

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

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In the Matter of Water Quality Certification for the  
**CALIFORNIA DEPARTMENT OF WATER RESOURCES  
2015 EMERGENCY DROUGHT BARRIER PROJECT**

SOURCE: Sacramento - San Joaquin Delta

COUNTY: Contra Costa

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**WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE**

BY THE EXECUTIVE DIRECTOR:

**I. Introduction**

The California Department of Water Resources (DWR) is proposing the 2015 Emergency Drought Barrier Project (Project). The Project consists of installation of a single temporary emergency drought rock barrier at West False River in the Sacramento-San Joaquin Delta (Delta) to control saltwater intrusion into the Delta and conserve water in upstream reservoirs for other uses. Pursuant to Clean Water Act section 401, the State Water Resources Control Board (State Water Board) has authority to consider whether a proposed activity involving a discharge to surface water meets state water quality objectives and other requirements and to issue a certification if those requirements will be met. The State Water Board concludes that, as conditioned herein, certification may be issued.

According to DWR, during 2014, as a result of persistent drought conditions, water quality conditions in the Delta were difficult to control and put municipal, industrial, and agricultural water supplies at risk. (Application, Project Description as revised April 29, 2015 (hereinafter Revised Project Description), p. 1.) Installation of the temporary rock barrier at West False River would limit salinity intrusion into parts of the Delta along the lower San Joaquin River and would potentially conserve water for a variety of uses system-wide.

On January 17, 2014, California Governor Edmund G. Brown Jr. proclaimed a State of Emergency due to severe drought conditions and directed DWR, among other things, to take necessary actions to protect water quality and water supply in the Delta, including installation of temporary barriers as needed, and to coordinate with the California Department of Fish and Wildlife (DFW) to minimize impacts to affected aquatic species. Since then, Governor Brown has issued subsequent executive orders and proclamations extending the directives in the January 17, 2014 proclamation and adding new measures. Most recently, on April 1, 2015, Governor Brown acknowledged the continuing magnitude of the drought and issued Executive Order B-29-15, which requires the orders and provisions of the prior proclamations and executive orders to remain in full force and effect unless otherwise modified. Executive Order B-29-15 directs DWR to plan and, if necessary, implement Emergency Drought Salinity Barriers at locations within the Delta in coordination and consultation with the State Water Board and DFW. Per directive 20 of Executive Order B-29-15:

These barriers will be designed to conserve water for use later in the year to meet state and federal Endangered Species Act requirements, preserve to the extent possible water quality in the Delta, and retain water supply for essential human health and safety uses in 2015 and the future.

Additionally, directive 21 of Executive Order B-29-15 directs the State Water Board and DFW to “immediately consider any necessary regulatory approvals for the purpose of installation of the Emergency Drought Salinity Barriers.”

Provisions of Executive Order B-29-15 are discussed in more detail below.

## **II. Project Description**

The Project will be located on West False River approximately 0.4 mile east of the confluence with the San Joaquin River, between Jersey and Bradford Islands in Contra Costa County, and is about 4.75 miles northeast of Oakley (Figure 1).

Generally, the Project consists of a rock barrier that extends across West False River with sheet piles at the river’s edge to “anchor” the barrier to the levee. The West False River barrier would be approximately 800 feet long and up to 200 feet wide at its base, and 12 feet wide at the top. The toe fill would extend approximately 100 feet upstream and downstream of the barrier centerline. The top of the barrier would be at an elevation of seven feet across the entire crest.<sup>1</sup> The barrier would include two king pile-supported sheet pile walls buttressed with rock that would extend out from each levee into the channel for a distance of 75 feet. The king pile-supported sheet piles are necessary because the levees are weak at this location due to the peat soil foundation in the area. DWR would place additional rock fill up to 100 feet beyond the upstream and downstream extents of the sheet pile wall that runs down the levee center-line to address existing erosion of the waterside levee toe.

In addition to sheet piles installed in West False River, approximately 300 feet of sheet piles would be installed in the banks of each levee, parallel to the river channel to a depth of approximately 35 feet to prevent water piping from West False River through the levees. These piping preventer sheet piles would be set into the top of the levees on each side of the barrier. DWR proposes to leave the sheet piles in the river and in the levee banks installed for future use.

Specific elements of the Project are discussed in more detail below: Project purpose and effects; barrier construction; barrier removal; barrier operation; and site restoration.

### *Project Purpose and Effects*

The primary purpose of the Project is to “control saltwater intrusion into the Delta with reduced reservoir releases while continuing to meet federal and state regulatory requirements,” along the lower San Joaquin River, thereby conserving water in storage for other uses. (Application, Revised Project Description, at p. 2.) DWR defines the overall project purpose as:

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<sup>1</sup> The seven-foot elevation is described by DWR as the typical spring high tide water elevation at the proposed barrier location.

Constructing the emergency temporary rock barrier provides a method of controlling saltwater intrusion into the Delta, as well as potentially conserving cold water reservoir storage to protect habitat for sensitive aquatic species. In addition, the [Project] purpose would maintain water quality standards set by the [State Water Board] to help ensure water is drinkable by 25 million Californians and usable by farms that are reliant upon this source.

The State Water Board anticipates that installation of the Project during these drought conditions would limit salinity intrusion into parts of the Delta along the lower San Joaquin River and conserve water for a variety of uses system-wide. Due to the drought conditions, a scenario without the barrier would likely require additional water releases to control salinity and the additional water would not be available later in the year for other beneficial uses. Figures 2 through 4 show salinity control and flow benefits at key locations within the Delta. Additionally, Figures 6 through 10 show modeling results for localized salinity levels upstream and downstream of the proposed barrier location (Figure 5). The results show that salinity downstream of the barrier does not change significantly with or without the barrier in place (see Figures 6, 7, and 9). However, lower salinity levels are observed upstream of the barrier along West False River with the barrier in place (see Figures 8 and 10).

Tidal flows would be the main factor influencing water quality conditions at the West False River barrier. Solar-powered monitoring instruments would be placed at appropriate locations upstream and downstream of the Project to monitor parameters including, but not limited to dissolved oxygen, turbidity, salinity as measured by electrical conductivity (EC), river stage, and flow velocity.

Vessel traffic would be blocked at the Project site, but alternative routes are available via the Stockton Deep Water Ship Channel in the San Joaquin River between Antioch and eastern Delta locations, or via Fisherman's Cut or East False River to South Delta destinations. No boat passage would be provided around the barrier because alternative routes are available. Appropriate navigation signage would be installed at the Project site. The signage would comply with navigation requirements established by the U.S. Aids to Navigation System and the California Waterway Marker system, as appropriate. Signs would be posted at upstream and downstream entrances to each waterway or other key locations, informing boaters of the restricted access. A Notice to Mariners would include information on the location, date, and duration of channel closure. Signs would be posted on each side of each barrier, float lines with orange ball floats would be located across the width of the channels to deter boaters from approaching the barrier, and solar-powered warning buoys with flashing lights would be present on the barrier crest to prevent accidents during nighttime hours.

During barrier construction and operation, fish movement can occur through the adjacent San Joaquin River and through other channels, including Fisherman's Cut, East False River, and Dutch Slough. No fish passage would be provided at the West False River barrier because alternate fish passage routes are available for migrating fish, including the San Joaquin River and other channels.

### Barrier Construction

Per the Revised Project Description provided by DWR, landside work would begin no sooner than May 1 and in-water construction of the barrier would begin no sooner than May 4, with full barrier closure approximately 30 to 60 days later. Construction would occur during regular

daytime hours and require approximately 10 to 30 workers. If in-water construction work must commence prior to May 4, DWR would be required to request and receive approval from the Deputy Director for Water Rights (Deputy Director) prior to commencing construction activities. The Deputy Director may require modifications and add conditions as part of the approval.

Approximately 95,000 cubic yards of rock would be required to construct the West False River barrier (including approximately 25,200 cubic yards of rock that would remain around the sheet piles and on the adjacent levee). Clean, unwashed rock would be used. The rock source would likely be one or more existing quarries near San Rafael. All rock, gravel, and structures would be transported to and constructed at the Project site in spring or summer of 2015. The construction methodology described in this section is general. Additional details are provided in DWR's certification application and supplements thereto.

DWR would use multiple barges to transport excavators and work boats to the Project site. An excavator or other small earthwork equipment would be needed on each side of the levee to aid with the installation of the sheet pile walls. The contractors would install construction trailers on the levee nearby.

The sheet piles and king pile-supported sheet piles are anticipated to be installed by an appropriately-sized vibratory hammer. Use of a vibratory hammer appears feasible given the anticipated ground conditions and modest pile penetration of 20 feet to 50 feet into the ground. Due to uncertainties of the ground conditions and the possibility of encountering dense soil layers and/or obstructions such as left-in-place rip-rap on the existing levee side slopes, a larger impact hammer would be available as a contingency measure, in the event unexpected difficult driving is encountered. The impact hammer would only be used if the vibratory hammer cannot reach design tip elevation of the pilings. In the absence of detailed geotechnical information, it is not known whether an impact hammer would be required, and the exact location and timing of its use. If piles are driven by impact hammers in water deeper than 3.3 feet, a bubble curtain would be employed if underwater noise exceeds pre-established levels (i.e., 218 decibels cumulative sound exposure level at approximately 33 feet, for each day of pile driving) that would indicate potential injury to fish.

Throughout barrier construction DWR would monitor upstream and downstream water quality for parameters, including turbidity, identified in the Water Quality Monitoring Plan – Emergency Drought Barrier.

Any levee access roads that are damaged as a result of construction equipment or truck use would be restored to pre-construction conditions or better after construction is completed.

A complete discussion of the proposed construction practices can be found in Section 2.5 of DWR's 2015 Emergency Drought Barrier Project, Revised Project Description.

### Barrier Removal

Barrier removal would require approximately 45 to 60 days, with removal commencing on or near October 1. The barrier would be completely removed no later than November 15, before the rainy season when freshwater runoff typically occurs and flood risk increases. If barrier removal work must extend past November 15, 2015, DWR would be required to request and receive approval from the Deputy Director. The Deputy Director may require conditions as part

of the approval. The barrier removal methodology described in this section is general. Additional details are provided in DWR's certification application and supplements thereto.

All rock, gravel, and structures would be removed from the Project site in fall, with the exception of the sheet piles and surrounding rock used to buttress the piles. Although removal activities would primarily be situated in water, the contractors would also work from the levees. DWR would use multiple barges to transport excavators and work boats to the Project site. In-water work would occur on one side of the barrier—either upstream or downstream of the barrier—in the direction of where the contractors would ship the rock.

