RECIRC3011.

COMMENT CARD

OCT 30 2015

THE PUBLIC REVIEW AND COMMENT PERIOD IS JULY 10, 2015 THROUGH OCTOBER 30, 2015.

PLEASE PRINT

NAME: JAY UHALT DATE: 10-27-15

ORGANIZATION: sherman island landowner E-MAIL: uhalt1@gabbo.com

ADDRESS: 18077 ST. HWY 160

CITY: RIO VISTA STATE: CA ZIP: 94571

THE DELTA FIX 'CA. WATERFIX' IS A FRAUD. THERE ARE SO MANY ISSUES THAT THE TUNNEL PROPONETS AREN'T TELLING THE PUBLIC. FOR ONE, THE EXTREME DEWATERING NECESSARY TO PUSH THE TUNNELS THRU. HOW WILL THAT AFFECT THE NEIGHBORING FARM, ETC.?? THERE ISN'T ENOUGH WATER IN THE 'RIVER SYSTEM' THAT THERE WOULD EVEN BE ENOUGH WATER TO GO IN THE TUNNELS. WE NEED 'STORAGE', UNDERGROUND, ABOVE GROUND. 'DESAL' PLANTS WOULD HELP TOO. RECYCLING WATER TOO. ALL NEW HOMES SHOULD HAVE A 'GREY' WATER AND 'BLACK' WATER SEWAGE SYSTEMS. FINALLY THE STATE HAS A TERRIBLE HISTORY WITH 'MEGA' PROJECTS, COST OVER RUNS — MAJOR OVERRUNS, ON LENGTH OF CONSTRUCTION TIME TOO. TAKE THE BAY BRIDGE FOR EXAMPLE. AND THE HIGH SPEED RAIL — MONEY COULD BE BETTER SPENT — DAMS NOT RAILS AND/OR TUNNELS.

From: CA Water Plan <cawaterplan@gmail.com>
Sent: Monday, October 26, 2015 5:00 PM
To: BDCPcomments
Subject: Fwd: For press: The Comprehensive Water Plan for California

RECIRC3012

By: Dr. Ali Ghorbanzadeh
Subject/News Headline:

California's lifeline prevention from a Water Armageddon and will save the state over $15 billion in unnecessary costs from the California WaterFix Alternative 4A (Twin Tunnels) proposal

The Comprehensive Water Plan for California proposal will put adjustable hydraulic structures near Carquinez Bridge or east of Honker Bay to augment the State of California water supply and save the Delta.

Read More: Half of all the freshwater runoff in California travels through the Delta. This Comprehensive Water Plan for California proposal provides adjustable hydraulic structures near Carquinez Bridge to save both Delta and Suisun Marsh OR near Honker Bay to save the Delta. The adjustable hydraulic structures will constrict the water channel width during low flow to reduce the tidal exchange of the fresh water and salty sea water is termed "constricting the mouth of the Delta."

Constricting the mouth of the Delta during droughts from a 3,300 ft water opening to at minimum of 100 feet opening during the drought will result in adding an approximately recurring 2,000,000 acre-ft/year of freshwater to our water supply currently being flushed into the sea to prevent seawater inundation of the Delta and Suisun Marsh. This is accomplished by reducing the Dayflow estimate of Delta outflow of fresh water by 80%, which is referred to as the "net Delta outflow index" (NDOI) or the daily average outflow more commonly. To put this in perspective, the result is approximately 250% (two-and-a-half times) the current State Water Project (SWP) allotment of 840,000 acre/ft freshwater or nearly 50% additional freshwater of the full allotment promised by the SWP. Additionally, it will bring more consistency and reliability to our water supply, improve water quality, safer for the environment, and a fraction of the time and cost to build compared to the proposed $15.5 Billion California WaterFix Alternative 4A (Twin Tunnels) proposal.

The California WaterFix Alternative 4A (Twin Tunnels) proposal will only reallocate better quality water to Southern California at the expense of deteriorating and degrading water quality within the Delta and harming the Delta environment, which is referred to as a "water grab."

