration, difficulties in effectively trapping downstream migrating juvenile steelhead and kelts from upstream tributaries with highly variable flow regimes, and anticipated high predation mortality for any juvenile steelhead that migrated downstream into Lake Cachuma. Based on these and other considerations, the management strategy focused on habitat opportunities downstream of Bradbury Dam. The Draft Order would require further consideration of upstream steelhead passage, yet a new passage feasibility study is not necessary. The existing passage feasibility report should be reviewed and updated as needed to meet the Draft Order study requirement.

e. The Proposed Table 2 Flows to Benefit Juvenile Steelhead Emigration Should be Removed or Modified

Table 2 of the Draft Order includes a minimum release from Bradbury Dam to assist juvenile steelhead emigration. Requiring additional flows in early June for juvenile migration should be made contingent on providing such releases only during those periods when there is surface water connectivity between Bradbury Dam and the ocean. If there is no connectivity, the added migration flows could serve as a false migration cue and encourage movement of juvenile steelhead downstream into an area of adverse summer rearing conditions and an increased risk of mortality.

f. The 33,707 AF Trigger for Minimum Instream Flow Releases under Table 2 of the Draft Order is Not Supported

The Draft Order includes a runoff threshold of 33,707 acre-feet of water entering Lake Cachuma after October 1 of a given year as the trigger to increase minimum instream flow releases to the lower river from Alternative 3C to those presented for Alternative 5C in Table 2. However, no habitat or fishery based analysis is presented in the Draft Order to provide scientific

support for the proposed runoff threshold of 33,707 acre-feet. The biological analysis and basis for the proposed runoff threshold, and resulting changes in quality and availability of suitable habitat for steelhead spawning, juvenile rearing, and migration requires further scientific support and justification. As further discussed below, the 33,707 acre-foot trigger is artificially and arbitrarily low, and should be revised to 70,000 acre-feet if Alternative 5 is selected.

g. There is no Evidence that Short Duration, Downstream Water Rights Releases Markedly Increase Predator Populations

The Draft Order states that "Reservoir operations to satisfy downstream water rights also modify natural flow patterns in a manner favorable to predator species and other exotic species." (Draft Order, p. 47.) However, no analysis or scientific support is provided for this finding. Water right releases under WR 89-18 occur for only a short period (typically weeks to a few months) within a year and do not occur in every year. Given their relatively short duration and inconsistent occurrence among years, there is no basis for concluding that these releases result in an increase in abundance of predatory or other exotic fish species in the mainstem river. On the other hand, providing increased perennial regulated flows in the mainstem river, as proposed in the Draft Order, would be expected to increase habitat for warm water predatory fish, which through an increase in their size and abundance in the mainstem would increase the risk of predation mortality for rearing and migrating juvenile steelhead.

Because the administrative record does not contain substantial evidence that quantifies or otherwise establishes the biological benefits of Alternative 5C/Table 2 flows and the 1.5 cfs Alisal flow target in a year after a spill, the State Board should add the above-described terms A and B to the Draft Order as part of an effort to achieve the required level of balance between protection of the steelhead fishery and the significant and unmitigable impacts to water supplies.

2. Alternative 5C's Impacts to Steelhead Have Not Been Adequately Analyzed

CEQA mandates that the alternatives analysis of an Environmental Impact Report (EIR) must contain sufficient and concrete information to allow a fact-based comparison of the alternatives as against the project. (CEQA Guidelines § 15126.6(c)-(d).) Here, the potential environmental impacts of Alternative 5C have not been sufficiently analyzed or disclosed, meaning that the implementation of Alternative 5C will result in currently unknown and undisclosed impacts on resources including, but not be limited to, fish species and water supply.

The Draft Order's conclusion that implementing Alternative 5C will benefit the steelhead population is not supported by substantial evidence in the record and in several respects is directly contrary to the evidence. Under CEQA, an unsubstantiated conclusion that an impact is less than significant (or provides a net benefit) is insufficient; any reasoning supporting such a

determination must be disclosed. (*City of Maywood v. Los Angeles Unified School Dist.* (2012) 208 Cal.App.4th 362, 393.) Here, the record clearly shows that increased flows in the mainstem Santa Ynez River will benefit beavers and non-native predator populations (primarily bass) to the detriment of steelhead.

The Draft Order states that higher flows under Alternative 5C could provide better protection for steelhead by allowing non-native predatory fish to disperse along the Santa Ynez River in the reach between Bradbury Dam and the Alisal Bridge, thereby reducing their densities in pool habitat utilized by steelhead. (Draft Order, p. 72.) But, as explained above and as set forth in the record, higher flows are unlikely to have the beneficial effect of removing non-native predators. (Reporters Transcript, October 22, 2003, p. 447:18-447:21.) Rather, increased flows will likely create more pool habitat favorable to non-native warm-water species and thus the proliferation of species that prey on steelhead. (Final EIR, Volume II, 4.7-52.) Therefore, the potential for this harmful effect to occur under Alternative 5C must be further analyzed, and the potential impacts to steelhead that may result must be disclosed.

Also discussed above, higher flows in the mainstem of the River will increase the predator (bass) population by creating more favorable conditions for beaver which, through the construction of dams, will increase pool habitat that favors non-native predators. The record shows that areas of the lower river within the Refugio and Alisal reaches with established flows during a spill year (of greater than 20,000 acre-feet) and the year after a spill have the highest beaver activity. This is attributable to fish water releases from Project supplies to meet the target flow at Alisal Bridge in those years. (Final EIR, Volume II, 4.7-22.) Thus, the extension of habitat downstream that would result from higher flows will encourage increased beaver activity (including dam creation). These dams will increase predation and interfere with steelhead passage. (Id.) The potential for these effects to occur under Alternative 5C, and the attendant impacts to steelhead, remain overlooked. Impact findings are inadequate if there is no evidence showing the issue was studied. (*City of Maywood*, *supra*, 208 Cal.App.4th at 391.)

The State Board previously received comments that its analysis of the predator problem was inadequate, and responded by pointing to a discussion in the 2nd RDEIR on impacts to non-native fish in Lake Cachuma. (Final EIR, Volume I, 2.0-157.) However, analyzing the impacts of increased flow requirements on fish resident in Lake Cachuma is not an appropriate surrogate for the interaction between steelhead and predators in the mainstem of the Santa Ynez River below Bradbury Dam. Accordingly, there is not substantial evidence in the record to support the Draft Order's conclusion that implementing Alternative 5C will benefit steelhead – yet there is substantial evidence that Alternative 5C will actually harm that species. The Draft Order acknowledges that invasive species pose a threat to the condition of steelhead in the Santa Ynez River, but instead of analyzing the issue before imposing a new flow regime, the Draft Order directs Reclamation to study the threat to fish after it requires the release of additional water

under Alternative 5C that will cause substantial water supply impacts to the Cachuma Member Units. (Draft Order, p. 84.) An impact analysis cannot be delayed in this way.

3. The Draft Order Substantially Underestimates Water Supply Impacts

The Draft Order asserts without support that "none of the alternatives would have an appreciable effect on the Member Units' water supply during wet or normal hydrologic conditions, but some of the alternatives, including Alternative 5C, could exacerbate water supply shortages during critically dry periods." (Draft Order, p. 73.) The Draft Order asserts that a "reasonable upper limit estimate" of implementation of Alternative 5C is projected to increase local water supply shortages (as comparted with Alternative 3C) by 1,511 acre feet (or 4%) in a critically dry year and by 3,881 acre feet (3%) over a three-year critical drought period. (Draft Order, pp. 74-75.) However, as discussed below, the Draft Order underestimates the water supply impacts of implementing Alternative 5C. In turn, this underestimation prevents the Draft Order from conducting a proper balancing analysis under the statement of overriding considerations, the public trust doctrine, Article X, Section 2, and other applicable legal standards. Also, the Draft Order's assertion that any water supply impacts can be "avoided to the extent feasible by implementing conservation measures" (Draft Order, p. 77) is belied by reality and not supported by substantial evidence.

a. The Draft Order Does Not Acknowledge the Decreased Storage Capacity of the Cachuma Reservoir

The Draft Order is based on the assumption that the maximum storage capacity of Cachuma Reservoir is 197,343 acre-feet. Actually, however, the maximum storage capacity of Cachuma Reservoir is now 193,305 acre-feet. This capacity includes Project water supplies, the three-foot surcharge for fish conservation (9,300 acre-feet), downstream water right accounts, and the minimum pool (12,000 acre-feet), where these latter non-Project water supplies are not available for delivery to the Cachuma Member Units. This loss in storage is due to upstream sediment being trapped in the reservoir by Bradbury Dam. The total loss in maximum storage is approximately 4,038 acre-feet. This translates directly into additional Project water supply shortages, particularly during critical drought periods, that are not addressed by the Draft Order. Also, the amount of sedimentation in the Reservoir is likely to increase over time, thus causing even greater water supply impacts in the future.

b. The Draft Order Does Not Acknowledge the Effects of the New Critical Drought Period 2012-2016

Inflows contributing to Cachuma Project water supplies during the two worst critical drought periods in recent times, 1947-1951 and 2012-2016 (still ongoing), are similar in that they

each encompass five straight years of no inflow or very little inflow for both drought periods. However, releases for fish were remarkably different between the two periods. Indeed the simulated releases for fish assumed for purposes of the Draft Order, including the spill year 1946 that preceded the drought, were 15,829 acre-feet under Alternative 3C for the period 1946-1951. The actual releases for fish under Alternative 3C, including the spill year 2011 that preceded the current drought, have been 23,102 acre-feet for the period 2011-2016. The difference in fish releases between the two drought periods is about 7,300 acre-feet.

The main reason for these additional fish releases during the 2011-2016 period compared with the 1946-1951 period relates to the spill year that immediately preceded each drought. The simulated spill in 1946 was less than 20,000 acre-feet, so under Table 1 in the Draft Order – were Alternative 3C implemented under such conditions going forward – the target flow of 1.5 cfs at Alisal Bridge in the spill year and the year after the spill would not have been triggered. By contrast, a spill greater than 20,000 acre-feet occurred in 2011. As a result, additional water had to be released from Cachuma Reservoir in both 2011 and 2012 to meet the Alisal Bridge 1.5 cfs flow target. This represents an additional water supply shortage of about 37 percent during the five year drought period 2012-2016 compared to the as-simulated drought period 1947-1951 that was assumed for purposes of the Draft Order (7,300 / 19,920 acre-feet = 37%). In turn, this affects the balancing analyses that the State Board is required to present in the Draft Order under applicable law discussed herein.

c. The Draft Order Does Not Acknowledge Limitation on I.D. No. 1's Other Water Supply Sources

The Draft Order states that under Alternative 5C "increased reliance on alternative water supplies may be necessary in order to compensate for future shortages during critically dry periods." (Draft Order, p. 3.) Because the importance of alternative water supply sources and conservation becomes more critical with increased releases from Cachuma Reservoir to benefit steelhead, the Draft Order should be updated to include a more comprehensive and accurate discussion of 1) actual I.D. No. 1 water supply conditions and 2) the variety of legal, regulatory, hydrologic, economic, political, and other factors affecting the availability and reliability of alternative water supplies to affected agencies as well as the more realistic potential to achieve additional conservation with the service areas of I.D. No. 1 and the other Cachuma Member Units.

In addition to constraints on the Cachuma Project, one of the latest water supply challenges facing I.D. No. 1 relates to its water supply from the Santa Ynez Uplands groundwater basin. This groundwater resource, which provides about 25 percent of the District's water supply during typical years, and nearly 100 percent in the case of the 1998 to 1991 drought, has been substantially limited by regulatory changes in State water quality standards,

and may be subject to further constraint upon implementation of the Sustainable Groundwater Management Act (SGMA). While I.D. No. 1's water supply historically has met all regulatory requirements, since 2014 water produced from several of the District's Uplands wells has been found to have levels of naturally occurring Chromium-6 that exceed strict new State regulatory limits. For compliance with the new concentration limits, the District must construct and begin operating a new Chromium-6 water treatment facility by January 1, 2020 or cease production. Pursuant to a State-approved Compliance Plan, until the treatment facility is built, I.D. No. 1 is currently limited in its ability to produce groundwater from the Santa Ynez Uplands basin by up to 50 percent. This is one reason why I.D. No. 1 is seriously concerned with the State Board's proposed adoption of Alternative 5C.

The Draft Order concludes without substantial evidence that the water supply impacts of Alternative 5C can be mitigated or offset through increased groundwater pumping. Again, however, the State Board has failed to provide any substantial evidence to support its conclusion that additional groundwater is available to I.D. No. 1 or the other Cachuma Member Units, and has ignored substantial evidence in the record and otherwise available to the Board regarding the decreased availability and reliability of groundwater supplies.

Various factors affect the Member Units' ability to produce additional local groundwater. For instance, DWR has issued multiple reports indicating that California's recent and ongoing prolonged drought conditions have substantially depleted groundwater basins throughout the state. (See, e.g., Public Update for Drought Response: Groundwater Basins with Potential Water Shortages and Gaps in Groundwater Monitoring (April 2014); Public Update for Drought Response: Groundwater Basins with Potential Water Shortages, Gaps in Groundwater Monitoring, Monitoring of Land Subsidence, and Agricultural Land Fallowing (November 2014).) Other factors affecting the ability to produce additional groundwater supplies include pending litigation, new water quality requirements and resulting limitations, and enactment of the Sustainable Groundwater Management Act (SGMA). (See also, CCRB comment letter dated September 27, 2007 regarding the Cachuma Project, pp. 41-42.)

