State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
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PROTEST – (Petitions)
OBJECTION
PETITION FOR RECONSIDERATION
PETITION FOR HEARING

Temporary Urgency Change Petition and Responding Order 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, Bill Jennings, Executive Director, California Sportfishing Protection Alliance (CSPA), 3536 Rainier Ave, Stockton CA 95204, deltakeep@me.com, (209) 464-5067; Chris Shutes, Water Rights Advocate, CSPA, 1608 Francisco St., Berkeley, CA 94703, blancapaloma@msn.com, (510) 421-2405; Barbara Vlamis, Executive Director, AquAlliance, P.O. Box 4024, Chico, CA 95927, barbarav@aqualliance.net, (530) 895-9420; Carolee Krieger, Executive Director, California Water Impact Network (CWIN), 808 Romero Canyon Rd., Santa Barbara, CA 93108, caroleekrieger7@gmail.com, (805) 969-0824; and Michael Jackson, counsel to CSPA, CWIN and AquAlliance, P.O. Box 207, 429 W. Main St., Quincy, CA 95971, mjatty@sbcglobal.net, (530) 283-0712 (Protestants)

have read carefully a notice relative to a petition for Temporary Urgency Change (TUCP) of the Department of Water Resources (DWR) and the Bureau of Reclamation (Bureau), dated 24 March 2015. The Executive Director issued an Order granting this petition in part and denying it in part on 6 April 2015 entitled ***April 6, 2015 Order Modifying An Order That Approved In Part and Denied In Part A Petition For Temporary Urgency Changes To License And Permit Terms And Conditions Requiring Compliance With Delta Water Quality Objectives in Response To Drought Conditions*** (TUCO or "Order").

The proposed TUCP and 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 protest and object to the TUCP and Order and petition for a public hearing and reconsideration of the proposed order for the reasons described below.

State facts, which support the foregoing allegations:

We incorporate by reference the:

A. 5 April 2015 Protest submitted by Restore the Delta regarding the 6 April 2015 TUCP and Order;
B. 13 February 2015 Protest, Objection, Petition for Reconsideration, Petition for Public Hearing and exhibits submitted the CSPA et al. regarding 3 February 2015 SWRCB Order;
C. 12 February Protest and petition submitted by South and Central Delta Water Agencies of the 23 January 2015 TUCP and 3 February 2015 Order;
D. 13 February 2015 Protest and Objection submitted by the Bay Institute regarding 3 February 2015 SWRCB Order;
E. Presentation and exhibits presented by Bill Jennings, Chris Shutes and Tom Cannon representing CSPA et al. at the 18 February 2015 SWRCB workshop on the TUCP;
F. Presentation and exhibits presented by Gary Bobker and Jonathan Rosenfield representing the Bay Institute at the 18 February 2015 workshop on the TUCP;
G. 26 February 2015 letter from Bill Jennings of CSPA regarding the economic impacts of drought in reference t o the TUCP;
H. 26 February 2015 letter from Bill Jennings of CSPA to Tom Howard regarding the 20 February 2015 letter by the State Water Contractors;
I. 26 February 2015 letter from Chris Shutes of CSPA regarding clarification of oral comments made at the 18 February 2015 workshop;
J. 30 March 2015 Protest and Objections submitted by the Natural Resources Defense Council and Bay Institute regarding the 24 March 2015 TUCP filed by the Department of Water Resources and U.S. Bureau of Reclamation;
K. 2 March 2015 supplemental comments submitted by Gary Bobker of the Bay Institute regarding responses to 1/23/15 TUCP and 3/2/15 Executive Director's Order;
L. 31 March email from John Herrick, with exhibit, to Diane Riddle regarding how changes to Vernalis standard will affect the 0.7 EC standard in the south Delta; and
M. 24 April 2015 request for public hearing or workshop on proposed 2015 Shasta operations and associated exhibits submitted by Kate Poole on behalf of NRDC, Bay Institute, Defenders of Wildlife and Golden Gate Salmon Association in so far as the comments are consistent with this protest.

We also incorporate the Protests, Objections and Petitions for Reconsideration and Public Hearing, including exhibits, submitted by CSPA et al. on 3 March 2014, 28 April 2014 and 13 May 2014.

Summary of 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.

The 6 April 2015 order changes include:

1. The Delta Standard for the minimum net daily Delta outflow index (NDOI) during February through June is 7,100 cfs calculated as a 3-day running average. This requirement may also be met by achieving either a daily average or 14-day running average EC at the confluence of the Sacramento and San Joaquin Rivers of less than or equal to 2.64 millimhos per centimeter (mmhos/cm) (Collinsville station C2). The proposed change reduces the minimum outflow in April, May and June to 4,000 cubic-feet per second (cfs) on a monthly average and requires that the 7-day running average shall not be less than 1,000 cfs below the monthly average.
2. The San Joaquin River requirements were modified to: a) provide a pulse flow of no less that 710 cfs at Vernalis from 25 March through 25 April, plus compliance with the National Marine Fisheries Service's (NMFS) CVP and SWP Biological Opinion; b) provide a minimum flow at Vernalis of 300 cfs between 26 April and 31 May (7-day running average not less than 20 percent below the minimum flow rate); c) provide a minimum flow rate no less than 200 cfs at Vernalis in June on a monthly average and d) require preparation of a plan to reasonably protect fish and wildlife on the Stanislaus at the March 99 percent hydrologic exceedances level that includes storage and flow levels throughout 2015.
3. Delta Cross Channel (DCC) Gate Closure requirements were modified to provide that the gates may be opened between 1 April and 20 May, as necessary, to preserve upstream reservoir storage and reduce infiltration of high salinity water into the Delta.
4. Maximum SWP/CVP export limits were modified to allow 1,500 cfs exports when NDOI was not being met or when the DCC gates are open. However, DWR and USBR may export up to 3,500 cfs of natural and abandoned flows, on a 3-day running average, provide the NDOI is greater than 5,500 cfs. Health and Safety needs must be met prior to use of the water for other purposes.

5. The electrical conductivity (EC) limit on the Sacramento River at Emmaton is moved upstream to Threemile Slough on the Sacramento River.
6. A monthly water balance at the 50, 90 and 99 percent hydrologic exceedances scenarios shall be developed by DWR and USBR.
7. USBR, in coordination with fisheries agencies, shall update the 2015 Temperature Management Plan for the Sacramento River for the 2015 winter-run Chinook salmon spawning and rearing period that considers other fisheries needs, including spring- and fall-run Chinook salmon. The temperature models shall include scenarios at both the 90 and 99 exceedance levels.

There were several TUCP requests that, as of this writing, are unresolved. These include Stanislaus River storage and flows, the Vernalis salinity limit and the development of a Temperature Management Plan for the Sacramento River. The notice for the 20 May 2015 Public Workshop on Drought Activities in the Bay-Delta, states that the Executive Director has provisionally approved the drafts of both the Sacramento and Stanislaus River plans but have not seen the final draft of these plans and the text of the provisional approval have not been released to the public. Consequently, Petitioners CSPA, C-WIN and AquAlliance reserve the right to amend this Protest or submit a subsequent protest on these issues.

Decline of Fish Populations 1967-Present

The precipitous collapse of the Central Valley's pelagic and anadromous fish populations since construction of the State Water Project (SWP) in 1967 has been documented at considerable length. Since the State Water Project began exporting water from the Delta, the Department of Fish and Wildlife's (DFW) Fall Midwater Trawl indices for striped bass, Delta smelt, longfin smelt, American shad, splittail and threadfin shad have declined by 99.7, 97.8, 99.9, 91.9, 98.5 and 97.8 percent, respectively. The U.S. Fish & Wildlife Service's (USFWS) Anadromous Fisheries Restoration Program documents that, since 1967, in-river natural production of Sacramento winter-run Chinook salmon and spring-run Chinook salmon have decline by 98.2 and 99.3 percent, respectively, and are only at 5.5 and 1.2 percent, respectively, of doubling levels mandated by the Central Valley Project Improvement Act, California Water Code and California Fish & Game Code. Numerous species have been listed, pursuant to state and federal endangered species acts.[1]

The SWRCB has long been aware of the plight of Central Valley fisheries. In 1978, following a long formal evidentiary hearing and in a moment of remarkable candor, the SWRCB found that

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[1] Southern DPS green sturgeon (*Acipenser medirostris*), federal threatened, candidate for federal endangered; Delta smelt (*Hypomesus transpacificus*), state endangered, federal threatened, Longfin smelt (*Spirinchus thaleichthys*), state threatened; Central Valley steelhead (Oncorhynchus mykiss), federal threatened; Sacramento winter-run Chinook salmon (Oncorhynchus tshawytscha), state endangered, federal endangered; Central Valley spring-run Chinook salmon (Oncorhynchus tshawytscha), state threatened, federal threatened; Central Valley fall/late-fall-run Chinook salmon (*Oncorhynchus tshawytscha*), federal species of concern, state species of special concern; Sacramento splittail (*Pogonichthys macrolepedotus*), state species of special concern; Pacific lamprey (*Entosphenus tridentate*), federal species of concern and river lamprey (*Lampetra ayresi*), state species of special concern. The Project also has potential to adversely affect Killer whales or Orcas (Southern Resident DPS) (*Orcinus orca*), federal listed as endangered because they are dependent upon Chinook salmon for 70% of diet and reduced quantity and quality of diet is one of the major identified causes of their decline.