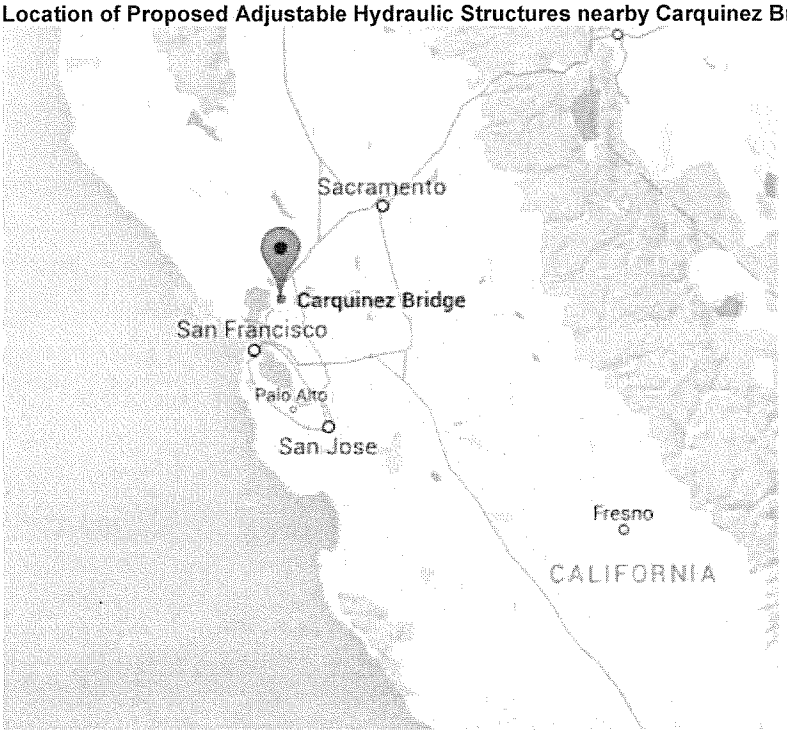
Sincerely,
Dr. Ali

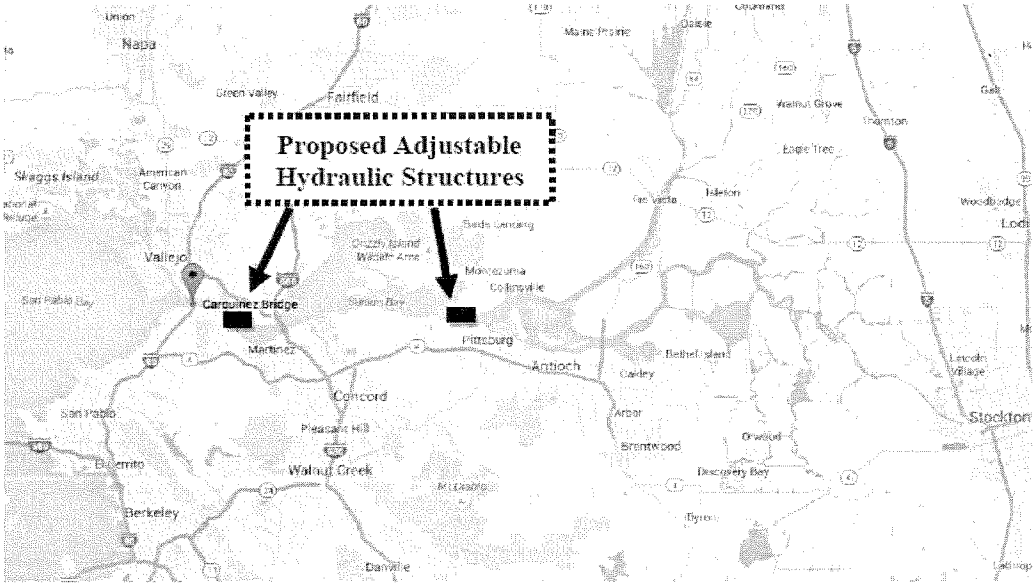
Ali Ghorbanzadeh, PhD, California Registered Professional Engineer, General Contractor
State of California, Department of Water Resources, Retired Senior Engineer
Divisions of Planning, Engineering, and Flood Management 25-year tenure
www.facebook.com/CAWaterPlan
http://cawaterplan.blogspot.com/
CAwaterplan@gmail.com

