Subject: Objection to CA DWR/USBR Petition for New Temporary Urgency Change Order

Greetings Rich,

Attached is an Objection/Protest respectfully submitted by Sequoia ForestKeeper (SFK) and Wasteful UnReasonable Use (WURU) regarding the 8 June 2015 Notice of Request Filed by the California Department of Water Resources and the United States Bureau of Reclamation to modify and renew a Temporary Urgency Change Order regarding permits and license of the State Water Project and the Central Valley Project (filed initially on May 21, 2015).

Please note that our petition formally incorporates by reference comments submitted jointly by the California Sportfishing Protection Alliance (CSPA), California Water Impact Network (C-WIN), and AquAlliance (AA) concerning this same subject, as well as Restore The Delta (RTD). With this email we are also serving notice to James Mizell at CA DWR and Amy L. Aufdemberge at the US Department of the Interior.

We would appreciate a receipt of timely submission. If you have questions, please don't hesitate to contact us. Thank you.

Sincerely,

Ara Marderosian, Executive Director, Sequoia ForestKeeper, P.O. Box 2134 Kernville, CA 93238, ara@sequoiaforestkeeper.org, (760) 376-4434

Todd Shuman, Executive Director, Wasteful UnReasonable Use, 2260 Camilar Dr., Camarillo, CA 93010, tshublu@yahoo.com, (805) 987-8203

**State of California**
**State Water Resources Control Board**
**DIVISION OF WATER RIGHTS**
**P.O. Box 2000, Sacramento, CA 95812-2000**
**Info: (916) 341-5300, FAX: (916) 341-5400**
**Web: http://www.waterboards.ca.gov/waterrights**
**Rich.Satkowski@waterboards.ca.gov**
**PROTEST – (Petitions)**
**OBJECTION**
**PETITION FOR HEARING**

Temporary Urgency Change Petition for Permits 16478, 16479, 16481, 16482 and 16483 (Applications 5630, 14443, 14445A, 17512 and 17514A, respectively) of the Department of Water Resources for the State Water Project and License 1986 and Permits 11315, 11316, 11885, 11886, 11887, 11967, 11968, 11969, 11970,11971, 11972, 11973, 12364, 12721, 12722, 12723, 12725, 12726, 12727, 12860, 15735, 16597, 20245, and 16600 (Applications 23, 234, 1465, 5638, 13370, 13371, 5628, 15374, 15375, 15376,16767, 16768, 17374, 17376, 5626, 9363, 9364, 9366, 9367, 9368, 15764, 22316, 14858A,14858B, and 19304, respectively) of the United States Bureau of Reclamation for the Central Valley Project.

We, Ara Marderosian, Executive Director, Sequoia ForestKeeper (SFK), P.O. Box 2134 Kernville, CA 93238, ara@sequoiaforestkeeper.org, (760) 376-4434, and Todd M. Shuman, Executive Director, Wasteful UnReasonable Use (WURU), 2260 Camilar Dr., Camarillo, CA 93010, tshublu@yahoo.com, 805.987.8203 (Protestants) have read carefully an 8 June 2015 notice relative to a petition for Temporary Urgency Change (TUCP) of the Department of Water Resources (DWR) and the Bureau of Reclamation (Bureau), dated 21 May 2015. The 21 May TUCP request replaces a request made on 24 March 2015 for the 1 July through 30 November period. The features and lineage of the May 21 TUCP are summarized immediately below:

*Temporary Urgency Change Petitions and Orders 2015*

The Department of Water Resources (DWR) and U.S. Bureau of Reclamation (USBR) filed a Temporary Urgency Change Petition (TUCP) on 27 January 2015 to change water right conditions requiring the state and federal water projects to meet Bay-Delta flow and water quality objectives during February and March of this year. On 3 February 2015, the Executive Director of the SWRCB issued an order temporarily weakening Bay-Delta objectives; he modified the 3 February order on 5 March 2015. DWR and USBR submitted another TUCP on 24 March 2015 requesting approval of additional changes to flow and water quality requirements through September 2015. The Executive Director issued a modified Order on 6 April 2015 based on this request that approved changes through June. The 6 April 2015 Order included a requirement that USBR submit and, upon approval, implement a Temperature Management Plan for the Sacramento River to provide for reasonable protection of winter-run and other salmonids and also a requirement that USBR submit and, upon approval, implement a plan for operations of New Melones Reservoir that reasonably protects fish and wildlife on the Stanislaus River. The Executive Director has provisionally approved preliminary drafts of both the Sacramento and Stanislaus River plans but, on 29 May 2015, suspended his approval of the Sacramento River Temperature Management Plan pending further discussion.

