

Subcommittee on Water, Power and Oceans

John Fleming, Chairman
Hearing Memorandum

July 8, 2016

To: All Subcommittee on Water, Power and Oceans Members
From: Majority Committee Staff, Subcommittee on Water, Power and Oceans (x5-8331)
Hearing: Oversight Hearing on “*Changing Demands and Water Supply Uncertainty in California*”

On Tuesday, July 12, 2016, at 10:00 am in 1324 Longworth House Office Building, the Water, Power and Oceans Subcommittee will hold a one-panel oversight hearing on “*Changing Demands and Water Supply Uncertainty in California.*”

Policy Overview:

- This hearing will focus on separate, sometimes conflicting, proposed actions by the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) which could significantly impact the availability of water for multiple uses in California.
- Despite precipitation from El Niño storms, many water users in California may experience yet another year of restricted water deliveries due to federal regulations and proposals.
- It is imperative that communities receive the water they contracted for, were promised and desperately need.

Invited Witnesses (listed in alphabetical order):

Mr. Ara Azhderian
Water Policy Administrator
San Luis & Delta-Mendota Water Authority
Los Banos, California

Mr. Bob Borck
Skipper, F/V Belle J II
Eureka, California

Mr. Jeffrey Sutton
General Manager
Tehama-Colusa Canal Authority
Willows, California

Mr. David Murillo
Mid-Pacific Regional Director
U.S. Bureau of Reclamation
U.S. Department of the Interior
Sacramento, California

(Mr. Murillo may be accompanied by FWS and NMFS officials who may be available for questions.)

Background

How California Historically Fought Drought

Since becoming a state in 1850, California has experienced natural drought multiple times. These drought periods and the need to provide water to a rapidly growing population and farms led to an innovative and complex water storage and delivery system. Since northern California contains over two-thirds of the water resources and southern California has two-thirds of the human population, the federal government, through the U.S. Bureau of Reclamation (Reclamation), and the State of California (State) built the Central Valley Project (CVP)¹ and the State Water Project (SWP),² respectively, to store and convey water.

The CVP is a federal multi-purpose water supply system that consists of twenty dams and reservoirs, eleven hydropower plants and approximately 500 miles of canals and other distribution systems.³ In normal water years, the CVP can deliver a total of 7 million acre-feet (an acre foot is about 326,000 gallons of water or enough water to cover a football field with one foot of water).⁴ The SWP includes 34 storage facilities, reservoirs and lakes, five hydroelectric power plants; and about 700 miles of canals and pipelines, providing water to approximately 25 million Californians and about 750,000 acres of irrigated farmland.⁵ The Los Angeles area in the southern part of the State receives up to 45% of its water needs from imported water delivered from the SWP and the Colorado River Aqueduct.⁶

Water from the northernmost portions of the State is conveyed south through the Sacramento-San Joaquin River Bay-Delta (Bay-Delta) through two massive federal and state pumping systems near Tracy, California. Beyond delivering water to two-thirds of California's population, and helping California get through periods of extended drought, the CVP and SWP have also helped to create a massive agricultural economy in 7 of the nation's top 10 producing

¹ http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project

² <http://www.water.ca.gov/swp/>

³ http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project

⁴ Id.

⁵ <http://www.water.ca.gov/swp/>

⁶ <http://www.mwdh2o.com/AboutYourWater/Sources%20Of%20Supply/Pages/default.aspx>

counties that supply more than half of the country’s vegetables and a vast majority of fruits and nuts worth more than \$46 billion annually.⁷

The current California water storage and delivery system was designed to serve 22 million people.⁸ Currently, the State has **over 38 million** residents and the population is expected to double by 2050.⁹ While urban and rural communities have pursued water efficiency improvements and planted higher value permanent crops, many believe that conservation will not fully resolve water supply issues and that new water storage projects and conveyance improvements are necessary in key locations.¹⁰

California’s Recent Drought

Much of California experienced severe to exceptional drought over the last four years.¹¹ As a result, California Governor Jerry Brown issued a drought emergency in 2014 and a first-ever executive order in April 2015 requiring the State Water Resources Control board to implement reductions in cities and towns as a means to cut water use by 25 percent.¹²

Last year’s water cutbacks had major impacts on most parts of California. Such water shortages helped cause the City of Mendota, a community heavily dependent on irrigated agriculture and the jobs associated with it, to experience 34% unemployment.¹³ In addition, lack of surface water storage prompted many to tap groundwater reserves for water needs. In a few areas, this pumping has caused ground subsidence as a result of decreased aquifer levels.¹⁴ Although various estimates on the drought’s impact in 2015 are still being calculated, some found that it was devastating – particularly to California agriculture (see Figure 1).