To the extent the Draft Order contends that I.D. No. 1 or any of the Cachuma Member Units can simply rely on more State Water Project (SWP) deliveries to offset the significant water supply impacts of Alternative 5C, the Draft Order must provide a more comprehensive analysis regarding the myriad factors affecting the actual and projected availability and reliability of SWP supplies. While the Draft Order generically notes that SWP supplies are subject to some uncertainty, it does not acknowledge that actual SWP Table A availability can be as low as five percent in very dry years as it was in 2014. Indeed, the Table A availability over the three-year period of 2013-2015 averaged only 20 percent. If only 15 percent of SWP Table A supplies were available over three years, this would create an additional 10,000 acre-foot shortage for the

Cachuma Project Member Units compared to the 32 percent delivery assumptions used for purposes of the Draft Order.

Overall, the Draft Order ignores the documented fact that, according to DWR, current and projected SWP supplies generally are becoming less available and less reliable due to factors such as, but not limited to, declining ecosystem health, legal and regulatory constraints on Delta exports, water quality impediments, aging infrastructure, variable hydrology related to climate change factors, and the potential for seismic and other emergency disruptions. The 2005 SWP Delivery Reliability Report estimated long-term average Table A deliveries of 68 percent under current conditions and 77 percent under future conditions. The 2007 SWP Delivery Reliability Report estimated long-term average Table A deliveries of 63 percent under current conditions and 66-69 percent under future conditions. The 2009 SWP Delivery Reliability Report estimated long-term average Table A deliveries of 60 percent under current conditions and 60 percent under future conditions. The 2011 SWP Delivery Reliability Report estimated long-term average Table A deliveries of 61 percent under current conditions and 60 percent under future conditions. The 2013 SWP Delivery Reliability Report estimated long-term average Table A deliveries of 62 percent under current conditions and 58 percent under future conditions. In the 2015 SWP Delivery Capability Report, long-term average Table A deliveries were estimated as 62 percent. According to the same DWR reports, the availability and reliability of SWP Article 21 supplies are also declining. Furthermore, while the 2015 SWP Delivery Capability Report identifies the worst single-dry year condition as 11 percent Table A deliveries, the Draft Order fails to acknowledge, as noted above, that in 2014 the initial SWP allocation was an unprecedented zero percent, and ultimately increased to only five percent.

The Draft Order also fails to identify which SWP contractors would have SWP supplies available for transfer, the rights of those contractors, the quantities of surplus SWP supplies they would have available under different hydrologic years, the likelihood of those supplies proving available, or the potential environmental impacts likely to result from delivering and using those supplies, if they were available. Furthermore, the Draft Order provides no information or analysis of the fact that temporary transfers of additional SWP supplies are likely only available through the use of SWP conveyance facilities, which are constrained by high demand during drought periods and fraught with legal, regulatory, contractual, environmental and technical difficulty when seeking to convey water through the Delta. In this case, the State Board's conclusion that additional SWP supplies would be available to the Cachuma Member Units is the type of "paper water" analysis that repeatedly has been rejected by the California courts. (See, e.g., *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal.App.4th 48.) While the Draft Order assumes that the water supply impacts of Alternative 5C can be substantially mitigated through the use of water delivered from the State Water Project, the

assumption fails to consider substantial evidence in the record and otherwise available to the State Board regarding the decreased availability and reliability of SWP supplies.

Notably, the Draft Order ignores regulations adopted by the State that are geared toward reduced reliance on imported water supplies from the Delta (Cal. Admin. Code, tit. 23, §§ 5003, 5005) and that have rendered new desalination facilities more difficult to permit. (http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf) In sum, the Draft Order must do more to address the potential impacts of using alternative water supply sources to help offset and balance the significant water supply impacts to I.D. No. 1 and the other Cachuma Member Units. (Draft Order, pp. 101-102.)

d. The Draft Order Should Acknowledge Actual Water Supply Impacts

Table 1 below illustrates the increase in water supply shortages under the current drought compared to what is assumed for purposes of the Draft Order. Alternative 3C was expected to create shortages in the last three years of a 5-year drought of about 26 percent compared to a Cachuma Project water supply of 77,142 acre-feet over the last three years. However, due to meeting the required flows of 1.5 cfs at Alisal Bridge in the year of a spill and after a spill in 2011 and 2012 (these targets did not have to be met in 1946 and 1947 due to the small spill of less than 20,000 acre-feet), additional sedimentation in Cachuma Reservoir, and meeting Alternative 5C flows, the expected water supply shortages in the last three years of a 5-year drought could be as high as 46 percent. These factors should be addressed by the Draft Order for purposes of identifying actual water supply impacts, evaluating the feasibility of potential mitigation, balancing under the public trust doctrine, and evaluating reasonable and beneficial use under Article X, Section 2.

Table 1: Summary of Cachuma Project Shortages In the Last Three Years of a Five-Year Drought (Based on an Annual Draft of 25,714 acre-feet/year)

	Alt 1: WR 89-18	**Alt 3C: BO with 3' Surcharge**	**Alt 5C: 3C with Table 2 flows in Above-Normal/Wet Years**
SYRHM Shortage SWRCB FEIR 1949-1951	14,210	19,925	23,806
Estimated Shortage 2012-2016	NA	31,225 [1)]	35,106 [2)]

Expected 3-Yr Supply from Cachuma (25,714 afa)	77,142	77,142	77,142
Shortage SYRHM 1949-1951 as Percentage of 100% Supply	18%	26%	31%
Shortage 2012-2016 as Percentage of 100% Supply	---	40%	46%

1) Additional Shortages for 2012-2016 (acre-feet) = 19,925 (from FEIR for 3C) + 4,000 (sedimentation) + 7,300 (additional fish releases for 1.5 cfs flow target)

2) Additional Shortages for 2012-2016 = Alt 3C (2012-2016) + 3,881 (from FEIR for 5C)

e. The Draft Order Analysis Fails to Acknowledge a Nearly 20 Percent Decrease in Downstream Releases to I.D. No. 1 from the Above Narrows Account

Water rights releases are made to replenish the Santa Ynez River alluvial groundwater basin between Bradbury Dam and Lompoc Narrows. I.D. No.1 relies on replenishments provided to the alluvial groundwater basin by water rights releases from the Above Narrows Account (ANA). Additionally, as noted in comments submitted by the Parent District, water stored in Lake Cachuma under the ANA is a source of drought water supply for water users within the Parent District downstream of Bradbury Dam. The amount of credits accrued to the ANA is crucial in the management of water supply for the water right holders in the Above Narrows and Below Narrows areas. Indeed, the ANA water also provides for the conveyance of the Below Narrows Account (BNA) water to the Lompoc Plain (below Narrows areas). Water rights releases from the ANA are impacted by the proposed alternatives when compared to the WR 89-18 operations (see Table 1, Alternative 1 above).

The average annual amounts of releases from the ANA for Alternatives 1, 3C and 5C are shown below. The average annual reductions in the ANA releases under these alternatives are compared to Alternative 1 in Table 2 below. As provided in previous written comments, the average annual reduction in downstream water rights releases (ANA) under Alternatives 3C would be 13 percent. Under Alternative 5C, the reduction in the releases from the ANA would be 19 percent. This level of reduction in the ANA would impair the supply of water to replenish the downstream alluvial groundwater basin which in turn impacts the water rights and supply of water to I.D. No. 1 and water users within the Parent District.

Table 2. Average Annual Impacts on Releases from Above Narrows Account 1918-1993, SYRHM (acre-feet)

	Alt 1: WR 89-18	Alt 3C: BO with 3' Surcharge	Alt 5C: 3C with Table 2 flows in Above-Normal/Wet Years
ANA Releases	4,559	3,949	3,690
Differences in ANA Releases	---	-610	-869
Percent Reduction in ANA Releases	---	-13%	-19%

The Draft Order illustrates that the State Board has lost sight that the Cachuma Project is a critical water supply and storage facility, both for Project supplies and for downstream water rights that are senior to and separate from the Project. The Draft Order underestimates the water supply impacts of Alternative 5C and the State Board's conclusion that the impacts can be mitigated is not supported by substantial evidence. These harms are compounded by the lack of adequate scientific data showing that implementation of Alternative 5C will actually benefit steelhead. For the many reasons set forth herein, if the State Board selects Alternative 5C, it should add the proposed terms A and B described above as part of an effort to appropriately analyze and balance the actual water supply implications of its decision.

4. Adhering to the Settlement Agreement is Crucial

The Draft Order requires many studies analyzing the flow-habitat-species relationships in the Lower Santa Ynez River and additional studies with the goal of restoring the steelhead populations in the Lower Santa Ynez River according to the Board's adopted definition of "good condition" for purposes of Fish and Game Code section 5937. The primary study orders a review of the effects of Alternative 5C flows during five years of either wet or above normal flows. However, as part of this flow-habitat-species study on Alternative 5C flows, an additional component is added:

> In addition to analyzing the effects of the Table 2 Flows on steelhead in the River, rightholder shall analyze the extent to which the Table 2 Flows can be conjunctively used to satisfy downstream water rights, and whether any adjustments to the "above Narrows" account or the "below Narrows"

account are warranted in order to minimize the effects of release or bypass flow requirements on Cachuma Project yield.

As acknowledged by the Draft Order, the State Board's consideration of Reclamation's Permits 11308 and 11310 are predicated on the requirement to protect senior downstream water rights. Thus, any study regarding potential "adjustments" to the downstream water rights accounts in the Cachuma Reservoir or water rights releases must adhere to the priority and protection of those rights. The proper focus of this type of study, if any, would be evaluating the effects of Alternative 5C target flows on downstream habitat and steelhead populations and would not involve potential adjustments to priority downstream water rights accounts or water rights releases.

Furthermore, the conjunctive use of downstream water rights and releases for fish is already covered by the Settlement Agreement, which among other things provides for a scheduled review of conjunctive operations (Term 1.6 in the Settlement Agreement pg. 6):

> **1.6 Subsequent Review of Conjunctive Operations.**
> The conjunctive operation provisions of Paragraph 1.2, 1.3 and 1.5 will be reviewed and evaluated at the end of a ten (10) year period following this Agreement becoming effective and may thereafter be revised upon mutual agreement of Santa Ynez, ID #1, Lompoc and CCRB, with the concurrence of USBR and State Board when applicable. If a party requests a revision of this Agreement following such review, and cannot reach agreement with the other parties within 180 days of the request, the matter will then be submitted to a mediator mutually agreeable to the parties to this Agreement. If after ninety (90) days the mediation effort is unsuccessful or the parties cannot agree on a mediator, any party may then request that the State Board review the matter in the manner provided by law. In order to seek a revision, a party must demonstrate by substantial evidence that the objectives of Paragraph 1.2, 1.3 or 1.5 are not being met.

In fact, this scheduled review of conjunctive operations in the Settlement Agreement will most likely come sooner (10 years) than the scheduled review proposed in the Draft Order (five wet or above normal years), which would most likely happen anywhere from 10 to 20 years from now. As recognized by the Draft Order, the Settlement Agreement reflects a carefully negotiated compromise among the Cachuma Member Units and all downstream interests that resolves several critical issues concerning water rights, water quality, and flood control issues, all of which is fully supported by Reclamation. Accordingly, I.D. No. 1 requests that the issue of conjunctive use operations be addressed within the framework of the Settlement Agreement and be removed from the flow-habitat-species study required in the Draft Order.

5. The Draft Order Applies a Novel and Improper Legal Standard for Evaluating Public Trust Resources

The Draft Order imposes a shifting legal standard for evaluating public trust resources, and the standard imposed is improper and not supported by California law. Throughout the hearing and environmental review processes relating to the Cachuma Project, the State Board identified and noticed the "Key Issue" concerning public trust resources in terms of what is needed "to protect" those resources. For instance, for purposes of the Phase 2 supplemental hearing notice, Key Issue 3 was stated as follows:

> Should Permits 11308 and 11310 be modified to *protect* public trust resources?
>
> a. What flow requirements, including magnitude and duration of flows released from Bradbury Dam, are necessary to *protect* public trust resources, including, but not limited to, steelhead, red-legged frog, tidewater goby and wetlands, in the Santa Ynez River downstream of Bradbury Dam? What terms, conditions or recommendations contained in the Biological Opinion, if any, should be incorporated into Reclamation's water rights permits?
>
> b. What other measures, if any, are necessary to *protect* public trust resources?
>
> c. How will any proposed measures designed to *protect* public trust resources affect Reclamation and the entities that have water supply contracts with Reclamation?
>
> d. What water conservation measures could be implemented in order to minimize any water supply impacts? (See Draft Order, p, 18, emphasis added.)

Despite previously framing the public trust issue and standard in terms of what is needed to *protect* public trust resources, the Draft Order now imposes a shifting legal standard on the Cachuma Project. Even worse, it appears the State Board's standard is not supported in law and cannot be achieved according to substantial evidence in the record.