The 21 May 2015 TUCP includes modifications to D-1641 that, if approved, will: (1) change the minimum Net Delta Outflow Index (NDOI) to a monthly average of 3,000 cfs for July, with a seven-day running average of no less than 2,000 cfs; (2) change the minimum Sacramento River Flow requirements at Rio Vista for the months of September, October, and November to a monthly average of no less than 2,500 cfs on average, with a seven-day running average of no less than 2,000 cfs; and (3) extend the change of the Western Delta agricultural salinity requirement at Emmaton to a compliance location at Threemile Slough on the Sacramento River through August 15.

**To start, our Objection/Protest initially incorporate here by reference the protest filed jointly by California Water Impact Network, California Sportfishing Protection Alliance, and AquAlliance, as well as the protest filed by Restore The Delta.**

**Based on these referenced protests and our own comments, we object that:**

**The proposed TUCP (and by extension, and where relevant, the 3 July 2015 Temporary Urgency Change Order) will:**

--- Not be within the State Water Resources Control Board's (SWRCB) jurisdiction,
--- Not best serve the public interest,
--- Be contrary to law, and
--- Have an adverse environmental impact.

**We object to the TUCP and petition for a public hearing for the reasons described below.**

The latest temporary urgency change petition does not best serve the public interest.

• The TUCP does not best serve the public interest because the state has failed to devise a comprehensive strategy for dealing with recurring, expected droughts which does not require waiving, relaxing, or obviating established water quality regulations.

• The TUCP does not best serve the public interest because it promotes agricultural and urban water development at the expense of commercial, recreational, and subsistence fishing and the cultural and symbolic reliance of some cultures on salmonid populations in California. This reflects the lack of coherent and comprehensive public trust analysis in the Board's own planning work for determining what are the most important beneficial uses to protect and serve during dry periods. The Board's TUCP actions assume what it instead should have demonstrated already.

• The TUCP does not best serve the public interest because it assumes the need for the urgency change is due strictly to natural conditions, when the role of recent management of water project operations is neither assessed nor evaluated in creating the alleged urgency. Past water management and allocation decisions by DWR and the Bureau have contributed to water supply shortages in historical drought experience. Similar practices and patterns can be observed in the 2012-2015 drought period. A hindcast should be performed on recent water project operations from the beginning of Water Year 2012 to assess and evaluate the roles of State Water Project, Central Valley Project, and State Water Resources Control Board actions in response to drought conditions. This would help the Board demonstrate that its own actions in regulating water project operations as well as those of the project operators are more likely to be reasonable and less likely to be wasteful of water. SFK and WURU urge the State Water Resources Control Board to take a lead role in revising how water project operations are managed so that the greater likelihood of dry-to-drought conditions are factored into water project allocation decisions. The TUCP is contrary to law.

• The Board, in approving previous iterations of this TUCP, has unlawfully neglected its duty under Water Code Section 1435(c) to define and assess the due diligence required of the state and federal water project operators in managing the system and whether a lack of diligence may be grounds for denying the TUCP.

• The TUCP is contrary to the reasonable use doctrine. The Board must perform its duty to ensure that water management and use by the state and federal water projects and their water contractors has been reasonable, and not wasteful. No such analysis has been performed by either the petitioners or the Board and its staff.

• The TUCP is contrary to the public trust doctrine because the Board has failed to perform needed analyses of public trust resources sufficient to validate balancing actions the Board and its Executive Director purport to engage in when issuing orders approving the TUCPs. The one public trust analysis the Board performed pursuant to Water Code Section 85086(c) (1) found that more flows were needed for recovery of at-risk public trust resources, not less. The Board's actions reducing Delta outflows and Delta inflows, as well as relaxations such as the TUCP Orders' treatment of Delta Cross Channel operation and installation of the False River barrier are thus inconsistent with the public trust doctrine and are therefore unlawful. Regarding purported "balancing" actions, we also question the whole concept of balancing as it has come to be implemented by the SWRCB that have come to be embedded in the whole concept of "balancing". This critique is more fully presented in our referenced June 19, 2015 and July 6, 2015 Comments.

• While we recognize that some of the actions deemed necessary in this TUCP and the recent TUCP orders are necessary as emergency stopgap measures to save as many winter-run and spring-run Chinook salmon as possible this year, past unlawful failures to target and meet state and federal legislative goals to double salmon populations relative to 1967-1991 levels and keep fish populations in good condition below dams owned by the federal and state governments are also evidence that this TUCP and past TUCPs have been grossly inadequate.

• The TUCP continues to be contrary to the federal Clean Water Act as was discussed by RTD in previous protest comments from February 13 and May 5.