"full mitigation of project impacts on all fishery species now would require the virtual shutting down of the project export pumps." D-1485, page 13. In 1988, following another extensive evidentiary hearing, the SWRCB acknowledged, "a safe level of exports is not known." Draft 1988 Water Quality Control Plan for Salinity, 7.3.2.5. 9. 7-32. The 1988 draft order found that "optimal water quality objectives" for shad and striped bass larvae and salmon smolt survival in the Delta would require the prohibition of all exports between 1 April through 30 November, in all water years. Ibid, Table 5-4-1, p. 5-110. Political pressure brought by the SWP and Central Valley Project (CVP) contractors led then Governor George Deukmejian to direct the SWRCB to withdraw the draft order.

Yet, another long evidentiary proceeding led the SWRCB to issue Draft Water Right Decision D-1630 in 1992. D-1630 documented that, by 1991, adult fall-run Sacramento River salmon escapement had been halved since the late 1960's, spring-run Sacramento River salmon abundance was about 0.5 percent of historic runs, San Joaquin River fall-run salmon escapement dropped from 70,000 in 1985 to 430 in 1991, the 1985 level of Delta smelt abundance was 80% lower than the 1967-1982 average population, adult striped bass declined from about 3 million in the early 1960s to 1.7 million in the late 1960s to an estimate of 590,000 in 1990, abundances of shrimp and rotifers declined between 67 percent and 90 percent in the 1970s and1980s, white catfish population have severely declined since the mid-1970s and overall fish abundance in Suisun Marsh has been reduced by 90 percent since 1980. D-1630, p. 29. The SWRCB declared in draft D-1630 that "net reverse flows caused by export pumping are adverse to fishery resources because they pull water and young fish of various species from the western Delta into the central Delta." D-1630. P. 31. It declared that "reverse flows should not occur in the San Joaquin and Sacramento Rivers during the delta smelt's spawning period in order to transport the larvae to appropriate habitat and to keep them there." Ibid, p. 41-42. It included a requirement that "there should be no reverse flow for all water year types on a 14-day running average in the western Delta…between July 1 and July 31" and that the "14-day running average flow shall be greater than -2000 cfs…between August 1 and January 31. Ibid, p. 46-47. Again, political pressure brought by SWP and CVP contractors led then Governor Pete Wilson to direct the SWRCB to not finalize the order.

In January 1995, the U.S. Environmental Protection Agency (EPA) stepped in and promulgated stringent federal Clean Water Act (CWA) water quality standards for the Delta that was significantly more protective than existing state criteria. 40 CFR 131.37. The SWRCB has refused to acknowledge or abide by these federal standards.

The SWRCB subsequently issued a Water Quality Control Plan (Bay-Delta Plan) for the San Francisco Bay/Sacramento-Dan Joaquin Delta Estuary (95-1WR) in May 1995. The SWRCB plan was significantly weaker than the EPA promulgated standards and wasn't incorporated into water rights permits until D-1641 was issued in 2000. Mindful of the history of droughts in California, especially the severe six-year 1987-92 drought, D-1640 contained specific water quality criteria for wet, above normal, below normal, dry and critically dry water years.

Following the issuance of D-1641, Delta pelagic species experienced a collapse in fish populations known as the "Pelagic Organism Decline." Fish abundance indices calculated by the Interagency Ecological Program (IEP) for 2002-2004 were at record lows for Delta smelt and

striped bass and near-record lows for longfin smelt and threadfin shad. This decline was characterized by the IEP as a precipitous "step change" to very low abundance. In response to these changes, the IEP formed a Pelagic Organism Decline work team to evaluate the potential causes for the declines. The work team identified three factors that were likely causes of the decline: water project operations, toxins and invasive species. It should be noted that water project operations had drastically altered the hydrology of the estuary and had enhanced and expanded habitat for invasive species.

Accelerated Decline of Fish Populations 2013-2015

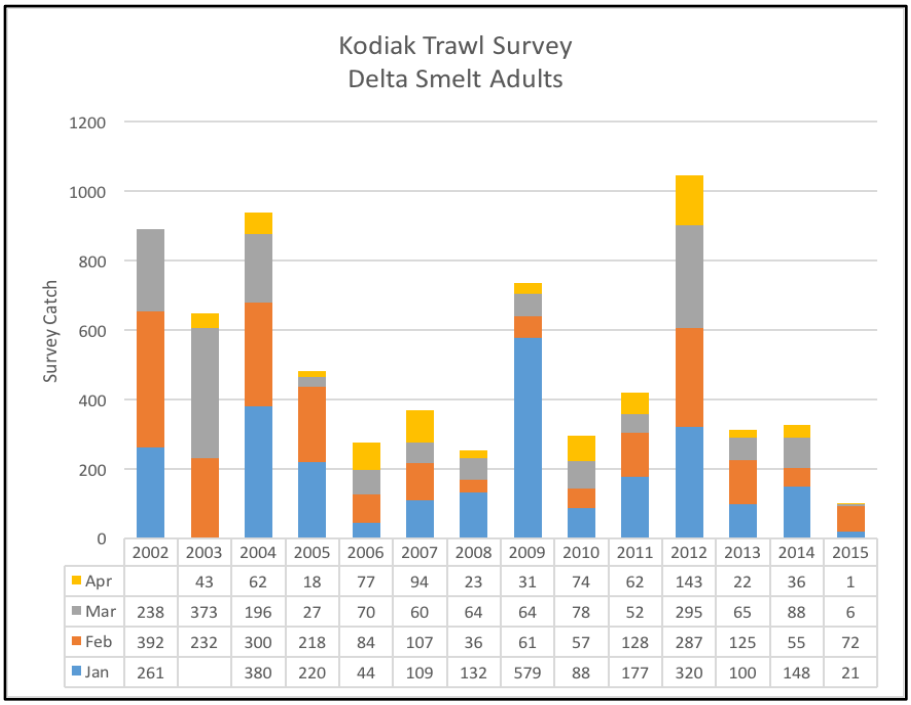
The low abundance indices for pelagic species recorded during the 2002-2004 decline continued to the 2012-15 drought. Water year 2013 was formally classified as a "dry" water year and dry water year criteria were applicable. However, SWRCB Executive Director Tom Howard, in a 24 May 2013 email, and SWRCB Delta Watermaster Craig Wilson, in a subsequent letter to DWR and USBR, announced that they would not object or take any enforcement action if DWR and USBR operate to meet "critically dry" year objectives for the Western and Interior Delta.

In 2014, DWR and USBR requested a series of TUCPs seeking to weaken criteria protecting beneficial uses in the Delta and tributary rivers. The SWRCB quickly responded by issuing a series of TUCOs on 31 January, 7 February, 18 March, 18 April and 2 May and 7 October that significantly weakened Delta outflow, San Joaquin flow, Sacramento River temperature, Delta Cross Channel (DCC) operational requirements, and the export and salinity control criteria contained in D-1641. Measures in these TUCOs reduced Delta outflow requirements to 3,000 cfs and, beginning 2 May, moved the Emmaton salinity compliance point to Threemile Slough. Numerous parties filed Protests, Objections and Petitions for Reconsideration. CSPA et al. filed Protests, Objections and Petitions for Reconsideration and Public Hearing on 3 March, 28 April and 13 May, as well as testifying at the 18-19 February 2014 workshop. The SWRCB denied all Petitions on 24 September 2014.

Again in early 2015, the SWRCB quickly responded to TUCPs by DWR and USBR and issued TUCOs on 3 February, 5 March and 6 April weakening D-1641 criteria. CSPA et al. submitted a Protest, Objection and Petitions for Reconsideration and Public Hearing on 13 February 2015 and provided extensive comments at the SWRCB workshop on 18 February.

The SWRCB's failure to enforce and/or waive compliance with water quality standards during the present drought has greatly exacerbated conditions. Several fish species are now facing extinction. According to the 2014 Fall Midwater Trawl, between 2011 and 2014, indices for Delta smelt, longfin smelt, striped bass and American shad have declined an additional 97.4, 96.7, 78.3 and 68.9 percent, respectively, from already perilously low abundance levels.

DFW's Kodiak Trawl for adult Delta smelt was initiated in 2002, following the collapse of pelagic species (Figure 1). Between 2013 and 2015, collected Delta smelt declined 92.0% in Trawl #3 (March) and 95.5% in Trawl #4 (April). In the spring of 2015, the Kodiak Trawl only collected 6 Delta smelt in March and one in April. This was significantly lower than any previous trawl or any previous drought and led fisheries scientist Peter Moyle to declare impending extinction of Delta smelt.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Apr		43	62	18	77	94	23	31	74	62	143	22	36	1
Mar	238	373	196	27	70	60	64	64	78	52	295	65	88	6
Feb	392	232	300	218	84	107	36	61	57	128	287	125	55	72
Jan	261		380	220	44	109	132	579	88	177	320	100	148	21

Figure 1, CSPA, 2015, Prepared by Thomas Cannon.