ENCLOSURE: Graphics and Draft Op-Ed by Dr. Ali in revisions for publication

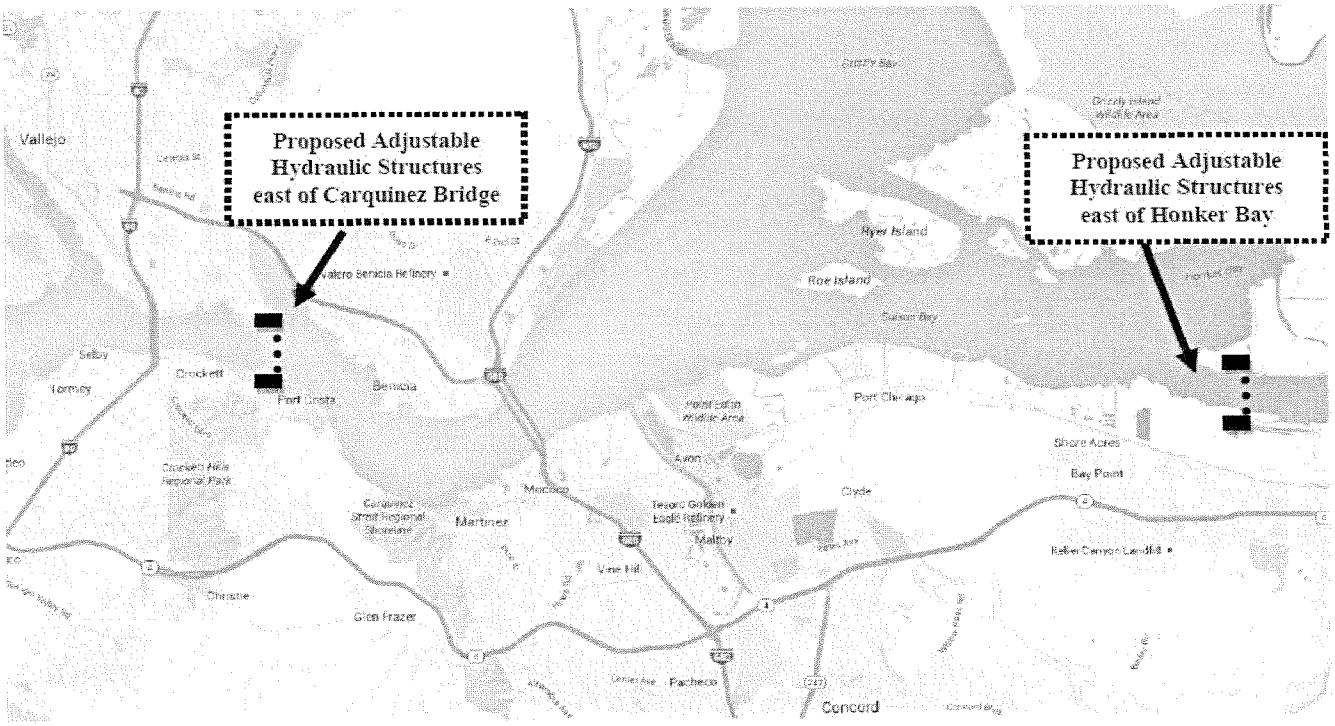
RECIRC3012

Location of Proposed Adjustable Hydraulic Structures nearby Carquinez Bridge and Honker Bay





RECIRC3012



Source: Google Maps

RECIRC3012

Full aerial of Folsom Dam at 18% total capacity or half the 36% of total capacity during this same time the previous two-years. Another year of same weather conditions and no major water usage reductions or conservation efforts will result in Folsom Lake being fully emptied. Photo taken September 2015

RECIRC3012

Close-up of Folsom Dam at 18% total capacity or half the 36% of total capacity during this same time the previous two-years. Another year of same weather conditions and no major water usage reductions or conservation efforts will result in Folsom Lake being fully emptied. Photo taken September 2015

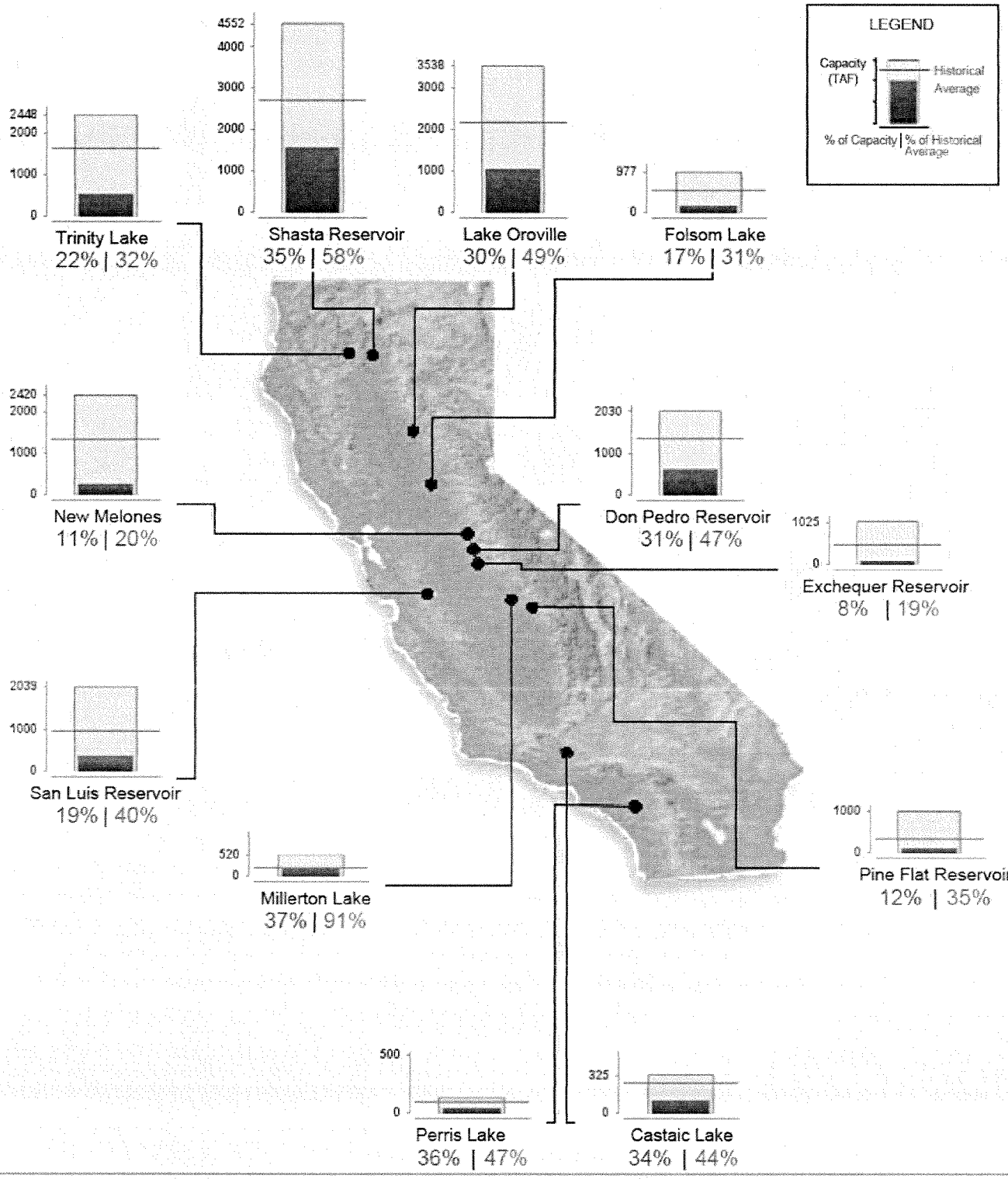
Statewide all major reservoirs and lakes are at around half or below their historical averages.