• The TUCP continues to be contrary to the Delta Protection Act of 1959 as RTD discussed in previous protest comments from February 13 and May 5. The Order would have significant adverse environmental effects which are also contrary to law and do not best serve the public interest.

• The latest TUCP continues the trend of worsening salinity conditions in the Delta. It continues imposing unreasonable flow and salinity conditions in the Delta that could extirpate listed fish species in the Delta during 2015. On the other hand it would best serve the public interest for the State Water Board to prevent extinctions of Delta smelt, longfin smelt, salmonids, and sturgeon now so that these species' recoveries can be effectively planned when the Board resumes its work on Phases 1 and 2 of the Bay Delta Plan.

• The Board should ensure that net Delta outflow is accurately measured, not merely estimated in such a manner that it fails to correlate with salinity conditions in the western Delta. One cannot successfully manage what one does not measure accurately.

• The latest TUCP documents, without acknowledging, that key beneficiaries of the TUCP and the False River Barrier are the water export interests along the corridors of Old and Middle River. (TUCP, Exhibit A, Figure 9, p. 7.) It also documents that the western and central Delta and the region of the Low Salinity Zone will see far higher salinity as a consequence of barrier installation and the various TUCP measures. (TUCP, Exhibit A, Figures 2, 4, 5 and 8.) SFK and WURU demand that the petitioners prepare for the State Water Resources Control Board's consideration and public review a set of modeling DSM2 modeling outputs that include a D-1641-with-barrier scenario so that a full set of meaningful comparisons may be made between the impacts of D-1641 on water project operations, the TUCP orders, and the False River barrier.

• We further question the modeling artifact of the blue "island" of fresh water between the False River Barrier and Franks Track shown in the TUCP. (Exhibit A, Figure 9, p. 7.) There is no explanation of it in the TUCP narrative in Exhibit A. It raises the question of how the better quality water can arrive in Old and Middle River as it often does when the Delta Cross Channel is open and Sacramento River flows enter the Mokelumne/San Joaquin/Old River corridor on their way to the South Delta pumps. This central portion of the flow corridor for exports is shown to have worse water quality, when it is possible that it takes better water quality getting across the Delta from north to south in order to have better quality water in the south Delta along Old and Middle Rivers. This requires explanation by the petitioners prior to issuance of the Board's next TUCP order.

• As a consequence of this manufactured salinity pattern in the Delta, Delta smelt will be confined to smaller refugia in the north Delta and the Sacramento Deep Water Ship Channel, areas of relatively small water volume (especially when compared with their historical native habitat in the low salinity zone of the western Delta) where they will be vulnerable to mortality due to summer heat waves. This year's habitat refugia is likely to be the Delta smelt's smallest in recorded history. The TUCP acknowledges Delta smelts' vulnerability, given that "The majority of the members of the Smelt Working Group expect that larval and juvenile Delta smelt may not be detected in salvage because numbers are so low as to be at detection levels of the larval surveys." (TUCP, Attachment 2, p. 22.) It also acknowledges the "upstream relocation of X2" where its location influences "both the area and quality of habitat available for Delta Smelt to successfully complete their life cycle." (TUCP, Attachment 2, p. 32.) DSM2 forecasts that X2 (the salinity location in the Low Salinity Zone where the bottom salinity is 2.0 psu) will be located "towards the upstream end of the range in the Sacramento River between June and November, with greater differences between the D-1641 baseline and the proposed action occurring between July and September." (TUCP, Attachment 2, p. 32.) The TUCP also acknowledged evidence of Delta smelt spawning failure this spring. (TUCP, Attachment 2, p. 20.)

**State [additional] facts, which support [further] the foregoing allegations:**

We also incorporate by reference the:

A. 6 July 2015 comment titled "June 8, 2015 Temporary Urgency Change Petition Concerning SWP/CVP and Water Deliveries, in relation to the April 6, 2015 TUCO", submitted by Ara Marderosian (Sequoia ForestKeeper), Guy Saperstein, Alexandra Paul, Jon Marvel, Connie Hanson, Mike Hudak, Lorelei Plotczyk, Lorin Lindner, Marcia Hanscom, Robert Roy van de Hoek, and Todd M. Shuman (Wasteful UnReasonable Use). (See attached comment.)

B. 19 June 2015 “Comment on April 6 2015 TUCO, Wasteful and Unreasonable Water Use: Hay Exports, Flood Irrigation for Alfalfa Production, and Groundwater Depletion in Tulare County” (alternatively known as “Wasteful and Unreasonable Water Use: Hay Exports, Flood Irrigation for Alfalfa Production, the April 6 2015 TUCO, and Groundwater Depletion in Tulare County”), submitted by Ara Marderosian (Sequoia ForestKeeper), Alexandra Paul, Jon Marvel, Connie Hanson, Mike Hudak, Lorelei Plotczyk, Lorin Lindner, Marcia Hanscom, Robert Roy van de Hoek, and Todd M. Shuman (Wasteful UnReasonable Use).

