

July 27, 2016

Board Members
California State Water Resources Control Board

Re: DWR/USBR Water Right Change Petition and the Delta-Tulare Water Plan

Dear Chair Marcus and Members of the Board,

Over the last 15 years I have been involved addressing a number of water resource-related challenges in the State of California through the Cal-Fed Bay Delta Program, California Water Plan Update, and Integrated Regional Water Management Program.

Today, California is facing significant impacts to our watersheds due to drought and fires. However, most importantly the Sacramento-San Joaquin Delta is imperiled and moving towards a total collapse. It is imperative that we lay all viable options on the table that address the challenges to California's water availability and the Delta Co-Equal Goals as defined by the State of California.

California Water Code 85054 specifically states that the State is mandated to achieve Co-Equal Goals for the Delta. *"Co-equal goals' means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The co-equal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."*

Thus, in order to achieve the Co-Equal Goals, it is imperative that all viable options are laid on the table to determine their fullest merit based upon their technical, financial and environmental soundness. Unfortunately that has not been achieved to date. Inadequately evaluated options include a "Western Delta Intake" feasibility study that takes advantage of the natural hydrologic characteristics of the Delta. It may be much more cost-effective and efficient to allow for managed surface flows to occur through the Delta to the vicinity of Sherman Island, and then divert excess flows through a conveyance system connected to the existing Clifton Court Forebay, saving the taxpayers billions of dollars.

Thus, the opportunity for the re-operation of the Banks Pumps, based upon the capture of surplus flows conveyed from a "Western Delta Intake," can be realized. Additional storage of water conveyed via the California Aqueduct could occur in the Tulare Lake Basin which has been severely impacted. This would provide additional benefit to address the environmental impacts of this important agricultural region of California.

With these potential opportunities in mind, I am recommending that the State Water Resources Control Board move towards determining how to take advantage of the natural hydrology throughout the Delta to the farthest extent possible. And then, through a western intake near Sherman Island, develop a conveyance system that interconnects into the Clifton Court Forebay.

This would include conducting thorough feasibility studies for all other potential alternative options equivalent to what has been performed for the California Water Fix. Of which, it is my understanding that these alternative studies have not been performed.

Sincerely,



Steve Haze
34876 SJ and E Road
Auberry, California 93602
559.970.6320

The Delta-Tulare Water Plan

A cost-effective, environmentally superior alternative to the Twin Tunnels

1.1 million acre feet of NEW WATER for California annually*

No damage to Delta farms or fisheries

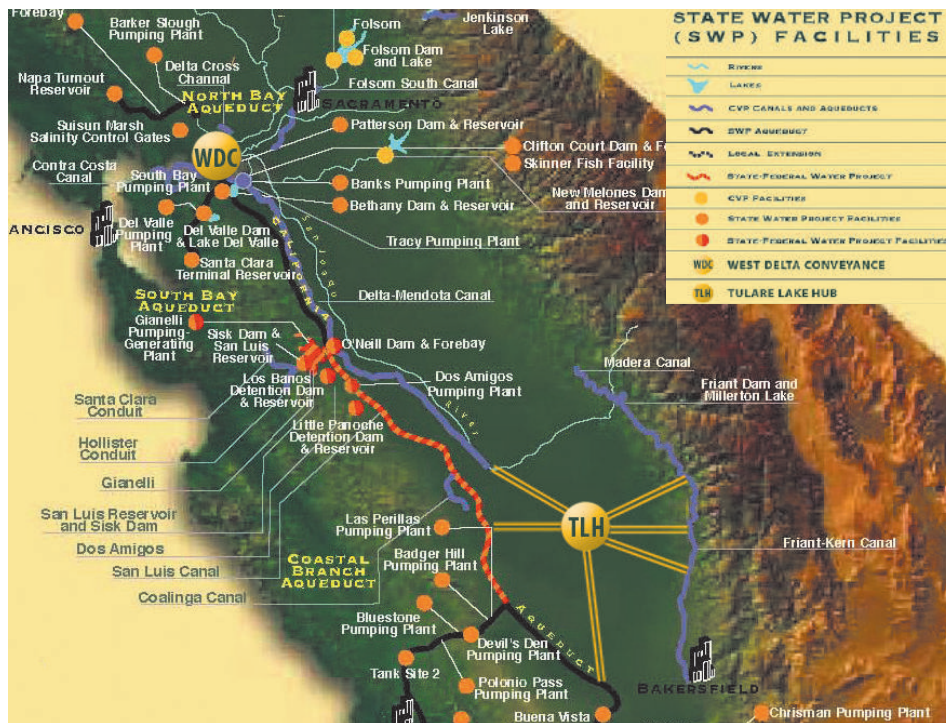
Three organizations from Northern and Southern California have joined together to present a cost-effective, technically feasible, and environmentally sound water plan that benefits all Californians. Unlike the Twin Tunnels, the Delta-Tulare Water Plan provides *new water* for urban centers and agriculture without damaging Delta farms and fisheries. And, it delivers new water at a fraction of the cost of the Twin Tunnels.