RECIRC3012

Reservoir Conditions

Ending At Midnight - October 4, 2015

CURRENT RESERVOIR CONDITIONS



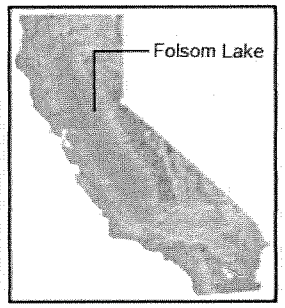
Graph Updated 10/05/2015 04:45 PM

Source: Department of WaterResources, California Data Exchange Center

RECIRC3012

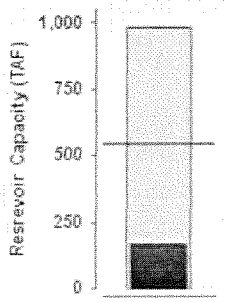
Folsom Lake currently at 17% total capacity or nearly half the 32% historical average of total capacity. Another year of same weather conditions and no major water usage reductions or conservations will result in Folsom Lake being fully emptied.

Reservoir Conditions - Folsom Lake



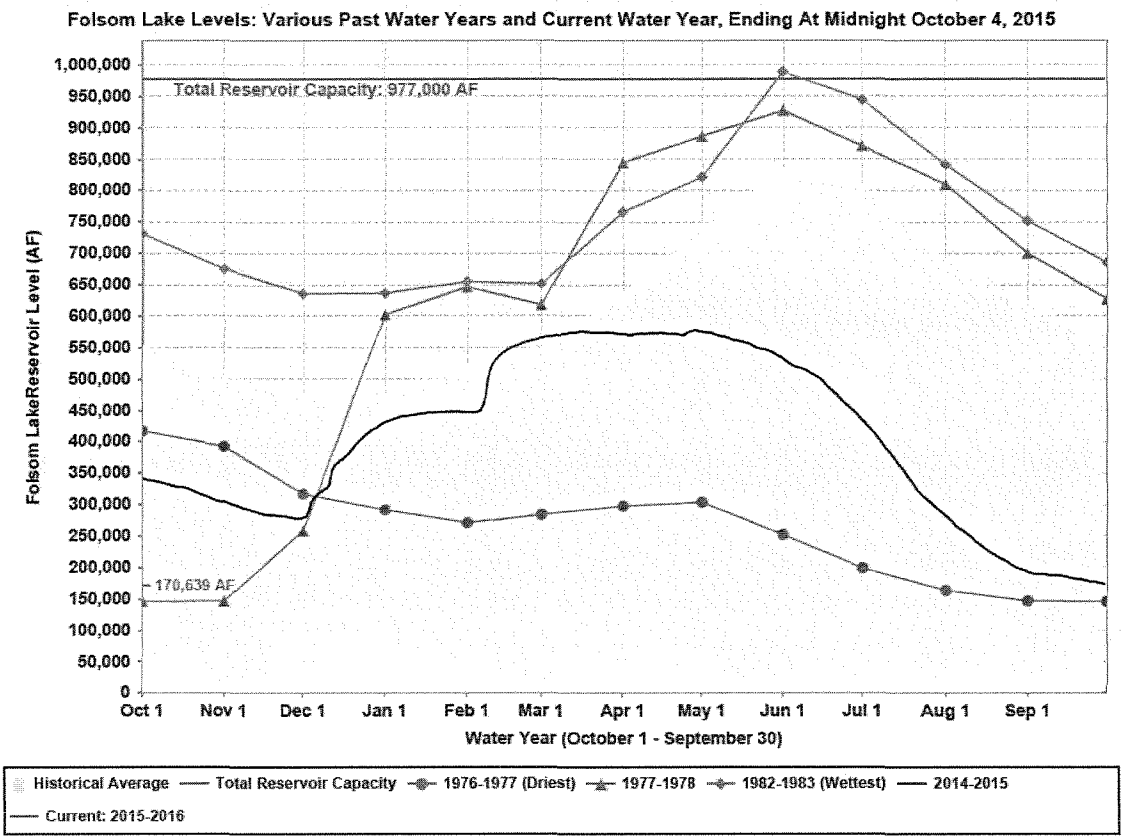