One facet of the State Board's error is its failure to apply a stable and consistent legal standard against which the Cachuma Project is evaluated in the Draft Order. By way of illustration, the Draft Order conflates and interchanges standards to such an extent that there is

no clarity on what legal standard is being applied, e.g., "restoration to a sustainable level" (Draft Order, p. 2) vs. "avoiding potential impacts" (Id., p. 2) vs. "likely to harm the fishery" (Id., p. 3) vs. "protect" the fishery (Id., p. 3) vs. "restore" the fishery (Id., p. 4) vs. "adversely affect fish and wildlife" (Id., p. 19) vs. "protect public trust uses" (Id., pp, 20-21) vs. "preservation and enhancement" (Id., p. 22) vs. "keep in good condition" (Id., p. 22) vs. "conserve endangered species" (Id., pp. 22-24) vs. "avoid jeopardy or destruction or adversely modify critical habitat" (Id., pp. 24-26) vs. "avoid extinction" (Id., p. 53) vs. "recovery" (Id., p. 59) vs. "restore the steelhead to the point that the fishery is a viable, self-sustaining population, which would be necessary to meet the criteria for fish in good condition." (Id., p. 60). A shifting legal standard cannot be upheld.

Upon close inspection it becomes clear that the State Board started with one legal standard for public trust resources (i.e., "protection"), yet transmuted and then applied a completely different standard (i.e., "restoration" to "good condition") which is legally, factually, and practically defective. In the beginning of Section 5.0, the Draft Order states: "One of the primary objectives of this proceeding is to ensure the protection of public trust resources to the extent feasible and in the public interest." (Draft Order, p. 37.) This is the correct legal standard. As further discussed below, the public trust doctrine as applied to the appropriative water rights permitting process has been definitively addressed by the California Supreme Court in *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, where the Court directed the State Board "to take the public trust into account in the planning and allocation of water resources, and to protect the public trust uses whenever feasible." (*National Audubon*, 33 Cal.3d at 446.) One the one hand, the State Board and Draft Order recognize this as the applicable standard. (Draft Order, e.g., pp. 20-21, 37.) Yet on the other hand, the Draft Order then strays and creates a new and more onerous standard under the auspices of Fish and Game Code section 5937. The Draft Order recognizes the limited language of Section 5937, as follows:

> The owner of any dam shall allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam. (Fish & Game Code § 5937; Draft Order, p. 23.)

According to the Draft Order, Fish and Game Code section 5937 "is a legislative expression of the reasonable use and public trust doctrines." (Draft Order, p. 22.) Unfortunately, however, and despite the express language of Section 5937, the Draft Order inserts a "restoration" standard into the code section. (Draft Order, e.g., pp. 59-60.) First, it cannot be overlooked that Section 5937 *does not contain the word "restore"* and does state or suggest in any way that it requires the owner of a dam to restore the historic population of any fish that may have existed or may have been planted at some time. The Draft Order obliquely cites *California*

Trout, Inc. v. State Water Resources Control Board (1989) 207 Cal.App.3d 585 as support for its position (Draft Order, p. 22), yet by no means does that case stand for the proposition that Fish and Game Code section 5937 can be applied to the Cachuma Project in a way that requires "restoration" of a steelhead population downstream of Bradbury Dam. Although the *California Trout* cases used the word "restore" in the context of Section 5937, those cases are expressly limited to the enforcement of Fish and Game Code section 5946 for dams constructed on certain streams in Mono County.[10] Indeed, the Court of Appeal was very careful to note in those cases that "by the enactment of section 5946, the Legislature had resolved the competing claims for the beneficial use of water in [those] streams in favor of preservation of their fisheries." (*California Trout*, 218 Cal.App.3d 187, 195.) The Court of Appeal clearly confined the scope of its decisions as follows:

> *[S]ection 5946 takes this case outside the purview of statutes which may allow the Water Board to balance competing beneficial uses of water and to determine the priority of use. For that reason alone, the statutory procedures applicable to the balancing of competing uses by the Water Board are not applicable.* (See, e.g., Wat. Code §§ 1243, 1253, 1254, 1256, 1257.) Thus the issues to be resolved in the enforcement of section 5946 do not invoke the expertise of the Water Board in 'the intricacies of water law' and 'comprehensive planning' of importance to the Audubon court.
>
> As we held in *California Trout*, section 5946 fixes the priority of the public trust in fisheries for the streams to which it applies. . . . The same is true with respect to the question of reconciling the amount of water required to sustain the prediversion carrying capacity of fish of the four streams in issue with 'the public interest,' an apparent reference in the regulation to the discretion assigned to the Water Board in some cases to balance the interests served by competing claims to the use of water. (See, e.g., Wat. Code §§ 1243, 1253, 1254, 1256, 1257.) *Once again we say, these provisions are not applicable in this case for the balancing therein contemplated has been done by the Legislature in enacting section 5946.* (*California Trout*, 218 Cal.App.3d at 203, 208-209, 211 (emphasis added).)

[10] See *California Trout, Inc. v. State Water Resources Control Board* (1989) 207 Cal.App.3d 585, 604; *California Trout, Inc. v. State Water Resources Control Board* (1990) 218 Cal.App.3d 187, 195.

Under the specific circumstances of the *California Trout* cases involving the enforcement of Section 5946, the court found that the State Board could set release rates from the dams that are subject to Section 5946 to "restore the historic fishery" and to "reestablish and maintain the fisheries which existed in them prior to [the] diversion of water." (*California Trout*, 218 Cal.App.3d at 209-210, 213.) Again, however, the validity of that requirement was expressly predicated on the Court of Appeal's express determination that the priority of water use in those streams already had been fixed by the Legislature because of Section 5946, and that for those dams the State Board was not subject to the balancing requirements of Article X, Section 2 of the California Constitution, the public trust doctrine under Audubon, and multiple Water Code provisions. (*Id.* at 203, 208-209.) Yet Section 5946 does not apply in this matter.

Thus, neither the plain language of Section 5937 nor the *California Trout* cases support a conclusion or legal standard that keeping fish in good condition requires flow releases from Bradbury Dam for the purpose of "restoring" a self-sustaining fish population. Nevertheless, that is exactly what the State Board has done in the Draft Order, to wit:

> For the following reasons, however, *the Board finds that the Biological Opinion/Alternative 3C is insufficient to restore steelhead in the Santa Ynez River watershed to good condition.* . . . The Biological Opinion/Alternative 3C requirements are intended to substantially enhance habitat conditions for steelhead in an effort to promote recovery of the Santa Ynez River steelhead population. But as clarified by Mr. Wingert, *the measures identified in the Biological Opinion are not intended to restore the steelhead to the point that the fishery is a viable, self-sustaining population, which would be necessary to meet the criteria for fish in good condition.* (Draft Order, p, 60; emphasis added.)

The State Board's decision to insert a "restoration" standard into Fish and Game Code section 5937 as applied to the Cachuma Project, which does not involve the enforcement of Section 5946, is contrary to law. Indeed, the Court of Appeal stated in *California Trout*:

> An erroneous administrative construction does not become decisive no matter how long continued. (*People v. Union Oil Co.* (1957) 48 Cal.2d 476, 480.) An administrative officer may not make a rule or regulation that alters or enlarges the terms of a legislative enactment. (*Whitcomb Hotel, Inc. v. Cal. Emp. Com.* (1944) 24 Cal.2d 753, 757.) The policies which underlie judicial deference to administrative constructions of statutes are not served by deference to the opinions of legal counsel for an administrative agency which inform the agency that it is constrained by

law to adopt a certain construction. (*California Trout*, 207 Cal.App.3d 585, 607.)

By expressly and implicitly applying a "restoration" standard to the Cachuma Project, the State Board has necessarily short-circuited and failed to employ the full suite of balancing requirements that apply under Article X, Section 2, the Audubon case, and Water Code sections 1243, 1253, 1254, 1256, 1257. For example, and as recognized in *National Audubon*, proper balancing under the public trust doctrine to *protect* public trust uses requires the State Board to consider the preservation and enhancement of fish and wildlife resources as a beneficial use of water under Water Code section 1243. (*National Audubon*, *supra*, 33 Cal.3d at 443.) The *National Audubon* Court also identified the California Environmental Quality Act (CEQA) as an important tool for ensuring the protection of fishery resources under the public trust doctrine. (*National Audubon* at 446-447.) In this case, the State Board's Final EIR concludes the protections afforded to steelhead under the Biological Opinion/Alternative 3C are the environmentally superior alternative under CEQA, and the Draft Order finds that the Biological Opinion/Alternative 3C protections "are intended to substantially enhance habitat conditions for steelhead in an effort to promote recovery of the Santa Ynez River steelhead population." (Draft Order, p. 60.)

Instead of applying appropriate legal standards to balance competing interests for the protection of public trust uses – which is reflected in Alternative 3C – the Draft Order applies a "restoration" standard under Fish and Game Code section 5937 according to the definition of good condition created by professor Peter Moyle as a basis for selecting Alternative 5C. First, for the reasons set forth above, "restoration" is an improper legal standard to apply to the Cachuma Project under Section 5937 and other state law. Second, Dr. Moyle's purported definition of "good condition" for purposes of Section 5937 is not a legal definition, and never has been accepted as such in any binding legal decision. Third, substantial evidence in the record demonstrates that Dr. Moyle's purported definition of "good condition" is impossible to achieve in the Santa Ynez River below Bradbury Dam.

Based principally on Dr. Moyle's definition of good condition and the NMFS Draft Steelhead Recovery Plan, the Draft Order concludes that the minimum viable population size for the Santa Ynez River is a run size of 4,150 spawning adults per year. (Draft Order, pp. 52-53.) At the same time, the Draft Order finds that currently the number of adult steelhead is very low, reported at less than 100 adults per year according to a 1996 assessment by NOAA. (Draft Order, p. 51.) Accordingly, the Draft Order posits that an approximately 4,150 percent increase in spawning adults per year is needed to *restore* a viable, self-sustaining steelhead population needed to meet the criteria for "good condition" under Section 5937. (Draft Order, p. 51-60.) Notably, the record demonstrates that for purposes of the Draft Order, the "viable, self-sustaining

population" intended to "restore" steelhead to "good condition" must occur in the reaches below Bradbury Dam. (See, e.g., Draft Order, pp. 82-83.) However, the Draft Order also states:

> Without access to the upstream areas for spawning and rearing, the steelhead population in the Santa Ynez River is considered by NMFS to be extremely vulnerable to extinction because of drought or other climatic phenomenon. (R.T., October 23, 2003, pp. 584:16-584:21.) (Draft Order, p. 46.)
>
> Drs. Titus and Hanson testified that the lower SYR will not support a robust population of steelhead and that passage is necessary for recovery. (DFG-4, p. 7; R.T., March 30, 2012, p. 18:1-18:8.) (Draft Order, p. 83.)

Despite this and other substantial evidence in the record that "restoring" a steelhead population to "good condition" of 4,150 spawning adults per year below Bradbury Dam is not feasible, the Draft Order requires additional flows under Alternative 5C to maintain fish in good condition. In cursory fashion, the Draft Order concludes in one sentence that "the Biological Opinion/Alternative 3C is insufficient to restore steelhead in the Santa Ynez River watershed to good condition" (Draft Order, p. 60), yet promotes in another sentence that "the Board received testimony from CalTrout witness Mr. Keegan that the Table 2 Flows, if provided in all water year types, would likely maintain steelhead populations in good condition." (Draft Order, p. 64.)

To be clear, there is no substantial evidence that the Alternative 5C/Table 2 flows will maintain steelhead in "good condition" as defined by the Draft Order. This fact is repeatedly acknowledged by the Draft Order:

> *[T]he evidence in the record is unsupportive* that solely increasing flows will be sufficient to restore the steelhead fishery. (Draft Order, p. 3.)
>
> Estimates of additional habitat provided in the Highway 154, Refugio, and Alisal reaches resulting from Table 2 Flows *are not included in the hearing record.* (Draft Order, p. 68.)[11]

[11] Remarkably, in light of the admitted lack of substantial evidence in the hearing record regarding whether additional habitat is provided by Alternative 5C/Table 2 flows, the State Board simply creates its own evidence of estimated increases in habitat improvements. (See Draft Order, pp. 68-72.) This new evidence created by the State Board was not available as part of the administrative record, was not subject to cross-examination, and has not been peer reviewed or otherwise tested regarding its validity or relevance. Accordingly, this information must be disregarded and deleted from the Draft Order.

> In light of the insufficient improvement to steelhead and public trust resources while implementing the BO/3C, testimony from the fishery agencies on the need for additional action to enable steelhead recovery, and *an incomplete record that does not allow the Board to make a final determination regarding the measures necessary to fully protect the steelhead and public trust resources below Bradbury Dam*, this order requires Reclamation to complete studies sufficient to determine the measures necessary to maintain the steelhead population in good condition. (Draft Order, p. 80.)

In violation of the balancing required by the public trust doctrine and Article X, Section 2 of the California Constitution, the Draft Order requires additional releases from Bradbury Dam without record evidence that such releases will or can restore steelhead to "good condition" as defined by the Draft Order. Adding final insult to injury, the State Board admits it does not understand what constitutes "good condition" for steelhead below Bradbury Dam: "This order also requires Reclamation to prepare a study plan . . . [which] shall specify the metric or metrics that will be used to define what would constitute good condition of the steelhead fishery in the Santa Ynez River at the population and community levels. (Draft Order, pp. 85, 112; emphasis added.)