**The TUCP is Contrary to Law if Approved**

The TUCP contravenes Public Trust Doctrine by failing to protect trust assets and failing to balance a relatively healthy Central Valley agricultural sector that represents somewhat less than 2% of the state’s gross domestic product with critically depressed public trust resources hovering on the brink of extinction. Extinction cannot be balanced! It contravenes the federal Clean Water Act by arbitrarily weakening criteria without following mandated procedures and ignoring federally promulgated water quality criteria. It violates the due process of those who have been excluded from the backroom deal cutting. It contravenes the Delta Protection Act of 1959 by failing to control salinity in the Delta to the detriment of Delta agriculture and urban water supply beneficial uses and by failing to make required findings that no water is being exported that belongs to Delta users under watershed protection and area of origin statutes. Notwithstanding the letters of concurrence or consistency, it violates state and federal endangered species statutes because the record clearly demonstrates that the agencies charged with implementing those acts have chaperoned the collapse of Delta fisheries, have grievously failed to protect endangered species from impending extinction, and have essentially become captive agencies to special interests. For all of the reasons herein, we believe the evidence demonstrates that the proposed TUCP, and the Order, to the degree that it grants the measures requested in the TUCP, violates state and federal laws, including but not limited to:

**Public Trust Doctrine and California Case Law**

The Public Trust Doctrine protects many values including fish and wildlife (see *Marks v. Whitney*, 6 Cal 3d 251; *National Audubon Society v. Superior Court* 33 Cal 3d 419.) The State of California has sovereign fee ownership of public trust easements in California Rivers and streams and of the fish and wildlife that live in them. Those rights cannot be arbitrarily and capriciously waived by Governor Brown’s suspension of regulations that require compliance with water quality standards under the guise of a self-proclaimed emergency. The SWRCB retains its “affirmative duty” under *Audubon* to continually reevaluate the uses of water by the export projects in this and other droughts to come. The Governor does not have the authority to declare an emergency and destroy the Public Trust. The SWRCB cannot find that the TUCP has no “unreasonable” effect on fish and wildlife by the granting of a TUCP and a Temperature Management Plan that could eliminate salmon, smelt and other fish, which are Public Trust assets.

In November 2009, the State Legislature passed Water Code § 85086 as part of the Delta Reform Act of 2009. The Act required the SWRCB to develop new flow criteria to protect Public Trust resources of the Delta. Following extensive testimony, the SWRCB issued the 2010 Delta Flow Criteria Report, which identified flow criteria necessary to support Public Trust resources. The report, titled Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem, found that Delta flows are insufficient to support native Delta fishes and recommended significant increases in inflow to the Delta and outflow to the Bay.

The Delta Reform Act also directed DFW to identify quantifiable biological objectives and flow criteria for the species of concern in the Delta. Following a lengthy proceeding, DFW issued a 2010 report titled Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta. Unfortunately, since the issuance of those reports, both the SWRCB and DFW have acted as if the reports and the Public Trust didn't exist. There has been virtually no attempt to balance the flows required to protect public trust resources with other beneficial uses as was done at Mono Lake. Despite native fisheries facing extinction, the SWRCB failed to consider or balance the Public Trust with competing beneficial uses as they adopted the TUCP Orders. DFW failed to consider the Public Trust and its Delta biological objectives and flow criteria in quickly endorsing the TUCPs and in finding them to be consistent with the California Endangered Species Act (CESA).

**Article 10, Section 2 of the California Constitution**

"The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall reasonably be required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water."

Considering the conditions of drought which are described in the "drought emergency" declared by Governor Brown - the curtailments of water rights, the waiver of D-1641 standards to protect fish and wildlife and water quality in the Delta watershed - it is time for the SWRCB to declare flood irrigation by agriculture during the drought emergency a waste and unreasonable use until the emergency is over.

If the SWRCB can require urban conservation, it can also require conservation in agriculture.
Flood irrigation in the Sacramento Valley in particular is unreasonable when the endangered salmon are facing extirpation. Increased evaporation from spreading water on the ground alone likely uses more stored water than that needed to save the fishery.

Alfalfa and irrigated pasture alone consumes 8.6 MAF of water in California and provides low net revenue and few jobs. The SWRCB can and must reduce the quantity of water allocated to irrigated pasture and low-value crops like alfalfa that use prodigious amounts of water during the drought emergency. To continue this use is unreasonable and a waste of water and must be stopped or reduced until the drought emergency is declared over.