Rock would be excavated using cranes with clam-shell buckets, and/or excavators from one barge and placed onto another barge where it would be transported to an approved off-loading site. Given the volume of rock, DWR anticipates that excavation would occur continuously. To prevent levee scour, rock removal will start from the center of the channel and work outward. Excavation would occur from the top of the barrier down to the streambed to approximate pre-Project contours. DWR would restore the levee geometry to ensure compliance with any local maintaining agency, Central Valley Flood Protection Board, or United States Army Corps of Engineers (ACOE) requirements.

Removed rock would be shipped on a barge from the Project site to an off-loading site which would serve as a temporary transfer station. Contractors would use excavators and loaders to off-load the rock from the barge onto dump trucks. The contractors would haul the rock to DWR's Rio Vista stockpile location.

DWR would monitor downstream water quality for parameters, including turbidity, identified in the Water Quality Monitoring Plan – Emergency Drought Barrier, during the excavation process. Bathymetric surveys would be conducted after barrier removal to ensure all the temporary rock has been removed.

After barrier removal, rock would be used to make smooth transitions around the sheet pile abutments which would remain in place for possible future use. DWR would assure that the sheet pile structures and rock are maintained and either contract with the Local Maintaining Agency (LMA) or use DWR resources or contractors to repair and or replace the transition rock as needed.

### Barrier Operations

There are no proposed operational activities associated with the actual barrier. (Application, Revised Project Description, at p. 15.) Operation of the drought barrier as part of overall Central Valley Project (CVP) and State Water Project (SWP) operations would occur through existing rules and regulations under relevant federal and state regulatory agencies. At this time, CVP and SWP operations are governed, in part, by the State Water Board's April 6, 2015, Order (April TUCP Order) regarding the temporary urgency change petition (TUCP) filed by DWR and the Bureau of Reclamation (Reclamation).<sup>2</sup> In their TUCP, DWR and Reclamation requested changes to conditions of their water rights for the CVP and SWP specified in State Water Board Decision 1641 (revised March 15, 2000) (D-1641). Operations under the April TUCP Order are discussed in more detail below.

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<sup>2</sup> The April TUCP Order can be found online at [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/docs/tucp/2015/tucp\\_order040615.pdf](http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/tucp/2015/tucp_order040615.pdf)

Given the temporary nature of the Project, required maintenance for the majority of the Project (i.e., excluding sheet piles that will remain in place) would be minimal or nonexistent. DWR would inform the ACOE and permitting fish agencies if any major maintenance activities are required during the period of operation.

### Site Restoration

Disturbed areas would be restored after initial construction and after the barrier is removed. The affected areas would be restored to approximate pre-Project conditions.

A restoration plan would be developed and submitted to the permitting agencies for review and approval before the start of construction. The restoration plan would identify areas that would be restored and restoration methods. Seed mixes, schedules, success criteria, and success monitoring for restoration, as needed, of any adversely affected wetlands and riparian habitats would be identified. The restoration plan would be included in the contract specifications. Restoration activities would be implemented following construction, as needed.

## **III. Regulatory Background**

### Water Quality Certification

The Federal Water Pollution Control Act, as amended in 1972, is commonly known as the Clean Water Act (33 U.S.C. §§ 1251-1387). The Clean Water Act was enacted “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” (33 U.S.C. § 1251(a).) Section 101(g) of the Clean Water Act (33 U.S.C. § 1251(g)) requires federal agencies to “co-operate with the State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.”

Section 401(a)(1) of the Clean Water Act (33 U.S.C. § 1341(a)(1)) requires any applicant for a federal license or permit to conduct an activity that may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards promulgated by the states pursuant to section 303 of the Clean Water Act<sup>3</sup> (33 U.S.C. § 1313) or any other appropriate requirement of state law. (*Id.* § 401(a)(1), (d), 33 U.S.C. § 1341(a)(1), (d).) The state may set conditions implementing the Clean Water Act requirements or any other appropriate state law requirements. The state’s certification conditions shall become conditions of any federal license or permit for the project. (*Id.*, § 401(d), 33 U.S.C. § 1341(d).) No license or permit can be granted until certification has been issued or has been waived. (*Id.*, § 401(a)(1); 33 U.S.C. § 1341(a)(1).)

The State Water Board is designated as the state water pollution control agency for all purposes stated in the Clean Water Act and any other federal act, and is the certifying agency in California. (Wat. Code, § 13160.) The State Water Board’s Executive Director has been delegated the authority to issue a decision on a water quality certification application. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

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<sup>3</sup> Section 303 of the Clean Water Act (33 U.S.C. § 1313) provides for the adoption of water quality standards by the states. Under the terminology of the Clean Water Act, water quality standards include designated uses and water quality criteria based on those uses. (Clean Water Act, § 303(c)(2)(a), 33 U.S.C. § 1313(c)(2)(a).)

### Water Quality Control Plans

The California Regional Water Quality Control Boards (Regional Water Boards) have primary responsibility for the formulation and adoption of water quality control plans for their respective regions, subject to State Water Board and United States Environmental Protection Agency (USEPA) approval, as appropriate. (Wat. Code, § 13240 et seq.) The State Water Board may also adopt water quality control plans, which will supersede regional water quality control plans for the same waters to the extent of any conflict. (*Id.*, § 13170.) For a specified area, the water quality control plans designate the beneficial uses of waters to be protected, water quality objectives established for the reasonable protection of those beneficial uses or the prevention of nuisance, and a program of implementation to achieve the water quality objectives. (*Id.*, §§ 13241, 13050, subd. (h), (j).) The beneficial uses together with the water quality objectives that are contained in the water quality control plans, and state and federal anti-degradation requirements constitute California's water quality standards.

Water Code section 13247 requires state agencies, in carrying out activities that may affect water quality, to comply with water quality control plans in most instances. Governor Brown's Executive Order B-29-15 suspends Water Code section 13247 as it applies to the Project.

### Water Quality Control Plans Applicable to the Delta

Two water quality control plans cover the Delta area: (1) the Central Valley Regional Water Board's *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin for the Central Valley Region* (Central Valley Basin Plan); and (2) the State Water Board's *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan).

The Central Valley Basin Plan identifies beneficial uses for the Sacramento and San Joaquin river basins, including the Delta. The beneficial uses include: agriculture irrigation and stock watering; water contact and non-contact recreation; warm and cold freshwater habitat; warm and cold migration of aquatic organisms; warm spawning habitat; wildlife habitat; and navigation. The Central Valley Basin Plan identifies water quality objectives to protect these beneficial uses, including but not limited to: chemical constituents; color; dissolved oxygen; oil and grease; pH; salinity; sediment; settleable material; suspended material; temperature; toxicity; and turbidity.

The State Water Board has adopted the Bay-Delta Plan to protect water quality in the Bay-Delta Estuary. The Bay-Delta Plan specifies water quality objectives for the protection of beneficial uses of water in the Bay-Delta, including: fish and wildlife; agricultural; and municipal and industrial uses. The Bay-Delta Plan is complementary to the Central Valley Basin Plan, providing reasonable protection for the beneficial uses that require control of salinity and water project operations (flows and diversions). The Bay-Delta Plan supersedes the Central Valley Basin Plan to the extent there is any conflict.

In State Water Board revised Decision D-1641 (D-1641), the State Water Board amended the water right license and permits of DWR and Reclamation for the SWP and CVP to require them to meet certain water quality objectives in the Bay-Delta Plan designed to protect fish and wildlife and agricultural use in the Bay-Delta. Specifically, D-1641 places responsibility on DWR and Reclamation for measures to ensure that specified water quality objectives included in Tables 1, 2, and 3 of D-1641 are met, in addition to other requirements.

### Temporary Urgency Change Petition

On January 23, 2015, DWR and Reclamation filed the TUCP requesting changes to the conditions of their water rights for the SWP and CVP imposed in D-1641 to meet certain water quality objectives in the Bay-Delta Plan. The State Water Board has addressed their request in several orders, and most recently in its April TUCP Order. In general, DWR and Reclamation have requested temporary changes to requirements imposed pursuant to D-1641 for April, May, June, July, August, and September of this year. The agencies sought the temporary changes in the context of the CVP and SWP Drought Contingency Plan and Interagency Drought Strategy, which include several overarching goals and objectives, including controlling salt water intrusion in the Delta. On April 6, 2015, the State Water Board approved DWR's TUCP through June 30, 2015.

## **IV. Discussion**

### Drought Conditions

California is entering its fourth consecutive year of below-average rainfall and very low snowpack. Water Year 2015 is also the eighth out of last nine years with below average runoff, which has resulted in chronic and significant shortages to municipal and industrial, agricultural, and refuge supplies and historically low groundwater levels.

The lack of precipitation the last several years has contributed to low reservoir storage levels in the Sacramento River and San Joaquin River watersheds. The San Joaquin River Watershed in particular has experienced severely dry conditions for the past four years. Lack of inflow throughout the remainder of the year due to reduced snow pack is another concern in the Sacramento River and San Joaquin River watersheds.

As mentioned in the Introduction section of this certification, directive 20 of Executive Order B-29-15 directs DWR to plan and, if necessary, implement drought barriers within the Delta to conserve water for use later in the year, preserve to the extent possible water quality in the Delta, and retain water supply for essential human health and safety uses.

### Receipt and Notice of Water Quality Certification Application

On Friday, April 17, 2015, the State Water Board received DWR's request for water quality certification for the Project, which is associated with its request to the ACOE for a Clean Water Act Section 404 permit.<sup>4</sup> The State Water Board provided public notice of the certification application by posting information describing the Project on the State Water Board's website on Monday, April 20, 2015, and that same day, by sending notification of receipt of the application to a list of persons interested in State Water Board actions on water quality certifications.<sup>5</sup> On

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<sup>4</sup> On February 4, 2015, DWR submitted an application for water quality certification to the State Water Board to install three rock barriers up to three times during a 10-year period. DWR withdrew this application on April 17, 2015.

<sup>5</sup> Public notice is generally required at least 21 days before taking action on the certification, or if an emergency requires that certification be issued in less than that time period, that notice be provided as much in advance of certification as possible (and no later than issuance of the certification). The State Water Board received DWR's application on April 17, 2015 and provided public notice of the application on the following business day, April 20, 2015. As discussed herein, Governor Brown has declared a state of emergency due to the continued severe drought conditions and has identified the Project as an expedited action to address the drought conditions.