Drought Impact	Loss Quantity
Water Supply	
Surface water reduction	8.7 million acre-feet
Groundwater pumping increase	6.2 million acre-feet
Net water shortage	2.5 million acre-feet
Statewide Costs	
Crop revenue loss	\$856 million
Additional groundwater pumping cost	\$595 million
Livestock revenue loss	\$100 million
Dairy revenue loss	\$250 million
Total direct agricultural costs	\$1.8 billion
Total statewide economic cost	\$2.7 billion
Total job losses	18,600

Figure 1: Source: Howitt RE, Medellin-Azuara J, MacEwan D, Lund JR and Sumner DA. 2015. *“Preliminary Analysis: 2015 Drought Economic Impact Study.” UC Davis Center for Watershed Sciences*

⁷ <http://ajed.assembly.ca.gov/sites/ajed.assembly.ca.gov/files/Fast%20Facts%20on%20California's%20Agricultural%20Economy.pdf>

⁸ <http://www.water.ca.gov/swp/delta.cfm>

⁹ <http://www.tularecog.org/DocumentCenter/View/374>

¹⁰ <http://www.foxandhoundsdaily.com/2015/04/california-cannot-conserve-or-over-regulate-way-of-out-drought/>

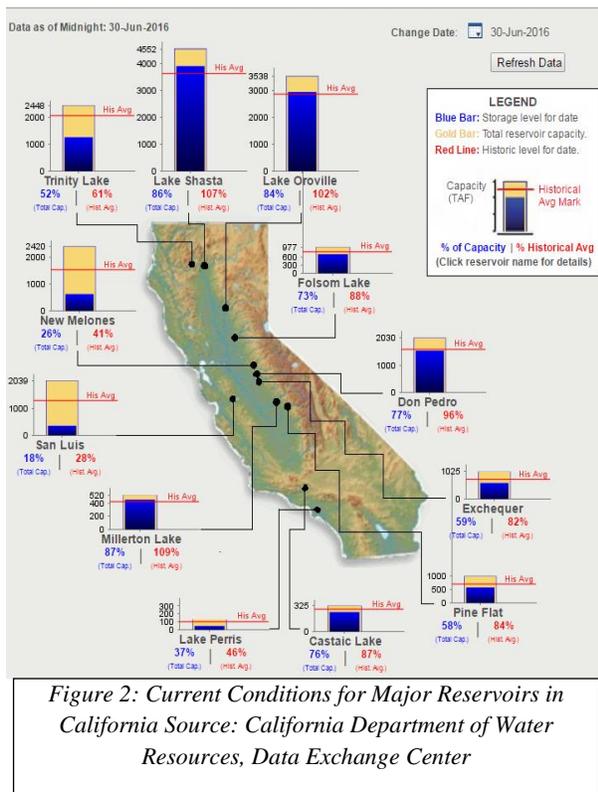
¹¹ http://www.mercurynews.com/drought/ci_29364616/california-drought-how-will-we-know-when-its

¹² <http://abc7.com/weather/gov-brown-orders-mandatory-water-restriction-in-california/603581/>

¹³ <http://www.bloomberg.com/news/articles/2014-02-14/california-drought-threatens-50-farm-town-unemployment>

¹⁴ <http://www.jpl.nasa.gov/news/news.php?feature=4693>

The Current Water Year



Typical winter storms hit California from the northern Pacific Ocean, but this year’s El Niño-influenced storms have brought more precipitation. An El Niño is a weather phenomenon characterized by warm ocean water west of Peru that can cause changes in the atmosphere and can create a persistent series of subtropical storms to hit the State, one after another.¹⁵ This year’s strong El Niño brought substantial precipitation in the form of rain and snow. For example, earlier this year, the average-to-date rain and snow water content in the northern Sierra mountains in California was 122% of normal.¹⁶

Some reservoir levels, including Shasta Dam and Folsom Dam, are currently near or above historical average as indicated in Figure 2. However, some reservoirs, namely New

Melones and San Luis, are far below historical average due to a number of natural and man-made reasons.