What is the Delta-Tulare Water Plan?

- A new conveyance system in the West Delta that delivers water to the existing South Delta pumps.
- New water storage in the Tulare Lake Basin, which will function as a water hub for the surrounding region.
- Flows captured in the West Delta are delivered via the California Aqueduct to the Tulare Lake Basin for storage and re-distribution.
- 1.1 million acre feet of new water can be captured and stored – water that would otherwise go out to sea.
- Can be implemented without the multi-billion dollar costs, decade-long disruptions, farmland forfeiture, and environmental damage associated with the Twin Tunnels proposal.



This map shows how West Delta conveyance (WDC) and a Tulare Lake hub (TLH) would function within current SWP and CVP operations and infrastructure.



* On average, based on 43 years of flow data. Less water would be available in dry years, but significantly more water could be captured in wet years.

Captures and stores Delta water during high flows

Currently, most of California's surface water is captured and stored in Northern California in the winter, then pumped south in summer. The disadvantage of this system is that by pumping when flows are naturally low, saltwater intrusion and reverse flows are more likely to occur in the Delta. The Delta-Tulare Water Plan reverses this paradigm. Because it utilizes storage in the south, water can be pumped south *in the winter*, when flows and water quality are high. Instead of water going out to sea during high flow events, the water can be captured and conveyed to Tulare Lake for re-distribution and groundwater recharge.

Why conveyance in the West Delta?

Fresh water is the lifeblood of Delta agriculture and the Delta ecosystem. Without adequate flows to keep saltwater out, Delta fisheries suffer and water becomes too salty for irrigation. One of the biggest flaws in the Twin Tunnels plan is the placement of intakes – and diversion of the Sacramento River – at the top of the Delta system, depriving the Delta of the freshwater flows it needs.

Sherman Island in the West Delta is the ideal location for new water intakes and conveyance because it allows water to flow through the Delta before being captured and sent south. Sherman Island is already 90% owned by the State of California, so there is no impact on farms or homes (unlike the Twin Tunnels, which requires the sacrifice of 300 Delta farms and homes.) There are already several proposals for West Delta intakes and conveyance systems, including proposals by Dr. Robert Pyke and SolAgra. What is needed now is a feasibility study to evaluate the technical, financial and environmental merits of these and other proposals.