April 29, 2015, the State Water Board provided notice of receipt of a complete certification application for the Project to DWR, USEPA, DFW, ACOE, and the Central Valley Regional Water Board.

In addition to providing notice, the State Water Board forwarded the portions of the Project application that have the potential to cause adverse water quality impacts, other than specific impacts resulting from alterations to instream flows, to the Central Valley Regional Water Board on April 21, 2015. On April 29, 2015, the State Water Board received a revised project description, which it has posted on its website. The State Water Board has complied with procedural requirements applicable to requests for water quality certification. (See, e.g., Cal. Code of Regs., tit. 23, § 3835, 3858, subd. (a) [generally describing filing and notice requirements].)

The State Water Board received one comment letter regarding the Project. On April 29, 2015, the Save the California Delta Alliance submitted a comment letter requesting that the following conditions be included in any approval of the Project: 1) that the barrier be removed entirely by November 15; 2) that a definite date be prescribed to start implementing the water quality monitoring plan prior to completion of barrier construction; 3) that combined CVP and SWP exports be limited to no more than 1,500 cubic feet per second (cfs) while the barrier is in place; and 4) that future barrier projects for 2016 and later undergo a full California Environmental Quality Act (CEQA) review prior to any application. The first two proposed conditions are addressed by Conditions 6 and 27 of this certification. This certification does not contain the requested limit on combined exports. Because there are no operational activities directly associated with the barrier, CVP and SWP operations are more appropriately evaluated through water right and other processes, including the TUCP process. This certification also does not include requirements for CEQA compliance for future barrier projects. Compliance with CEQA must be evaluated at the time the lead agency considers any future projects. As with any discretionary approval, the State Water Board will comply with CEQA as appropriate.

#### Construction and Removal Activities

The construction activities associated with this Project have the potential to increase turbidity and the discharge of foreign matter (e.g., concrete, oil, and diesel) into the Delta, both during and after construction. This certification imposes additional permitting requirements, best management practices (BMP), timing requirements, and reclamation requirements to minimize impacts associated with the installation, operation, and removal of the Project. As conditioned, the Project will meet applicable state water quality requirements.

As part of the proposed Project, DWR has identified and will implement environmental commitments that will minimize potential environmental impacts associated with the Project. The following environmental commitments, relevant to water quality and beneficial uses of the Delta, are incorporated as conditions of this certification:

- Prepare and Implement an Erosion Control Plan
- Prepare and Implement a Spill Prevention and Control Program
- Prepare and Implement a Hazardous Materials Management Program
- Conduct a Worker Environmental Awareness Program

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Accordingly, in light of the drought emergency, the State Water Board has provided as much advance notice as possible of the proposed action. (Cal. Code Regs., tit. 23, § 3858, subd. (a).)

- Conduct Biological Monitoring
- Conduct Real-Time Monitoring and Adjust Construction Activities Accordingly
- Phase Barrier Construction, Operation, and Removal in Collaboration with Permitting Fish Agencies and In Consideration of Real-Time Monitoring Data
- Implement Adaptive Management Program
- Conduct Pile Driving With a Vibratory Driver To The Extent Possible; Minimize Effects of Impact Driving
- Install In-Water Navigational Buoys, Lights, and Signage
- Implement Turbidity Monitoring during Construction
- Develop and Implement a Water Quality Monitoring Plan
- Return Disturbed Areas to Pre-Project Conditions And Conserve Habitat
- Implement Protocols for Valley Elderberry Longhorn Beetle, Giant Garter Snake, Swainson's Hawk, Burrowing Owls, Other Nesting Raptors, Migratory Birds, and Special-Status Plants
- Work with Bradford and Jersey Islands Landowners to Minimize and Mitigate Potential Degradation of Local Water Quality
- Conduct Scour Monitoring
- Maintain Sheet Piles and Rock Fill
- Remove Invasive Species

*Barrier Operations/Conditions While the Barrier is in Place*

According to DWR, there are no operational activities associated with the Project. The hydrologic assumptions and hydrodynamic modeling used to evaluate the Project are based on the operations specified in the April TUCP Order, which approved temporary operations until June 30, 2015.<sup>6</sup> The following is a summary of the changes approved by the April TUCP Order:

- Reduction of the minimum Delta outflow requirement to 4,000 cfs during April, May, and June;
- Reduction of the San Joaquin River at Vernalis pulse flow requirement to 710 cfs at Vernalis in addition to compliance with the pulse flow requirement contained in the National Marine Fisheries Service Biological Opinion<sup>7</sup>;
- Reduction of the San Joaquin River flow requirement following the pulse flow to 300 cfs through May 31 and 200 cfs in June;
- Allowance of the Delta Cross Channel (DCC) Gates to be opened from April 1 to May 20 in compliance with the DCC Gate Triggers Matrix as described in Appendix G of the April 2014 Drought Operations Plan and Operational Forecast, and in coordination with the State Water Board and fisheries agencies;
- Modification of the Western Delta EC compliance point at Emmaton to Three-Mile Slough; and

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<sup>6</sup> In their TUCP, DWR and Reclamation requested changes to operations through September 2015, but the April TUCP Order only approved operations changes through June 30, 2015. According to the April TUCP Order, a further request under the TUCP was anticipated to be submitted for additional changes starting in mid-June if conditions continued to be historically dry (trending at the 99 percent hydrologic exceedance level). As of May 1, 2015, DWR and Reclamation have not submitted a request to renew the TUCP Order and extend the TUCP changes beyond August 3, 2015, and approval of existing changes to operations will expire June 30, 2015.

<sup>7</sup>Biological and Conference Opinion on the Long-Term Operation of the Central Valley Project and State Water Project, June 4, 2009.

- Modification of the export constraints to limit exports to 1,500 cfs when Delta outflow is less than 7,100 cfs, or the DCC Gates are open with one exception. An intermediate level of exports, up to 3,500 cfs is allowed when Delta outflow is between 5,500 cfs and 7,100 cfs and the DCC Gates are closed, provided that representatives of the fisheries agencies, State Water Board, Reclamation, and DWR agree that the increase in the export rate will not have an unreasonable effect on fish and wildlife and the Executive Director approves the use of the intermediate level. The use of any additional water exported pursuant to this provision must first be used to meet any unmet CVP/SWP health and safety needs.

As explained above, in D-1641, the State Water Board imposed requirements on DWR and Reclamation to meet certain water quality objectives in the Bay-Delta Plan. Executive Order B-29-15 extended the waiver of Water Code section 13247, which requires compliance with water quality control plans in most instances, through May 31, 2016. The April TUCP Order temporarily amends D-1641's requirements to meet certain water quality objectives. Based on an evaluation of modeling and other information provided as part of DWR's certification application, the Project will comply with the terms of the April TUCP Order, and with applicable state water quality requirements as they are in effect during the drought emergency. If the changes approved under the April TUCP are extended beyond June 30, 2015, through the term of the Project, it is reasonably foreseeable that the Project's compliance with water quality standards and other appropriate requirements would not materially change.

In addition, the water quality effects of the Project are largely localized around the barrier. While there will be localized increases to salinity and turbidity in the direct vicinity of the barriers, DWR has included environmental commitments (see Construction and Removal Activities section) to address potential impacts to beneficial uses associated with the Project. To the extent such water quality effects exist during the life of the Project, any localized effects are temporary and minimal (see Figures 6, 7 and 9) relative to the overall benefits provided to water quality by the barrier under the continuing, severe drought conditions (see Figures 2, 3, 4, 8 and 10).

#### Construction General Permit

The State Water Board has adopted a Construction General Permit (Water Quality Order 2009-0009-DWQ and National Pollutant Discharge Elimination System [NPDES] No. CAS000002, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ), which is required for activities that disturb one or more acres of soil with activities such as clearing, grading, stockpiling or excavation. The Construction General Permit authorizes the discharge of stormwater runoff to surface waters from construction activities that result in the disturbance of one or more acres of land, provided that the discharger satisfies all conditions set forth in the permit.

The Project will disturb one or more acres of soil and, as a condition of this certification, must obtain coverage under the Construction General Permit.

#### Other Agencies' Permits

On April 2, 2015, DWR applied to the ACOE for a Clean Water Act Section 404 permit to construct and operate the rock barrier at West False River. ACOE noticed the Project on April 7, 2015, and amended its notice on April 28, 2015. The ACOE identification number for

the Project is SPK-2014-00187. The ACOE 404 permit cannot be issued unless water quality certification is granted or waived.

### CEQA Compliance

CEQA applies to discretionary projects that may cause a direct or indirect physical change in the environment. (Pub. Resources Code, § 21000 et seq.). When proposing to undertake or approve a discretionary project, state agencies must comply with the procedural and substantive requirements of CEQA. Ordinarily, the State Water Board must comply with any applicable requirements of CEQA prior to issuance of a water quality certification. Governor Brown's Executive Order B-29-15 suspends CEQA and regulations adopted pursuant to CEQA for purposing of carrying out various directives, including this Project.

### Required Water Quality Certification Conditions

This certification, as conditioned, will ensure that Project installation, operation, and removal will comply with water quality objectives and appropriate state law requirements. In order to ensure that the Project meets water quality standards and other appropriate requirements of state law throughout the life of the Project, this certification imposes conditions regarding monitoring, enforcement, and potential future revisions. Additionally, California Code of Regulations, title 23, section 3860 requires imposition of certain mandatory conditions for all certifications, which are included in this certification.

## **V. Conclusion**

State Water Board staff has reviewed and considered a wide range of information in analyzing the Project, including: DWR's certification application and supplements thereto, including the plans and submissions of DWR; the Central Valley Basin Plan; the Bay-Delta Plan; DWR's and Reclamation's January 23, 2015, TUCP and State Water Board approvals thereon, including subsequent requests and amendments; existing water quality conditions; and Project-related controllable factors. The proposed environmental commitments incorporated by DWR into the Project relating to the protection of water quality are required as a condition of approval. The State Water Board finds that, as conditioned, the proposed Project will comply with applicable state water quality standards and other appropriate requirements of state law and certification can be issued.

All documents and other information that constitute the public record for this Project shall be maintained by the Division of Water Rights and shall be available for public review at the following address: State Water Resources Control Board, Division of Water Rights, 1001 I Street, Sacramento, CA 95814.

**ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER RESOURCES CONTROL BOARD CERTIFIES THAT THE DEPARTMENT OF WATER RESOURCES 2015 EMERGENCY DROUGHT BARRIER PROJECT** will comply with sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of state law, if DWR complies with the following terms and conditions during the Project activities certified herein.