For all these reasons and others provided herein, the State Board's applications of the Public Trust Doctrine and Fish and Game Code section 5937 are not supported by law or substantial evidence, and cannot be sustained.

6. The Draft Order Fails to Balance Public Trust Uses

The Draft Order misconstrues and misapplies the public trust doctrine as set forth by the California Supreme Court in National Audubon Society v. Superior Court (1983) 33 Cal.3d 419. The Draft Decision unmistakably elevates steelhead above all other Santa Ynez River-related resources and water uses, with no balancing of those resources, as California law requires.

In National Audubon, the plaintiffs argued that the public trust doctrine superseded, and thus, unconditionally limited all appropriative water rights. (National Audubon, 33 Cal.3d at 445.) The California Supreme Court unequivocally held that it was "unable to accept" this drastically skewed position:

> [B]oth the public trust doctrine and the water rights system embody important precepts which make the law more responsive to the diverse needs and interests involved in the planning and allocation of water resources. To embrace one system of thought and reject the other would

> lead to an unbalanced structure, one which would decry as a breach of trust appropriations essential to the economic development of this state, or deny any duty to protect or even consider the values promoted by the public trust. (*Id.*)

The Court emphasized that when applying the public trust, the State Board must balance the "diverse needs and interests" that attach to a particular water system, and thereby accommodate all of those interests. (*Id.*) The Court's message was clear: public trust uses of water for fish do not automatically subjugate all other uses, particularly appropriative uses for human needs. To this point, the Court stated:

> As a matter of practical necessity the state may have to approve appropriations despite foreseeable harm to public trust uses. In so doing, however, the state must bear in mind its duty as trustee to consider the effect of the taking on the public trust[], and to preserve, so far as consistent with the public interest, the uses protected by that trust. (*Id.* at 446-447.)

The *National Audubon* Court expressly recognized that the State Board may elevate economic and other interests over a particular public trust interest despite unavoidable harm to trust uses. (*Id.* at 446.) Thus the Court directed the State Board "to take the public trust into account in the planning and allocation of water resources, and to protect the public trust uses whenever feasible." (*Id.*) Importantly, the Court recognized "the substantial concerns voiced by Los Angeles – the city's need for water . . . [and] the cost both in terms of money and environmental impact of obtaining water elsewhere" and emphasized that "[s]uch concerns must enter into any allocation decision." (*Id.* at 447-48.)

The Draft Order does not measure up to what National Audubon requires. Instead it elevates and prioritizes the interests of steelhead over all other needs and public trust interests that depend on the Santa Ynez River, inappropriately allowing the public trust to trump other substantial and vital concerns. As noted above, this prioritization for fish is made despite the fact that there is no substantial evidence that the Alternative 5C/Table 2 flows will maintain steelhead in "good condition" as defined by the Draft Order, and despite repeated admissions that the record is incomplete as to whether increased flows will protect or restore steelhead or perhaps harm the population and its habitat. Furthermore, the Draft Order concludes without the support of substantial evidence that Member Units could simply make up for a shortfall in supply by implementing more stringent conservation measures. (Draft Order, p. 103.)

However, I.D. No. 1's domestic water conservation is currently at approximately 40 percent compared to 2013, where further cutbacks could undermine the financial viability of the

District. The Draft Order further provides that the State Board may implement emergency conservation regulations in the future that could reduce water supply shortages in critical years. (Draft Order, pp. 104-105.) In so doing, the Draft Order assumes that such measures are both possible and feasible without any discussion of relevant factors such as time, cost, and redirected impacts. In other words, the Draft Order omits the discussion required by *National Audubon* of how requiring greater instream flows balances the interests of the people served by the Cachuma Project, and other public trust uses of Cachuma Project and Santa Ynez River water, with the needs of steelhead. This omission elevates the interests of steelhead over other beneficial and necessary public health and safety uses and falls short of the legal standard established in the *National Audubon* decision.

The Final Order must cure this omission. Although the State Board has a duty to protect steelhead to the extent feasible, it also has a duty to consider and protect all other beneficial uses and users of Cachuma Project water, including municipal, industrial, and agricultural uses. In exercising its discretion to protect steelhead under the public trust doctrine, the State Board must balance all of these competing interests. The *public* interest, not the desires of any one special interest, must guide that discretion. (See *State Water Res. Control Bd. Cases*, (2006) 136 Cal. App. 4th 674, 778.)

7. The Flow Regime Required by the Draft Order Violates Article X, Section 2 of the California Constitution

Article X, section 2 of the California Constitution provides that "the waste or unreasonable use or unreasonable method of use of water [must] be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare." Determining what constitutes a reasonable use of water requires a consideration of 1) all the needs of the parties who may take water from a particular area; 2) the uses being made of the waters; and 3) all factors involved. (*Tulare Irrigation Dist. v. Lindsay-Strathmore Dist.* (1935) 3 Cal. 2d 489). While the release of water from a dam for the purpose of keeping fish below the dam in "good condition" under Fish and Game Code section 5937 may constitute a reasonable use of water, the release of water in excess of the amount needed to keep fish in good condition is unreasonable if there would be adverse effects on other beneficial uses of water. (See, e.g., *In the Matter of the Diversion and Use of Water from Big Bear Lake, etc.*, Order WR 95-4, 1995 WL 17908291, at *11 (Feb. 16, 1995); *Tulare Irrigation Dist.*, *supra*, 3 Cal. 2d 489; *City of Lodi v. East Bay Municipal Utility Dist.* (1936) 7 Cal. 2d 316; *United States v. State Water Resources Control Bd.* (1986) 182 Cal. App. 3d 82; *Imperial Irrigation Dist. v. State Water Resources Control Bd.* (1990) 225 Cal.App.3d 548).

The Draft Order is at odds with Article X, section 2 because it fails to determine whether increased water releases associated with the implementation of Alternative 5C will keep steelhead and other fish species below Bradbury Dam in "good condition." More specifically, there is no indication in the Draft Order that the State Board considered the volume of additional releases from the Cachuma Project that would be sufficient to protect steelhead in accordance with applicable legal standards. Although the Draft Order indicates (based on insufficient data) that current instream flow requirements are insufficient to create the habitat necessary to keep steelhead below Bradbury Dam in good condition, that finding is not enough for the State Board to comply with Article X, section 2.[12] Even worse, as noted above, the Draft Order concedes that the State Board does not have a standard for what constitutes "good condition" for fishery resources below Bradbury Dam: "This order also requires Reclamation to prepare a study plan . . . [which] shall specify *the metric or metrics that will be used to define what would constitute good condition* of the steelhead fishery in the Santa Ynez River at the population and community levels. (Draft Order, pp. 85, 112; emphasis added.) The final order must attempt to determine the minimum amount of water necessary for Reclamation to comply with Fish and Game Code section 5937, but only after establishing a defensible metric for what that standard should be as applied to the Cachuma Project. Unfortunately, the Draft Order provides little more than a guess as to what this minimum amount should be.

More importantly, any finding the State Board may make in this regard must consider other, cost-effective habitat improvements that would protect the steelhead population below Bradbury Dam in accordance with appropriate legal standards. Although additional flows might create more habitat, the Draft Order admits that such additional flows may be harmful to the steelhead population and its habitat, and that other actions may provide protections to steelhead without requiring the significantly increased fish flows mandated by Alternative 5C. In fact, the State Board's description of the proposed project admits that "other conditions" in addition to revised release requirements may have a role to play in protecting steelhead in the Santa Ynez River. Instead of substantively considering such conditions, however, the Draft Order focuses entirely on revised and increased releases from Cachuma Project supplies.

The State Board is authorized to require Reclamation to implement habitat improvement actions as a condition of its water right permits. Yet at the same time, the State Board has an affirmative obligation to meaningfully consider and evaluate whether requiring such habitat

[12] That finding also lacks a basis in substantial evidence because the Draft Order acknowledges that it has not, and perhaps cannot, evaluate the efficacy of other habitat creation measures. (Draft Order, pp. 59-60.) The Draft Order's finding that current instream flows cannot maintain steelhead in good condition is therefore nothing more than a bare conclusion that more water will be better for steelhead without any evaluation of whether such flows constitute a reasonable and beneficial use in accordance with applicable legal standards and according to an admittedly incomplete administrative record.

improvement projects could reduce the need for additional fish flows. Failure to provide an analysis supported by substantial evidence regarding reasonable and beneficial uses, and substantive balance between competing water needs, violates Article X, Section 2.

8. The Draft Order's Statement of Overriding Considerations is Inadequate

When an EIR determines that a proposed project will have one or more significant and unavoidable effects on the environment, CEQA requires the decision-making agency to adopt a statement of overriding considerations. (Cal. Pub. Res. Code § 21081(b); CEQA Guidelines § 15093.) A statement of overriding considerations must identify the specific reasons why the benefits of the proposed project outweigh the unavoidable environmental risks, and substantial evidence in the record must support those reasons. (Id.) "Substantial evidence . . . means enough relevant information and reasonable inferences from this information that a fair argument can be made to support" the agency's determination that the project's benefits outweigh its significant environmental risks. (CEQA Guidelines § 15384(a).) Mere speculation does not constitute substantial evidence. (Id.)

The Draft Order's Statement of Overriding Considerations (Statement) fails to meet CEQA's mandates on three grounds. First, benefits that the Statement attributes to Alternative 5C are not supported by substantial evidence, and are speculative at best. (See *Habitat & Watershed Caretakers v. City of Santa Cruz* (2013) 213 Cal.App.4th 1277, 1307 [benefit must be supported by substantial evidence in the record].) Second, and as detailed above, a full accounting of the significant impacts associated with implementing Alternative 5C has not been provided. (See *Woodward Park Homeowners Association v. City of Fresno* (2007) 150 Cal.App.4th 683, 717 [statement of overriding considerations is legally inadequate if it does not accurately reflect a project's significant impacts or mischaracterizes the relative benefits of the project].) Without an accurate, evidence-based identification of both Alternative 5C's benefits and significant impacts, the Draft Order's Statement cannot provide the legal basis for approving Alternative 5C. (*Ibid.*) Third, the Statement does not provide any "specific reasons" for *why* the benefits of implementing Alternative 5C outweigh the significant environmental impacts resulting from a substantial reduction to the Cachuma Member Units' water supplies. (See CEQA Guidelines § 15093(b).)

With regard to the purported benefits of Alternative 5C, the text of the Statement itself demonstrates the speculative nature of the claimed benefits. For example, the Statement declares that "Alternative 5C will provide the endangered steelhead below Bradbury Dam with additional habitat and *should* lead to an improvement in the condition of the species." (Draft Order p. 109; emphasis added.) There is no substantial evidence in the record regarding the amount of improvement in the condition of steelhead, if any, that will occur as a result of the purported increase in habitat created by implementing Alternative 5C. Indeed, the Draft Order relies on

numerous caveats and qualifications regarding the benefits of implementing Alternative 5C. For example, the Draft Order acknowledges that water temperature issues may reduce the benefits created by requiring increased releases during wet and above-normal years. (Draft Order, pp. 65-67.)

The Draft Order also acknowledges that the scientific ability to evaluate and quantify the benefits of habitat creation from increased flows and restoration activities implemented under the 2000 BO is still uncertain, and that it may take up to a century to determine such benefits. (Draft Order, p. 59.) Similarly, the Draft Order acknowledges the uncertainty of whether Alternative 5C/Table 2 flows will provide a substantial benefit to steelhead, notwithstanding the significant water supply impacts. (Draft Order, p. 79.) As discussed at length above, this uncertainty is exacerbated by the State Board's decision not to consider how increased flows may benefit bass and beavers to the detriment of steelhead.

The Draft Order summarily concludes that "[t]en years after implementation of the Biological Opinion, the Santa Ynez River steelhead population is not showing signs of recovery" (Draft Order, p. 61), yet the Draft Order fails to acknowledge the many successful actions and accomplishments under the 2000 BO. Implementing mainstem rearing flows has demonstrably increased steelhead in the mainstem management reaches compared to years prior to 2001. Since the long-term flow regime was not implemented until 2005, its effects were evaluated on only 5 years of data. (Final EIR, Volume IV, Appendix G at Table 11.) Because the steelhead lifecycle is approximately 4 to 6 years, 5 years is not enough time to expect population-level changes in abundance. Increased reproduction across multiple generations is usually required to see substantial changes in population size. Additionally, since 2012, Santa Barbara County has experienced the worst drought on record, and the critically dry Santa Ynez River watershed has prevented steelhead population increase. The Draft Order relies on a predictable and expected inability to detect a response in a steelhead population in 6 years to justify a significant increase in Project water releases, the benefits of which appear to be limited to slightly more depth within the Alisal Reach. (Final EIR, p. 2.0-157.) The Statement falls far short of providing any analysis or reasoning as to how or why the purported benefits to steelhead from the implementation of Alternative 5C outweigh the significant and unavoidable water supply impacts and other environmental risks that are identified throughout the Final EIR and Draft Order.