DFW's 20 mm Survey was initiated in 1995 to monitor postlarval-juvenile Delta smelt throughout their historical range. The 20 mm Survey #3 in April of 2013 (Figure 2), 2014 (Figure 3) and 2015 (Figure 4) demonstrates the progressive decline of Delta smelt during the present drought. In 2013, 203 smelt were collected from throughout the Delta. In April of 2014, only a few scattered smelt were collected in the central-western Delta. About 15 were found in the Sacramento Ship Channel. In April of 2015, no young Delta smelt were found in the central-western Delta. About 20 were collected in the Sacramento Ship Channel. 20 mm Survey #4 (27-30 April) has been posted, as of this writing. The only Delta smelt found in the estuary were three fish located in the Sacramento Ship Channel. However, DFW studies indicated that these fish are likely to perish should high summer temperatures de-stratify the channel.

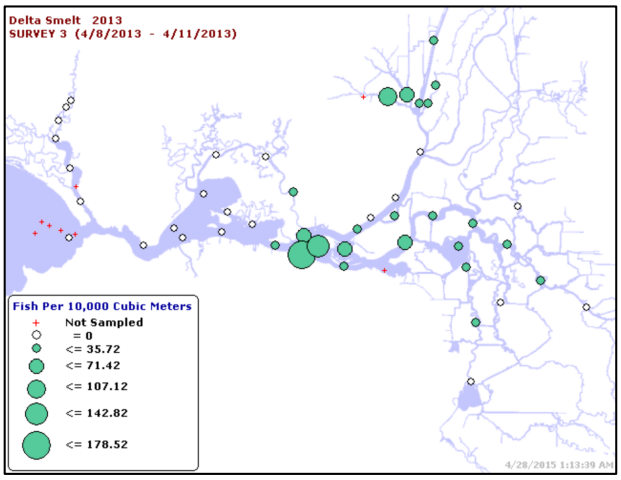


Figure 2, DFW 20 mm Survey #3, 2013.

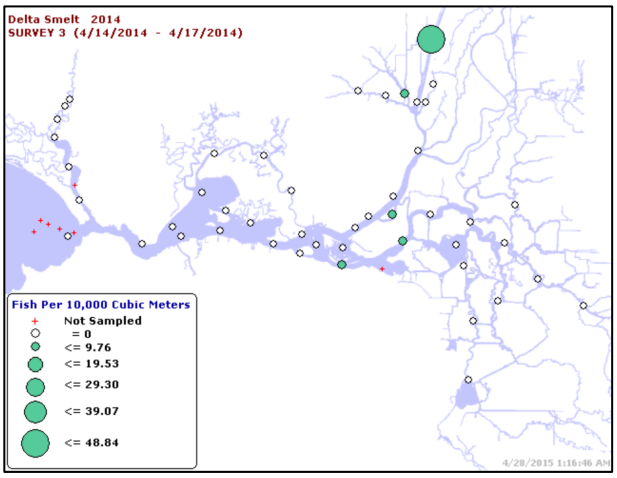


Figure 3, DFW 20 mm Survey #3, 2014.

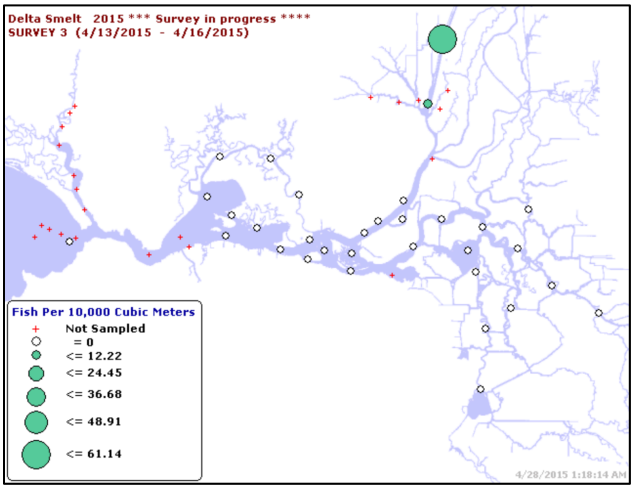


Figure 4, DFW 20 mm Survey #4, 2015.

DFW's Smelt Larva Survey was initiated in 2009 to provide near real-time distribution data for longfin smelt and Delta smelt larvae in the Delta, Suisun Bay and Suisun Marsh. Survey #6 is conducted in late March. The total catch-per-unit-effort (CPUE) of the Smelt Larva Survey #6 for longfin smelt was 18,065.5 in 2013, 930.5 in 2014 and 606.3 in 2015; a 96.6% decline between 2013 and 2015. The total CPUE of the Smelt Larva Survey #6 for Delta smelt was 633.7 in 2013, 70.3 in 2014 and 25.4 in 2015; a 92.0% decline between 2013 and 2015.

The reduction in outflow and reduced inflow, coupled with allowable exports, threatens a repeat of the last three years, when X2 and Delta smelt were drawn into the central Delta during periods of lethal temperatures. SWP and CVP exports pump as much as 30% of net primary production, thus reducing available food supply for Delta smelt and other pelagic species. Increased salinity intrusion allows the expansion of saltwater clam habitat. These clams are voracious competitors with pelagic species for phytoplankton. A more comprehensive description of impacts to Delta smelt from the SWRCB's weakening of Delta standards are described in Exhibit 1 (Summer of 2013), Exhibit 2 (Summer of 2014) and Exhibit 4 (Delta Smelt on the Scaffold) attached to CSPA et al.'s 13 February 2015 Protest, Objection and Petition for Reconsideration and Public Hearing incorporated into this document.

Delta pelagic fisheries experienced significant decline following construction and operation of DWR's Delta pumping facilities in 1967. A dramatic stair-step decline in pelagic fishery abundance levels occurred in 2002-2004 following the SWRCB's issuance of D-1641. Delta fisheries hovered at near or actual historic lows. The SWRCB's ignoring/weakening of D-1641 water quality criteria in 2013, 2014 and 2015 has resulted in another dramatic stair-step decline and several species are now at severe risk of extinction.

The SWRCB's relaxation of Sacramento River temperature criteria in 2014 moved the temperature compliance point upstream to Redding and eliminated much of the spawning habitat for winter-run and spring-run Chinook salmon. USBR delivered 1.2 million acre-feet of water from Shasta Reservoir to Sacramento Settlement Contractors between April and September 2014. This delivery schedule depleted Shasta Reservoir, exhausted the cold-water pool, and led

to high water levels during spawning and low flow levels during emergence (Figure 5). Winter-run salmon spawn June-July, eggs hatch July-early September, and fry emerge late September-mid-October (Figure 6). When water deliveries to the Settlement Contractors concluded, water releases from Keswick were substantially reduced, and the resulting dewatering of redds and high water temperatures in the Sacramento River killed 95% of the cohort. This management also caused significant and potentially complete mortality to the cohort of in-river spawning Sacramento River spring-run Chinook salmon. A more comprehensive description of impacts to winter-run Chinook salmon from the SWRCB's weakening of Delta standards are described in Exhibit 4 (Demise of Winter-Run in Summer 2014) attached to the 13 February 2015 Protest, Objection and Petition for Reconsideration and Public Hearing and incorporated into this document.

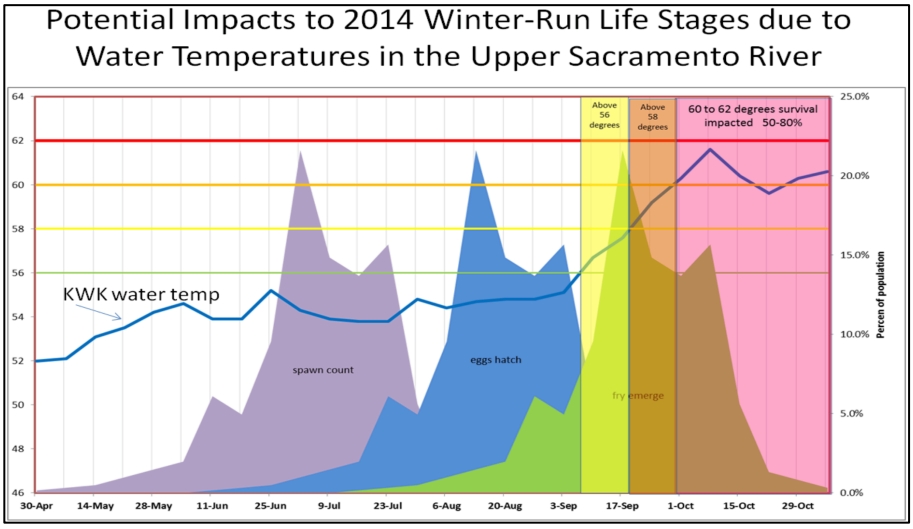


Figure 5, Spawning, Hatching and Emergence, 18 February 2015, NMFS Presentation to SWRCB.

