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Central Valley Project Operations: Background and Legislation

name redacted
Specialist in Natural Resources Policy

name redacted
Specialist in Natural Resources Policy

name redacted
Acting Deputy Assistant Director/RSI

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Summary

California is in its fifth year of drought. Rain and snowstorms in Northern and Central California in the winter of 2015-2016 improved but did not eliminate drought conditions in the state. According to the U.S. Drought Monitor, as of November 29, 2016, approximately 60% of the state was in severe drought conditions. This represents an improvement from one year prior to this date, when 92% of the state was under a severe drought designation.

The stress on water supplies due to the drought has resulted in cutbacks in water deliveries to districts receiving water from federal and state facilities, in particular the federal Central Valley Project (CVP, operated by the Bureau of Reclamation within the Department of the Interior) and the State Water Project (SWP, operated by the state of California). In 2015, California Governor Jerry Brown mandated a 25% reduction in water use for nonagricultural water users, and overall SWP deliveries were limited to 20% of contractor requests. In 2016, the state relaxed some of these restrictions and set new requirements for drought operations and planning, although the 2014 drought declaration made by Governor Brown remains in effect. The California Department of Water Resources expects to be able to meet 60% of requested SWP deliveries in 2016.

The Bureau of Reclamation announced its initial water allocations for CVP contractors for the 2016 water year on April 1, 2016. Despite the improved precipitation and water supplies in 2016 (especially in the northern and central parts of the state), some CVP contractors were subject to a fourth straight year of curtailments to their water deliveries. Water contractors south of the Sacramento and San Joaquin Rivers' Delta (Bay Delta), who represent some of the most valuable irrigated agricultural land in the country, have been among the most severely affected by these cutbacks.

Cutbacks in water deliveries to CVP contractors, especially in a period of increased precipitation, have caused some to criticize the management of the CVP by the Bureau of Reclamation and insist that more water should be delivered to contractors. Some also question the extent to which factors beyond drought (e.g., restrictions to protect endangered species) are influencing water management and the quantity of water delivered to contractors. They argue that congressionally directed changes in the operation of the CVP are needed and would result in increases to water allocations for agriculture and municipal contractors. Other stakeholders argue that some of these changes could undercut environmental regulations, harm fish and wildlife, and potentially lower water quality. They also worry that legislative proposals that would alter the implementation of the Endangered Species Act could harm species in the region and set a precedent that could be used to affect other listed species in the future.

The 114th Congress is considering legislation that proposes to address western drought issues, including operations of the CVP. These bills include provisions that would change the Bureau of Reclamation's authorities to operate the CVP, among other things. The two bills proposing to address CVP operations that have received the most attention are H.R. 2898 and S. 2533; however, several related bills have incorporated CVP- and drought-related text. This includes FY2017 appropriations legislation and proposed omnibus energy legislation (S. 2012). Most recently, the text of S. 612, the Water Infrastructure Improvements for the Nation (WIIN) Act, incorporated existing and amended text from H.R. 2898 and S. 2533, among other things.

This report provides an abbreviated background on the CVP and SWP, as well as a summary of recent hydrologic conditions in California and their effect on water deliveries from these projects. It also summarizes some of the issues pertaining to CVP operations that are being debated in the 114th Congress and discusses selected legislation that proposes to address these issues.

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Introduction

The Bureau of Reclamation (Reclamation), part of the Department of the Interior, operates the multipurpose federal Central Valley Project (CVP) in California, one of the nation's largest water conveyance developments (see **Figure 1**). The CVP extends from the Cascade Range in Northern California to the Kern River in Southern California. In an average year, it delivers approximately 5 million acre-feet of water to farms (including some of the nation's most valuable farmland), 600,000 acre-feet to municipal and industrial (M&I) users, 410,000 acre-feet to wildlife refuges, and 800,000 acre-feet for environmental needs, among other purposes. The project is made up of 20 dams and reservoirs, 11 power plants, and 500 miles of canals, as well as conduits, tunnels, and other storage and distribution facilities.[1] A separate major project operated by the state of California, the State Water Project (SWP), delivers about 70% of its water to urban users (including water for approximately 25 million users in the South Bay, Central Valley, and Southern California); the remaining 30% is used for irrigation. Two federal and state pumping facilities near Tracy, CA, are a hub for water deliveries from both systems.

California is in its fifth year of drought. Rain and snowstorms in Northern and Central California in the winter of 2015-2016 improved hydrologic conditions in some areas but did not eliminate the state's ongoing drought. The current drought is the result of extensive dry conditions in recent years. The previous four years have been classified as below normal (2012), dry (2013), and critically dry (2014 and 2015).