As discussed in greater detail above, the Draft Order acknowledges the uncertainty of Alternative 5C's benefits to the steelhead population, and fails to fully consider the potentially significant impacts to steelhead and the significant water supply impacts on the Cachuma Project Member Units in dry and critically dry years. For example, the State Board has found that during three-year critical drought periods, the Member Units' water supply shortage could increase by 3,881 acre-feet compared to the no-project alternative. (Id. at 100.) However, as

noted above, the actual water supply impacts of Alternatives 3C and 5C will be greater than what is presented in the Draft Order. Yet the Draft Order simply posits that the water supply shortages could require the Cachuma Member Units to obtain new sources of water from groundwater pumping, water transfers, and desalination. (Id. at 100.) In fact, as discussed in CCRB's comment letter, Alternative 5C will reduce the south coast Member Units' ability to complete State Water Project transfers through CCWA to Lake Cachuma. Yet, as also discussed above, the Draft Order fails to provide a realistic analysis of the actual availability and reliability of alternative water supplies, despite substantial information available to the State Board regarding numerous and increasing limitations on those supplies. Instead of addressing these impacts, the State Board improperly defers analysis and merely speculates that the proposed mitigation will be available based on future regulatory actions of other agencies. (Id. at 105.) Simply put, the Draft Order does not actually balance the benefits of implementing Alternative 5C against its water supply and other environmental costs.

The Statement does not explain *why* the benefits of implementing Alternative 5C outweigh the significant environmental impacts resulting from a significant reduction to the Member Units' water supplies. (See CEQA Guidelines § 15093(b) [requiring a decision-making agency to state "specific reasons" to support its action]; *Concerned Citizens of South Central L.A. v. Los Angeles Unified School Dist.* (1994) 24 Cal.App.4th 826, 847 [explaining that these specific reasons must demonstrate the balance struck by the agency in deciding to approve a project despite significant environmental impacts].) Instead, the Statement briefly discusses the speculative benefits of Alternative 5C with only a brief mention of its environmental impacts. (Draft Order p. 109.) In fact, the Statement's single paragraph contains no specific reasons about the relative costs and benefits of implementing Alternative 5C. The Statement thus shows that the State Board has neglected CEQA's balancing mandate in deciding to implement Alternative 5C. (See Concerned Citizens, supra, 24 Cal.App.4th at 847.) Without a substantiated accounting of both the benefits of Alternative 5C, and a full analysis and disclosure of Alternative 5C's impacts on steelhead and water supply, the Statement is not adequate. (*Woodward Park Homeowners Association*, *supra*, 150 Cal.App.4th 683 at 717.)

9. The Draft Order's Requirement for Reclamation to Monitor Flow at the Highway 154 Bridge is Impracticable

The Draft Order's requirement that Reclamation maintain a continuous record of the daily instream flows in the Santa Ynez River at the Highway 154 bridge is infeasible, and would require Reclamation to condemn private property to construct the necessary gaging station. (See Draft Order at 29, 124.) Several factors make measuring flows at the Highway 154 bridge infeasible, including the bridge easement's limitations, the landowner's denial of access, the sediment deposits and porosity of the riverbed, and the presence of multiple channels that fill during high-flow periods. The updated methodology for determining flow at the Highway 154

Bridge by means of determining riparian losses is a more cost-effective and accurate method of monitoring flows at this location, and the State Board should revise the Draft Order to continue this method of measurement.

a. Construction Of A Gaging Station At The Highway 154 Bridge Is Impractical And Infeasible

The primary constraint to installation of a gaging station at the Highway 154 Bridge is that Reclamation has been denied access to the property by the landowner. (Final EIR at 4.3-40; R.T., October 22, 2003, at 301:17-18.) The property is a Spanish land-grant parcel, which further complicates the Reclamation's ability to access the land. (See Miller & Starr, 3 Cal. Real Est. § 8:68.) Furthermore, the bridge location is not suitable for measuring streamflow within the 154 reach.

The Draft Order recognizes the lack of suitable measuring locations within the bridge easement for measuring flow. (Draft Order p. 29.) This location is not suitable because the channel has three to four braids making accurate monitoring more difficult. The location of the low flow channel has moved multiple times since the Highway 154 Bridge was included as a monitoring location in the 2000 BiOp. Large storm events rearrange the channels in the predominantly cobble and gravel substrate, and the current low flow channel runs along the southern edge of the floodplain. Monitoring flow in only one channel would likely miss substantial flow, resulting in over-release to meet target flows. Given these constraints, installing equipment at this location would likely require re-positioning following high flow events, which again presents serious difficulties in terms of acquiring the necessary easement from the landowner.

Streambed porosity in the 154 reach also affects the feasibility of a gaging station at the Highway 154 bridge. As the Draft Order acknowledges, a depositional area upstream of the Highway 154 Bridge affects surface flow. (Draft Order p. 29.) This reach normally has substantial sub-surface flow which results from the disappearance of surface flows during dry season conditions. The subsurface flow quickly resurfaces a short way downstream. (R.T., October 22, 2003 at 391:14-392:3.) The channel in the vicinity of the bridge can have substantially lower flow when higher surface flows are present nearby upstream. (Stetson Engineers, Inc., Evaluation of Outflows and Inflows between Bradbury Dam and Highway 154 Bridge (2004) (referenced in FEIR at 2.0-23).) Thus a flow measurement here would not capture the total flow passing this point on the river. (R.T., October 22, 2003 at 391:14-392:3.) Uncontroverted evidence in the record therefore shows that measurements taken at the Highway 154 Bridge are likely to be inaccurate. (Id.) To require Reclamation to expend significant resources for the purpose of taking meaningless measurements cannot be the Draft Order's intent. The State Board can cure this error in the Draft Order, however, by allowing Reclamation

to continue monitoring target flows at the Highway 154 Bridge by way of an updated determination of riparian losses.

b. Target Flows At The Highway 154 Bridge Are Already Accurately Monitored By Determination of Seasonal Losses

Reclamation monitors and manages releases from Bradbury Dam to meet target flows using methodology and monitoring plan developed by Stetson Engineers. (NMFS, Response to Transmittal of Bureau of Reclamation's New Methodology for Monitoring Required Flow Rates at the Highway 154 Bridge (November 16, 2004).) The monitoring plan prescribes the necessary releases from the dam, while accounting for losses and inflows in the Highway 154 Reach, to meet reach target flow.

NMFS approved this method in 2004, and Reclamation has implemented it. (See id.) In 2010, Stetson Engineers updated the methodology for determining flow at the Highway 154 Bridge, accounting for increased losses associated with increased riparian vegetation. Reclamation has been operating under the updated methods since 2010. Nothing in the Draft Order explains why the current method is insufficient for monitoring purposes. The State Board's decision to require Reclamation to take inaccurate physical measurements at a point on the river to which it has no access is especially unsuitable in light of Reclamation's current monitoring methodology. The State Board should amend the Draft Order to correct this error by keeping the existing monitoring system in place.

IV. Conclusion / Recommendations

I.D. No. 1 has been and remains a committed partner with Reclamation, the State Board, the Parent District, CCRB, and various other state and local agencies to protect, preserve, and develop steelhead and steelhead habitat in the Santa Ynez River below Bradbury Dam. However, as the above comments signify, there is no substantial evidence that the selection of Alternative 5C and other measures in the Draft Order establishes a proper balancing of public trust resources in accordance with applicable law.

Although the issues affecting the Santa Ynez River and the protection of steelhead are complex, the Draft Order contains legal, factual, and scientific shortcomings, particularly in its selection of Alternative 5C. As such, ID No. 1 requests the State Board to adopt Alternative 3C with its supportable findings and conclusions and require Reclamation (with the full participation of affected agencies) to complete the studies necessary to evaluate and determine actual, measurable, and scientifically supportable benefits for steelhead in the Santa Ynez River.

The Draft Order acknowledges that it is unknown whether the increased flows in the Santa Ynez River below Bradbury Dam under Alternative 5C will actually benefit steelhead. (See, e.g., Draft Order, p. 82.) It also admits that higher flows under Alternative 5C may actually harm steelhead, and that further studies are needed to evaluate that possibility. (See, e.g., Draft Order, pp. 65-67.) At the same time, however, the Draft Order fails to acknowledge that there will be greater water supply impacts associated with implementing the Alternative 5C/Table 2 flows than those assumed in the Draft Order. Nevertheless, in the event the State Board selects Alternative 5C and orders additional studies, I.D. No. 1 respectfully requests that terms A and B be added as follows:

A. Until the studies listed in the Draft Order are completed and the benefits of Alternative 5C flows are proven, the releases required under Alternative 5C, Table 2 will not be triggered until inflows into Cachuma Reservoir are greater than 70,000 acre-feet (instead of 33,707 acre-feet).

B. The 1.5 cfs flow target requirement at Alisal Bridge in the year after a spill is suspended until the studies of Alternative 5C target flows and flow-habitat-species relationships are completed and the benefits of this flow requirement is proven. The 1.5 cfs flow target will still apply in the year of a spill and be superseded by a higher flow targets if the water year after the spill year is above normal.

Alternatively, if the 1.5 cfs flow requirement at Alisal Bridge in the year after a spill is not suspended, the effects of this requirement should be studied as part of the further evaluation of the Alternative 5C target flows.

As part of an attempt to balance water supply impacts with additional releases under Alternative 5C, a higher trigger can be used to switch from Table 1 to Table 2 in the Draft Order. Please refer to Attachment A hereto, which shows a modeling sensitivity analysis of Alternative 5C using a Lake Cachuma inflow trigger of 70,000 acre-feet instead of 33,707 acre-feet. The proposed trigger of 70,000 acre-feet represents the average inflow to Lake Cachuma for the hydrologic period 1918-1993. The modeling results for this new sensitivity scenario for Alternative 5C show very similar conditions for both downstream flows and for downstream water rights releases. However, the sensitivity scenario using a trigger of 70,000 acre-feet instead of 33,707 acre-feet shows many fewer shortages in Cachuma Project water supplies to the Cachuma Member Units during critical droughts.

Based on the seven years that the Alisal flow target of 1.5 cfs has already been in effect (water years 2005-2009 and 2011-2012), the 1.5 cfs flow target requirement at Alisal Bridge in the year after a spill should be suspended until the studies of Alternative 5C target flows and

flow-habitat-species relationships are completed and the benefits to steelhead, if any, are determined based on substantial evidence.

Consistent with the foregoing, I.D. No. 1 supports continued implementation of Alternative 3C including the minor modifications to WR 89-18 presented by Reclamation in the technical amendments in Exhibit "C" to the Settlement Agreement. Thank you for the opportunity to submit these comments.

Respectfully submitted,

Paeter E. Garcia
of BEST BEST & KRIEGER LLP

Enclosure

cc: Cachuma Project Hearing Service List (September 7, 2016)

ATTACHMENT "A"

DRAFT
TECHNICAL MEMORANDUM

STETSON ENGINEERS INC.
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TO: Chris Dahlstrom, General Manager
Improvement District No. 1

DATE: December 7, 2016

FROM: Ali Shahroody and Curtis Lawler

JOB NO: 1155/1126

RE: Sensitivity Analysis of Alternative 5C using Lake Cachuma Inflow Trigger of 70,000 AF instead of 33,707 AF

1. INTRODUCTION

On September 7, 2016, the State Water Resources Control Board (SWRCB) issued a Draft Order for the water rights permits for the Cachuma Project. The Draft Order has mandated increased releases for fish beyond those required by the National Marine Fisheries Service's Biological Opinion (BO) in 2000. Under the Draft Order, the increased releases are triggered when surface inflow into Cachuma Reservoir is greater than 33,707 acre-feet starting from October 1st each year. The flow targets are specified in Table 2 of the Draft Order, ranging from 5 to 48 cfs, depending upon time of year and must be met at both San Lucas (Highway 154) and Alisal (Solvang) bridges. The origin of the Table 2 flow targets are from Alternative "3A2" of the 1995 Cachuma Contract EIS. Tables 1 and 2 from the Draft Order are shown for reference on the following pages. Table 1 summarizes the required fish releases under the 2000 BO, also referred to as Alternative 3C in the State Water Board's 2011 Final Environmental Impact Report (FEIR). Table 2 shows targets for Alternative 5C, after the lake inflow trigger has been reached.

This technical memorandum discusses the results of a sensitivity analysis of Alternative 5C. Instead of using 33,707 acre-feet of Lake Cachuma inflow as a trigger to switch to Table 2 flows from Table 1, 70,000 acre-feet of Lake Cachuma inflow is used as shown in Figure 1.