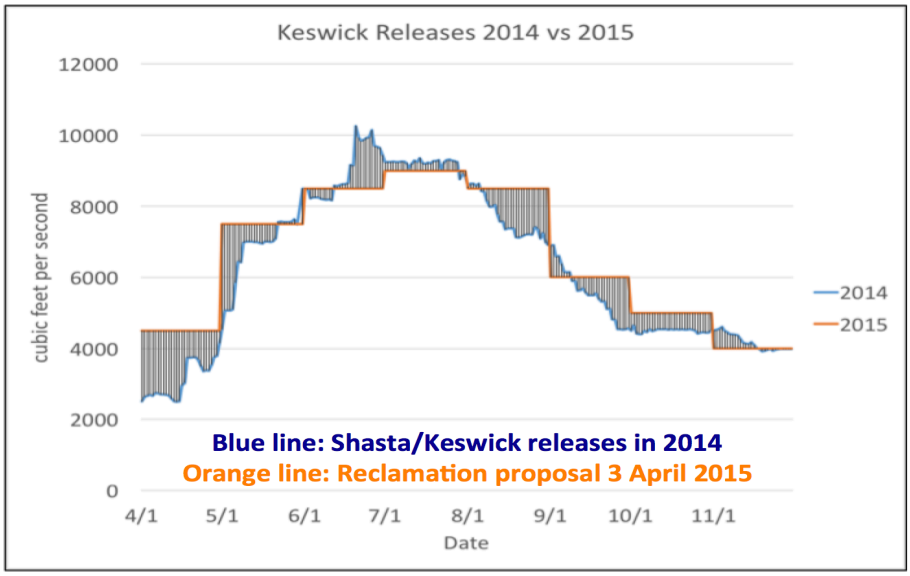


Figure 6, 2014 Keswick Releases vs. USBR's Proposed Releases, 3 April 2015, Tom Cannon.

The SWRCB requested that USBR provide additional Sacramento River temperature modeling information on 30 March 2015. USBR provided additional information on 3 April and 24 April that included revised temperature modeling and that proposed Shasta operating scenarios and delivery schedules for Sacramento River Settlement Contractors. We understand that the SWRCB's Executive Director has provisionally approved the 2015 temperature management plan but have not seen the order. However, the Keswick release framework appears to be similar to 2014 with minor tweaks. It should be noted that the National Marine Fisheries Service (NMFS) commented that the "fish agencies do not think Reclamation's Sacramento River water quality temperature modeling accurately reflects increases in water temperature between Keswick Dam and CCR compared with the actual data." NMFS Evaluation of Alternatives for Sacramento River Water Temperature Compliance for Winter-Run Chinook Salmon, p. 1, 15 April 2015.

USFWS's Anadromous Fisheries Restoration Program documents that, since 1967, in-river natural production of fall-run Chinook salmon on the Stanislaus and Tuolumne Rivers have declined by 92.6 and 93.6 percent, respectively, and are 76.6 and 81.8 percent, respectively, below the doubling levels mandated by the Central Valley Project Improvement Act, California Water Code and California Fish & Game Code. According to DFW's Grand Tab Central Valley Chinook Population Database Report, escapement of fall-run Chinook salmon back to the Stanislaus and Tuolumne Rivers, between 1967 and 2014, declined by 74.3 and 93.6 percent, respectively. During the present drought, the SWRCB has allowed export pumping to exceed San Joaquin River flow during the spring migration period. Consequently, the vast majority of fish migrating out of the San Joaquin River have been drawn to the export pumps and few, if any, have reached San Francisco Bay. Unfortunately, this also includes the experimental spring-run Chinook salmon reintroduced under the auspices of the San Joaquin River Restoration Program.

In 2009, the California Legislature enacted the Sacramento-San Joaquin Delta Reform Act, which mandated the SWRCB to develop flow criteria sufficient to protect public trust resources in the Delta by 2010. The SWRCB conducted a lengthy proceeding and issued the Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (2010 Flow Report) in August 2010. The report found that, "Recent Delta flows are insufficient to support native Delta fishes for today's habitats" and identified criteria to protect public trust resources as, among other things: "75% of unimpaired Delta outflow from January through June; 75% of unimpaired Sacramento River inflow from November through June; and 60% of unimpaired San Joaquin River inflow from February through June." The Delta Reform Act also mandated DFW to develop Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta. DFW released the report in November 2010 and the conclusions and recommendations were consistent with the recommendations contained in the SWRCB's 2010 Flow Report.

Early May Prognosis for Delta Smelt

Conditions have deteriorated for Delta smelt in early May. As predicted, late April - early May surveys indicated extremely low numbers that are far fewer than the record low numbers of 2013-2014.

The minutes from the May 4, 2015 Smelt Working Group meeting[2] observed,

> "*Members did make a note of the single Delta Smelt larvae from April 23, as well as the three Delta Smelt observed during the primary channel CO2 treatment (*at Tracy Fish Salvage Facilities)*, providing that this is evidence of entrainment. These collections occurred despite at or below minimum exports levels, as defined in the Biological Opinion; OMR flows were also at or close to the most positive flows indicated in the Biological Opinion…. Salvage of juvenile Longfin Smelt increased to 52 for the week of April 27 through May 3. Some increase was expected as south Delta water warmed. Between April 13 and 15, four juvenile Longfin Smelt were salvaged at the CVP and 12 at the SWP, at the same time, a single larva was observed in the larval fish samples at the CVP and four larvae at the SWP. During the period of April 17 through 23, seven Longfin Smelt larvae were observed at the SWP and one larva at the CVP in larval fish collections. Continued collections in salvage are expected. Overall, catches in the central and south Delta were not sufficient to reach concern levels based on density or distribution… Longfin Smelt larvae and small juveniles will continue to be detected at the salvage facilities until water temperatures surpass 22 deg C."*

The fact that any smelt were collected at the two south Delta export facilities should be a grave warning of a much larger and very significant "take" of smelt. The odds of any young smelt reaching the south Delta export facilities without succumbing along the way are extremely small. Once water temperatures reach lethal levels (approximately, 23-25C), all smelt in the Delta will be dead.

With the Net Delta Outflow Index at only 4000 cfs and measured outflow nearer to zero, the low salinity zone critical habitat of smelt is in the central Delta. Remaining smelt are presently being drawn across the Delta from north to south to the export pumps. Under these conditions the first heat wave of late spring will heat the Delta to lethal levels for smelt. Unless these conditions are changed by increasing outflow and reducing exports, both smelt species may go virtually extinct the spring.[3]

Figures 7, 8 and 9 show Delta smelt distribution in the late April 20 mm Survey #4 in 2015, 2014 and 2013 respectively and Figures 10, 11 and 12 show longfin smelt in the late April 20 mm Survey #4 in 2015, 2014 and 2013, respectively. The impacts of drought and weakened water quality criteria are apparent. If D-1641 minimal protections are not provided, there may be no Delta smelt and perhaps no longfin smelt in 2016.

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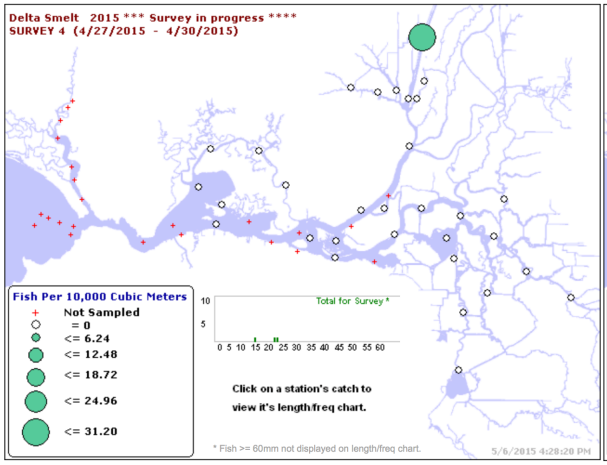
[2] http://www.fws.gov/sfbaydelta/documents/smelt_working_group/swg_notes_5_4_2015.pdf

[3] Virtually extinct means we should not expect to see any next year.



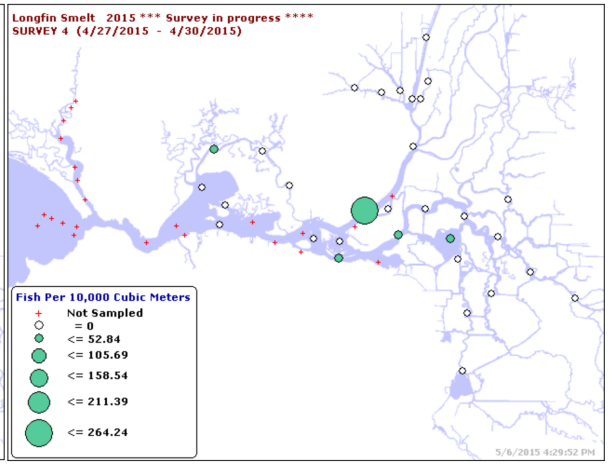
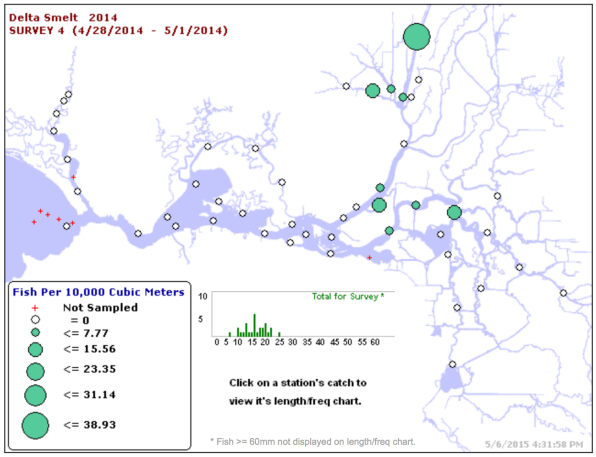


Figure 7, Delta Smelt Figure 10, Longfin Smelt
Late April 2015, DFW 20 mm Survey, Density distribution.