Folsom Lake Conditions

(as of Midnight - October 4, 2015)



Current Level: 170,639 AF

17% (Total Capacity) | 31% (Historical Avg.)

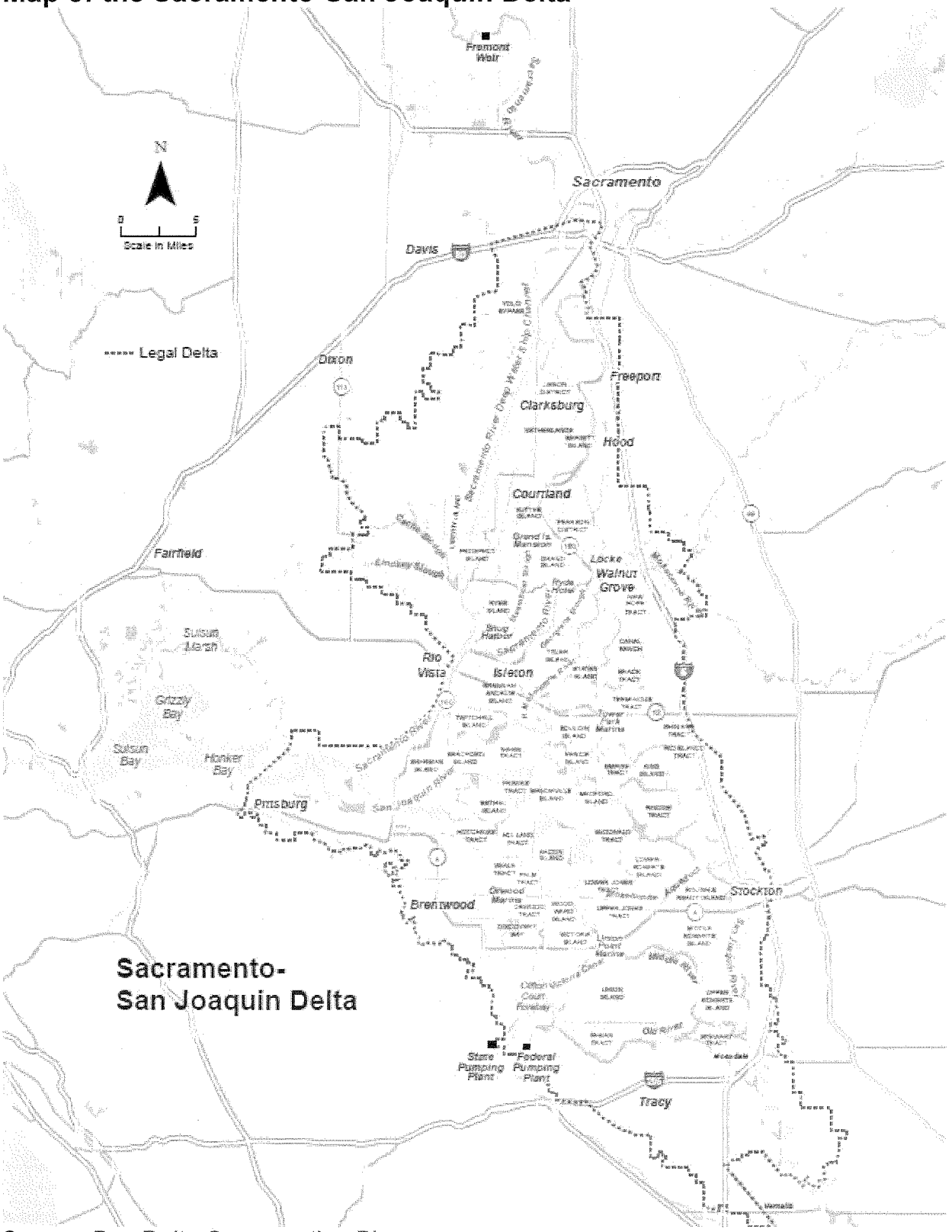


Data Updated 10/05/2015 04:45 PM

Source: Department of WaterResources, California Data Exchange Center

RECIRC3012

Map of the Sacramento-San Joaquin Delta



Source: Bay Delta Conservation Plan

RECIRC3012

Op-Ed by Dr. Ali Ghorbanzadeh
Ali Ghorbanzadeh, PhD, California Registered Professional Engineer, General Contractor
State of California, Department of Water Resources, Retired Senior Engineer
Divisions of Planning, Engineering, and Flood Management 25-year tenure