While no one denies that natural drought played a significant role in the last four years, many believe that man-made actions related to federal and state biological opinions on endangered and threatened fish populations exacerbated such drought.¹⁷ Federal and state water actions related to endangered species, water quality and other matters dating back to 1992 have reduced water availability for most of California, with over 2 million acres of farmland receiving no CVP surface water supplies whatsoever.¹⁸ The Delta smelt, a three-inch fish (see Picture 1) listed as threatened under the Endangered Species Act in



Picture 1: Delta smelt. Photo source: U.S. Fish and Wildlife Service

¹⁵ <http://www.latimes.com/local/weather/la-me-el-nino-nor-cal-20160119-story.html>

¹⁶ <http://cdec.water.ca.gov/cgi-progs/reports/EXECSUM>

¹⁷ <http://www.cbsnews.com/news/tiny-endangered-fish-highlights-california-drought-conflicts/>

¹⁸ http://www.fws.gov/sfbaydelta/documents/SWP-CVP_OPs_BO_12-15_final_OCR.pdf, at p. 279

March 1993,¹⁹ has been at the forefront of this debate. Under the 2008 Delta smelt Biological Opinion,²⁰ increased amounts of water were diverted from farms and cities in southern California and allowed to flow into the Pacific Ocean primarily on behalf of the Delta smelt.²¹ Some environmental organizations have blamed the Delta pumps as the main cause of smelt decline while others blame factors including predation by non-native fish, pollution and other conditions.²²

Although many factors impact the declining Delta smelt population, Reclamation and the U.S. Fish and Wildlife Service (FWS) monitor whether the smelt are entrained in and around the Delta pumps. When the pumps operate, they can create a reverse flow in the Old and Middle Rivers in the Delta, which, along with other factors, can draw the smelt and other fish species towards the pumps, where they are captured (i.e. salvaged) at fish facilities before reaching the pumps, identified and counted, and then trucked back to the Delta for release.²³

In addition, the FWS trawls parts of the Delta to monitor the locations of the fish relative to the pumps.²⁴ Under current FWS policy the adult delta smelt level of anticipated take for the 2016 water year was 56²⁵ though only 3 individual smelt were actually salvaged at the pumps.²⁶ The level of anticipated take for juvenile smelt was set by FWS at 392, of which 2 individuals were actually salvaged. There is significant debate and concern that the federal government kills many more Delta smelt during trawling and other research activities.²⁷ Reclamation and FWS determine the amount of pumping levels depending on these and other factors.

As indicated in Figure 3 below, outflows from the Delta into the San Francisco Bay/Pacific Ocean are higher than last year while pumping levels are nearly the same. Yet, many water users – particularly those south of the Bay-Delta – have been notified that their allocation for the 2016 water year will be just **5 percent of their contracted amount**.²⁸ One water user responded to this allocation by stating, “The drought has hit farmers, farmworkers and thousands of families hard, but now with the northern reservoirs filled and spilling water to make room for spring snowmelt, the federal government has very deliberately chosen to deny available relief to thousands of Californians in the San Joaquin Valley.”²⁹

¹⁹ http://www.fws.gov/sfbaydelta/species/delta_smelt.cfm

²⁰ http://www.fws.gov/sfbaydelta/documents/swp-cvp_ops_bo_12-15_final_ocr.pdf

²¹ Testimony of Mr. Tom Birmingham, before the House Water and Power Subcommittee, June 2, 2011, at 3 <http://naturalresources.house.gov/uploadedfiles/birminghamtestimony06.02.11.pdf>

²² http://www.fws.gov/sfbaydelta/species/delta_smelt.pdf

²³ Congressional Research Service Report, Western Water and Drought: Legislative Analysis of H.R. 2898 and S. 1894, at 19.