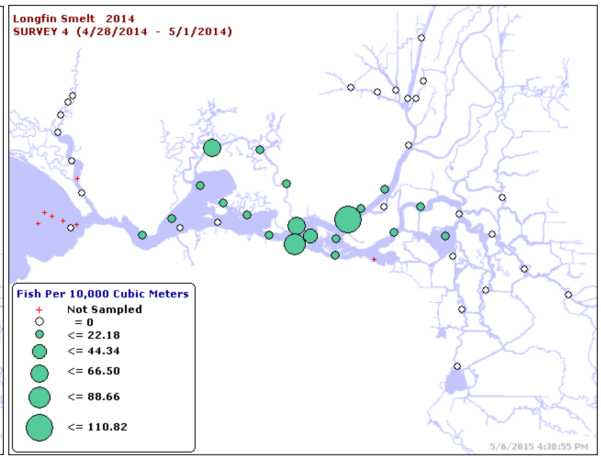
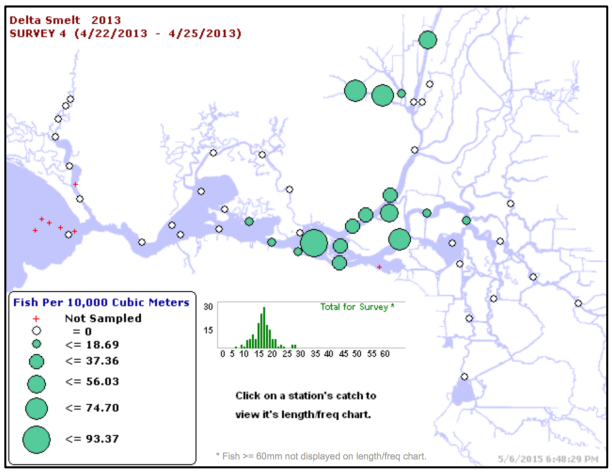


Figure 8, Delta Smelt Figure 11, Longfin Smelt
Late April 2014, DFW 20 mm Survey, Density distribution.



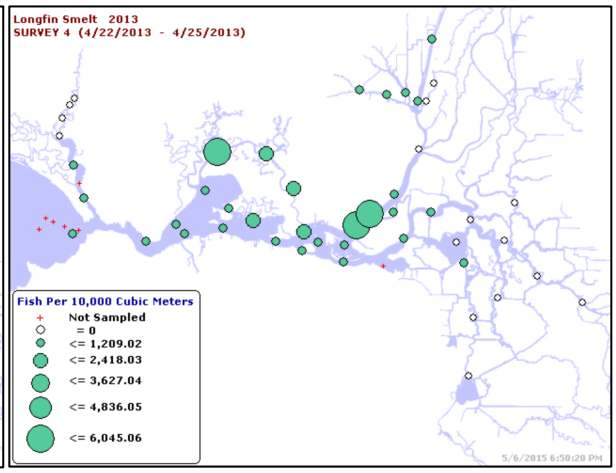


Figure 9, Delta Smelt Figure 12, Longfin Smelt
Late April 2013, DFW 20 mm Survey, Density distribution.

Decline of Water Quality and Failure to Enforce Standards 1978-Present

The SWRCB has a long history of ignoring violations of Delta water quality requirements. For example, in 1989-1991, the Board identified 246 violations by DWR and USBR of west Delta salinity standards but declined to take enforcement action. Letter from SWRCB Chair Don Maughan to Roger Patterson (USBR) and David Kennedy (DWR), 19 June 1992. However, the egregious and chronic violation of south Delta water quality criteria illustrates the reluctance of the SWRCB to hold DWR and USBR accountable for complying with water quality criteria. The present water quality standards for salinity for the south Delta were established in the 1978 Bay-Delta Plan and Water Rights Decision D-1485 in 1978. They were readopted in the 1995 Water Quality Control Plan in 1995 and Water Rights Decision D-1641 in 2000. D-1641 established a time schedule for compliance schedule of 2005. Provisions in the 1995 Bay-Delta Plan were readopted in the 2006 Bay-Delta Plan. DWR and USBR are jointly responsible for meeting the salinity standard in the south Delta and USBR is solely responsible for meeting the standard at Vernalis. These salinity standards were routinely violated. In 2006, the SWRCB issued a Cease and Desist order against DWR and USBR for violations of the salinity standard and granted and time extension until 2009. Salinity standards continued to be violated. In 2010, the SWRCB issued an order modifying the 2006 Cease & Desist Order. It delayed compliance until after the SWRCB updates the 2006 Bay-Delta Plan, which was anticipated to be completed and incorporated into water rights permits by 2013. The present effort to update the Bay-Delta Plan is stalled and far behind schedule. Salinity violations continue to occur. DWR and USBR violated salinity standards on 868 days between April 2007 and March 2013. Salinity standards at all four compliance locations in the south Delta were violated in the winter-spring of 2015 and the salinity standard at Old River near Tracy has been violated every day so far in 2015. The TUCO ignores the south Delta salinity standards, treating them as if they didn't exist.

The SWRCB has failed to comply with mandates to conduct triennial reviews of the Bay-Delta Plan. Consequently, the water quality standards for protection of water quality and beneficial uses of Delta waters remain unchanged from 1995, despite plummeting fisheries and declining water quality. These declines are documented in low fish abundance indices and the increasing number of identified water quality impairments on California's 2012 CWA Section 303(d) List/305(b) Report. While the SWP and CVP have operated under water quality criteria developed in 1995 and water rights provisions of D-1641 issued in 2000, fishery populations have continued to plummet. The SWRCB's refusal to enforce water quality criteria in 2013 and its weakening of minimal, inadequate standards in 2014 and 2015 have exacerbated conditions and already seriously depressed fish populations have experienced another serious decline that threatens to catapult Delta and longfin smelt and winter-run salmon into extinction.

Status of Agriculture in the Central Valley

The Order describes the impacts of the drought on agriculture as billions of dollars in economic costs, the loss of thousands of farm jobs and the fallowing of hundreds of thousands of acres of cropland. However, the state-mandated crop production reports by the county agricultural commissioners in the Central Valley and the employment statistics prepared by the California Employment Development Department reveal a different reality.

Central Valley agriculture has not experienced impacts comparable to the precipitous declines suffered by fisheries during the present drought. According to the annual crop reports that must be submitted by county agricultural commissioners to the California Department of Agriculture, crop production in the San Joaquin Valley increased in each of the last three years. Crop production increased from $30.47 billion in the last wet year (2011) to $32.53 billion in the first year of the drought (2012) and $35.62 billion in the second year of the drought (2013). In other words, crop production increased 14.46% in the second year of the drought compared to the last wet year. Seven of the counties (Kern, Kings, Tulare, Madera, Merced, Stanislaus and San Joaquin) reported record high crop production in 2013. Only Fresno County reported a small decrease in crop production. The 2014 annual crop reports have not yet been submitted.

The situation is similar for the Sacramento Valley. Crop production increased from $4.22 billion in the wet year of 2011 to $4.69 billion in the first year of the drought (2012) and $5.33 billion in the second year of the drought (2013). This represented a 9.9% increase in the first drought year and a 12.03% increase in the second year. Crop production in 2013 was up 20.76% over 2011. Nine of the ten counties in the Sacramento Valley (Butte, Colusa, Glenn, Yuba, Sutter, Solono, Yolo, Tehama and Placer) had record high crop production. For 2013, Sacramento County experienced a 0.7% reduction from 2012 but production in 2013 was still higher than 2011.

According to employment statistics maintained by the California Employment Development Department, farm employment in the eight counties comprising the San Joaquin Valley increased from 189,900 in the last wet year to 196,600 in 2012 to 206,700 in 2013 to 207,100 in 2014. In other words, farm employment in the San Joaquin Valley increased 8.3% during the drought. Farm employment also increased in the Sacramento Valley.

While there are real localized hardships, Central Valley agriculture has fared rather well, considering the drought – far better than fish have fared.

Health and Safety Needs During the Drought

The TUCP Order justifies much of the allowable export pumping, when water quality criteria is weakened and Delta outflow is below 7,100 cfs, as required for health & safety. The need for water for health & safety purposes is described in DWR/USBR's Central Valley Project and State Water Project Drought Contingency Plan January 15, 2015 – September 30, 2015. DWR's state contractors reported health and safety needs of 330 thousand acre-feet (TAF), while USBR's federal contractors reported that they needed 180 TAF was for health and safety.

However, in the first four months of 2015, DWR and USBR have exported 561,928 and 293,060 AF, respectively, for a total of 854,988 AF. If December 2014 exports are included, the projects have exported a total of 1,251,085 AF. Most of this water has been stored in San Luis Reservoir. As of 20 April 2015, DWR and USBR had 896,328 and 376,725 AF, respectively, of storage in San Luis. Health and safety requirements have clearly been met. Continued project exports, under weakened water quality criteria, are intended to supply largely agricultural uses pursuant to contracts based upon relatively junior water rights.

Drought in California

Droughts are a routine occurrence in California's Mediterranean climate. According to DWR, there have been ten multi-year droughts of large-scale extent in the last 100 years spanning 41 years, including 1918-20, 1923-26, 1928-35, 1947-50, 1959-62, 1976-77, 1987-92, 2000-02, 2007-09, and 2012-15. Below normal water years occur more than half the time, and natural ecosystems have evolved and adjusted to periodic droughts.