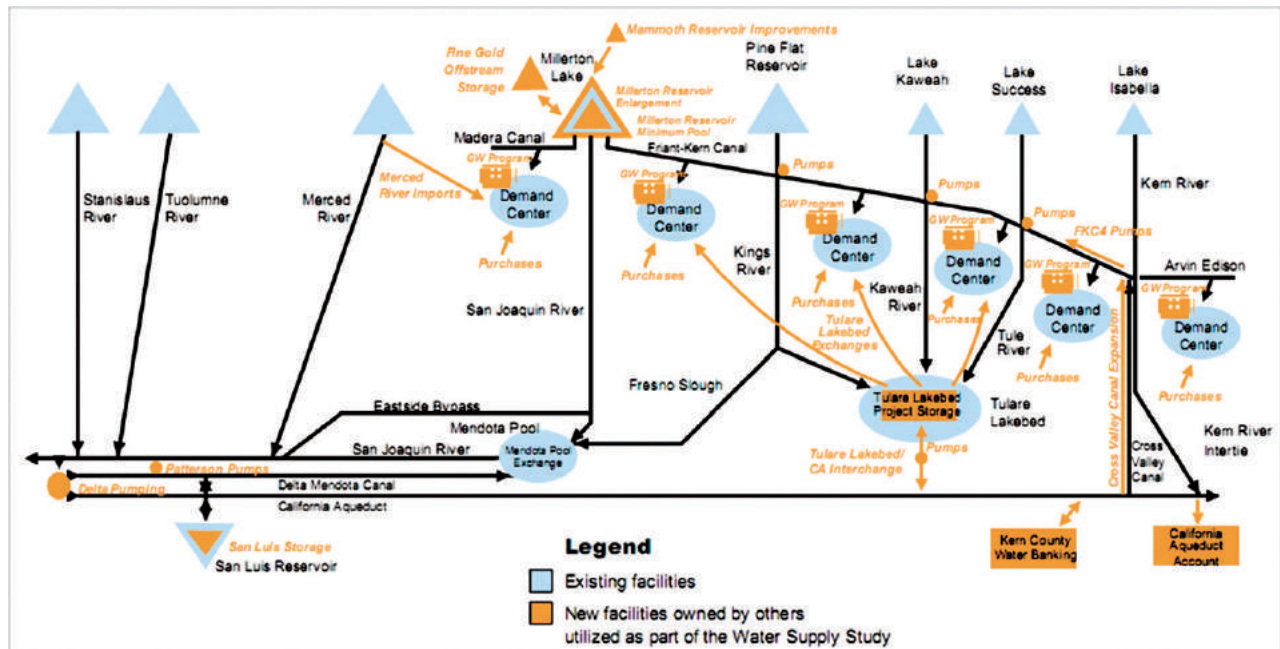
West Delta conveyance study area.

Why Tulare Lake Basin for water storage and distribution?

At 25 million acre feet, the historical Tulare Lake was the largest natural freshwater lake west of the Mississippi. When California agriculture began to develop, the lake was drained and became farmland. Today, the Tulare Lake region has a robust array of canals that (with some infrastructure enhancement and cooperation of landowners) could be used to store and re-distribute water.

Groundwater recharge from water stored at Tulare Lake

In addition to providing water for agricultural and urban use, water stored at Tulare Lake can be used to recharge depleted aquifers in the region. In wet years especially, water can be moved out of Tulare Lake to recharge stations, then the Tulare Lake water replenished by water captured in the West Delta.



This illustration, from a 2002 URS study, shows how a Tulare Lake hub could re-distribute water to demand centers throughout the region.

A cost-effective plan that builds upon existing infrastructure

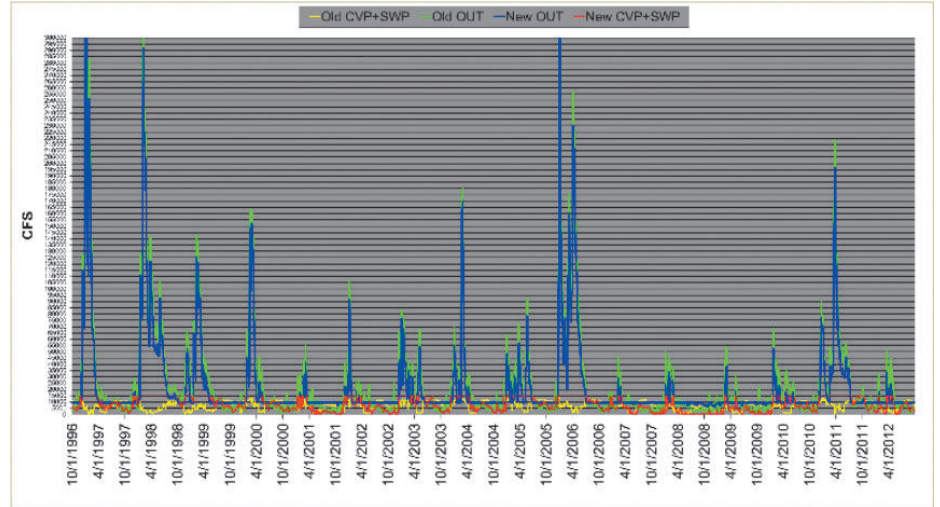
The Twin Tunnels are expected to cost upwards of \$50 billion, including interest. And this sobering price tag does not include the inevitable cost overruns.