1. DWR shall obtain coverage under and comply with the Construction General Permit and any amendments thereto.
2. If dewatering is found to be necessary during construction, DWR shall use a method of water disposal other than disposal to surface waters (such as land disposal) approved by the Central Valley Regional Water Board. DWR may apply for coverage under Order No. R5-2013-0074, NPDES No. CAG99501, Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters in the Central Valley Region or an individual NPDES permit. DWR shall obtain coverage under the general or an individual NPDES permit from the Central Valley Regional Water Board prior to commencement of dewatering activities.
3. Waters shall be free of changes in turbidity (due to Project activities) that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to the Project shall not exceed the following limits as defined in the Central Valley Basin Plan: except for periods of storm runoff, the turbidity of Delta waters shall not exceed 50 nephelometric turbidity units (NTUs) in the waters of the Central Delta and 150 NTUs in other Delta waters.
4. Activities shall not cause settleable matter to exceed 0.1 milliliters per liter (ml/l) in surface waters as measured in surface waters 300 feet downstream from the Project.

In determining compliance with the limits shown in Conditions 3 and 4, a 24-hour averaging period may be applied provided that three consecutive samples do not exceed the given limits. Minimum grab sampling frequency shall be three times per day during disturbance to the bed and bank of the Delta associated with construction of the Project. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. DWR shall take samples 300 feet upstream of Project activities and 300 feet downstream of the point of river's edge construction activities. If an increase in turbidity or settleable material, caused by Project activities, is observed between the upstream and downstream sampling locations, the monitoring frequency shall be increased to a minimum of every hour during this period. If three consecutive sample results or a 24-hour average turbidity indicate that turbidity levels exceed the limits in the Central Valley Basin Plan (Condition 3), the associated Project activities shall cease immediately. In addition, any and all actions shall be implemented immediately to reduce and maintain turbidity at or below the given thresholds. Turbidity shall be measured using NTUs and in accordance with Conditions 3 and 6. A hand-held field meter may be used, provided the meter uses a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. For each meter used for monitoring, a calibration and maintenance log shall be maintained onsite and provided to State Water Board staff upon request.

The Deputy Director and the Central Valley Regional Water Board Executive Officer (Executive Officer) shall be notified promptly and in no case more than 24 hours after

monitoring results indicate an averaged turbidity or settleable material limit exceedance. Activities associated with these exceedances may not resume without Deputy Director approval.

5. Project activities shall comply with all applicable requirements of the State Water Board's April TUCP Order and any extensions or modifications thereto, as well as any other orders issued by the State Water Board in connection with DWR's and Reclamation's TUCP in 2015. The State Water Board reserves jurisdiction to add to or modify the conditions of this certification as appropriate to ensure compliance.
6. DWR shall monitor continuously (every 15 minutes) for flow, temperature, and salinity downstream of the Project at Jersey Point sampling station in the San Joaquin River and for flow, temperature, salinity, turbidity, chlorophyll, and dissolved oxygen upstream at the False River sampling station to ensure compliance with the Bay-Delta Plan and current TUCP Order. Continuous monitoring shall be conducted during construction and operation of the Project and follow procedures specified in DWR's Water Quality Monitoring Plan (WQMP). Monitoring equipment and procedures for flow, turbidity and salinity shall be in place prior to starting in-water work. All additional WQMP elements shall be implemented and in full operation prior to completing construction of the barrier and continue, as described in the WQMP, throughout the duration of the Project.
7. All water quality compliance monitoring shall be conducted using the State Water Board Surface Water Ambient Monitoring Program methods and procedures described in Code of Federal Regulations Title 40, Chapter I, Subchapter D, Part 136 (40 C.F.R. § 136.1 et seq.).
8. Monitoring reports, which contain turbidity sampling results and any other required monitoring, shall be submitted in a tabular format to the State Water Board's designated Project Manager within two weeks of initiation of monitoring and every two weeks thereafter for the term of the Project, including Project construction, operation and removal of the barrier.
9. The discharge of petroleum products or other excavated materials to surface water is prohibited. Project related activities shall not cause visible oil, grease, or foam in the work area or water. DWR shall notify the Deputy Director and Executive Officer immediately of any spill of petroleum products or other organic or earthen materials.
10. DWR shall notify the State Water Board immediately if the water quality objective for dissolved oxygen, oil/grease, salinity, settleable matter, suspended material, temperature, or turbidity is exceeded.
11. DWR shall submit a semi-permanent structures monitoring, maintenance, and removal plan (Semi- Permanent Structures Plan) to address Project impacts from the sheet pile structures and rocks DWR plans to leave in place for potential future activities. The Semi-Permanent Structures Plan shall be submitted to the Deputy Director for review and approval at least one month prior to the proposed barrier removal start date. The Deputy Director may require modifications as part of the approval. At a minimum, the Semi-Permanent Structures Plan shall include the proposed life span/removal date for the structures, responsible parties for maintenance and monitoring for the life of the structures, a structures removal plan and identification of required permits, and a proposed monitoring and reporting schedule.

12. DWR shall submit an on-site re-vegetation plan (Re-vegetation Plan) to address on-site mitigation measures for permanent and temporary Project impacts to jurisdictional wetlands and riparian vegetation. The Re-vegetation Plan shall be submitted to the Deputy Director for review and approval at least one month prior to the proposed barrier removal start date. The Deputy Director may require modifications as part of the approval. At a minimum, the Re-vegetation Plan shall include:
- A. A planting plan, planting palette, implementation schedule, invasive species control plan, and a proposed reporting schedule.
  - B. Replacement of riparian habitat, which is defined as vegetation greater than six inches in diameter at four feet in height that is damaged or removed during Project construction. The vegetation shall be replaced within the area of riparian habitat disturbed by Project construction and shall be at least equal to the amount lost due to Project implementation (1:1 ratio, new plantings of vegetation greater than six inches in diameter at four feet in height that are destroyed) or as needed to achieve no net loss and long-term riparian habitat vegetation net gain.
  - C. Re-vegetation of disturbed areas. Following Project construction and removal, areas of disturbed soil, including temporary staging areas, and areas containing excess soil, shall be secured with sterile straw mulch and seeded with a native plant mix either manually or through hydroseeding. Re-vegetation efforts must prevent soil erosion during the subsequent rainy season and ensure re-vegetation during the following growing season.
  - D. Monitoring of erosion control methods at re-vegetation sites during the rainy season to ensure their efficacy and to ensure that erosional runoff is not occurring.

The Re-vegetation Plan must incorporate criteria for the plantings to become established and achieve a minimum 85 percent survival rate at the end of two years. DWR will be responsible for implementation of the approved Re-vegetation Plan and monitoring and reporting responsibilities.

13. DWR shall implement all the proposed environmental commitments included in the Project description and supplements thereto, relevant to water quality and beneficial uses of the Delta, as described in this certification.
14. If local water quality on or near Bradford or Jersey Islands is shown to be degraded by construction or operation of the Project and not solely due to general drought conditions, DWR shall expeditiously assess the costs of damage to the landowner due to the degradation caused by the Project and enter into an agreement with the landowner for reimbursement of necessary, reasonable, and justifiable costs of that damage.
15. Prior to ground-disturbing activities, adequate erosion and sediment control BMPs shall be installed and managed at least weekly to avoid sediment or other materials from entering Delta waters during construction and removal of the barrier. If soils or other materials build up along the erosion and sediment controls, these materials shall be graded away routinely and prior to a storm event. Removed sediment must be contained and not be allowed to enter any surface waters or sensitive habitats.

16. Prior to a rain event or when there is greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, erosion control BMPs shall be applied to all exposed areas upon completion of the day's activities.
17. Location of spoil sites shall be free of vegetation and upland such that they do not drain directly into West False River. If a spoil site has the potential to drain into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. After Project construction and removal are completed, spoil sites shall be graded and vegetated to reduce the potential for erosion. Drainage patterns shall be preserved by maintaining original land contours when possible. Spoil sites that are to remain on-site through the rainy season (October 15 to May 15 of the following year) shall be protected with appropriate BMPs to prevent erosion.
18. Sediment control measures shall be in place in all disturbed areas prior to the onset of the first forecasted rain event or October 15, whichever comes first. Sediment control measures shall be monitored and maintained in good working condition until vegetation becomes established.
19. Construction material, debris, spoils, other inorganic, organic, or earthen material, and any other substances from any Project-related activity shall be prevented from entering surface waters. All construction debris and trash shall be contained and regularly removed from the work area to the staging area during construction activities. Upon completion, all Project-generated debris, building materials, excess material, waste, and trash shall be removed from all the Project sites for disposal at an authorized landfill or other disposal site in compliance with State and local laws, ordinances, and regulations.
20. All equipment must be washed prior to transport to the Project site and must be free of sediment, debris, and foreign matter.
21. Staging areas shall be established for all construction equipment and refueling operations to avoid pollutants from entering any surface waters or sensitive habitats. Staging areas shall be away from all surface waters, including seasonal swales and wetlands, and free of vegetation. Fueling construction equipment shall be done at a fixed fueling station to reduce the area exposed to the potential for fuel spills. Secondary containment, such as a drain pan or drop cloth, shall be used to catch spills or leaks when removing or changing fluids. Spill containment materials shall be kept onsite at all times to contain any accidental spill. Absorbent materials shall be used on small spills rather than hosing down or burying the spill. The absorbent material shall be promptly removed and disposed of properly.
22. Onsite vehicles and equipment shall be regularly inspected for leaks and repaired immediately. If vehicle and equipment maintenance must occur onsite, it shall be done in designated areas, located away from drainage courses, to prevent the run-on of stormwater and the run-off of spills.
23. Onsite containment for storage of chemicals classified as hazardous shall include secondary containment and appropriate management as specified in California Code of Regulations, title 27, section 20320.