²⁴ http://www.fws.gov/sfbaydelta/newsroom/2nd_monitoring_plan_nr_2-27-2014.cfm

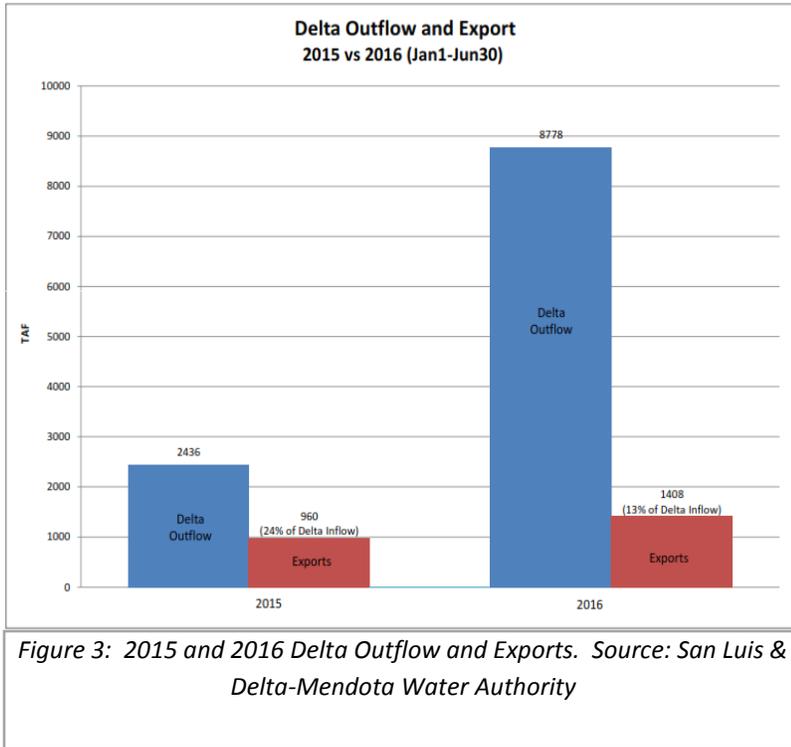
²⁵ December 23, 2015 FWS Regional Director Memo to Bureau of Reclamation Regional Director, [Update on the Delta Smelt Incidental Take Statement for the 2016 Water Year](#) (PDF)

²⁶ https://www.fws.gov/sfbaydelta/documents/smelt_working_group/SWG_meeting_notes_with_attachment_5-31-2016.pdf

²⁷ Testimony of Mr. Brett Barbre before the House Water, Power and Oceans Subcommittee, 2/24/16, p. 1

²⁸ Id.

²⁹ Mr. Tom Nassif, Western Growers. April 1, 2016. <http://westernfarmpress.com/blog/leaders-react-usbr-water-allocation-announcement>



Conversely, the FWS has cited: “Delta outflow provides fresh water to the Bay-Delta estuary. This enables municipal water diversions for the east Bay Area and for farms in the Delta itself. Delta outflow also contributes to waterfowl production on some Delta islands and in Suisun Marsh. Delta outflow lowers concentrations of pollutants in the Delta and Bay, pollutants that would otherwise be harmful to San Francisco Bay area residents. And, Delta outflow performs many important ecological functions including contributing to the production of

fish and shellfish, salmon, striped bass, smelt, sturgeon, and bay shrimp. Outflows also prevent high-salinity water from moving upstream and into agricultural areas in the Delta. Thus, water passing through the Delta and out to the ocean is not being wasted.”³⁰

Recent Proposed Actions by the FWS and NMFS

On April 1, 2016, Reclamation announced its initial CVP water supply allocation to its contractors.³¹ As referenced above, many water users south of the Delta were not pleased with these allocations. However, the allocations, which Reclamation described as conservative and could improve, provided some form of certainty to CVP’s water users. However, recent proposals from the FWS and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NMFS) have ensured no improvement will occur and, in fact, allocations could decrease. Many water users contended that these proposals are not based on adequate science and will result in another year of unnecessary water shortages for farms and cities south of the Delta, and late deliveries for farmers around the Delta at a crucial juncture in the growing season.³²

³⁰ [Delta Smelt Q&A \(PDF\)](#)

³¹ <http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=53447>

³² http://valadao.house.gov/uploadedfiles/june_2016_letter_to_u.s._interior_and_u.s._commerce.pdf, p. 1