This Op-Ed is to strongly urge the support of all Californians to contact the California Water Commission, California Department of Water Resources, Congressional Representatives, US Senators, State Legislators and to ultimately reach Governor Brown to reconsider the proposedlatest July 13, 2015 revisions of the $15.5 Billion Twin Tunnels that will not provide any additional water or solve our current water problems. Environmental groups rightfully blasted the newly renamed California WaterFix Alternative 4A (Twin Tunnels or the under ground version of the previously rejected Peripheral Canal) proposal July 22, 2015 and stated "more alternatives needed instead of [a] 'water grab.'"

This alternative proposal will work immediately in the short-term and bring a long-term comprehensive water plan for all Californians. The intended audience is for the State of California public that are being asked to support this Comprehensive Water Plan for California proposal. This proposal calls for adjustable hydraulic structures at the mouth of Delta to provide an approximately recurring 2,000,000 acre-ft/year of freshwater or 250% two-and-a-half times more than the current State Water Project (SWP) allocation of 840,000 acre-ft freshwater for all Californians that was increased March 2, 2015. This is the equivalent to providing more than twice the full capacity of Folsom Lake or nearly 50% additional freshwater of the full allotment promised by the State Water Project available every year for the Delta, State Water Project (SWP), and Central Valley Project (CVP).

To begin, I am one of the most qualified Delta water experts in this specific issue to make a proposal for the Delta. This Comprehensive Water Plan for California proposal is based on my 25 years as a Senior Engineer with California Department of Water Resources (DWR) Divisions of Planning, Engineering, and Flood Management and diverse several decades of active involvement with UC Davis, UC Berkeley, and Stanford professors and affiliates. Additionally, I have performed engineering consulting to analyze California's hydrological, environmental, flooding, drought, and water supply reliability issues with the application and development of mathematical models simulating the hydrodynamics and water quality within the Sacramento-San Joaquin Delta.

As a Senior Engineer with DWR, I was directly involved in the development and application of DWR's mathematical models to simulate every proposed hydraulic structure within the Delta to assess its viability. I am convinced that working together with the DWR staff and my former colleagues that have great technical knowledge of the Delta hydrodynamics and effects of tidal actions on the Delta we can better serve the people of California by solving our current water crisis and preventing a foreseeable Water Armageddon.

Together, we need to refine and examine different options and variations of this proposal by using the mathematical models to create a hydraulically tighter communication between the Delta estuaries and the sea during low flow season, while preserving the environmentally vital aspects of the connectivity between freshwater and seawater with the least environmental adverse impact to achieve paramount results and more freshwater.

The Comprehensive Water Plan for California Proposal:
Half of all the freshwater runoff in California travels through the Delta. This Comprehensive Water Plan for California proposal will put adjustable hydraulic structures at the mouth of Delta. The adjustable hydraulic structures will constrict the conveyance channel between the Sea and the Delta, which will reduce the tidal exchange of salty and fresh water that will save 80% of freshwater currently being wasted to the Sea to push back incoming salty ocean water and is termed "constricting the mouth of the Delta."

Constricting the mouth of the Delta during droughts from a 3,300 ft water opening to at minimum of 100 feet opening during the drought will result in adding an approximately recurring 2,000,000 acre-ft/year of freshwater to our water supply currently being flushed into the Sea to prevent seawater inundation of the Delta and Suisun Marsh. This is accomplished by reducing the Dayflow estimate of Delta outflow of fresh water by 80%, which is referred to as the "net Delta outflow index" (NDOI) or the daily average outflow more commonly. To put this in perspective, the result is approximately 250% (two-and-a-half times) the current State Water Project allocation of 840,000 acre-ft freshwater for all Californians that was increased March 2, 2015 or nearly 50% additional freshwater of the full allotment promised by the SWP. The 100 feet continuous opening will provide the transition mixing zone of salinity, temperature, and density variation between the fresh water and the salty water essential for the fish. This proposal compared to the California WaterFix Alternative 4A (Twin Tunnels) proposal will provide much more freshwater supply, increased safety and water supply reliability, improve water quality in the Delta, relatively much cheaper, far easier to build, far more environmentally sound, allows controlling passage for navigation of ships during extreme droughts, and protects the Delta from increasing sea level due to climate change.