24. All equipment and materials shall be stored at least 50 feet away from all surface water features.
25. DWR shall take all necessary measures in preconstruction planning to minimize construction impacts on riparian habitat. Prior to construction, DWR shall install construction fencing along the outer edges of the construction zone, where necessary, to prevent accidental entry into riparian habitat. All stockpiling of materials and equipment will occur outside of riparian habitat. Upon completion of construction activities, any impacted areas, within the riparian corridor will be reseeded with native plants or grasses.
26. DWR shall inform the State Water Board, ACOE, and other permitting fish agencies if major maintenance activities are required for any temporary or permanent Project structures during the period of operation (estimated to be May through November). DWR shall inform the State Water Board if any maintenance work that could impact water quality is required for any in-water semi-permanent structures, after the barrier is removed, for the life of the structures.
27. DWR shall not start in-water work prior to May 4, 2015, and shall finish removal of the barrier by November 15, 2015. If modification to these dates is required, DWR shall obtain prior approval from the Deputy Director. DWR shall also obtain prior approval from the Deputy Director to extend the in-water work period for both installation and removal beyond that described in DWR's Project application and supplements. The Deputy Director may require modifications to the conditions herein or additional conditions as part of the approval.
28. DWR, or its contractor, or subcontractors shall report any noncompliance to the conditions of this certification to the Deputy Director within 24 hours of the time when DWR, or its contractor, or subcontractors become aware of the circumstances of noncompliance.
29. The State Water Board's approval authority includes the authority to withhold approval or to require modification of a proposal or plan prior to approval. The State Water Board may take enforcement action if DWR fails to provide or implement a required plan in a timely manner.
30. The State Water Board reserves the authority to add to or modify the conditions of this certification to incorporate changes in technology, sampling, or methodologies and/or load allocations developed in a total maximum daily load developed by the State Water Board or a Regional Water Board.
31. This certification requires compliance with all applicable requirements of the Central Valley Basin Plan and Bay-Delta Plan. To the extent water right permit and license requirements to meet certain water quality objectives in the Bay-Delta Plan are modified, this certification requires compliance with the modified requirements. The Bay-Delta Plan supersedes the Central Valley Basin Plan for the same waters to the extent of any conflict. If at any time an unauthorized discharge to surface waters (including river or streams) occurs or monitoring indicates that the Project has or could soon be in violation with water quality objectives, the associated Project activities shall cease immediately and the Deputy Director and the Executive Officer shall be notified. Associated activities may not resume without Deputy Director approval.

32. Notwithstanding any more specific conditions in this certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. To the extent water right permit and license requirements to meet certain water quality objectives in the Bay-Delta Plan are modified, this certification requires compliance with the modified requirements. DWR must take all reasonable measures to protect the beneficial uses of waters of the Delta and its tributaries. The State Water Board reserves authority to modify this certification if monitoring results indicate that continued operation of the Project could violate water quality objectives, impair beneficial uses, or otherwise adversely affect state water quality requirements.
33. This certification does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (CESA) (Fish & Game Code §§ 2050-2097) or the federal ESA (16 U.S.C. §§ 1531 - 1544). If a “take” will result from any act authorized under this certification or water rights held by DWR, DWR must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. DWR is responsible for meeting all requirements of CESA and the federal ESA for the Project authorized under this certification.
34. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation is subject to any remedies, penalties, processes or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, processes or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this certification.
35. In response to a suspected violation of any condition of this certification, the State Water Board or Regional Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports (Cal. Wat. Code §§ 1051, 13165, 13267 and 13383.) The State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.
36. Unless otherwise specified in this certification or at the request of the State Water Board, data and/or reports must be submitted electronically in a format accepted by the State Water Board to facilitate the incorporation of this information into public reports and the State Water Board's water quality database systems in compliance with California Water Code section 13167.
37. DWR is responsible for compliance with all applicable federal, state, or local laws or ordinances and shall obtain authorization from applicable regulatory agencies prior to the commencement of construction activities.

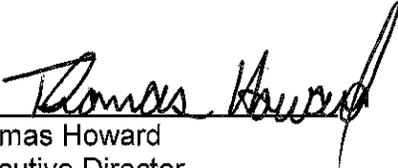
38. A copy of this certification shall be provided to all contractors and subcontractors conducting work related to the Project, and copies shall remain in their possession at the Project site. DWR shall be responsible for work conducted by its contractor or subcontractors.
39. The Deputy Director and the Executive Officer shall be notified within one week of commencement of ground disturbing activities for installation of the barrier, and at least one week prior to the commencement of ground disturbing activities for removal of the barrier. Upon request, a construction schedule shall be provided to agency staff in order for staff to be present onsite to answer any public inquiries during construction and to document compliance with this certification.
40. The Deputy Director and the Executive Officer shall be notified within one week of completion of installation and removal of the barrier.
41. Any requirement in this certification that refers to an agency whose authorities and responsibilities are transferred to or subsumed by another state or federal agency, will apply equally to the successor agency.
42. DWR must submit any changes to the Project, including Project operation, which would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the State Water Board for prior review and written approval. If the State Water Board is not notified of a significant change to the Project, it will be considered a violation of this certification.
43. DWR must provide State Water Board and Regional Water Board staffs access to Project sites to document compliance with this certification.
44. The State Water Board shall provide notice and, if applicable, an opportunity to be heard in exercising its authority to add to or modify any of the conditions of this certification.
45. This certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to California Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).
46. This certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent water quality certification application was filed pursuant to California Code of Regulations, title 23, section 3855, subdivision (b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
47. Certification is conditioned upon total payment of any fee required in connection with filing an application under article 4 (commencing with section 3855), chapter 28, division 3, title 23 of the California Code of Regulations. (See also, Cal. Code Regs., tit. 23, § 3833 [governing application fees for water quality certification].) DWR shall pay annual fees for the duration of the Project based on the fee schedule at the time of billing.<sup>8</sup>

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<sup>8</sup> The most current fee schedule is available online at: [http://www.waterboards.ca.gov/water\\_issues/programs/cwa401/](http://www.waterboards.ca.gov/water_issues/programs/cwa401/) (last viewed April 29, 2015).

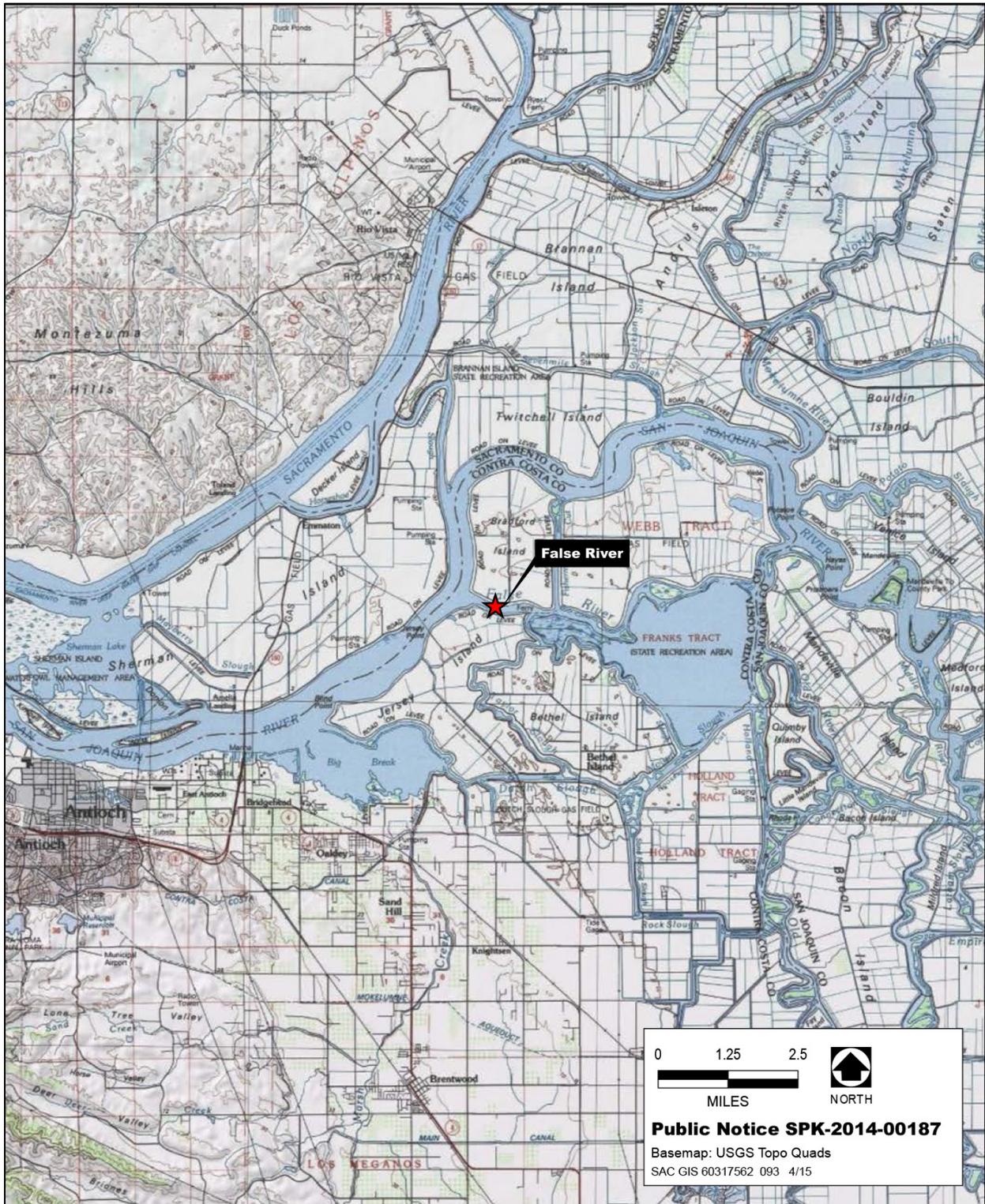
2015 Emergency Drought Barrier  
Water Quality Certification

48. This certification is valid for the duration of the described Project. This certification is no longer valid if the Project is modified, except as otherwise provided herein.
49. Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action if necessary to prevent any unauthorized or threatened unauthorized diversions of water.