The stress on water supplies due to the drought has resulted in cutbacks in water deliveries to contractors receiving water from the CVP and SWP. A drought declaration made by California Governor Jerry Brown on January 17, 2014, remains in effect. In 2015, the governor mandated the first-ever 25% statewide reduction in water use for nonagricultural users.[2] On May 18, 2016, California's State Water Resources Control Board (SWRCB) adopted a new regulation that replaces the prior percentage reduction-based water conservation standard with a localized "stress test" approach.[3] After several consecutive years of cutbacks, on April 1, 2016, Reclamation announced its estimated annual water allocations for federal CVP contractors in water year 2016 (October 2015 through September 2016).[4] For many contractors, these allocations remained significantly below contracted amounts.

[1] Bureau of Reclamation, "About the Central Valley Project," at http://www.usbr.gov/mp/cvp/about-cvp.html.

[2] Although not mandated by the governor, some agricultural water contractors with senior water rights voluntarily reduced their water usage by 25%, as well. See California Water Boards, "State Water Board Approves Voluntary Cutback Program for Delta Riparian Water Rights," press release, May 22, 2015, at http://www.swrcb.ca.gov/press_room/press_releases/2015/pr052215_riparian_proposal.pdf.

[3] The standards require local water agencies to ensure a three-year supply assuming three more dry years like those the state experienced from 2012 to 2015. Agencies that would face shortages under these scenarios must meet a conservation standard equal to the amount of shortage. For more information, see California Water Boards, "36 Month Urban Water Supply Now Basis for Local Emergency Water Conservation Efforts," updated May 18, 2016, at http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/factsheet/fs051816_mediaemergreg.pdf.

[4] The contract year for most Central Valley Project (CVP) contractors runs from March 1 to February 28.

Figure 1. Central Valley Project, State Water Project, and Related Facilities

Source: California State Department of Water Resources, *California Water Plan Update 2013, Investing in Innovation & Infrastructure,* vol. I, chapter 3, figure 2-3, issued October 30, 2014.

Drought legislation that addresses CVP operations, among other drought-related issues, is under consideration in the 114th Congress. Selected bills receiving significant congressional and media attention include H.R. 2898, which was passed by the House on July 17, 2015. In the Senate, S. 2533, introduced by Senator Feinstein on February 10, 2016, received attention as a potential alternative to H.R. 2898.[5] Other bills have also included CVP-related provisions that first appeared in the aforementioned bills, including S. 2012, the Energy Policy Modernization Act of

[5] The bill shares a number of provisions in common with a 2015 bill (S. 1894) that was not reported out of committee. A companion bill to S. 2533 (H.R. 5247) was introduced on May 15, 2016. For more information on these bills, see CRS Report R44316, *Western Water and Drought: Legislative Analysis of H.R. 2898 and S. 1894*, coordinated by (name redacted) .

2016 (passed by the House on May 25, 2016), and the House Appropriations Committee's FY2017 recommendations for the Energy and Water Development and Interior, Environment, and Related Agencies appropriations bill (§§204-208 of H.R. 5055 and §§447-452 of H.R. 5538, respectively). Most recently, S. 612, introduced as the Water Infrastructure Improvements for the Nation Act (WIIN Act) on December 5, 2016, incorporated provisions from both S. 2533 and H.R. 2898, including changes to a number of provisions in those bills. S. 612 was passed by the House on December 8, 2016.

This report provides high-level summary information on hydrologic conditions in California and their impact on state and federal water management (in particular, deliveries related to the federal CVP). It also summarizes some of the issues pertaining to CVP operations that are being debated in the 114th Congress.