Tables 1 and 2 below are excerpted from the Draft Order 9/7/2016 pgs. 116 and 117:

Table 1 Flows
Mainstem Rearing Flows

Reservoir Spill[a] (af)	Lake Storage[b] (af)	Flow (cfs) Requirements at:		
		Highway 154	*Alisal Road*	*Stilling Basin & Long Pool*
≥ 20,000	NA	10	1.5[c]	-
< 20,000	≥ 120,000	5	1.5[d]	-
	≥ 30,000 and < 120,000	2.5	1.5[d]	-
	< 30,000	-	-	30 af/mo[e]

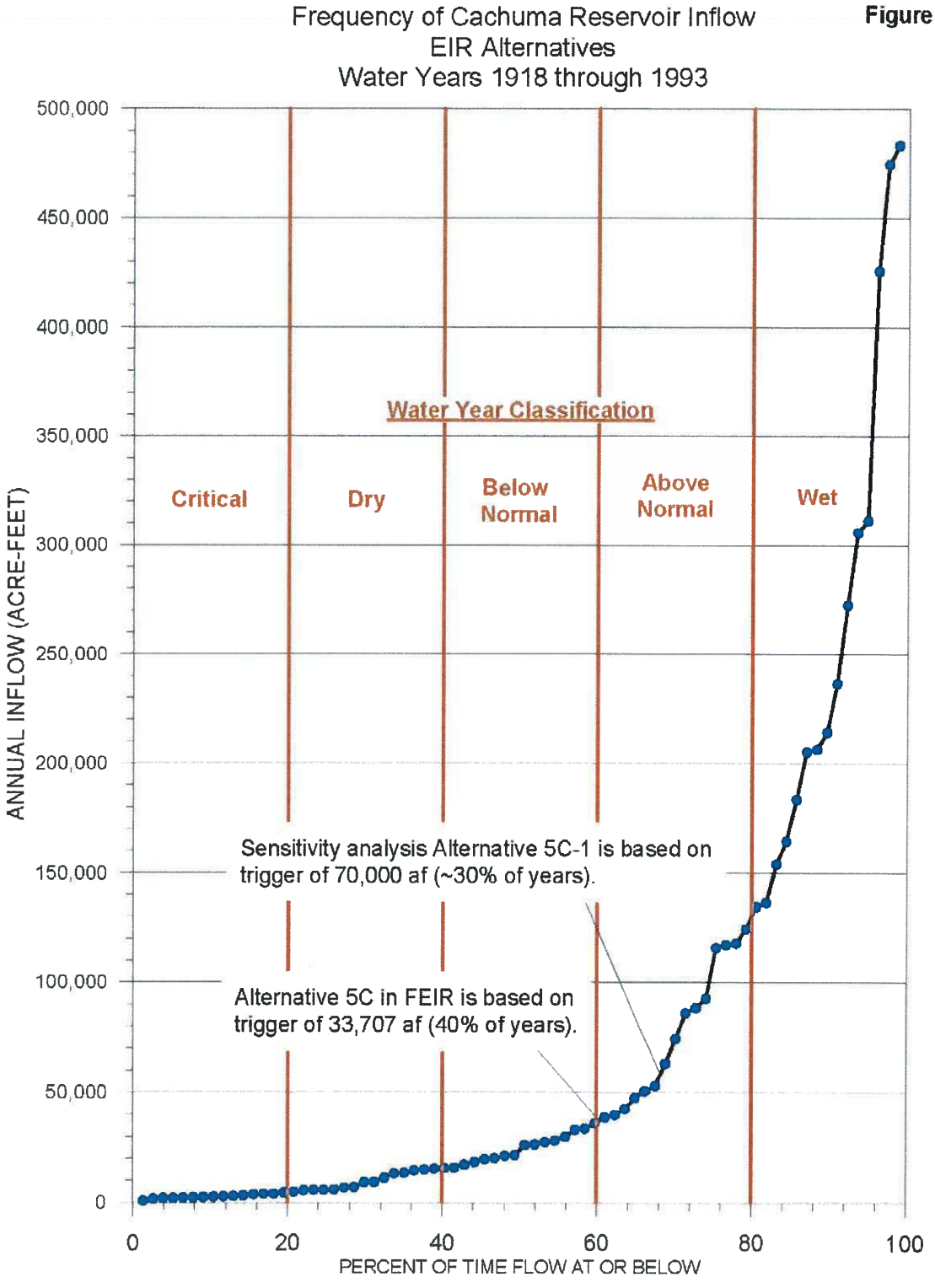
NA - not applicable
[a]Reservoir spill is calculated cumulatively over the course of the water year (FEIR, Vol. IV, Appendix F, Draft Technical Memorandum No. 5, p. 6), which begins October 1 (FEIR, Vol. IV, Appendix F, Draft Technical Memorandum No. 5, p. 8).
[b]Lake storage is measured on the first day of each month. (FEIR, Vol. IV, Appendix E, Technical Memorandum No. 1, p. 5.)
[c]The specified flow applies only when steelhead are present.
[d]The specified flow applies only if there was reservoir spill greater than or equal to 20,000 af in the prior water year and steelhead are present in the Alisal Reach.
When there is less than 30,000 af of storage in the reservoir, rightholder shall provide periodic releases of 30 af per month as determined by the fishery agencies and the State Water Board to refresh the Stilling Basin and Long Pool directly downstream of the dam to provide for steelhead rearing in these areas. Less than 30 af per month may be released upon determination by the fishery agencies and the State Water Board that less water is necessary to refresh the Stilling Basin and Long Pool directly downstream of the dam for steelhead in these areas.

Table 2 Flows
(Wet and Above Normal Water Year Types)

Minimum Flow Requirement	Period of Flow	Purpose of Flow
48 cfs	02/15 to 04/14	Spawning
20 cfs	04/15 to 06/01	Incubation and Rearing
25 cfs	06/02 to 06/09	Emigration
Ramp to 10 cfs by 06/30		
10 cfs	06/30 to 10/01	Rearing and Resident Fish Maintenance
5 cfs	10/01 to 02/15	Resident Fish

The above flows shall be maintained at both San Lucas and Alisal bridges. These flows may be met with both natural stream flow and releases from Bradbury Dam.

Figure 1


Frequency of Cachuma Reservoir Inflow
EIR Alternatives
Water Years 1918 through 1993
ANNUAL INFLOW (ACRE-FEET)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Water Year Classification
Critical
Dry
Below Normal
Above Normal
Wet
Sensitivity analysis Alternative 5C-1 is based on trigger of 70,000 af (~30% of years).
Alternative 5C in FEIR is based on trigger of 33,707 af (40% of years).
0
20
40
60
80
100
PERCENT OF TIME FLOW AT OR BELOW

The reason for switching to the 70,000 acre-feet trigger is due to the flashiness of the Santa Ynez River watershed. The 70,000 acre-feet trigger represents the average inflow to Lake Cachuma for the hydrologic period 1918-1993. State Board developed its year classifications of 20 percentile intervals (for critical, dry, below normal, above normal and wet) on the Sacramento River and major streams in the Central Valley (i.e. American River, San Joaquin River). Santa Ynez River is unlike those stream systems which are fed by snowmelt and very large watersheds. Santa Ynez River is a flashy system. For example, the median inflow of the Santa Ynez River is about 25,000 acre-feet compared to the average flow of about 70,000 acre-feet. Given this inherent difference between the Central Valley and the Santa Ynez River watersheds, the 70 percentile (70,000 acre-feet) is more representative of wet conditions than the 60 percentile (33,707 acre-feet). As shown in Figure 1, there is a steep gradation between 33,700 and 117,800 acre-feet within the "above normal year" (60 to 80 percentile). 70,000 acre-feet is close to the inflection point, demarking a shift in the slope of the ranking of the annual inflows into Lake Cachuma, which basically has three categories: none to little inflow (0-20,000 acre-feet, occurring about 45% of the time); moderate inflow (20,000 - 70,000 acre-feet, occurring about 25% of the time); and wet inflow (above 70,000 acre-feet of inflow, occurring about 30% of the time).

2. SUMMARY OF MODELING RESULTS

The SYRHM was utilized for this sensitivity analysis of Alternative 5C using the 70,000 acre-feet trigger. The same version of SYRHM, as used for the SWRCB FEIR, was utilized (version 0498). See Stetson's Technical Memoranda in Appendix E and Appendix F in Volume 4 of the SWRCB FEIR for more details. The model documentation is provided in the "Santa Ynez River Hydrology Model Manual" dated April 2004. The model period is from 1918-1993 (76 years). Due to time constraints and consistency with the FEIR, the SYRHM was not updated through 2016 at this time.

2A. OCCURRENCE OF SWRCB DRAFT ORDER TABLE 2 TARGET FLOWS

Once the cumulative annual inflow into Cachuma Reservoir exceeds either 33,707 acre-feet for the Alternative 5C or 70,000 acre-feet for the sensitivity analysis of Alternative 5C, then the proposed CalTrout Alternative 3A2 flows shown in Table 2 would become the operating criteria for fish water releases instead of the 2000 BO (Table 1).

Please note that at the beginning of a water year, it is not known what type of water year it would be, so Alternative 3A2 flows would only be triggered once the cumulative Cachuma inflow trigger (from October 1) is reached. For example, based on the SWRCB classification, the water year 1991 would be classified as an above-normal year, but until the March "Miracle" storm, it was not known whether that year would be above normal. In this example, target flows under Table 2 would not be triggered until April 1991 (SYRHM uses a monthly time step) if the 33,707 af trigger was used. Because the inflow was still below 70,000 acre-feet (50,800 acre-feet), Table 2 flow targets would not be triggered for year 1991 under the sensitivity alternative. Table 3 shows the months in which the runoff conditions for wet and above-normal year types are met under the two triggers 33,707 and 70,000 acre-feet. There are eight more years that would be classified as wet using the 33,707 acre-feet trigger compared to using the 70,000 acre-feet trigger (31 versus 23 years). However, the timing of when the Table 2 (3A2) flow targets would be triggered is about the same, i.e. most likely being triggered in February.

TABLE 3
NUMBER OF OCCURRENCES WHEN INFLOW INTO CACHUMA RESERVOIR CLASSIFIED AS WET/ABOVE-NORMAL WATER YEAR
(USING FLOW TRIGGER OF EITHER 33,707 OR 70,000 AF)

Month	Alt 5C – 33,707af Occurrence (1918-1993)	Alt 5C – 70,000af Occurrence (1918-1993)
Dec	2	0
Jan	7	7
Feb	13	11
Mar	4	4
Apr	4	0
May	1	1
Total	**31**	**23**

2B. SANTA YNEZ RIVER FLOWS

Figures 2, 3, 4, 5, 6, and 7 (attached) show the frequency of flows below the damsite, at the Highway 154 Bridge, above Alisal Bridge, near Buellton, above the confluence with Salsipuedes Creek, and at the Lompoc Narrows, respectively. As shown on these graphs the sensitivity scenario (labeled "5C-1 Using 70k Trigger") falls in between Alternative 3C and 5C in the FEIR, but, perhaps most importantly, is much closer to Alternative 5C.

2C. IMPACTS OF PROJECT DELIVERIES

Table 4 summarize the impacts to Member Units. The results for the new sensitivity scenario, using a 70,000 acre-feet trigger, has similar average annual deliveries and frequencies of shortages as Alternative 5C using 33,707 af. However, most importantly, the total shortage during the 1949-1951 drought compares to Alternative 3C (last row in Table 4) was reduced by more than half, from 3,881 ac-ft to 1,385 ac-ft.

TABLE 4
IMPACTS ON CACHUMA PROJECT DELIVERIES TO MEMBER UNITS

Water Supply Parameter	Alt 1: Historical (no fish releases)	Alt 2: CEQA Baseline	Alt 3C: BO	Alt 5C 33,707af: BO/ 3A2	Alt 5C 70,000 af: BO/ 3A2
Average Annual Deliveries and Years of Shortages (1918-1993)					
Average annual delivery (afy)	25,308	25,115	25,122	24,988	25,033
Difference compared to Alt 2 (afy)	193	---	7	-127	-82
Number of years with 10% or more shortage	5	6	6	7	7
Number of years with 10% or more shortage – difference from Alt 2	-1	---	0	1	1
Critical Drought Year (based on 1951 drought year)					
Shortage (af)	7,068	9,808	9,895	11,406	10,463
% Shortage in Cachuma deliveries	27%	38%	38%	44%	41%
% Shortage in Cachuma deliveries – difference from Alternative 2	-11%	---	0%	6%	3%
Critical 3-Year Drought Period (based on 1949-51 drought)					
Shortage (af)	12,375	20,134	19,925	23,806	21,310
% Shortage in Cachuma deliveries	16%	26%	26%	31%	28%
% Shortage in Cachuma deliveries – difference from Alternative 2	-7%	---	0%	5%	2%
Shortage Difference with Alternative 3C	**-7,550**	**209**	**—**	**3,881**	**1,385**

Based on Project draft of 25,714 acre-feet per year.
Cumulative shortage in critical drought period based on 36 consecutive months starting in May 1949.

2D. WATER RIGHTS RELEASES (WR 89-18)

Table 5 shows the impacts to water rights releases for the various alternatives as determined by the Santa Ynez River Hydrology Model. The results for the new sensitivity scenario, using a 70,000 acre-feet trigger, shows no difference with Alternative 5C using a 33,707 af trigger for Table 2 flows (SWRCB Draft Order Table 2 targets).