The inevitability of drought was extensively discussed during the numerous workshops and evidentiary hearings before the SWRCB over the last four decades during development the various iterations of Bay-Delta Plans and implementing water rights orders. It was discussed in the evidentiary proceeding leading up to D-1641. In D-1641, explicit provision was made for critically dry years, which included substantially less stringent, and consequently less protective, water quality and flow objectives. Yet, the SWRCB has ignored or weakened those criteria in each of the last three years.

Over the last several years, in workshop and protests, CSPA et al. have described the prevalence of drought in California and pointed out that the state and federal projects continue to operate and deliver water as if there is no tomorrow. The projects draw down reservoir water under the assumption that the coming year will be wet, leaving little reserve storage in the event they're wrong. And in the event of another dry year, they again endeavor to maximize deliveries in the hope that rains will return. The pattern has repeated itself for decades: 1976-1977, 1986-1992, 2001-2002, 2007-2009 and 2012-2015. A crisis comparable to this year would have occurred during the last drought but for the March Miracle that occurred in 2009. California dodged a bullet in 2009. However, there was no March Miracle in 2015. Given anticipated project water deliveries to settlement contractors this year, what is likely to occur should the coming year be dry?

This year, USBR proposes to draw down Shasta Reservoir to approximately the same 1.1 MAF level of storage that led to last year's loss of 95 percent of winter-run Chinook salmon and possibly the entire year class of in-river spawning Sacramento River spring-run Chinook salmon. Fisheries are already lingering on the edge of extinction. Urban users are receiving mandates to dramatically reduce water use. But, the Sacramento River settlement contractors apparently have 200-300 TAF of surplus water to sell.

Project operators cannot be relied upon to self-regulate. Operating on a year-to-year basis is repeated on reservoirs throughout California, as evidenced by Figures 11 through 17.

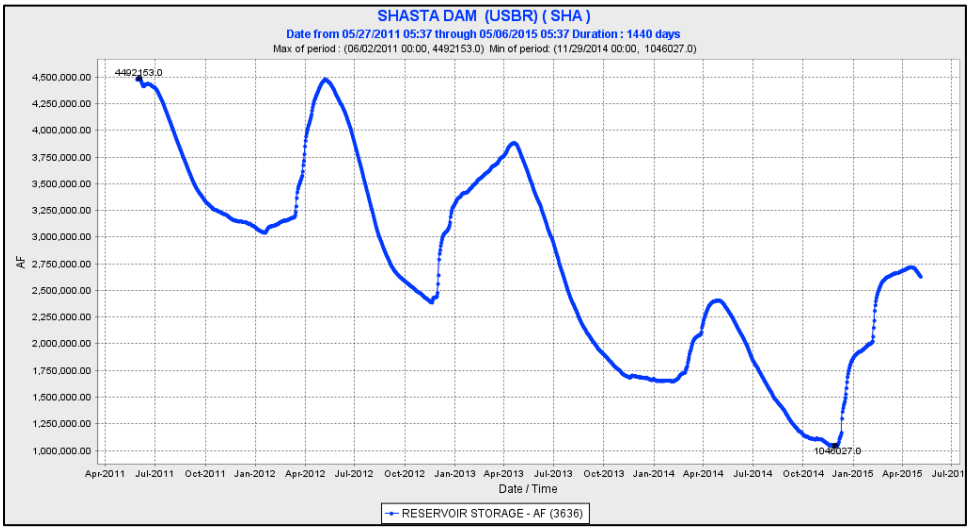


Figure 11, Shasta Dam Storage and Drawdown, April 2011 – April 2015.

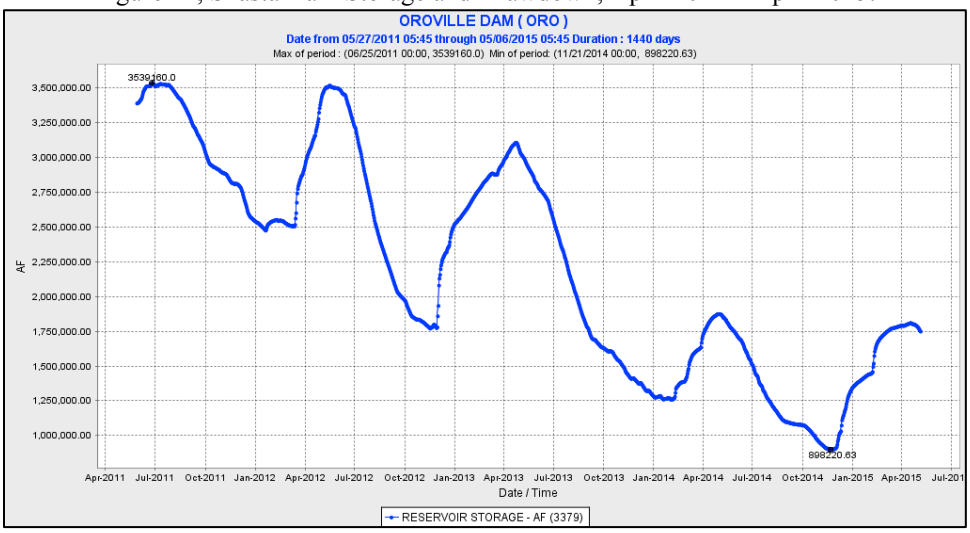


Figure 12, Oroville Dam Storage and Drawdown, April 2011 – April 2015.

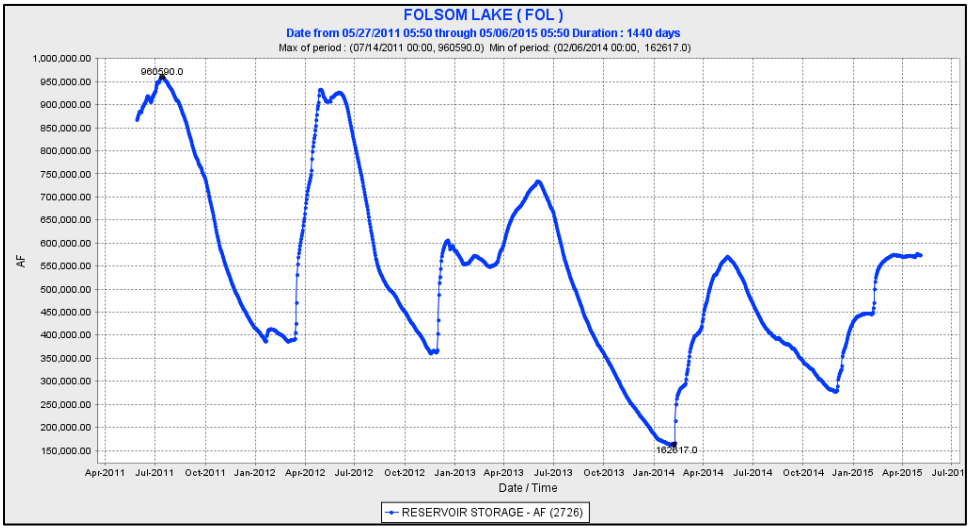


Figure 13, Folsom Dam Storage and Drawdown, April 2011 – April 2015.

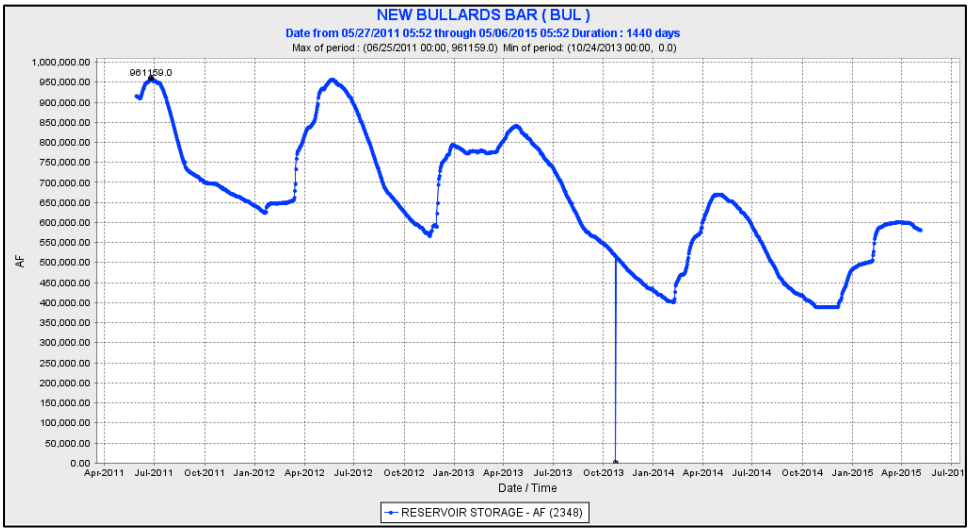


Figure 14, New Bullards Bar Dam Storage and Drawdown, April 2011 – April 2015.