The 2009 NMFS Biological Opinion for Winter-run Chinook salmon (2009 BiOp) requires Reclamation to receive concurrence from NMFS prior to issuing water supply allocations for the water year. On March 31, 2016, after reviewing Reclamation's March forecast and water supply allocation, the NMFS sent a concurrence letter stating: "NMFS concurs with Reclamation's forecast based on March 15, 2016, hydrologic conditions, and initial water supply allocation, that Reasonable and Prudent Action (RPA) I.2.3.A should be implemented this year."³³ Two weeks after sending its concurrence letter, the NMFS indicated that its temperature projections were no longer valid. As a result, NMFS proposed to limit releases from Shasta Dam to 8,000 cubic feet per second (cfs) -- down from a maximum of 10,500 cfs in the approved operations plan -- through the summer and into the fall in order to preserve cold water for Winter-run Chinook salmon.³⁴ Limiting releases to these levels will result in a shortage of 400,000 acre-feet of CVP water.³⁵ This shortfall would have resulted in reduced water allocations and another year of zero water deliveries for some south-of-Delta water users.

On the other hand, as NMFS sought to limit Delta outflow this summer the FWS has proposed to *increase* Bay-Delta outflow for the Delta smelt. According to a Reclamation spokesman, the FWS is requesting up to 300,000 acre-feet of water for Delta outflow for the Delta smelt this summer.³⁶ As a result, Reclamation is considering letting more water flow to the Pacific Ocean through the Delta this summer which may result in less water for farms and cities south of the Delta. Some contend that these actions are outside the requirements of the 2008 FWS Delta Smelt Biological Opinion (2008 BiOp).³⁷ Reclamation has indicated that it may be able to purchase 85,000 acre-feet of water, but 50,000 acre-feet of this water is stored in Shasta Reservoir and may not be available due to the proposed actions by NMFS to limit releases for salmon.³⁸

In response, earlier this year, fifteen Members of Congress from California sent a bipartisan letter (Letter) to Interior Secretary Sally Jewell and Commerce Secretary Penny Pritzker requesting more information about these proposed actions.³⁹ The Letter stated:

*"The increased reduction in releases NMFS is seeking will cost the CVP approximately 400,000 acre-feet of water. Water for which crops have already been planted, loans have already been issued, products ordered, and habitat management plans implemented."*⁴⁰

³³http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/nmfs_march_31_2016_response_to_the_bureau_of_reclamation_s_march_forecast.pdf, p. 4

³⁴http://valadao.house.gov/uploadedfiles/june_2016_letter_to_u.s._interior_and_u.s._commerce.pdf, p. 1

³⁵ *Id.*, p. 1

³⁶<http://www.sacbee.com/news/state/california/water-and-drought/article86742377.html>

³⁷http://valadao.house.gov/uploadedfiles/june_2016_letter_to_u.s._interior_and_u.s._commerce.pdf, p. 2

³⁸ *Id.*, p. 2

³⁹ *Id.*

⁴⁰ *Id.*, p. 1

“We are concerned the actions being considered by NMFS and FWS have not been adequately vetted, will result in disproportionate harms to our constituents, potentially further harm the environment and listed species, and set us years back to an era of litigation and conflict, contrary to the Administration’s initiatives toward government transparency, participation and collaboration.”⁴¹

The Letter posed a number of questions regarding process and statutory authorizations for these proposed actions, and requests that these questions be answered before the FWS or the NMFS took any action that deviates from the March 31, 2016 approved operations plan. To date, NMFS and FWS have not provided a written response to the Letter.

However, a resolution to the proposed actions by NMFS appears to have been reached. On June 27, 2016, Reclamation submitted a revised Sacramento River Temperature Management Plan to NMFS for concurrence as required by the 2009 BiOp.⁴² This plan consists of monthly water releases above the proposed 8,000 cfs, and NMFS approved this revised operations plan on June 28, 2016.⁴³ However, the plan also has numerous, conservative off-ramp conditions, which if triggered, will result in potentially severe water supply interruptions. An agreement has not yet been reached with the FWS on the proposed Delta smelt flows.

Witnesses representing water users in northern and southern California will testify about these situations and the need for water supply certainty. The Administration will also appear in response to these concerns.

⁴¹ Id., p. 3

⁴² http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/nmfs_concurrence_on_the_bureau_of_reclamation_s_sacramento_river_temperature_management_plan- june_28_2016.pdf

⁴³ Id.