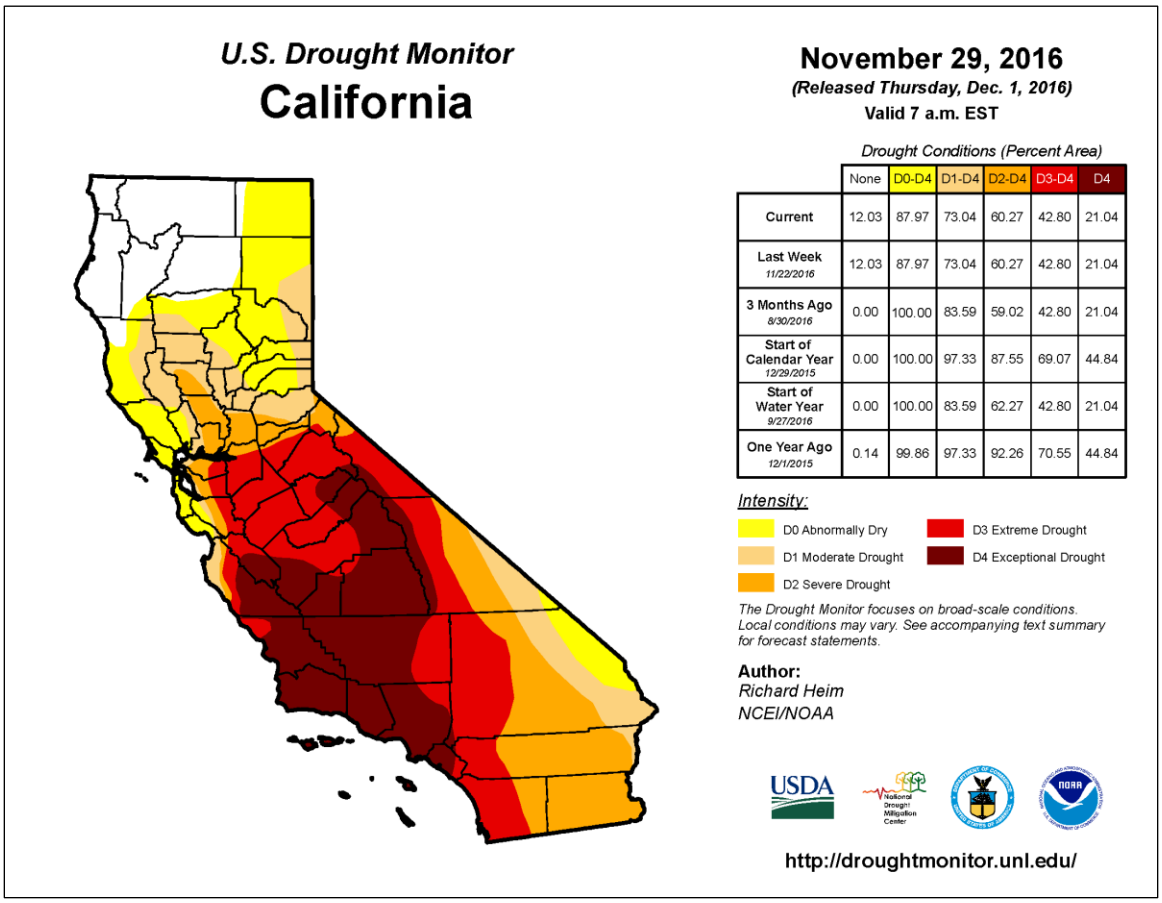
Hydrologic Status

As shown in **Figure 2**, as of November 29, 2016, 60% of California remained in *severe* drought, with 43% in *extreme* drought and 21% in *exceptional* drought.[6] These figures represent significant improvements over both the beginning of the water year and one year ago. Improvements were due in part to the El Niño-Southern Oscillation phenomenon, which led to increased precipitation and stream flows in some parts of the state in the winter of 2015-2016.

[6] United States Drought Monitor, "U.S. Drought Monitor: California," November 29, 2016, at http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA.