Table 5
Average Simulated Impacts to Total Water Rights Releases for Water Years 1918-1993 (acre-Feet/year)

	Alt 1	Alt 2	Alt 3C	Alt 5C 33,707af: BO/ 3A2	Alt 5C 70,000af: BO/ 3A2
Total WR89-18 Releases	6,322	6,023	5,737	5,529	5,529
Difference in Releases	---	-299	-585	-793	-793
Percent Reduction in Releases	---	-5%	-9%	-13%	-13%

3. CONCLUSION

Modeling results for the new sensitivity scenario for Alternative 5C, using a 70,000 acre-feet trigger instead of 33,707 acre-feet to switch to 3A2 flow targets (SWRCB Draft Order Table 2 targets) shows very similar conditions for both downstream flows (Figures 2-7) and for downstream water rights releases (Table 5). However, the sensitivity scenario shows much less shortages in Project supplies to Member Units during critical droughts (Table 4). Furthermore, using a higher Lake Cachuma inflow trigger of 70,000 acre-feet is more in line with the flashiness of the Santa Ynez River watershed (Figure 1) and represent the average runoff for the hydrologic period 1918-1993.

Using this higher trigger would also help alleviate the water supply concerns of Member Units during this current historic drought of 2012-2016. For example, currently Lake Cachuma is at an historical low of about 15,000 acre-feet in storage. If the Draft Order becomes into effect, then the higher 3A2 flow targets (SWRCB Table 2 flow targets)

could come into effect with a moderately low inflow of 35,000 acre-feet. The resulting storage of 50,000 acre-feet would quickly be depleted to meet the 3A2 flow targets, which would exacerbate the water supply impacts of this current drought. However, if the suggested trigger of 70,000 acre-feet was used, then the reservoir would at least recover partially to 85,000 acre-feet.

Overall, this sensitivity analysis shows that by using a higher trigger to switch to CalTrout's 3A2 recommended flow targets (SWRCB Table 2 flow targets) could be very effective in supplying similar flow conditions downstream with less impacts to Member Units' water supply.

Figure 2

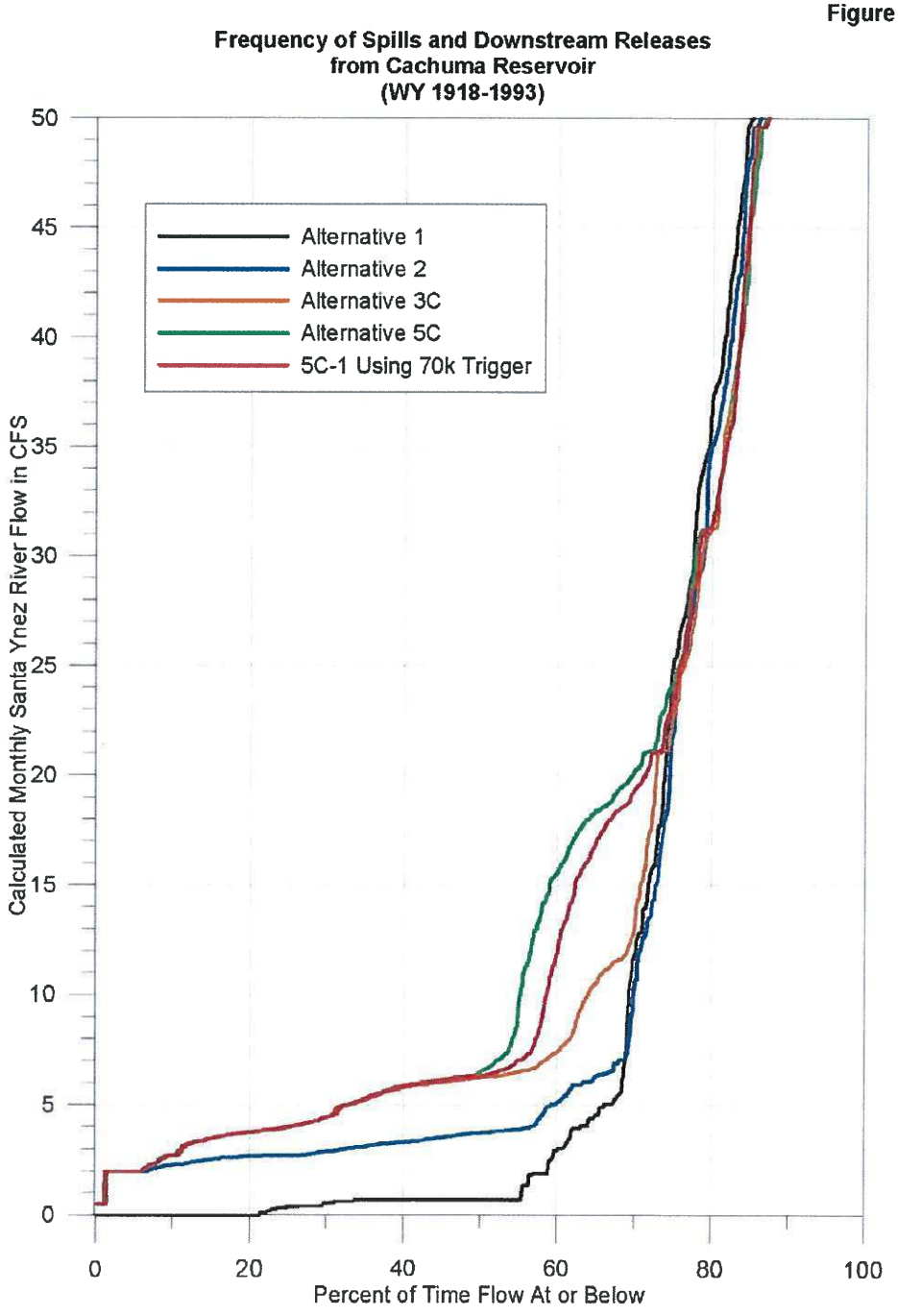

Frequency of Spills and Downstream Releases
from Cachuma Reservoir
(WY 1918-1993)
Alternative 1
Alternative 2
Alternative 3C
Alternative 5C
5C-1 Using 70k Trigger
Calculated Monthly Santa Ynez River Flow in CFS
Percent of Time Flow At or Below
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100

Figure 3

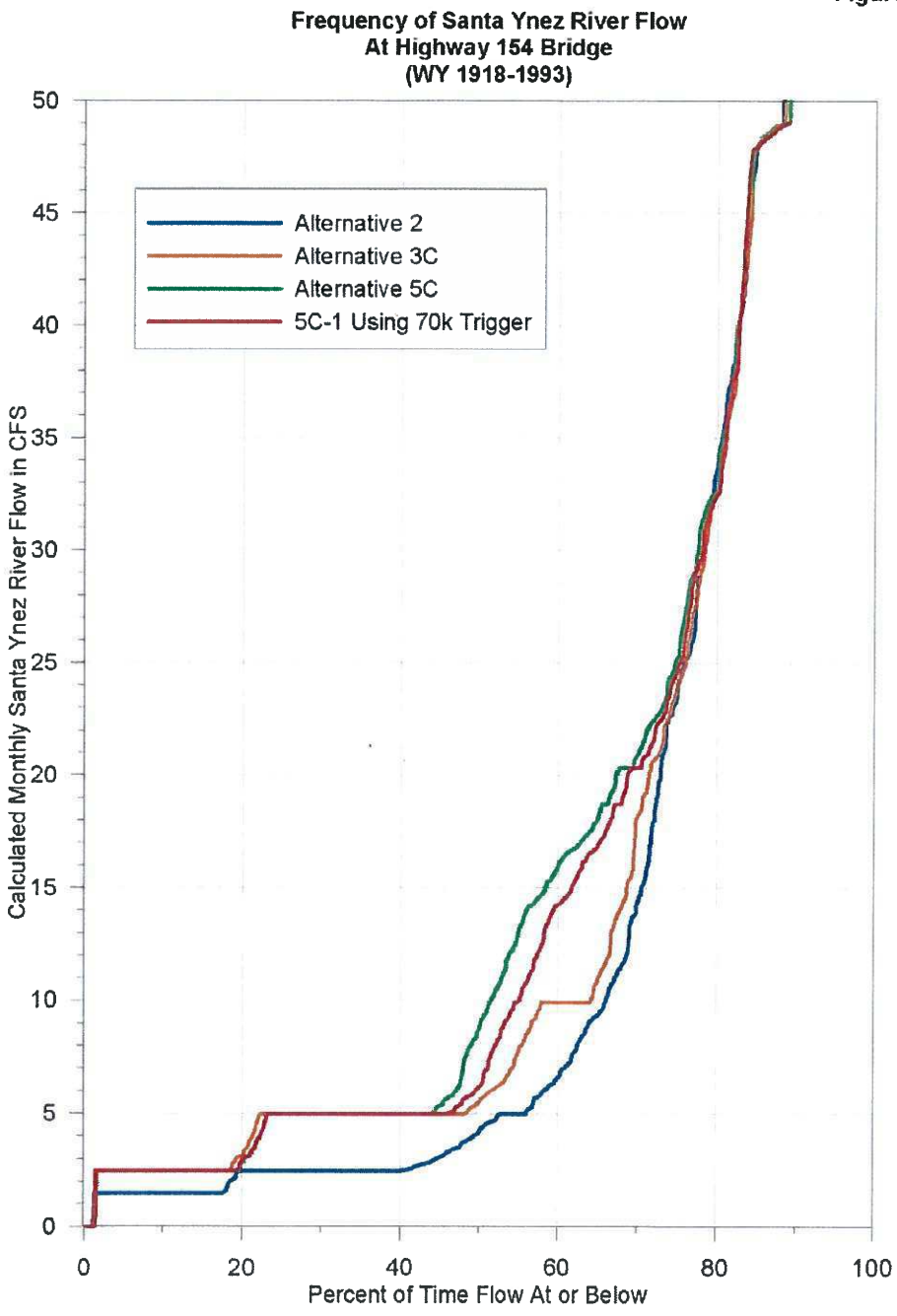

Frequency of Santa Ynez River Flow
At Highway 154 Bridge
(WY 1918-1993)
Alternative 2
Alternative 3C
Alternative 5C
5C-1 Using 70k Trigger
Calculated Monthly Santa Ynez River Flow in CFS
Percent of Time Flow At or Below
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100