  
\_\_\_\_\_  
Thomas Howard  
Executive Director

5/4/15  
\_\_\_\_\_  
Date

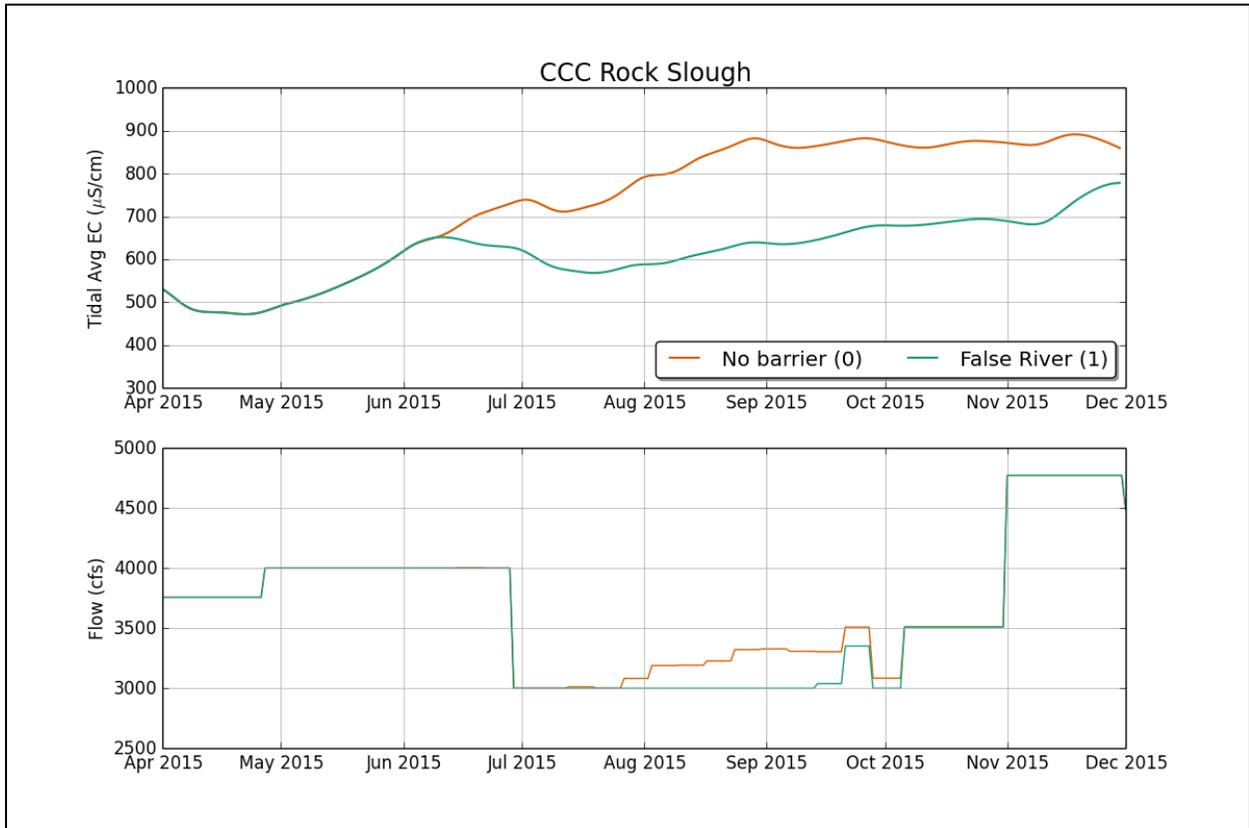
2015 Emergency Drought Barrier  
Water Quality Certification



Source: DWR 2015, AECOM 2015

**Figure 1.** Location of Proposed 2015 Emergency Drought Barrier

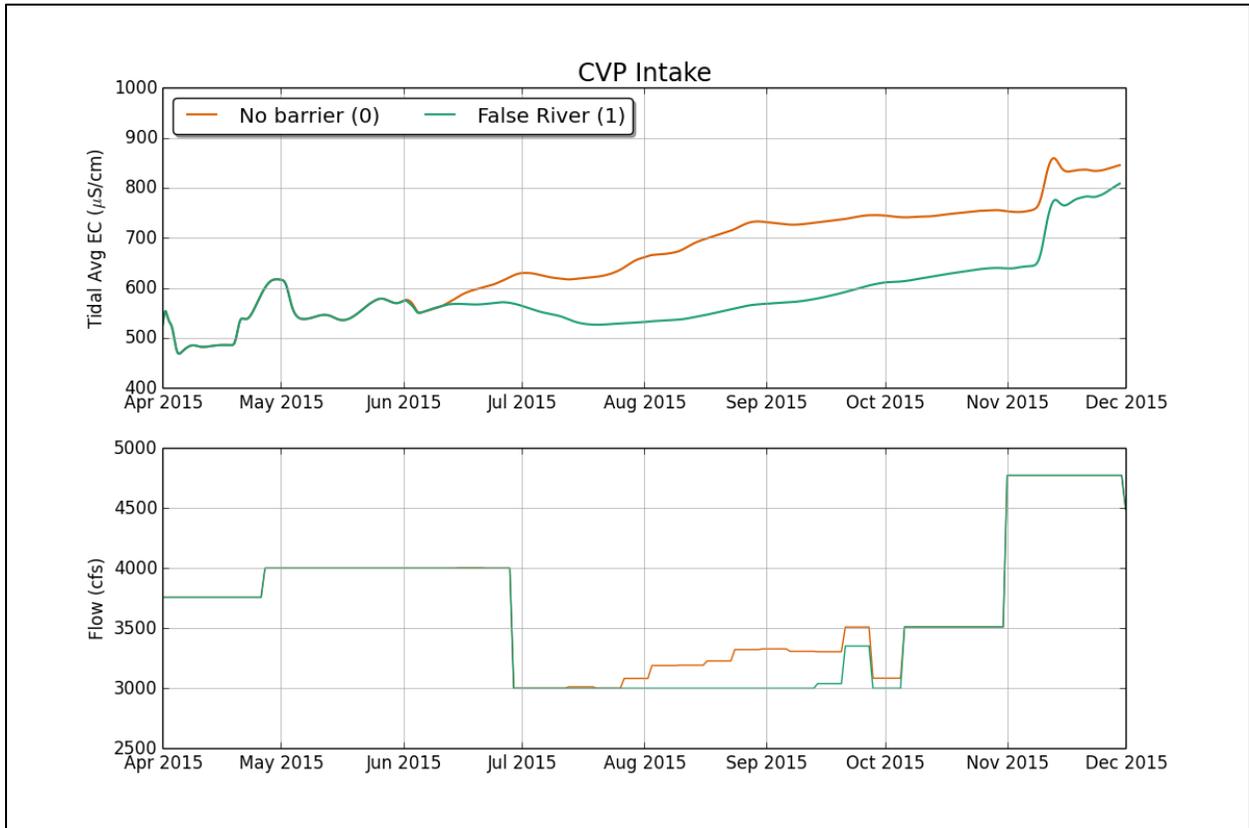
2015 Emergency Drought Barrier  
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Source: DWR Water Quality Modeling Results, April 27, 2015

**Figure 2.** Salinity and Flow at the Rock Slough Intake during Project Operation

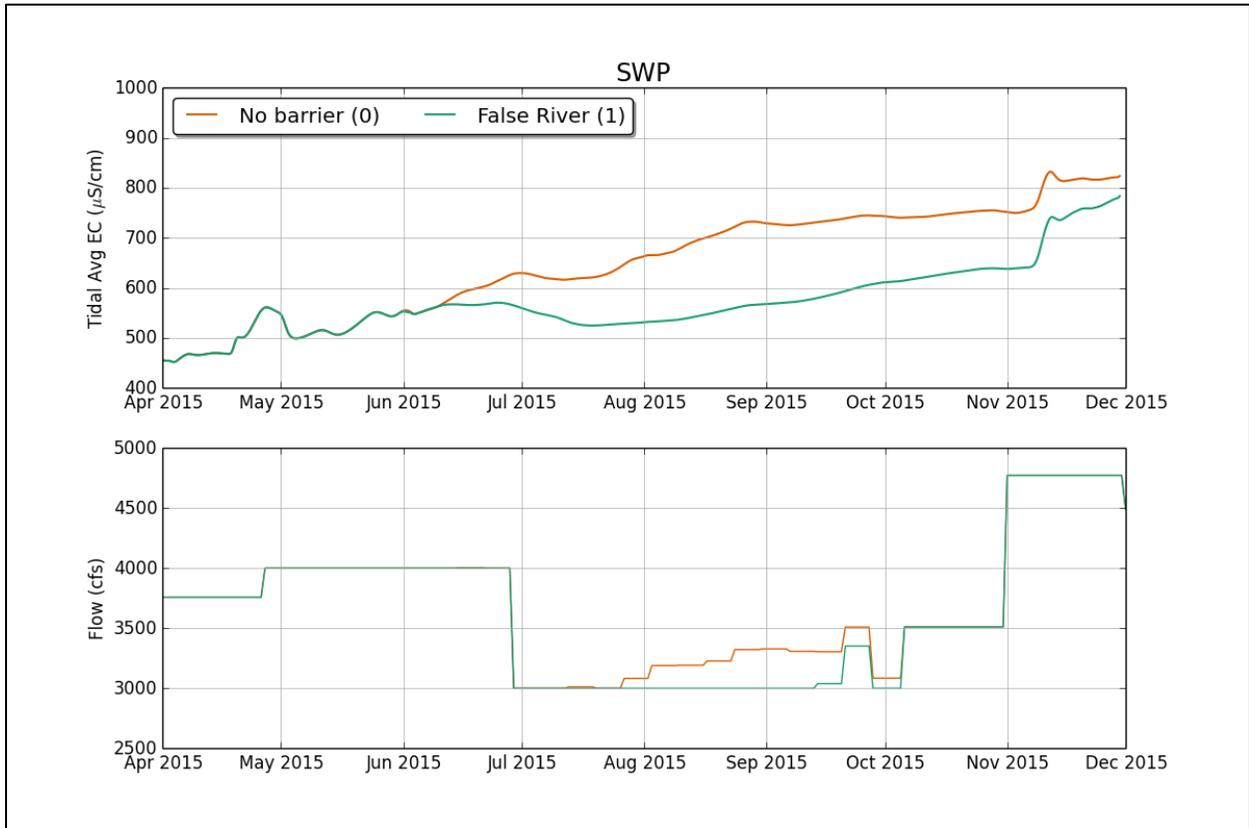
2015 Emergency Drought Barrier  
Water Quality Certification