Figure 2. U.S. Drought Monitor: California

conditions as of November 29, 2016

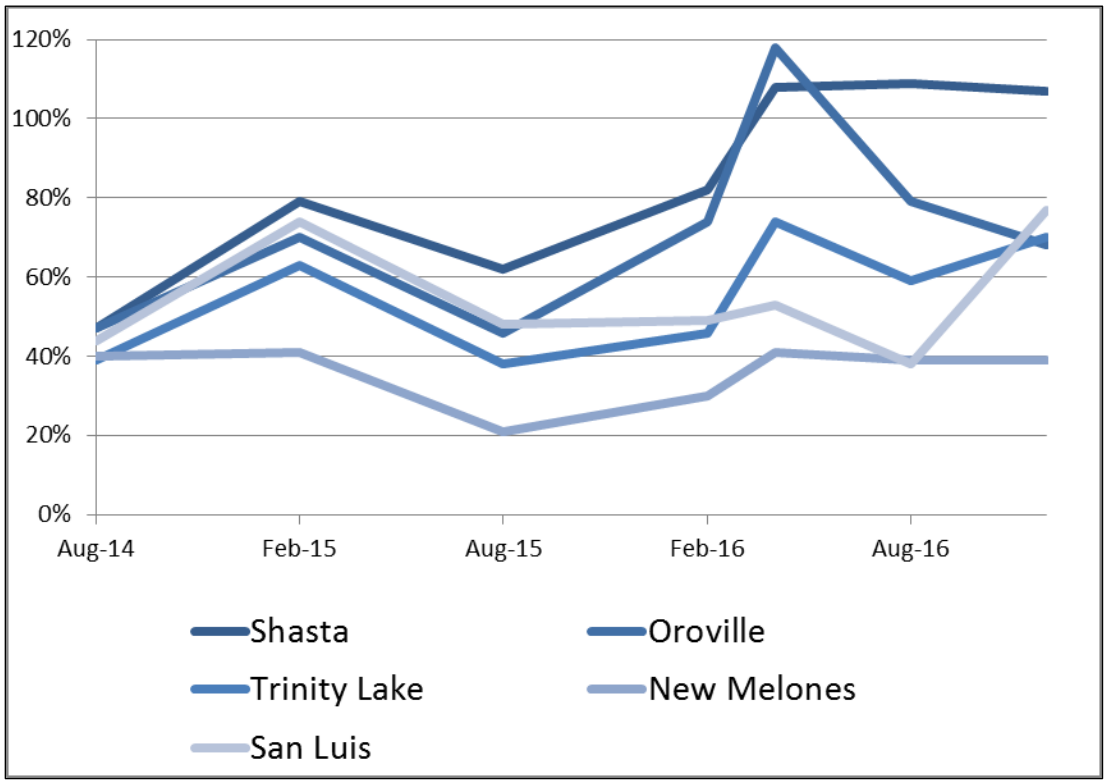


Source: United States Drought Monitor, "U.S. Drought Monitor: California," at http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA.

Water levels at several of California's largest reservoirs also rebounded in 2016 relative to prior years (see **Figure 3**). In particular, heavy rains in Northern California in January and March 2016 significantly improved conditions at the state's two largest reservoirs (both in the northern part of the state): the CVP's Lake Shasta (operated by Reclamation) and the SWP's Lake Oroville (operated by the state of California). As of December 2016, Lake Shasta held 107% of its historical average, and Lake Oroville was at 68% of its historical averages. Notably, other major reservoirs (especially those south of the Sacramento and San Joaquin Rivers' Delta confluence with the San Francisco Bay, known as the Bay-Delta) did not benefit to the same extent from the higher precipitation levels, and most of the southern part of the state remains under drought status.

Figure 3. Water Storage Levels at California's Five Largest Reservoirs

percentage of historical average, August 2014-December 2016



Source: CRS, based on data from California Department of Water Resources, "California Data Exchange Center—Reservoirs," at http://cdec.water.ca.gov/reservoir.html.

Another important hydrologic metric is the water content in snow in the Sierra Nevada Mountains. In normal years, the snowpack provides for approximately 30% of California's water needs. Water from snowpack typically melts in the spring and early summer, thus addressing water needs for the state in the late summer and fall. The April 1 snow-water equivalent is another important measure of California's water supplies. As of early December 2016, statewide snow-water equivalent was approximately 70% of normal in the Northern Sierra, but was considerably less in the Central and Southern Sierra. Although snow-water equivalent has generally increased over the last year and has helped to ameliorate the widespread drought present at the end of 2015, it remains short of the extremely high precipitation levels that are likely needed to end the current drought.[7]

Federal and State Water Project Deliveries

Recent proposals and debates related to state and federal water allocations in California revolve around two major water projects that are significant for the state's agricultural and municipal water suppliers: the federal CVP and the state of California's SWP. Although these projects supply water to users throughout the state, major CVP and SWP pumps that supply water for Central and Southern California are located at the southern end of the Bay-Delta. Thus, an

[7] Snow-water equivalent to date is available at http://cdec.water.ca.gov/cdecapp/snowapp/sweq.action.

important distinction when discussing CVP water allocations and deliveries is between "North-of-Delta" and "South-of-Delta" users.

Central Valley Project Allocations

Each year, Reclamation announces estimated deliveries for its CVP contractors[8] in the upcoming water year.[9] The CVP—which covers approximately 400 miles in California, from Redding to Bakersfield—supplies water to hundreds of thousands of acres of irrigated agriculture throughout the state, as well as to some wildlife refuges and municipal and industrial (M&I) water users. In a normal water year, the CVP delivers, on average, approximately 7 million acre-feet of water to contractors (including 5 million acre-feet to agricultural contractors). In recent years, Reclamation has made significant cutbacks to water deliveries for many CVP contractors due to the drought, among other factors.