The California WaterFix Alternative 4A (Twin Tunnels) proposal cannot be built in time if our drought continues nor will it bring any additional water supply despite the massive resources are made. It will only reallocate better

quality water to Southern California at the expense of deteriorating and degrading water quality within the Delta and harming the Delta environment, which is referred to as a "water grab."

Background: What is the history of the State Water Project (SWP) in the Delta and why is it important?
The State Water Project (SWP) was built in the 1960's by Governor Brown's father, Governor Pat Brown, and is currently delivering only 20 percent as of March 2, 2015 of its promised allotment of over 4.2 million acre-ft. This proposal referred to as, The Comprehensive Water Plan for California, will complement the SWP by producing an approximately recurring 2,000,000 acre-ft/year of freshwater per year during the multiple years of drought and critical water-years which California is experiencing now and will surely in the future.

By keeping all of the upstream inflows into the Delta the same as the base condition, implementing this proposal for adjustable hydraulic structures would permit the additional approximately 2 million acre-ft of freshwater to be readily available for allotment to the Delta use as well as the SWP and U.S. government's Central Valley Project (CVP) contractors. This will again augment California's water supply by more than twice the full capacity of Folsom Lake (975,000 acre-ft) during the most needed and critical drought years.

The U.S. government's Central Valley Project has been making no deliveries for the second straight year to many of its South-of-Delta customers, including Westlands and other districts in the San Luis & Delta-Mendota territory. This proposal will provide the additional freshwater critically needed now.

According to the Association of California Water Agencies:
But for all its importance, few people know anything about the Delta. Just a few miles south of Sacramento, two of California's major rivers converge to form one of the most important features of California's water system – the Sacramento-San Joaquin River Delta. More than 23 million Californians and millions of acres of farmland rely on the Delta for all or part of their water supply, and countless species depend on it for their habitat.

Covering more than 700 square miles, the Delta is a patchwork of nearly 60 islands and tracts surrounded by natural and man-made channels and sloughs. It is a popular destination for boaters and other recreationists, and home to more than 750 distinct species of plants and wildlife. Salmon, striped bass and other key species such as Delta smelt depend on the Delta and its many marshes and waterways for their food and habitat.

Since about two-thirds of the islands and tracts are below sea level, the Delta relies on a maze of levees to protect land and key infrastructure from floods and daily high tides. In all, there are more than 1,100 miles of levees in the Delta, including many built more than a century ago to protect farmland. Were it not for these levees, the Delta would be a 740,000-acre brackish inland sea.

Today, the Delta's aging and increasingly fragile levee system is being asked to protect much more than farmland. Three state highways, a railroad, natural gas and electric transmission facilities, and aqueducts serving water to parts of the Bay Area also are depend on Delta levees. In addition, more 400,000 people live in Delta towns and communities, some of which rank among the fastest growing areas in California.

The Delta is also the single most important link in California's water supply system. Two of the state's biggest water projects – the State Water Project (SWP) and the federal Central Valley Project (CVP) – depend on Delta waterways to convey water from Northern California rivers to pumping facilities in the southern Delta. Delta levees play a critical role in preventing salty water from San Francisco Bay from intruding into critical parts of the Delta and contaminating the fresh water that supplies communities and farms.

Comparing the Proposals: Comprehensive Water Plan for California and California WaterFix Alternative 4A (Twin Tunnels) proposals
The California WaterFix Alternative 4A (Twin Tunnels) proposal will not solve our current water problems. It will provide no additional water, no additional water supply reliability, degrade water quality by leaving nearly one billion pounds of salt within the Delta by removing fresher water from upstream and decreasing productivity of farmlands in the Delta, far too costly both financially and environmentally, will take too long to build, and provides no protection against levee/earthquake breaks or sea level rise due to climate change that will inundate the Delta by salty Ocean water (see table below for details).

It does not need to be a zero-sum game. We can actually raise the freshwater supply level and help all Californians. All boats will float higher so to speak. Now you know the facts that will help ALL of California. Go back to the top and click the links and write the people in charge to send your support for this Comprehensive Water Plan for California proposal. Go get everyone on the same page and I am here to make sure this is done right and timely so we all can continue to enjoy the California Sun and Water.

RECIRC3012

Pass me a full glass of water,
Dr. Ali
Ali Ghorbanzadeh, PhD, Professional Engineer, General Contractor
State of California, Department of Water Resources, Retired Senior Engineer
Divisions of Planning, Engineering, and Flood Management 25-year tenure

Ali Ghorbanzadeh, PhD, P.E, G.C.
www.facebook.com/CAWaterPlan
http://cawaterplan.blogspot.com/
CAwaterplan@gmail.com

Table: Comparing the Comprehensive Water Plan for California and California WaterFix Alternative 4A (Twin Tunnels) proposals