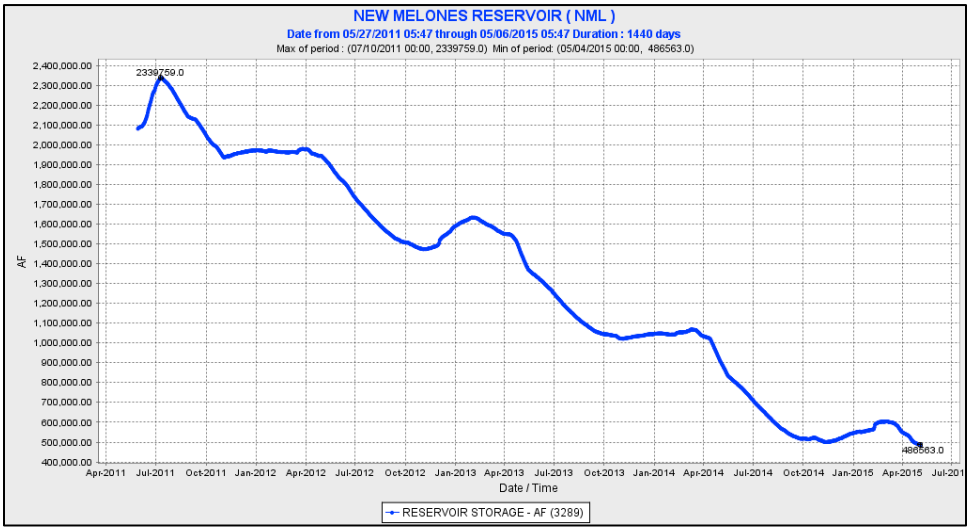


Figure 15, New Melones Dam Storage and Drawdown, April 2011 – April 2015.

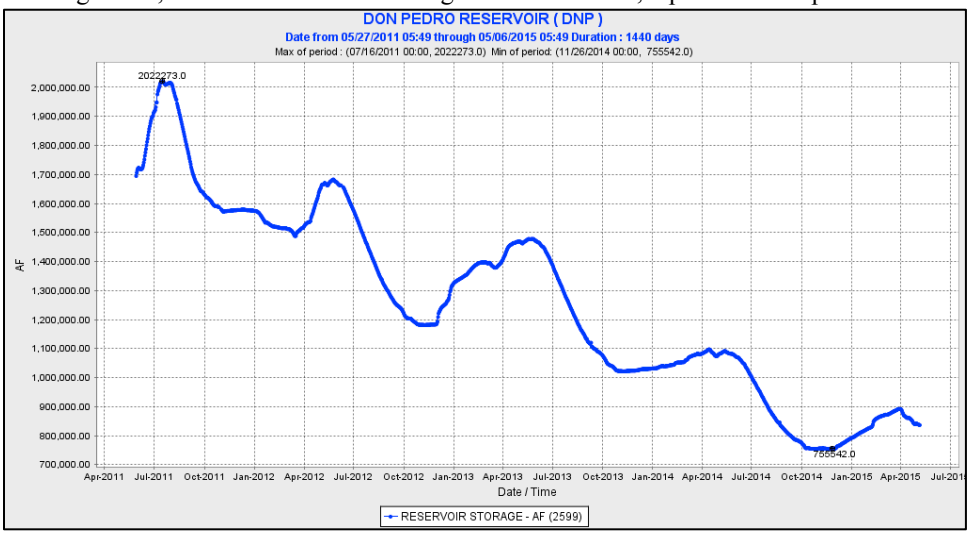


Figure 16, Don Pedro Dam Storage and Drawdown, April 2011 – April 2015.

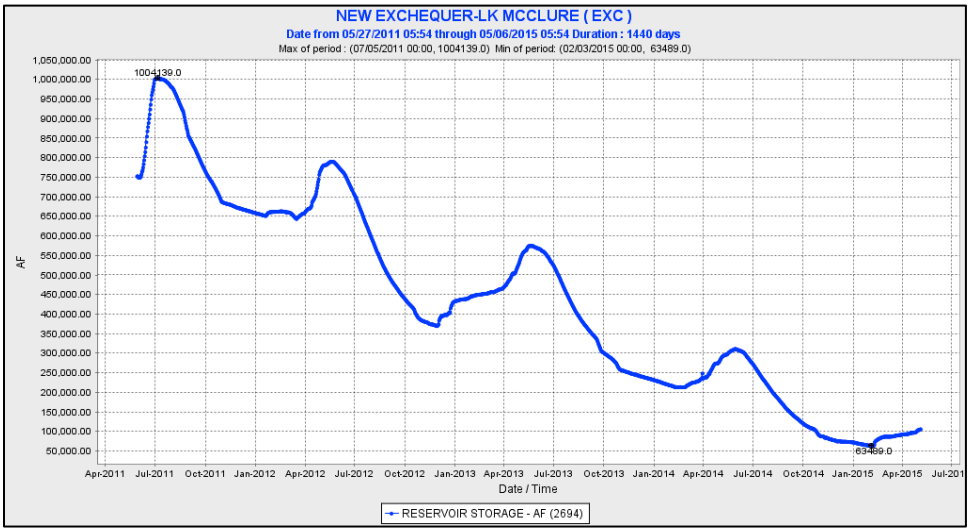


Figure 17, New Exchequer Dam Storage and Drawdown, April 2011 – April 2015.

DWR and USBR refuse to adjust to California's climate and over-subscribed system because they count on the SWRCB to bail them out during droughts by weakening water quality and flow criteria. And they've been right and the SWRCB continues to bail them out by relaxing criteria and encouraging them to continue to operate on the edge of crisis. They count on DFW, USFWS and NMFS to bail them out during droughts by agreeing that their proposals to weaken standards do not contravene the respective biological opinions. And they've been right that the fishery agencies will continue to provide concurrence memos within a day or two, while the Valley's pelagic and salmonid fisheries continue their inexorable march toward extinction. It is always the Delta's fisheries and beneficial uses that pay the price.

The rapidity of the decision-making process to weaken criteria is breathtaking. The process from a TUCP through concurrence memos to the TUCP is complete within several days. It is accomplished in secret, the public is always excluded and there is never an evidentiary proceeding that might raise embarrassing questions. Occasionally, the SWRCB will schedule an after-the-fact workshop. It cannot be claimed that an emergency exists because the scenario has replicated itself multiple times in each of the last three years. It does suggest that the SWRCB, DFW, USFWS and NMFS have become captive agencies to politically powerful interests and incapable of independent action to protect public trust assets.

Fishery resources have been disproportionally impacted by drought because of increased consumptive use of water and the failure of the SWRCB to adjudicate water right claims that exceed average unimpaired flow in the Delta and tributary streams fivefold. In fact, Fisheries dependent on Delta outflow have endured the functional flow equivalent of super critical drought conditions in half of all years since 1975 (Figure 7).

Actually, Delta pelagic fisheries have suffered proportionally greater flow reductions than evidenced by the bottom row in Figure 18. While the unimpaired flow, as represented in the top row is accurately gaged, the percent of unimpaired flow reaching San Francisco Bay is significantly less because Delta outflow is an inflated calculated guess.

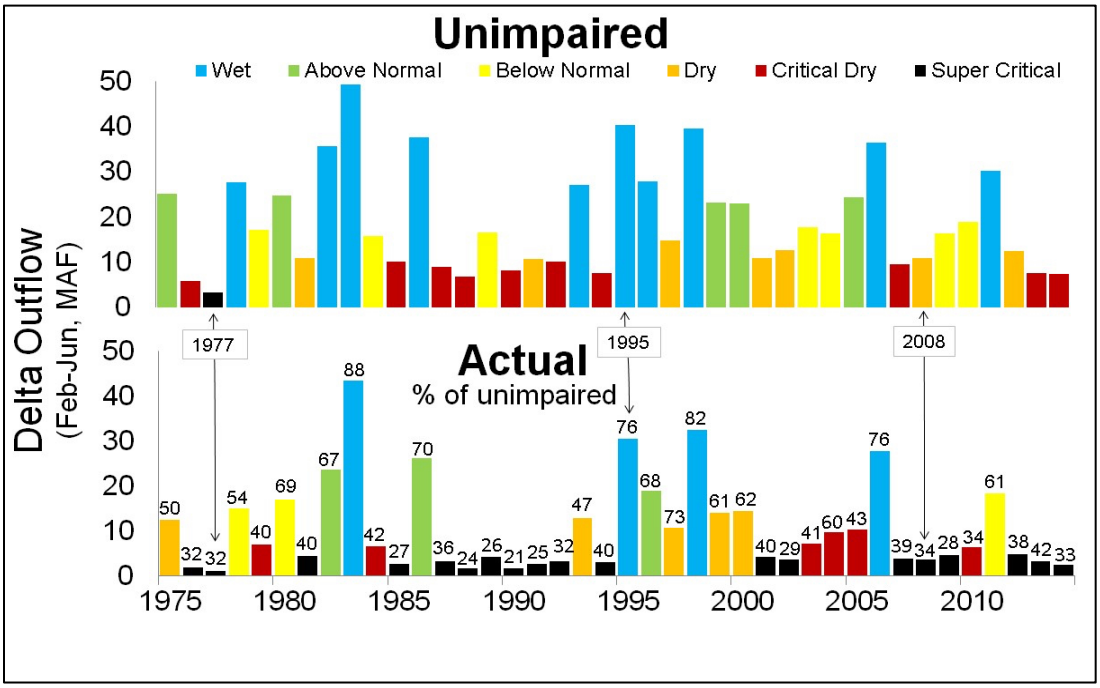


Figure 18, Actual Flow to the Bay vs. Unimpaired Flow. Bay Institute, 2015.