Figure 4

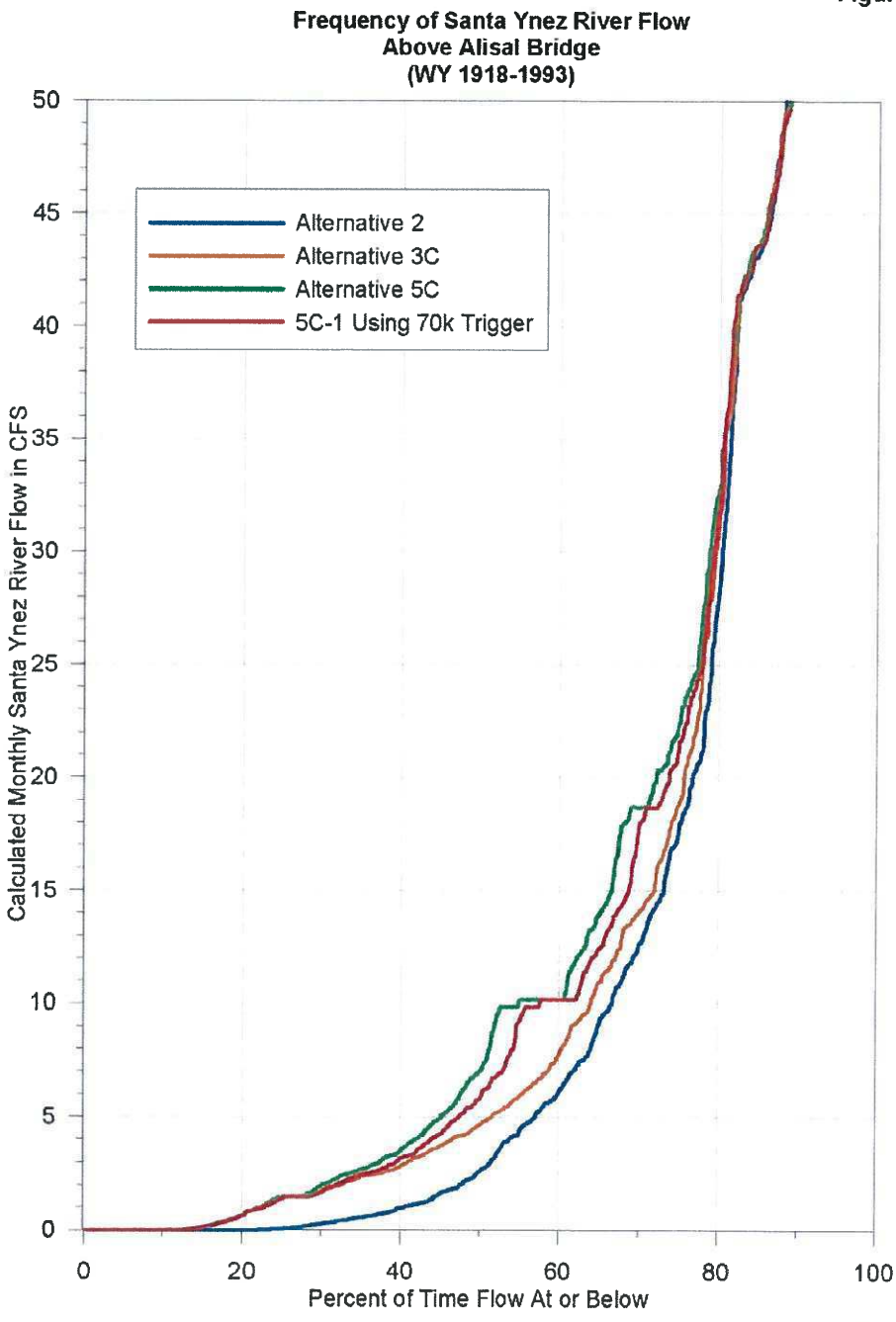
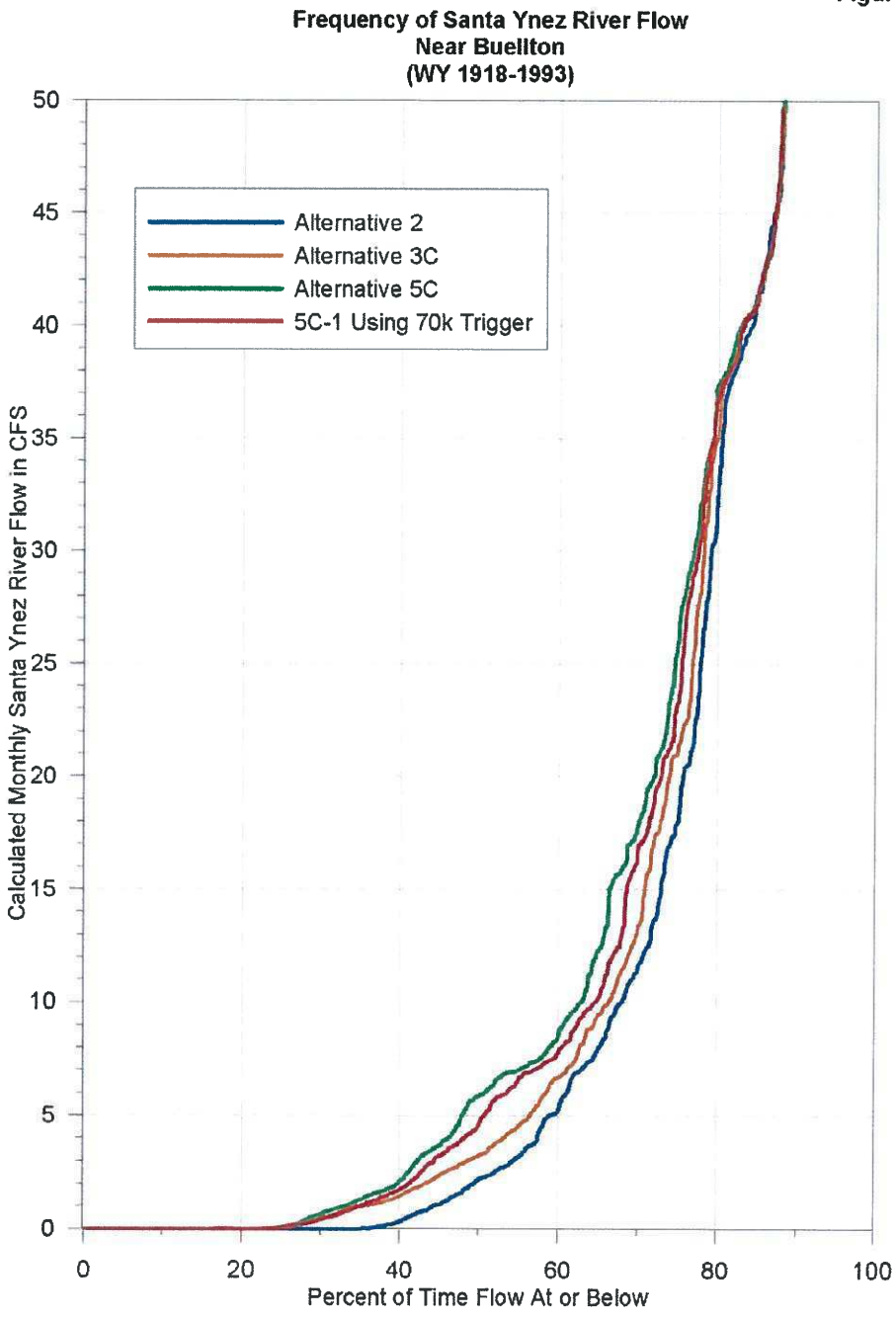

Frequency of Santa Ynez River Flow
Above Alisal Bridge
(WY 1918-1993)
Alternative 2
Alternative 3C
Alternative 5C
5C-1 Using 70k Trigger
Calculated Monthly Santa Ynez River Flow in CFS
Percent of Time Flow At or Below
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100

Figure 5


Frequency of Santa Ynez River Flow
Near Buellton
(WY 1918-1993)
Alternative 2
Alternative 3C
Alternative 5C
5C-1 Using 70k Trigger
Calculated Monthly Santa Ynez River Flow in CFS
Percent of Time Flow At or Below
0
5
10
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20
25
30
35
40
45
50
0
20
40
60
80
100

Figure 6

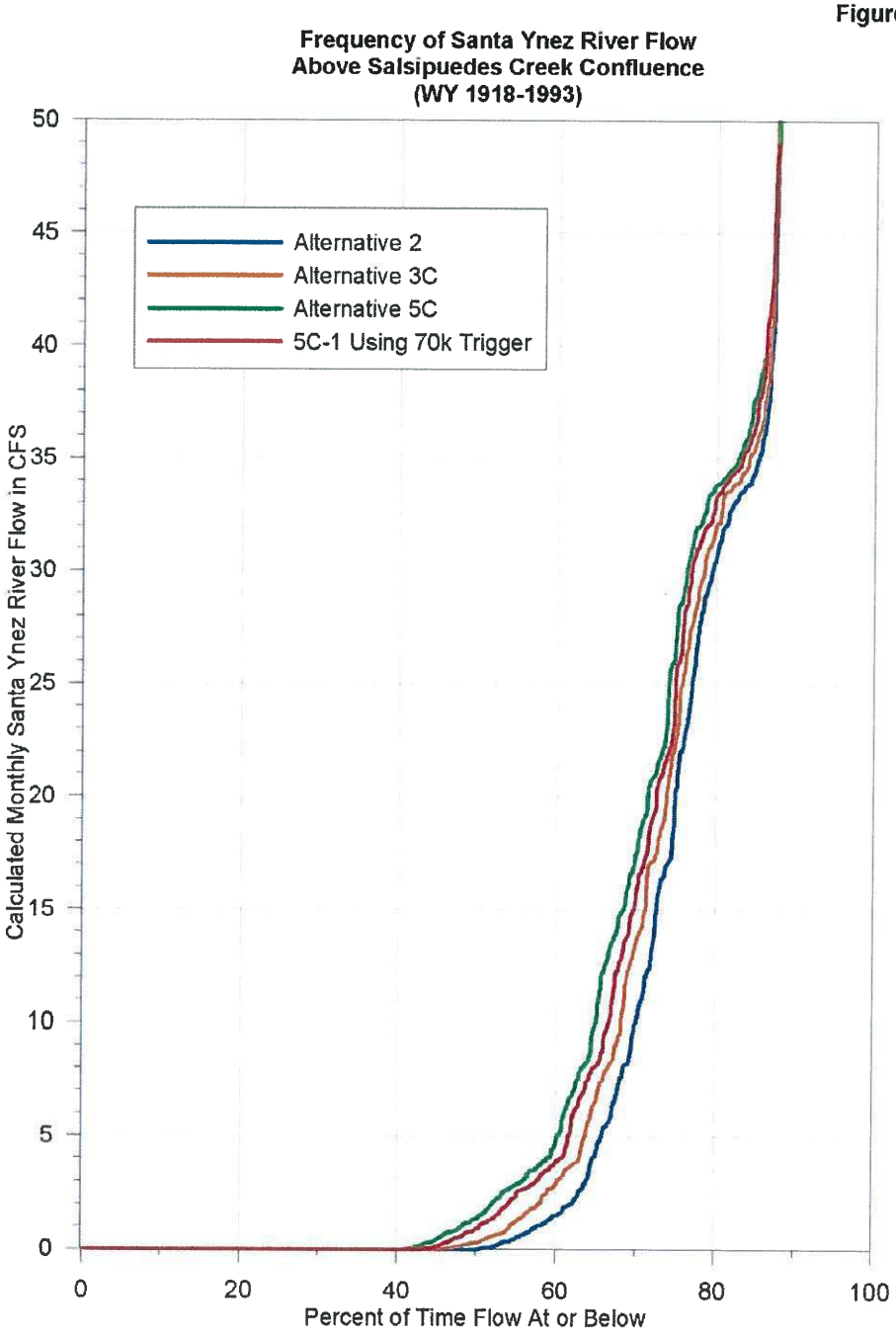
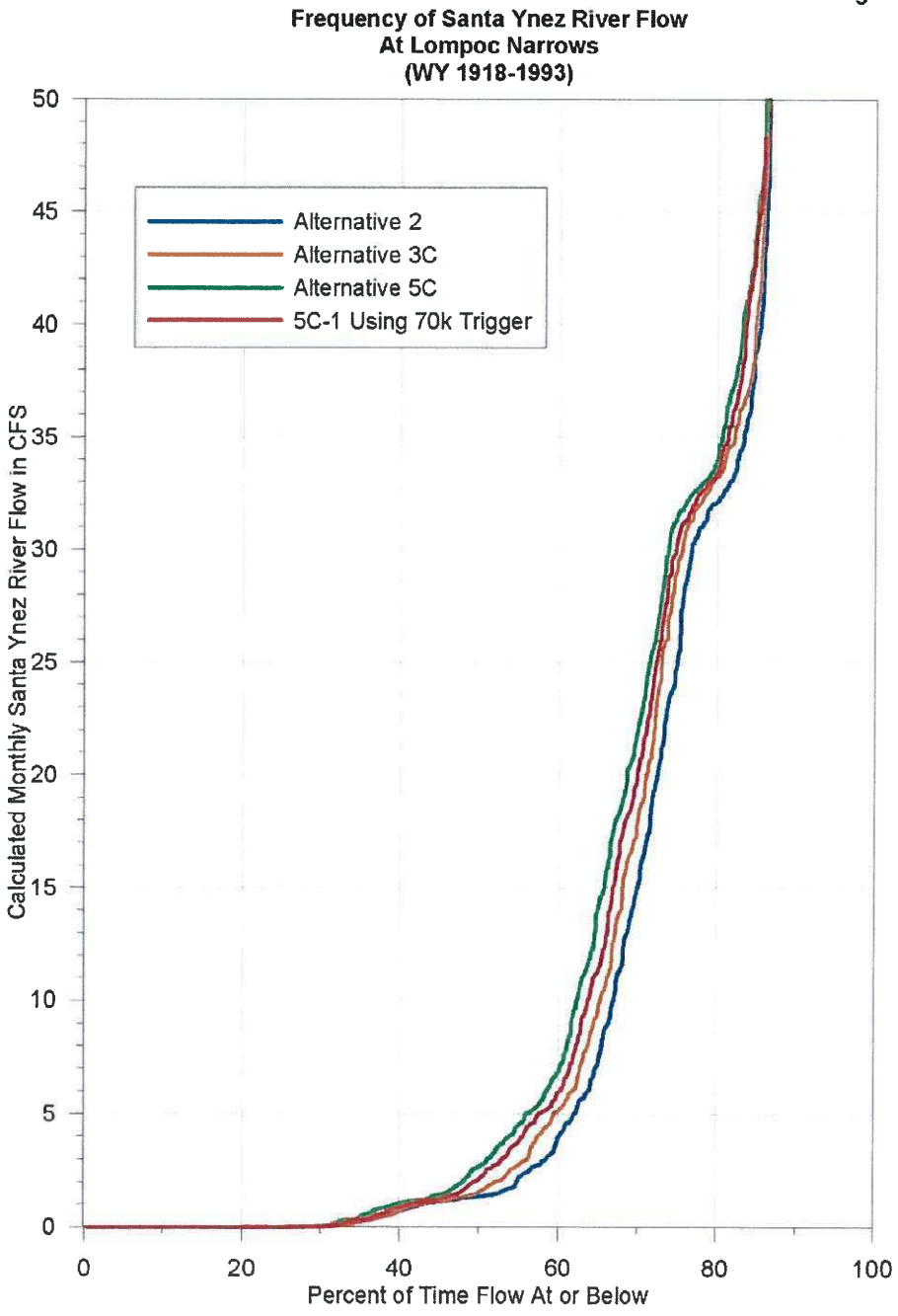

Frequency of Santa Ynez River Flow
Above Salsipuedes Creek Confluence
(WY 1918-1993)
Alternative 2
Alternative 3C
Alternative 5C
5C-1 Using 70k Trigger
Calculated Monthly Santa Ynez River Flow in CFS
Percent of Time Flow At or Below
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100

Figure 7


Frequency of Santa Ynez River Flow
At Lompoc Narrows
(WY 1918-1993)
Alternative 2
Alternative 3C
Alternative 5C
5C-1 Using 70k Trigger
Calculated Monthly Santa Ynez River Flow in CFS
Percent of Time Flow At or Below
0
5
10
15
20
25
30
35
40
45
50
0
20
40
60
80
100