The Comprehensive Water Plan for California Proposal		California WaterFix Alternative 4A (Twin Tunnels) proposal
Provides much more freshwater supply Adding an approximately recurring 2,000,000 (two-million) acre-ft/year of freshwater to our water supply currently being flushed in the sea. To put this in perspective, the result is approximately 250% two-and-a-half times more than the current State Water Project (SWP) allocation of 840,000 acre-ft freshwater for all Californians that was increased March 2, 2015. Engineering analysis is done based on the Hydrology Data published by the State of California Department of Water Resources (DWR) for the period of May 20, 2015 through June 18, 2015. This is the equivalent to providing more than twice the full capacity of Folsom Lake or nearly 50% additional freshwater of the full allotment promised by the State Water Project available every year for the Delta, State Water Project (SWP).		**No additional water** Only provides better quality water (nearly 100 PPM less in salts) to the water contractors south of the State Pumping Plants, Southern California at the expense of Northern California population and agricultural economy.
Provides increased water supply reliability and safety Will prevent the Delta against salt water inundation during levee breaks and/or earthquakes with the ability to close the adjustable hydraulic structures.		**No additional water supply reliability.** If there is water, it does provide better quality water to the South of the Delta. It will not provide any new water.
Improves water quality in the Delta By keeping the upstream Delta inflows unchanged it eliminates any environmental impacts upstream, while improving water quality within the Delta by reducing the salty sea water intrusion. By constricting the mouth of the Delta from a 3,300 ft channel opening to at minimum of 100 feet opening during the drought and low flow season will result in a reduction in tidal exchange. The result is 80% less Net Delta Outflow of freshwater containing the Total		**Decreases water quality and productivity of farmlands in the Delta** In August 2014, the EPA said "its research found that by diverting freshwater from three new intakes proposed on the Sacramento River – farther upstream from existing intakes – the project is likely to increase concentrations of salinity, mercury, bromide, chloride, selenium and pesticides in the estuary."

Dissolved Solids (TDS) of 100-200 mg/lit needing to repel the salty ocean water with salts containing 30,000-40,000 mg/lit.		It will leave more than one billion pounds of salt per year within the Delta by transferring fresher water directly from the Sacramento River for the water users south of SWP and CVP pumps. It is estimated that the water flowing into the Twin Tunnels (to be transferred out of the Delta and to the South) would contain approximately 100 mg/lit less salts than what is being currently transported after mixing that occurs in the Delta. Transporting nearly 4 million acre-ft per year of source water at 100 mg/lit less in salts would amount to an additional nearly one billion pounds of salt per year accumulated in the Delta. Naturally, the remaining water mixed in the Delta would be degraded in quality and it would impact the productivity of the Delta farmlands and all the Delta water users.
Relatively much cheaper (costs only tens of millions) A fraction of the $15.5 billion proposed cost of Twin Tunnels and the proposal will save the State of California hundreds of billions dollars that can be reallocated to other projects. This plan would have provided or saved nearly eight million acre-ft of freshwater, or the equivalent of over ten times the full capacity of Folsom Lake, during the past four years of this drought. Using an estimate at $125 per acre-ft, in contrast to desalinization costs of approximately $3,000 per acre-ft, all of the cost of this proposal would have more than paid for itself.		**Very costly** Latest estimates of $15.5 Billion. Various independent estimates range from $25 Billion to nearly $70 billion.
Far easier to build Only need to build adjustable hydraulic structures at one location. This proposal can be implemented now before it is too late and there is Water Armageddon.		**Will take too long to build** Proposing two 30-mile tunnels that would draw water from the Sacramento River near Courtland and deliver it to the pumps and government-operated canals near Tracy.
Far more environmentally sound Allows continuous passage for all fish migration through a proposed 100 feet wide		**Environmentally disaster** With no water there is no environment. Fixing water delivery

opening to the full depth of channel at the hydraulic control location. This will provide a gradual change in water quality, salinity, temperature, and density gradient essential for fish life to adjust to the water changes.		with no new water is like building a large lake with no water to go into it. The proposal claims: "Fixing our water delivery system would improve the natural direction of river flows, help native fish species navigate to and from the ocean during critical migration periods, guard against water supply disruptions, and ensure that local water projects like recycling and groundwater recharge work better."
Allows controlling passage for navigation of ships during extreme droughts During droughts, limiting the navigation period to 20 (twenty) hours per day with the proposed adjustable hydraulic structures that are designed to reduce the width of channel at the mouth of Delta from approximately 3,300 feet to 100 feet of continuous opening for fish passage. Unrestricted flow of water and navigation in either direction during the wet season, high flow, or any time deemed necessary.		**Navigation of ships not affected**
Protects the Delta from climate change With the adjustable hydraulic structures it will protect the Delta from the ocean sea water level rising. The State Department of Water Resources is projecting a one foot rise in the sea level by year 2040 which would require additional 200,000 acre-ft of freshwater (that we do not have) just to keep the same water supply situation as it is now.		**No protection for the Delta from climate change** The Delta will be left with decrease water quality with more salty land adversely affecting farmland productivity.