On April 1, 2016, Reclamation announced its initial allocations for the upcoming water year (allocations for 2016 are shown below in **Table 1**). In contrast to recent years, Reclamation was able to provide some level of water supplies for most CVP agricultural and M&I water service contractors. Sacramento River Settlement Contractors (Settlement Contractors) and San Joaquin River Exchange Contractors (Exchange Contractors) with senior water rights predating the CVP were expected to receive their full contract allotments in 2016.[10] (These contractors saw reduced allocations in 2014 and 2015, as shown in **Table 1**.) However, most CVP South-of-Delta contractors,[11] including those in many of the state's largest and most prominent agricultural areas, saw severely curtailed water supplies for the fourth consecutive year. The last time these users received 100% of their maximum contract allocations was 2006, and they have received their full maximum contract allocations only twice since 1990.[12]

Table 1. Estimated Water Allocations for CVP Contractors, 2012-2016

(percentage of maximum contract allocation)

	2012	2013	2014	2015	2016 (est.)
North-of-Delta Users					
Agricultural	100%	75%	0%	0%	100%
M&I	100%	100%	50%	25%	100%
Settlement Contractors	100%	100%	75%	75%	100%

[8] A water contractor, as described in this report, has a contract for specified water deliveries from conveyance structures managed by the U.S. Bureau of Reclamation. A contract can have provisions that allow for reductions in water deliveries due to drought conditions.

[9] Reclamation typically estimates these deliveries as a percentage of the total contract allocation to be made available for contractors within certain divisions, geographic areas, and/or contractor types (e.g., South-of-Delta Agricultural Contractors).

[10] Senior water rights holders are those known as the Sacramento River Settlement Contractors north of the Bay-Delta and the Exchange Contractors south of the Bay-Delta. Senior water rights holders have a combined first priority to approximately 3.0 million acre-feet of CVP water.

[11] "South-of-Delta" refers to contractors who reside south of the Bay-Delta, or south of the pumping stations that convey water to the CVP and the SWP.

[12] CRS analysis of CVP historical water allocations, available at http://www.usbr.gov/mp/cvo/vungvari/water_allocations_historical.pdf.

	2012	2013	2014	2015	2016 (est.)
Refuges	100%	100%	75%	75%	100%
American River M&I	100%	75%	50%	25%	100%
In Delta-Contra Costa	100%	75%	50%	25%	100%
South-of-Delta Users					
Agricultural	40%	20%	0%	0%	5%
M&I	75%	70%	50%	25%	55%
Exchange Contractors	100%	100%	65%	75%	100%
Refuges	100%	100%	65%	75%	100%
Eastside Division	100%	100%	55%	0%	0%
Friant Class 1	50%	62%	0%	0%	65%
Friant Class 2	0%	0%	0%	0%	0%

Source: U.S. Bureau of Reclamation, "Summary of Water Supply Allocations," at http://www.usbr.gov/mp/cvo/vungvari/water_allocations_historical.pdf.

Notes: CVP = Central Valley Project. "M&I" indicates municipal and industrial water service contractors. "Settlement" refers to contractors on the Sacramento River (North-of-Delta), and "Exchange" refers to contractors on the San Joaquin River (South-of-Delta) with special contracts and minimum delivery levels recognizing state water rights predating those acquired by the Bureau of Reclamation for construction and operation of the CVP. Contra Costa, Eastside Division, and Friant Class 1 and Class 2 represent individual or groups of water contractors.

State Water Project Allocations

The other major water project serving California, the SWP, is operated by the state of California's Department of Water Resources (DWR). As stated previously, the SWP primarily provides water to M&I users and some agricultural users. For 2016, SWP water deliveries were expected to be significantly higher than they were in 2015. In April 2016, DWR estimated that in 2016, the SWP would be able to meet 60% of requested deliveries, or 2.5 million acre-feet.[13] The 2015 allocation was 20% of deliveries. Recent SWP deliveries are shown below in **Table 2**.

Table 2. California State Water Project Allocations

(percentage of maximum contract allocation)

	2012	2013	2014	2015	2016 (est.)
State Water Project	65%	35%	5%	20%	60%

Source: California Department of Water Resources, "State Water Project Allocation Increased," April 21, 2016, at http://www.water.ca.gov/news/newsreleases/2016/042116.pdf.

[13] See California Department of Water Resources, "State Water Project Allocation Increased," April 21, 2016, at http://www.water.ca.gov/swpao/docs/notices/16-06.pdf.

What Is at Stake?