The Delta-Tulare plan would cost far less. New intakes and conveyance in the West Delta would cost a fraction of the Tunnels plan, and most of the distribution canals needed in the Tulare Lake area already exist.

Reoperations and capture of flows

With West Delta conveyance in position, the capture of excess flows through reoperations and timing is greatly enhanced. Fresh water flows of a higher quality for the benefit of agriculture, urban use and the environment become much more abundant and reliable. The “smoothing” of water supply versus water demand can be performed on a real-time basis. South of Delta deliveries can be performed with less saltwater intrusion (X2) beyond Sherman Island. More water and of a higher quality could be reliably available for all users.

| INPUTS | | | | | | | | | | | |
|---|------------|-----|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| Only Change these variables, everything else will respond (CFS) | | | | | | | | | | | |
| Max EXPORTS (CVP + SWP) | 15,270 | | | | | | | | | | |
| Min Flows Passed Sherman Island | 9,500 | | | | | | | | | | |
| Increase to CCC, GDC and MSDIV | 2.00% | | | | | | | | | | |
| OUTPUTS | | | | | | | | | | | |
| Virtual Shield to keep out Salt Water | CFS | | | | | | | | | | |
| New Minimum OUT to Sea | 9,500 | | | | | | | | | | |
| Exports Added (by using more wet season pumping in years 1967-2012, USGS Data) | 15,057,807 | | | | | | | | | | |
| Total Additional Water Available | 941,113 | | | | | | | | | | |
| Average Annual EXPORTS Added CVP + SWP | 922,291 | | | | | | | | | | |
| Increase to CCC, GDC and MSDIV | 18,822 | | | | | | | | | | |
| Average Annual OUT to Sea (current Annual OUT is) | 17,832,859 | | | | | | | | | | |
| | 16,075,732 | | | | | | | | | | |
| Average Monthly Changes to Delta Exports. | | | | | | | | | | | |
| OCT | NOV | DEC | JAN | FEB | MARCH | APRIL | MAY | JUNE | JULY | AUG | SEPT |
| -4,253 | -3,565 | 775 | 3,823 | 5,820 | 5,884 | 6,982 | 6,881 | 1,711 | -1,139 | -3,245 | -3,456 |
| | | | | | | | | -4,522 | | | -3,137 |



Let’s take the next steps on the Delta-Tulare Water Plan

The people of California want our elected officials and policymakers to take a more reasoned approach to our water resource challenges – one that does not pit north vs. south, or agriculture vs. urban interests vs. the environment. North Delta CARES, Citizens Water Plan of Southern California, and the San Joaquin Valley Leadership Forum urge our leaders to take the next steps on the Delta-Tulare Water Plan.

Next steps:

- Feasibility study of West Delta conveyance
- Analysis of reoperation and capture of Delta flows based on West Delta conveyance
- Feasibility study of Tulare Lake Basin used as a water storage and distribution hub

Let’s work together to make this plan a reality.



Anna Swenson

North Delta CARES
 (530) 570-9641
 deltaactioncommittee@gmail.com
 NorthDeltaCares.org



Rob Simpson

Citizens Water Plan
 (714) 335-1223
 citizenswaterplan@gmail.com
 CitizensWaterPlan.com



Steve Haze

San Joaquin Valley Leadership Forum
 (559) 970-6320
 SteveHaze@hughes.net
 sjvwlf.org