D-1641 Delta Outflow Standards Do Not Comport With Actual Measured Outflow

Forty-six years after the United States put a man on the moon and almost a dozen years after the Mars Exploration Rover *Spirit* began exploring the surface of Mars, the State of California cannot accurately measure Delta outflow. D-1641 Water Quality Objectives for Fish and Wildlife Beneficial Uses are expressed as Net Delta Outflow Index (NDOI) and as percent of inflow diverted. The NDOI is described in Figure 3 on page 190 of 1641 as Delta inflow minus net Delta consumptive use minus Delta exports. However, not all of the Delta tributary streams are gaged and telemetered and Delta channel depletion is based on DWR's Dayflow estimates.

The U.S. Geological Survey (USGS) maintains four state-of-the-art flow gages on the Sacramento River at Rio Vista, the San Joaquin River at Jersey Point, Threemile Slough (connecting the Sacramento and San Joaquin Rivers) and Dutch Slough (connecting Big Break and Middle River). These stations report discharge and tidally filtered discharge in cfs, among other parameters.

Dr. Michael L. MacWilliams, of Delta Modeling Associates, in a presentation to the Delta Science Program's workshop on Delta outflows and related stressors, observed that NDOI estimates during the fall of 2013 were more than double the USGS measure outflows.[4] Dr. MacWilliams testified that, "based on measured data for salinity intrusion and X2, the NDOI estimates appeared to by clearly incorrect." The average measured Delta outflow during the fall of 2013 was approximately 2,000 cfs, which failed to meet the Board's minimum outflow requirement of 3,000 to 3,500 cfs for fall months of a critically dry year. The final report of the

[4] http://deltacouncil.ca.gov/sites/default/files/documents/files/10-Outflow-Workshop-MacWilliams-02-10-14-Final.pdf

Science Program's expert panel noted, "the measured values should be more accurate than the NDOI as long a the four monitoring stations used in the calculations are operating properly.[5]

CSPA fishery consultant and biostatistician Thomas Cannon prepared an assessment that compared the calculated NDOI with the USGS measured Net Delta Outflow (NDO) and discovered that NDOI seriously overestimates actual Delta outflow. Mr. Cannon found that the NDO in July 2013 averaged 1,169 cfs instead of the NDOI's 5,360 cfs and in May 2014 NDO averaged a minus 45 cfs while NDOI averaged 3,805 cfs.[6] Recently, he compared NDO with NDOI for March (Figure 19) and April (Figure 20) 2015. NDO for March 2015 was 3,523 cfs while calculated NDOI was 4,975 cfs; for April, NDO was 3,034 and NDOI was 5,362.

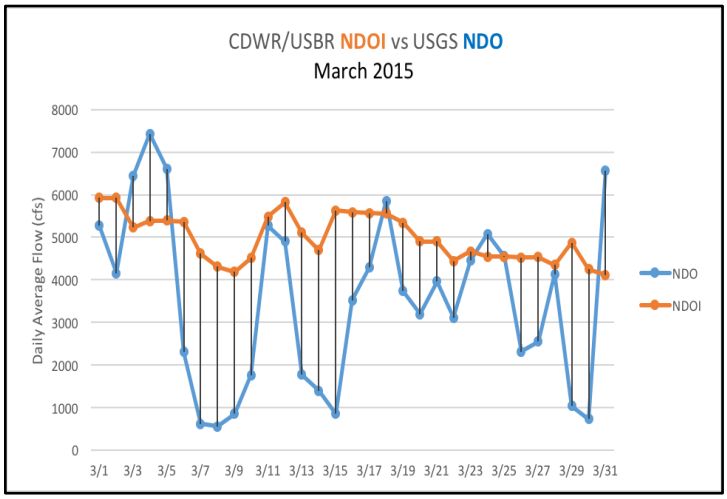


Figure 19, Net Delta Outflow vs. Net Delta Outflow Index, March 2015.

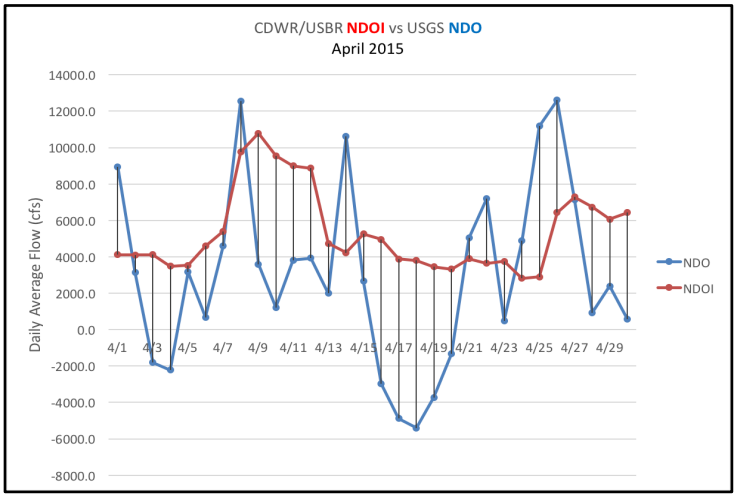


Figure 20, Net Delta Outflow vs. Net Delta Outflow Index, April 2015.

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[5] Delta Science Program, Workshop on Delta Outflows and Related Stressors Panel Summary Report, 5 May 2014, p 15.
http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Outflows-Report-Final-2014-05-05.pdf

[6] http://calsport.org/news/wp-content/uploads/CSPA-NDO-v-NDOI-2.pdf

Petitioners have urged the SWRCB over the last several years to resolve the differences between NDO and NDOI to no avail. It is essential that the SWRCB establish a program that actually measures outflow and/or is based on real-time salinity levels.

The TUCP and Responding Order are beyond the SWRCB's Jurisdiction

Delta water quality criteria are promulgated pursuant to requirements of the federal Clean Water Act. There is an acknowledged disagreement between the SWRCB and U.S. EPA regarding whether the flow requirements contained in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary are subject to federal approval. Petitioners believe the federal Clean Water Act covers flows, since flow and water quality are flip sides of the same coin. However, notwithstanding the flow disagreement, neither the Governor nor the SWRCB has authority to unilaterally waive water quality standards that protect beneficial uses.

Chronic Relaxation of Promulgated Standards Because Water Agencies Refuse to Pursue Reasonable Measures to Address Drought Emergencies that Occur 40% of the Time Cannot Serve the Public Interest

The SWRCB's weakening of water quality standards over the last several years has brought winter-run and spring-run Chinook salmon, Delta smelt and longfin smelt to the brink of extinction. These species are public trust assets belonging to all of the people of the state and nation. It cannot be in the public interest to send species that evolved and prospered over millennia into extinction simply to service politically powerful special interests. As discussed above, Central Valley agricultural production and farm employment have fared far better during the drought that the pelagic and salmonid species of the Valley. The public interest demands that these species be prevented from tumbling into the dark abyss of extinction.

The TUCP and the Responding Order are Contrary to Law

The TUCP and Order contravenes public trust doctrine by failing to protect trust assets and failing 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, 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 would show that the proposed TUCP, and the Order, to the degree that it grants the measures requested in the TUCP, violate state and federal laws, including but not limited to:

The Public Trust Doctrine and California case law,
Article 10, Section 2 of the California Constitution,
The California Water Code,
SWRCB D-1641,
SWRCB D-990,
The California Endangered Species Act,
Section 5937 of the California Fish and Game Code,
Section 7 of the Federal Endangered Species Act,
The Federal Clean Water Act,
Federal water quality standards promulgated for California at 40 CFR 131.37,
The Federal CVPIA doubling standard for salmon and steelhead, and
The Governor's Declaration of Drought Emergency.

The overwhelming evidence of violation of these statutes by the SWRCB, USBR and DWR is arbitrary and capricious, and the SWRCB's refusal to hold evidentiary hearings violates our due process rights under both the state and federal constitutions.

Under what conditions may this Protest, Objection and Petition for Reconsideration be disregarded and dismissed?

The TUCP Order should be denied.

In its place, the SWRCB should order 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 storage in San Luis Reservoir. The SWRCB should also carefully monitor the real-time location of X2 (2.64 mmhos). During predicted hot spells that increase the likelihood of lethal temperatures to Delta smelt, increase flows should be required to ensure that 2 is in the vicinity of Collinsville.
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 cold-water reserves remain in Shasta to protect winter-run incubation and emergence. It is unreasonable to supply Sacramento settlement contractors to expect delivery of 1.2 MAF of water within essentially a critical four-month window during a drought.
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 Westside of the San Joaquin Valley should be prohibited.
5. Vernalis flow should be maintained to at least 500 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 DFG 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 Bureau and DWR should install the Head of Old River Barrier to increase migration success of San Joaquin salmon young.
9. 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 at night to minimize redirection into the central Delta.
10. 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.
11. The SWRCB should require DWR and the Bureau to shift exports to Tracy facility to minimize effects of exports. Per unit of export, Banks impacts appear to be greater than Tracy impacts.
12. 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.

A true copy of this protest has been served upon the petitioners by e-mail (see below).

Date: 6 May 2015

Bill Jennings, Executive Director
California Sportfishing Protection Alliance

Chris Shutes, Water Rights Advocate
California Sportfishing Protection Alliance

Barbara Vlamis, Executive Director
AquAlliance

Carolee Krieger, Executive Director
California Water Impact Network

Michael Jackson
Counsel to California Sportfishing Protection Alliance,
AquAlliance, and
California Water Impact Network

/s/ Michael Jackson

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; Department of Water Resources, c/o James Mizell, James.Mizell@water.ca.gov; Regional Solicitor's Office, c/o Amy Aufdemberge, Amy.Aufdemberge@sol.doi.gov