Widespread drought conditions—coupled with previous low water supplies in the state's major reservoirs and regulatory restrictions on CVP and SWP operations—have affected sectors and areas throughout California. Many cities and counties have instituted water rationing, some animal and plant species populations have declined, and wildfires are prevalent.

Although agriculture constitutes a much smaller percentage of California's economy than it did historically, California agriculture is still the nation's largest producer in terms of cash farm receipts—accounting for 12% of the U.S. total in 2014, the last year for which national data are available. According to the U.S. Department of Agriculture/National Agricultural Statistics Service Crop Year Report, California farm and ranch receipts totaled $56 billion in 2014, an increase of $2 billion over 2013.[14] Those agricultural users with access to groundwater or other supplies have seen receipts grow despite the drought, but others have had to fallow land or uproot trees and shrubs. Some livestock producers have had to purchase supplemental hay and grain. Fruit and nut orchards continue to rely on irrigation to keep trees alive. Hundreds of thousands of acres have been fallowed because sufficient water was not available.[15]

The availability of other water supplies (e.g., groundwater or transferred surface water) has helped some agricultural users adjust to dry conditions. However, with much of the state categorized as a drought disaster area, the continued reliance on alternative supplies remains uncertain. Some areas already are experiencing low groundwater levels and land subsidence due to increased groundwater pumping. Groundwater provides about 45% of California's water supply in an average year; however, under drought conditions, such as in 2015, groundwater may supply as much as 65% of the state's water needs. Further, groundwater supplies may be limited or become too expensive to pump as groundwater levels decline in parts of the state. California has enacted a statewide law that will increase groundwater planning and monitoring, but implementation will take many years.[16]

Drought also affects resource sectors other than agriculture. Certain water flows are critical for hydropower, recreation, and fish and wildlife. For example, cool temperatures are needed in waterways and lakes to maintain aquatic ecosystems and species viability. Some salmon runs experienced a 95% loss of eggs laid in 2015 due to warm water temperatures, and surveys of Delta smelt found fewer than five fish that year.[17] In addition, recreational reservoirs, river-rafting opportunities, and recreational and commercial fisheries are all potentially at risk during a drought. California wetlands, which might adversely be affected by drought, also provide Pacific Flyway habitat, which is critical to migrating birds.

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[14] See U.S. Department of Agriculture, Economic Research Service, "State Fact Sheets," at http://www.ers.usda.gov/data-products/state-fact-sheets.aspx.

[15] One study has reported that the 2015 drought resulted in an estimated 550,000 acres fallowed. See Richard Howitt et al., *Economic Analysis of the 2015 Drought for California Agriculture*, UC Davis Center for Watershed Sciences, August 17, 2015.

[16] California's groundwater law establishes a framework that requires local agencies to manage groundwater in a sustainable manner. The law sets out a schedule that began with the California Department of Water Resources adopting regulations for evaluating groundwater sustainability plans on June 1, 2016. It also requires formation of regional groundwater sustainability agencies, identifies high- and medium-priority basins in critical groundwater overdraft status, and implements the plans.

[17] Drought is one of several factors that could affect fish populations. Other factors include low prey abundance, toxicity, and non-native fish populations.

Regulatory Factors

Complicating the hydrologic situation and water supply allocations is a complex web of state and federal regulatory requirements on CVP and SWP operations. These requirements affect how much water is delivered from the projects. They address releases of water from reservoirs and limits on pumping from the Bay-Delta to protect habitat, threatened and endangered species (e.g., salmon and Delta smelt), and water quality.

In some years, pumping restrictions to protect state-set water quality levels, particularly increases in salinity levels, are greater than restrictions to protect endangered species.[18] In contrast, in wet years, pumping restrictions due to regulations under the federal Endangered Species Act (ESA; 16 U.S.C. §§1531 et seq.) may have a higher impact on exports than water quality restrictions, and they may have proportionally higher impacts in certain months. There is disagreement over how much water might be available absent state and federal restrictions. Reclamation estimated that ESA restrictions accounted for a reduction of 62,000 acre-feet from the long-term average for CVP deliveries in 2014, while water quality restrictions accounted for another 176,300 acre-feet of this reduction. For 2015, Reclamation estimated that ESA accounted for approximately 144,800 acre-feet of CVP delivery reductions from the long-term average, but did not have a comparable estimate for water quality restrictions.[19] For its part, DWR estimated that ESA restrictions resulted in a reduction of 47,000 acre-feet to SWP deliveries in water year 2014, and a reduction of 92,000 acre-feet in water year 2015. Comparable figures were not available for water quality restrictions.[20]