Source: DWR Water Quality Modeling Results, April 27, 2015

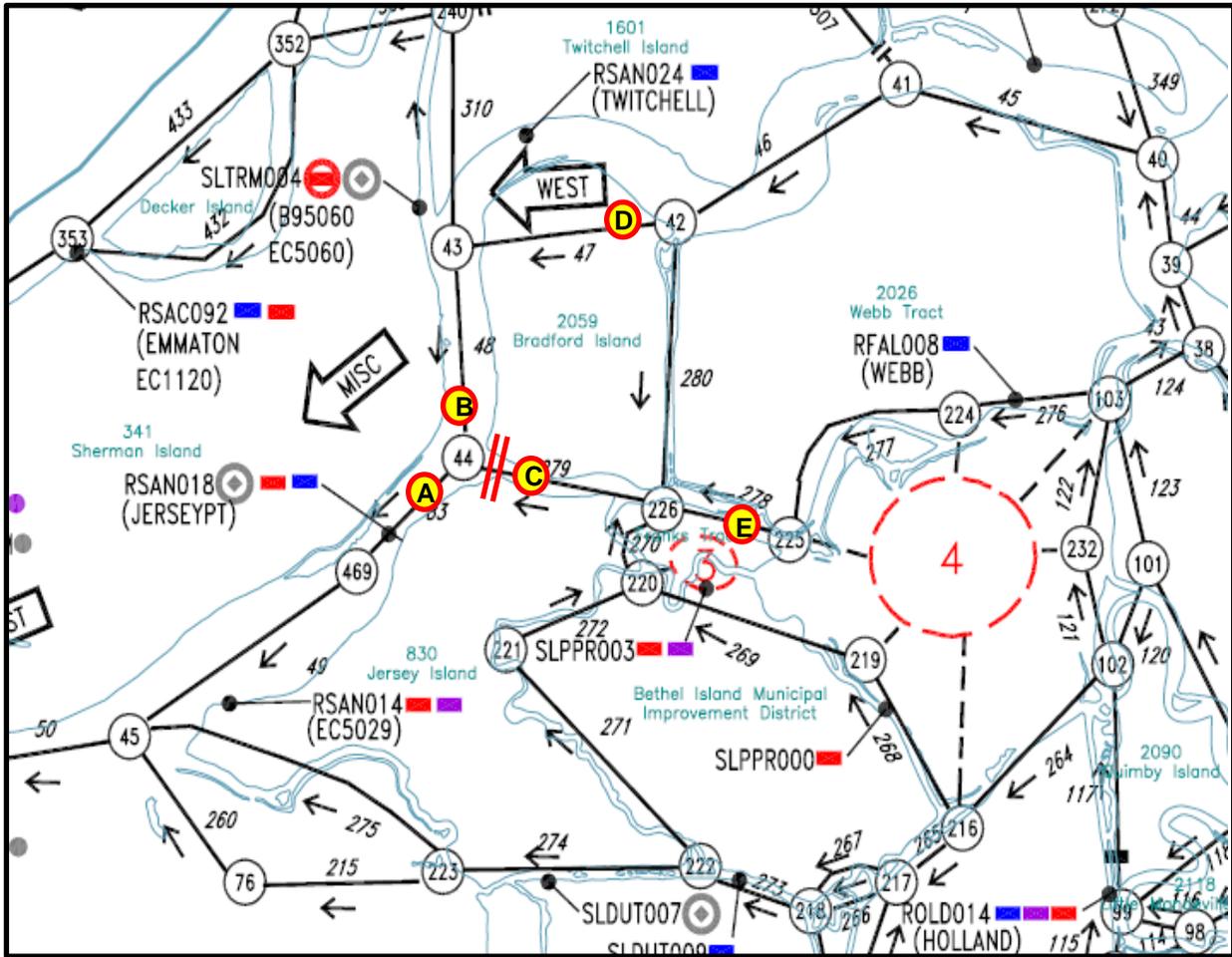
**Figure 3.** Salinity and Flow at the CVP Intake during Project Operation

2015 Emergency Drought Barrier  
Water Quality Certification



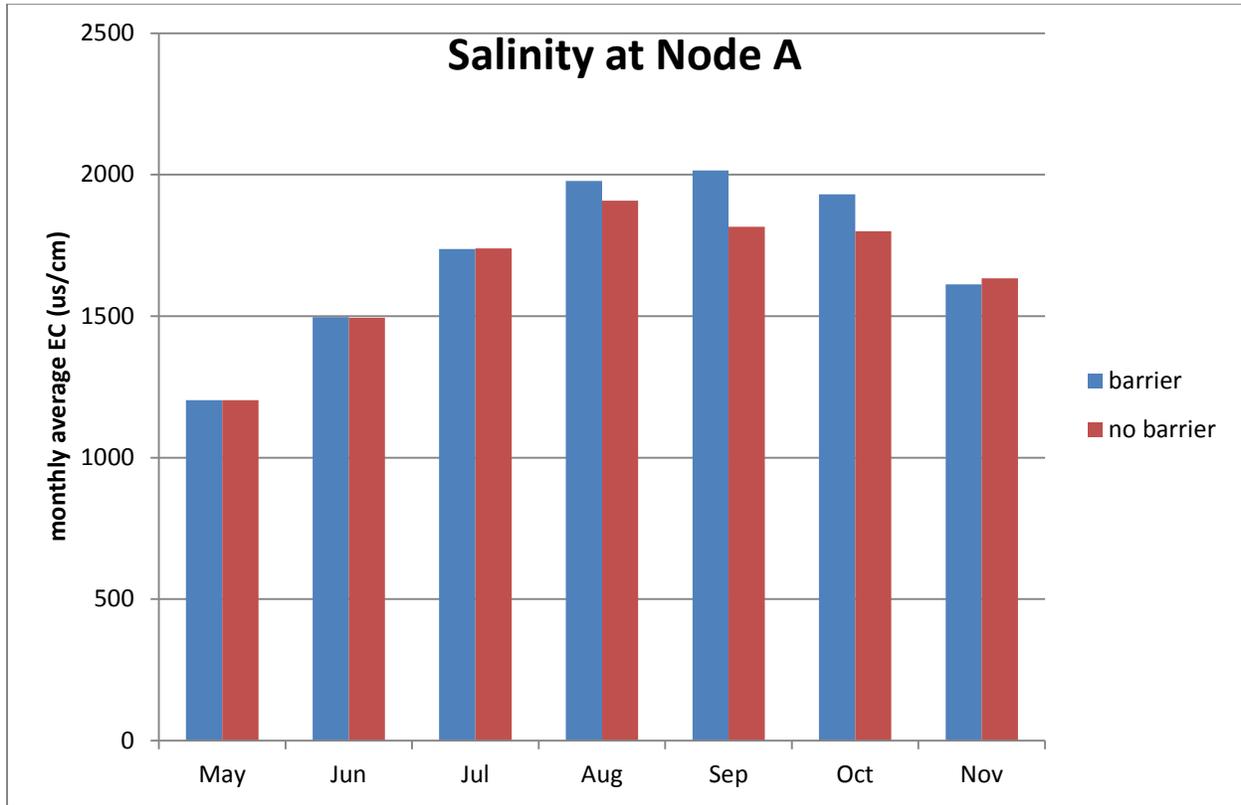
Source: DWR Water Quality Modeling Results, April 27, 2015

**Figure 4.** Salinity and Flow at the SWP Intake during Project Operation



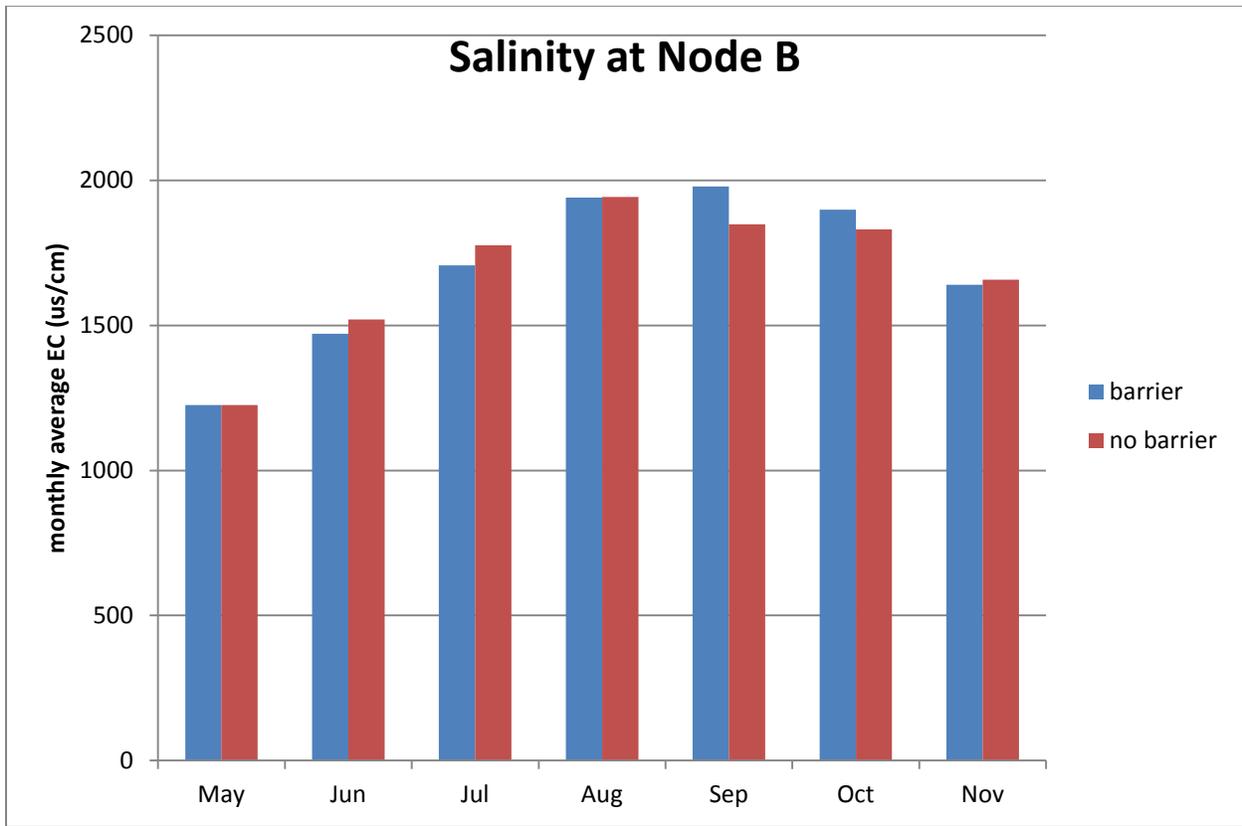
Source: DWR DSM2 Modeling Results, May 1, 2015