The continued killing of threatened and endangered species by obsolete and non-protective export pumping facilities simply because the state and federal water contractors refuse to pay for new state-of-the-art fish screens is an unreasonable method of diversion. This is especially true when water diverted through those facilities deprives listed species of water necessary for survival. The SWRCB can and must curtail south Delta exports during the drought emergency until D-1641 water quality standards are met.

The referenced documents listed in this Objection further explore "waste or unreasonable use" claims with regard to flood irrigation of alfalfa and irrigated pasture, in terms of both "method of water use" and "use of water", independent of method of application. These referenced documents also present claims of "unreasonable use" in the context of water exports to the San Joaquin River Exchange Contractors Water Authority that have been substantially applied to livestock feed crop production more generally. In our comments, we argue that water applied to grow livestock feed crops in this time of drought is wasteful and unreasonable, and this fact is aggravating conflicts that are central to the TUCPs that have been requested and the TUCOs that have been adopted by the SWRCB.

**Under what conditions may this Objection be disregarded and dismissed?**

First, the requested TUCP Order should be denied. In its place, the SWRCB should undertake the following measures to protect fish and wildlife for the remainder of 2015:

1. Given the imminent threats of extinction, the SWRCB should move to reinstate D-1641 critical year criteria. If D-1641 outflow criteria to protect fish and wildlife cannot be met, exports should be prohibited. Water needed to supply export health & safety needs have already been exported are presently in storage in San Luis Reservoir.

2. Proposed Keswick releases should be in the range of 7,000-7,500 cfs during the June-July winter-run Chinook salmon spawning period and reduced to no more than 6,000-6,500 cfs in September-October to ensure that redds will not be dewatered and sufficient coldwater reserves remain in Shasta Reservoir to protect spawning, incubation and emergence of salmon. It is unreasonable to supply Sacramento Settlement Contractors with 1.2 MAF of water within essentially a critical four-month window during a drought at the expense of the cold-water pool in Shasta.

3. The SWRCB should prohibit South of Delta water transfers and ensure that "surplus" transfer water be used to meet D-1641 criteria.

4. The Vernalis salinity standard should be maintained at 0.7 EC through the growing season. If the standard cannot be met, discharges of high salinity waters from the west side of the San Joaquin Valley should be prohibited.

5. Vernalis flow should be maintained to at least 200 cfs. Water needed to institute these flows should be apportioned among tributary users. End of October New Melones storage should be maintained at 200 TAF or greater.

6. To minimize potential impacts from another dry year, the SWRCB should begin to require DFW and USFWS to establish a program to ensure maximum production and survival of young salmon to the ocean through trucking or, preferably, barging hatchery-produced salmon and steelhead to the Bay. The USBR and DWR should be required to fund any added costs associated with these enhanced hatchery practices.

7. The SWRCB should require management of delta hydrology through EC and gauged outflow, not NDOI. EC recorders and USGS gauges located throughout the river, Delta, and Bay provide a better management tool than the estimated NDOI.

8. The SWRCB should require the RTDOMT to operate the Delta Cross Channel gates in real time to minimize export losses of smelt and San Joaquin salmonids during periods of high Delta inflows, to minimize negative OMR and improve positive QWEST flows. When salmon are present, gates should only be opened during daylight hours to minimize redirection into the central Delta.

9. The SWRCB should require DWR and the Bureau to adjust exports to the natural monthly tidal cycle to minimize negative effects on Delta hydrology and fish habitat and entrainment risk conditions.

10. The SWRCB must hold an evidentiary hearing on the requested TUCP and Order to consider necessary measures to protect gravely threatened fish species during current drought and depleted storage conditions.

11. The SWRCB declares flood irrigation for alfalfa, pasture, and other grass-related hay production as wasteful or unreasonable.

The SWRCB should also undertake the following measures to protect fish and wildlife for the remainder of 2015 and for 2016 and prior to any future drought sequence:

1. Expedite development of the Water Quality Control Plan for the Bay-Delta.

2. Undertake a comprehensive balancing of Public Trust Resources identified in the SWRCB's 2010 Report titled Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem with other identified beneficial uses of Central Valley waters.

3. Initiate an adjudication of over-appropriated water rights in the Central Valley.

The SWRCB should also use its authority during the remainder of 2015 and 2016 to re-regulate the state and federal export pumping facility to create better Bay-Delta ecosystem conditions by taking the following steps:

1. Determine Whether There Will Be Fish Passage at Central Valley Watershed Rim Dams. There was very little spawning and rearing habitat for salmonids that existed below the locations of the lowest elevation water user dams on the edge of the Central Valley. Most estimates by government studies indicate that as much as 95% of the natural spawning and rearing habitat for the listed winter and spring run salmon and the Central Valley steelhead has been blocked by dams. There is presently no system of access for these fish to return to their native streams and to the upper elevation deep cold water that would allow the fish to survive on their own as they did before the dams. If access to this important habitat remains blocked, it will be necessary for the SWRCB to dedicate ever-increasing amounts of stored, cold water to fish and wildlife needs.