Ongoing cutbacks to CVP contractor allocations in 2016 despite recent increases in precipitation and water supplies have led some to criticize Reclamation's operation of the CVP and highlight the extent to which factors other than the drought (e.g., endangered species and water quality requirements) may be responsible for the curtailments. To address these concerns and provide more water to agricultural and municipal contractors, some have proposed, among other approaches, that Congress change Reclamation's authorities to operate the CVP, including its implementation of regulatory requirements under ESA that may restrict pumping operations. Others, however, are opposed to modifying the implementation of ESA regulations and propose water conservation, water recycling, and increased storage, among other strategies, to provide more water for users.

Congressional Interest

Congress plays a role in CVP water management and has addressed the drought by facilitating water banking, water transfers, and new storage. In recent years, Congress has enacted drought-related provisions with the potential to benefit the CVP, including extending authorization for the Reclamation States Emergency Drought Relief Act (P.L. 102-250), authority to incorporate water storage into dam safety projects (P.L. 114-113), and additional funding to Reclamation for western drought response in FY2015 ($50 million) and FY2016 ($100 million) Energy and Water

[18] Through the Porter-Cologne Act (a state law), California implements federal Clean Water Act requirements and authorizes the State Water Resources Control Board (SWRCB) to adopt water quality control plans, or basin plans (see Cal. Water Code §13160). The SWRCB oversees the allocation of water resources to various entities, has regulatory authority to protect water quality, and addresses flow requirements for fish.

[19] Personal communication with the Bureau of Reclamation, February 25, 2016.

[20] Personal communication with the California Department of Water Resources, March 30, 2016.

Development appropriations bills. However, no comprehensive legislation or provisions specific to CVP operations have been enacted.

Legislation

Comprehensive drought legislation that addresses CVP operations, among other drought-related issues, is under consideration in the 114th Congress. Selected bills receiving significant congressional and media attention include H.R. 2898, which was passed by the House on July 17, 2015. In the Senate, S. 2533, introduced by Senator Feinstein on February 10, 2016, has received attention as a potential alternative to H.R. 2898.[21] Other bills have incorporated parts or all of these bills, and in some cases have proposed amended text.

With respect to the CVP and SWP management under the existing Biological Opinions (BiOps), both H.R. 2898 and S. 2533 would direct agency officials to maximize water supplies, consistent with applicable laws and regulations; H.R. 2898 differs from S. 2533 in that it would alter the implementation of portions of BiOps for Delta smelt and salmon. For example, H.R. 2898 includes a new definition or standard for determining the status of ESA-listed species and would require higher levels of pumping than currently allowed, unless managers showed that the increased levels would harm the long-term health of the listed species. H.R. 2898 also would direct agency officials to pump at the highest levels allowable under existing BiOps for longer periods. Supporters of H.R. 2898 contend that such changes would improve the flexibility and responsiveness of the management and operations of the CVP and SWP and could potentially make available additional water to users facing curtailed deliveries.[22] Opponents contend these provisions could have detrimental effects on species in the short and long term, and may actually limit agency flexibility to manage water supplies to benefit species.[23] S. 2533 also directs agency officials to increase pumping at certain times by pumping at the highest range allowable under existing BiOps, but it does not include a new standard for determining the effects of such pumping on species. In addition, S. 2533 is explicit in refraining from altering existing environmental laws.

H.R. 2898's provisions were included in their entirety under Division C, Title I of the House version of S. 2012, the Energy Policy Modernization Act of 2016 (passed by the House on May 25, 2016). Several other active bills containing CVP-related provisions that are identical to or draw from the two prominent bills that address the CVP (i.e., H.R. 2898 and S. 2533) have also been introduced and acted upon. For example, the House Appropriations Committee's FY2017 recommendations for the Energy and Water Development and Interior, Environment, and Related Agencies appropriations bill (§§204-208 of H.R. 5055 and §§447-452 of H.R. 5538, respectively) contained provisions similar to some of the CVP operations provisions in H.R. 2898. Finally, provisions drawing from both S. 2533 and H.R. 2898, including provisions that have been

[21] The bill shares a number of provisions in common with a 2015 bill (S. 1894) that was not reported out of committee. A companion bill to S. 2533 (H.R. 5247) was introduced on May 15, 2016. For more information on these bills, see CRS Report R44316, *Western Water and Drought: Legislative Analysis of H.R. 2898 and S. 1894*, coordinated by (name redacted) .