**Figure 5.** Barrier Location (//) and Salinity Modeling Nodes (●)



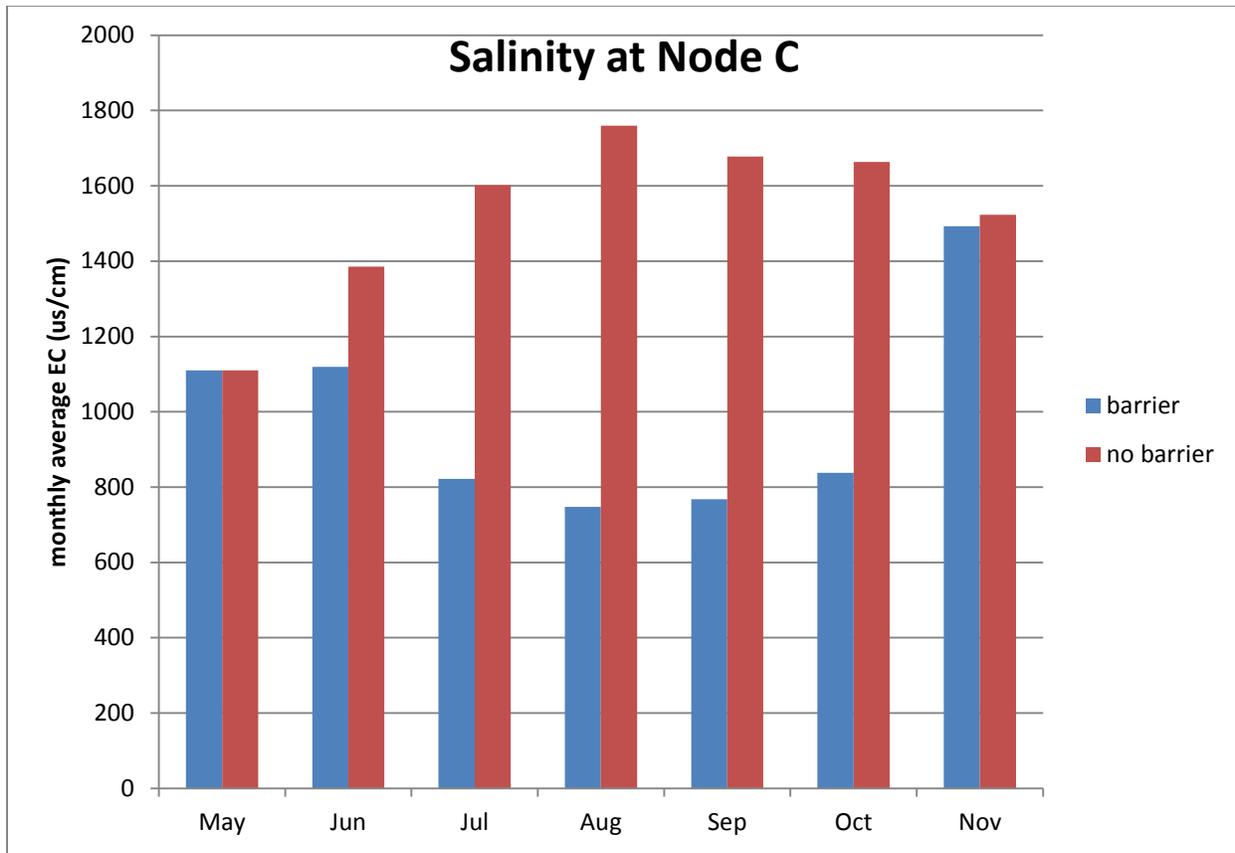
Source: DWR DSM2 Modeling Results, May 1, 2015

**Figure 6.** DWR Modeling Results for Salinity at Node A (see Figure 5)



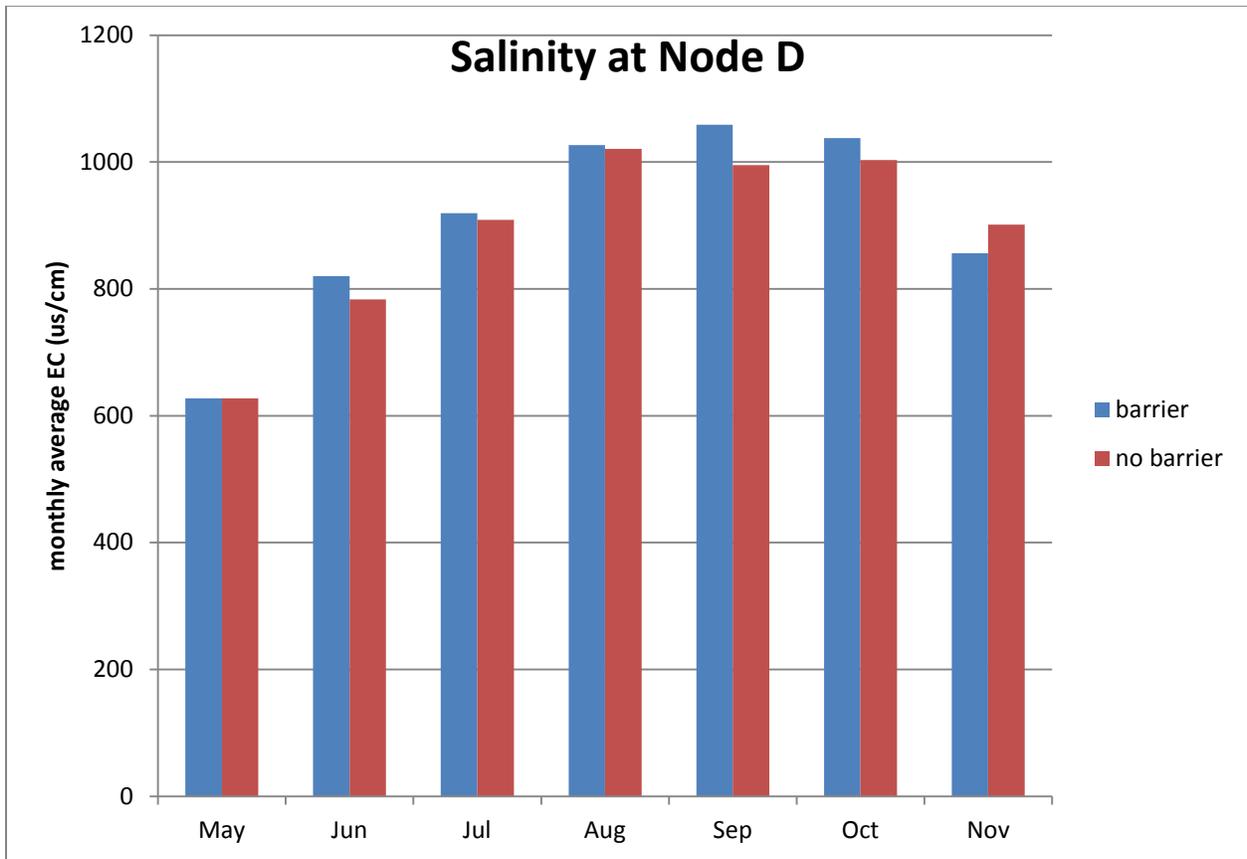
Source: DWR DSM2 Modeling Results, May 1, 2015

**Figure 7.** DWR Modeling Results for Salinity at Node B (see Figure 5)



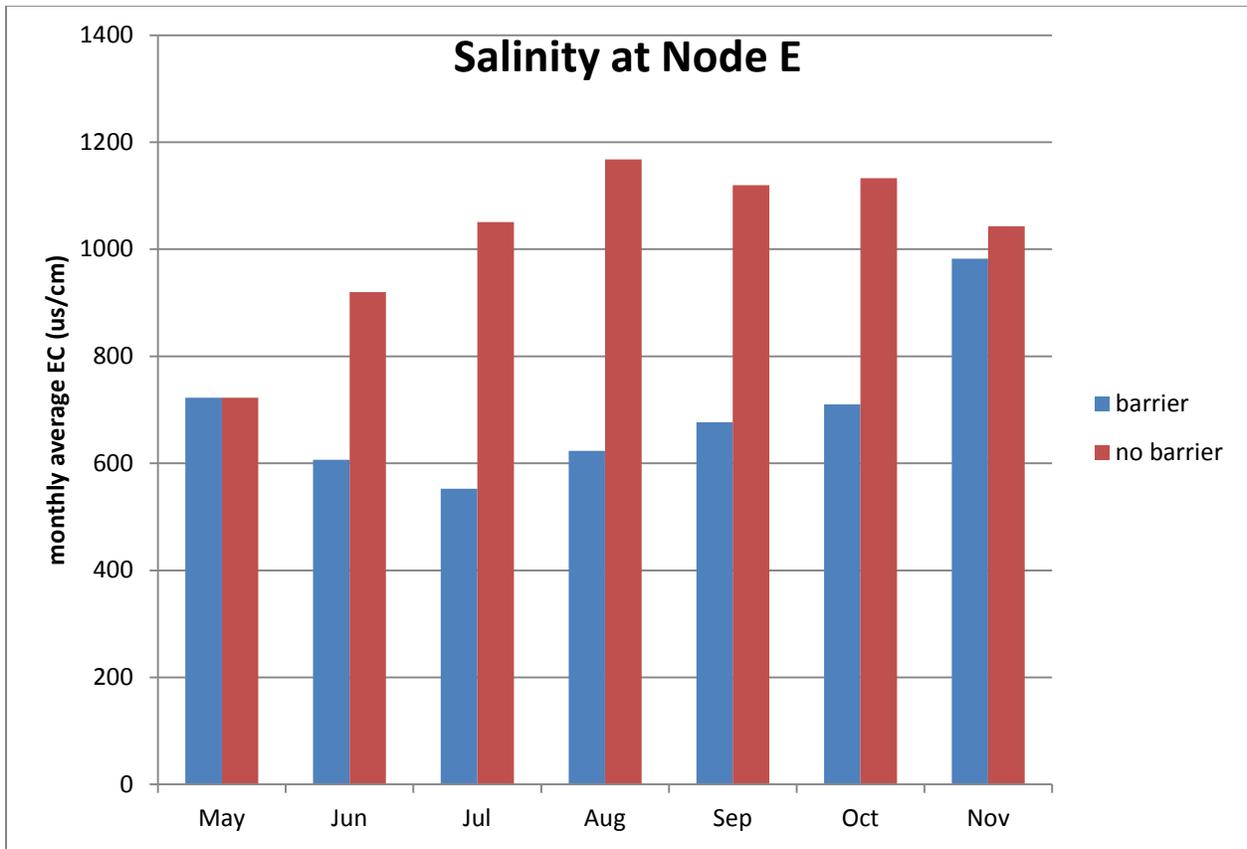
Source: DWR DSM2 Modeling Results, May 1, 2015

**Figure 8.** DWR Modeling Results for Salinity at Node C (see Figure 5)



Source: DWR DSM2 Modeling Results, May 1, 2015

**Figure 9.** DWR Modeling Results for Salinity at Node D (see Figure 5)



Source: DWR DSM2 Modeling Results, May 1, 2015

**Figure 10.** DWR Modeling Results for Salinity at Node E (see Figure 5)