2. Dedicate Reservoir Storage for Endangered Fish Habitat. Reservoirs are the only source for the cold water that salmon and steelhead depend on for habitat to survive below dams that restrict access of fish to historical habitat above these dams. If fish are to have any chance to survive expected future temperature increases resulting from climate change, reservoir storage must be dedicated to fish habitat and access for fish must be restored to higher elevation habitat with colder water. A program must be designed and executed to protect fish during this drought. The present state of cold-water reservoir reserve is insufficient and may result in salmonid extinction unless more of the winter's water run-off is dedicated to fish and wildlife in the Central Valley Rivers leading into the Bay-Delta estuary.

3. Modify Reservoir Flow Releases to Include a Margin of Safety. Water flow is not only water supply for agriculture and urban California. Water flow is habitat for fish and other aquatic species. Because water users have eliminated much of the natural habitat for salmonids by building dams on Central Valley streams and rivers, salmon and steelhead are trapped in very small areas for spawning and rearing. This year's drought and the high volume water export since 2000 have nearly exhausted reservoir water available to provide habitat for fish and other aquatic species. The SWRCB should use its authorities under the Clean Water Act and the Water Code to prevent additional depletion of reservoir storage that risks extinction for salmon and steelhead.

4. Modify Reservoir Flow Releases to Ensure Protection of Coldwater Pools. To the extent possible, water storage facilities should be managed to provide cold water for fish during the summer and early fall months. Since the salmon and steelhead are trapped below project dams, they are exposed to unnaturally high water temperatures that can have both lethal and chronic effects. For these fish, cold water is habitat. Without it, they die. The SWRCB must modify rim dam water rights permits to preserve cold water for water year 2016 and years following.

5. Establish Additional Cold-Water Reservoir Storage for Bay-Delta Ecosystem Purposes. There are several reasons to expect that climate change will have negative long-term influences on pelagic habitat suitability for the POD fishes. First, there has been a trend toward more Sierra Nevada precipitation falling as rain earlier in the year. This increases the likelihood of winter floods and may have other effects on the hydrographs of Central Valley Rivers and Delta salinity. Altered hydrographs interfere with pelagic fish reproduction, which is usually tied to historical runoff patterns. Second, sea level is rising. Sea level rise will increase salinity intrusion unless sufficient freshwater resources are available to repel the seawater. This will shift fish distributions upstream and possibly further reduce habitat area for some species. Third, climate change models project warmer temperatures in central California. As stated above, water temperatures do not currently have a strong influence on POD fish distributions. However, summer water temperatures throughout the upper estuary are fairly high for delta smelt. Mean July water temperatures in the upper estuary are typically 21-24°C and the lethal temperature limit for delta smelt is about 25°C. Thus, if climate change resulted in summer temperatures in the upper estuary exceeding 25°C, delta smelt would have little chance of maintaining viable populations.

Water storage in Shasta and Oroville are approaching historic lows and will be at or below 1977 levels by fall 2015. The principal cause of this shortfall is the cannibalization of north-of-Delta storage over the last several years to supply south-of-Delta storage and use. Unless the approaching water year proves to be extremely wet, next year's instream flows on the Feather, Sacramento and Yuba rivers are likely to approach record lows. These low flows will likely cause and contribute to reductions in spawning and rearing habitat, lethal temperatures and increases in pollutant concentration. Given the dramatic crash of pelagic species and the recent acceleration in the long-term decline in salmonid escapement, these expected low flows could trigger a catastrophic disaster to fisheries already hovering on the edge of extinction.

6. Improve Water Quality in Rivers Leading Into the Bay-Delta. Concern over contaminants in the Delta is not new. There are long-standing concerns related to mercury and selenium in the watershed, Delta, and Bay. Phytoplankton growth rate may occasionally be inhibited by high concentrations of herbicides. New evidence indicates that phytoplankton growth rate may at times be inhibited by ammonium concentrations in and upstream of Suisun Bay. Toxicity to invertebrates has been noted in water and sediments from the Delta and associated watersheds. Undiluted drain water from agricultural drains in the San Joaquin River watershed can be acutely toxic (quickly lethal) to fish and have chronic effects on growth. Evidence for mortality of young striped bass due to discharge of agricultural drainage water containing rice herbicides into the Sacramento River led to new regulations for discharge of these waters. Bioassays using caged fish have revealed DNA strand breakage associated with runoff events in the watershed and Delta. Peak densities of larval and juvenile delta smelt sometimes coincided in time and space with elevated concentrations of dissolved pesticides in the spring. These periods of co-occurrence lasted for up to 2-3 weeks, but concentrations of individual pesticides were low and much less than would be expected to cause acute mortality. However, the effects of exposure to the complex mixtures of pesticides actually present are unknown.