[22] U.S. Congress, Senate Committee on Energy and Natural Resources, *Statement of Dan Keppen, Executive Director, Family Farm Alliance*, 114th Cong., 1st sess., October 8, 2015, p. 4, at http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?Id=65220e15-0479-492e-8423-ca1a381c1078&Statement_id=378db42f-6b60-44a7-a16c-3d2b7d712984.

[23] U.S. Congress, Senate Committee on Energy and Natural Resources, *Statement of Michael L. Connor, Deputy Secretary, U.S. Department of the Interior*, 114th Cong., 1st sess., October 8, 2015, p. 1, at http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=fb299e7d-7de8-41c8-b8a2-365d544c8911.

amended compared to prior drought bills, were introduced in S. 612 (the Water Infrastructure Improvements for the Nation Act, or WIIN Act), which was introduced in the House on December 5, 2016, and passed the House on December 8, 2016. A timeline of major actions on selected CVP-related drought legislation in the 114th Congress is provided below in **Table 3**.

Table 3. CVP-Related Legislation in the 114th Congress

(active bills in 2015-2016)

Date	Action
June 25, 2015	H.R. 2898 introduced in the House
July 13, 2015	H.R. 2898 reported by the House Committee on Natural Resources
July 16, 2015	H.R. 2898 passed by the House
July 29, 2015	S. 1894 introduced in the Senate
Sept 9, 2015	S. 2012 introduced in the Senate (no drought provisions included)
Oct 8, 2015	Senate Energy and Natural Resources Committee hearing held on S. 1894 and H.R. 2898
Feb 10, 2016	S. 2533 introduced in the Senate
April 20, 2016	S. 2012 passed by the Senate (no drought provisions included)
April 26, 2016	H.R. 5055 reported by the House Appropriations Committee (includes CVP-related drought provisions in sections 204-208)
May 15, 2016	H.R. 5247 (companion bill to S. 2533) introduced in the House
May 17, 2016	Senate Energy and Natural Resources Committee hearing held on S. 2533
May 25, 2016	S. 2012 passed by the House (includes drought provisions identical to H.R. 2898 under Division C, Subtitle I)
May 26, 2016	H.R. 5055 failed to pass the House
June 21, 2016	H.R. 5538 reported by the House Appropriations Committee
July 14, 2016	H.R. 5538 passed by the House (includes CVP-related drought provisions in sections 447-452)
Dec 5, 2016	S. 612, Water Infrastructure Improvements for the Nation (WIIN) announced in House Rules Committee Print (includes drought provisions in Title III, Subtitle J)
Dec 8, 2016	S. 612 passed by the House

Source: Congressional Research Service.

Hearings

Congress has also held hearings on drought in California, including hearings by the Water, Power, and Oceans Subcommittee of the House Natural Resources Committee on February 24 and July 12, 2016. The Senate held an oversight hearing on western drought conditions on June 2, 2015. Some of the aforementioned drought legislation has also been discussed in congressional hearings. H.R. 2898 and S. 1894, among other bills, were the subject of an October 8, 2015, legislative hearing of the Senate Energy and Natural Resources Subcommittee on Water and Power, and in May 2016, S. 2533 received a hearing before the same committee.

Related CRS Products

Multiple CRS products provide additional background information on drought in California and CVP-related drought proposals:

- CRS Report R40979, *California Drought: Hydrological and Regulatory Water Supply Issues*, by (name redacted), (name redacted), and (name redacted)
- CRS In Focus IF10133, *California Drought: Water Supply and Conveyance Issues*, by (name redacted)
- CRS In Focus IF10536, *Water Infrastructure Improvements for the Nation Act (WIIN)*, by (name redacted) et al.
- CRS Report R44291, *Energy Legislation: Comparison of Selected Provisions in S. 2012 as Passed by the House and Senate*, by (name redacted)
- CRS Report R44180, *Drought Legislation: Comparison of Selected Provisions in H.R. 2898 and S. 1894*, by (name redacted) et al.
- CRS Report R44316, *Western Water and Drought: Legislative Analysis of H.R. 2898 and S. 1894*, coordinated by (name redacted)
- CRS Report R44465, *Energy and Water Development: FY2017 Appropriations*, by (name redacted)

Author Contact Information

(name redacted)
Specialist in Natural Resources Policy
[redacted]@crs.loc.gov, 7-....

(name redacted)
Acting Deputy Assistant Director/RSI
[redacted]@crs.loc.gov, 7-....

(name redacted)
Specialist in Natural Resources Policy
[redacted]@crs.loc.gov, 7-....