7. Evaluate Biological Effects of Salt Input Into the Bay-Delta. High levels of salt, as measured at Vernalis, has major potential to damage Bay-Delta agriculture and to cost water users substantial treatment costs at the place of use. The State Board assigned DWR and USBR the responsibility for meeting salinity objectives in the 1979 Delta Plan, D- 1485, and the 1995 Delta Plan and D-1641. Salinity standards continue to be routinely violated. The San Joaquin River Salinity and Boron TMDL assigns responsibility for controlling salt delivered to the San Joaquin Valley from the Delta to USBR. USBR's salt load reductions are to be addressed through a joint Management Agency Agreement with the Central Valley Regional Water Quality Control Board (CVRWQCB). Unfortunately, the Bureau is claiming sovereign immunity and, while promising some level of cooperation, refuses to accept specific enforceable load limits that will actually lead to reductions in salt loading to the San Joaquin River.

8. Establish Origin of Salt Input Into the Bay-Delta. The SJR Salt TMDL is a poster child for the failures of the TMDL program to secure improvements in water quality. Salinity problems on the river have been recognized for over a century. The long-delayed salt TMDL is the first 100-foot TMDL in the nation's history, only protecting a short stretch of river below the San Joaquin's confluence with the Stanislaus River. Water quality violations continue to occur upstream of the confluence and downstream below Vernalis: this despite the fact that EPA regulations and the CVRWQCB Basin Plan require that standards must apply throughout a waterbody, not simply at a single compliance point. While TMDL implementation plans must ensure attainment of water quality standards, the salt TMDL contemplates a 19% exceedance of standards in critical years and a 7% exceedance in dry years. The TMDL fails to reserve any assimilative capacity, thus depriving downstream farmers of the ability to irrigate and discharge return flows. Although the State Board has expressly directed the CVRWQCB to control salt loading from municipal and industrial dischargers, it is routinely allowing massive increases in salt loading in recently adopted NPDES permits. Indeed, the CVRWQCB, with SWRCB approval, recently issued a waiver exempting Delta municipalities from having to comply with salinity requirements contained in their respective NPDES permits. Both the 1995 Water Quality Control Plan for the Delta and D-1641 directed the CVRWQCB to move the salt compliance point upstream of Vernalis. Twenty years later, proposed upstream salinity objectives have not been released and the CVRWQCB is pursuing a CV Salts Plan that may provide results by mid-century.

9. Establish New Interim X2 Bay-Delta Fall Outflow Requirements for All Year Conditions.

Pelagic habitat quality in the San Francisco Estuary can be characterized by changes in X2 (Distance from the Golden Gate of the 2 psu isohaline). The abundance of numerous species increases in years when flows into the estuary are high and X2 is pushed seaward, implying that the quantity or suitability of estuarine habitat increases when outflows are high. The importance of salinity in this study was not surprising, given the relationships of population abundance indices with X2 for many species. Fall salinity has been relatively high during the POD years followed by drought years, with X2 positioned further upstream, even when there are moderate to high outflow conditions during the previous winter and spring. Recent increases in fall salinity could be due to a variety of anthropogenic factors. Initial results from 2007 POD studies have identified increased duration in the closure of the Delta Cross Channel, operations of salinity gates in Suisun Marsh, and changes in export/inflow ratios (i.e. Delta exports/reservoir releases) as contributing factors. The last two years of reduction of even the paltry critical year outflow requirements of D-1641 are clearly likely to extirpate the POD species. Fall represents the time period when the delta smelt year class matures to adulthood. Hence, fall stressors have a direct effect on the delta smelt spawning population. The evidence to date indicates that habitat is a significant issue for delta smelt in fall. Delta smelt are strongly associated with low salinities and high turbidities, which can be used to index the "environmental quality" of habitat for the species. Numerous reports demonstrate that fall environmental quality has shown a long-term decline, which has resulted in the present drought causing numbers of pelagic species to decline far beyond the earlier POD "crash". There is statistical evidence that these changes have population-level effects. A multiple linear regression of fall environmental quality in combination with adult abundance provides statistically significant predictions of juvenile production the following year. Hence, both habitat and stockrecruit factors are important issues during the fall of 2015.

10. Determine the Biological Effects of Project Pumping. It is important to keep in mind that river flows influence estuarine salinity gradients and water residence times. The residence time of water affects both habitat suitability for benthos and the transport of pelagic plankton. High tributary flow leads to lower residence time of water in the Delta, which generally results in lower plankton biomass, but also lower cumulative entrainment effects in the Delta. In contrast, higher residence times (a month or more), which result from low tributary flows, may result in higher plankton biomass. This can increase food availability for planktivorous fishes; however, much of this production may be lost to water diversions under low flow conditions. Under extreme low flow conditions, long water residence times may also promote high biological oxygen demand when abundant phytoplankton die and decompose. Recent particle tracking modeling results for the Delta show that residence times in the southern Delta are highly variable depending on Delta inflow, exports, and particle release location. Very high inflow leads to short residence time. The longest residence times occur in the San Joaquin River near Stockton under conditions of low inflow and low export flow. Statistical analyses of the long-term Delta smelt trends confirm that there has been a rapid decline of Delta smelt since 2000. We suggest that changes in water project operations and adult abundance are contributing causes of this recent decline. Increased water project exports during winter resulted in higher losses of adult smelt, particularly early spawning fish (and their offspring) that may be proportionally more important to the population. Finally, it is likely that the population is now at such low levels that recovery is unlikely in a single year but will require several years of successful reproduction and recruitment.

11. Establish Effective Fish Screens at Project Pumping Facilities in the Bay-Delta. Because large volumes of water are drawn from the estuary, water exports and inadvertent fish entrainment at the SWP and CVP export facilities are among the best-studied top-down effects in the San Francisco Estuary. The export facilities are known to entrain most species of fish in the upper Estuary and are of particular concern in dry years, when the distributions of young striped bass, delta smelt, and longfin smelt shift closer to the diversions. As an indication of the magnitude of the effects, approximately 110 million fish were salvaged at the SWP screens and returned to the Delta over a 15-year period. However, this number greatly underestimates the actual number of fish entrained. It does not include losses at the CVP. Even for the SWP alone, it does not account for mortality of fish in Clifton Court Forebay and the waterways leading to the diversion facilities, larvae < 20 mm FL are not collected by fish screens, and losses of fish >20 mm FL are inefficiently removed by the louver system. Larval entrainment is unknown because larvae are not sampled effectively at the fish screening facilities. However, a number of studies suggest that larval delta smelt entrainment losses could exceed 50% of the population under low flow and high export. Evidence that export diversions played a role in the POD is the substantial increases in winter CVP and SWP salvage that occurred contemporaneously with recent declines in each of the four primary fishes. Increased winter entrainment of delta smelt, longfin smelt and threadfin shad represents a loss of prespawning adults and all their potential progeny. Similar increases in the salvage of littoral species including centrarchids and inland silverside were observed during the same period.

12. Establish Inflow-Outflow Weekly Ratio for All Weeks of The Year. Habitat for pelagic fishes is open water, largely away from shorelines and vegetated inshore areas except perhaps during spawning. This includes large embayments such as Suisun Bay and the deeper areas of many of the larger channels in the Delta. More specifically, pelagic fish habitat is water with suitable values for a variety of physical-chemical properties, including salinity, turbidity, and temperature, suitably low levels of contaminants, and suitably high levels of prey production to support growth. Thus, pelagic fish habitat suitability in the estuary can be strongly influenced by variation in freshwater flow.

13. Declare flood irrigation for alfalfa, pasture, and other grass-related hay production as wasteful or unreasonable.

Signed: 
Ara Marderosian, Executive Director, Sequoia ForestKeeper
Date: 6 July 2015

Signed: 
Todd M. Shuman Executive Director, Wasteful UnReasonable Use
Date: 6 July 2015

Pursuant to requirements that all protests must be served on the petitioner, we have filed this protest, objection, petition for reconsideration and petition for hearing via e-mail to: Rich.Satkowski@waterboards.ca.gov, Chris.Carr@waterboards.ca.gov; Department of Water Resources, James.Mizell@water.ca.gov; Regional Solicitor's Office, Amy.Aufdemberge@sol.doi.gov; U.S. Bureau of Reclamation, pfujitani@usbr.gov

A true copy of this objection has been served upon the petitioners by e-mail (see below).
Date: 6 July 2015

Rich Satkowski
State Water Board
P.O. Box 2000
Sacramento, CA 95812
Rich.Satkowski@waterboards.ca.gov 6 July2015

James Mizell
Department of
Water Resources
P.O. Box 942836
Sacramento, CA 94236
James.Mizell@water.ca.gov 6 July 2015

Amy Aufdemberge
Regional
Solicitor’s Office
2800 Cottage Way,
Room E-1712,
Sacramento, CA 95825
Amy.Aufdemberge@sol.doi.gov 6 July 2015