

WEST FALSE RIVER DROUGHT SALINITY BARRIER PROJECT

Delta Plan Certification of Consistency

Respect Local Land Use When Siting Water or Flood Facilities or Restoring Habitats

DP P2 (Cal. Code Regs., tit. 23, § 5011)—Respect Local Land Use when Siting Water or Flood Facilities or Restoring Habitats

- a) *Water management facilities, ecosystem restoration, and flood management infrastructure must be sited to avoid or reduce conflicts with existing uses or those uses described or depicted in city and county general plans for their jurisdictions or spheres of influence when feasible, considering comments from local agencies and the Delta Protection Commission. Plans for ecosystem restoration must consider sites on existing public lands, when feasible and consistent with a project's purpose, before privately owned sites are purchased. Measures to mitigate conflicts with adjacent uses may include, but are not limited to, buffers to prevent adverse effects on adjacent farmland.*
- b) *For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers proposed actions that involve the siting of water management facilities, ecosystem restoration, and flood management infrastructure.*

Summary

DWR has determined that the proposed project is consistent with Delta Plan Policy DP P2. The approximately 3.12-acre footprint for the project site is located on West False River approximately 0.4 mile east of its confluence with the San Joaquin River, in Contra Costa County, California, between Jersey Island and Bradford Island. This location is approximately 4.8 miles northeast of the city of Oakley, as shown in **Figure 1**.

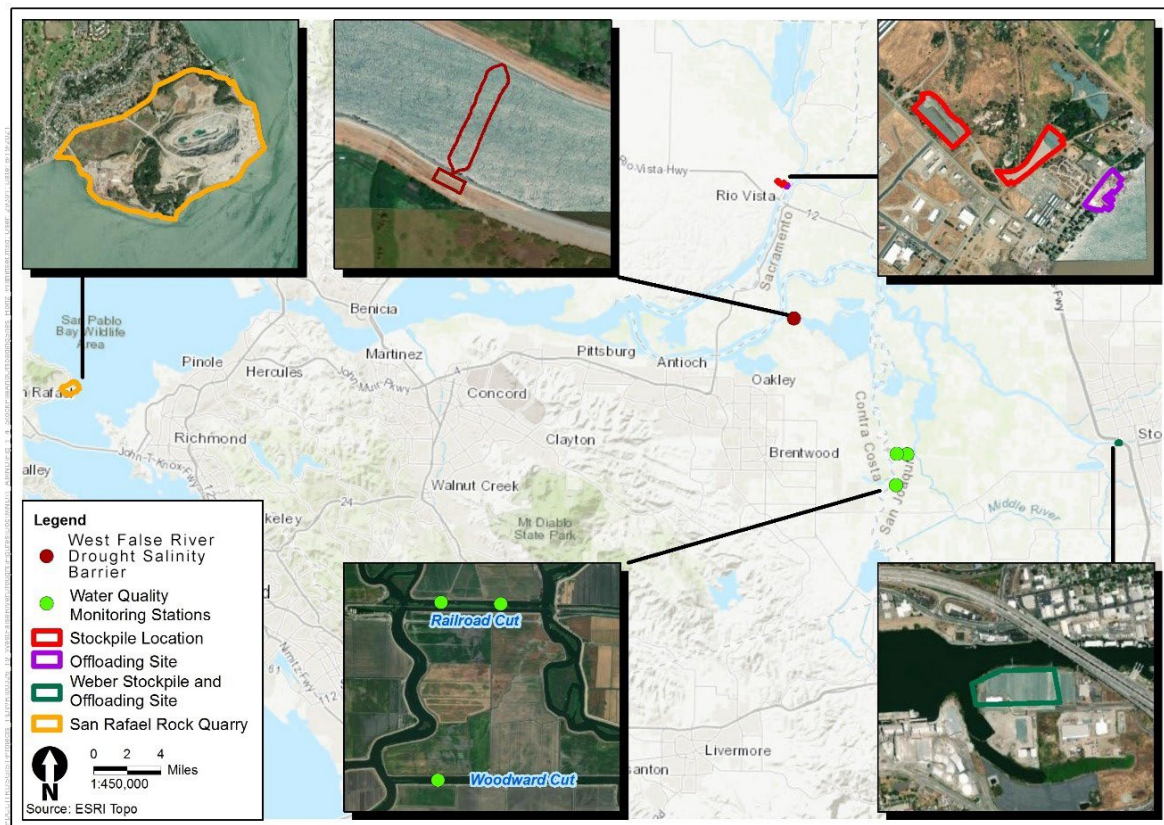


Figure 1
Project Features

The maps above depict the action area, which includes the drought salinity barrier project site, the Rio Vista stockpile site, the Weber stockpile and off-loading sites, and the three water quality monitoring stations. The action area does not include the San Rafael rock quarry or the Rio Vista off-loading site because they are private commercial businesses that would have their own permits for operation.

The banks at the project site are existing rock-lined levees. Approximately 2.75 acres of the 3.12-acre project site are situated in West False River (below the ordinary high-water mark), where embankment rock would be placed. The remaining approximately 0.37 acre of the project footprint, which would be used for staging purposes and placement of rock on the levee bank, is situated on the Jersey Island levee (above the ordinary high-water mark).

Embankment rock used to construct the drought salinity barrier may be sourced from a commercially operated rock quarry in San Rafael, from DWR's Rio Vista stockpile in Solano County, or from the Weber stockpile in San Joaquin County. The project may use multiple stockpile sites and off-loading sites. A total of three new water quality monitoring stations would be installed, in Woodward Cut and Railroad Cut in San Joaquin County.

Siting Considerations

DWR conducted preliminary investigations into the use of both rock barriers and barge-mounted operable barriers (i.e., gates) to help control salinity in the Delta. DWR originally identified waterways where barriers might be located, either at single locations or in combinations of multiple barriers (California Department of Water Resources 2009). The goal of the investigation was to identify the option that would shield the interior Delta from salinity intrusion, which once established could be difficult to reverse, and would maintain the lowest salinity levels at the State Water Project and Central Valley Project pumps from July through November. Consequently, DWR selected West False River, understanding that a rock barrier there would protect the Central and South Delta by blocking flood tides from entering Franks Tract and forcing higher salinity water to travel a longer path that would increase mixing/dilution with fresh water prior to reaching South Delta export facilities.

Compatibility with Existing Uses

Land Use Designations

The drought salinity barrier would be located adjacent to areas designated by the *Contra Costa County General Plan 2005–2040* as Delta Recreation and Resources and Public and Semi-Public and zoned primarily for agricultural use (Contra Costa County 2014). Implementation of the proposed project would consist of installing and removing the proposed temporary rock barrier, and none of the project-related activities would directly occur on lands under these land use designations or zoning.

Water Supply Intakes

The proposed project would cause small changes in tidal height and flow velocity locally, but almost no change in mean tidal elevations would result. Therefore, with the barrier in place, water intakes located near the barrier would not experience lower water levels that would affect their operations.

Ferry Operations

The *Victory II* is a free-running (no cable) ferry operated by the Delta Ferry Authority to transport vehicles from Jersey Island to both Webb Tract and Bradford Island. It is run by a joint-powers agreement between Bradford Island Reclamation District 2059 and Webb Tract Reclamation District 2026. The *Victory II* runs every hour (except noon) from 9 a.m. to 5 p.m. Monday through Friday, every hour from 8 a.m. to 12 noon on Saturday, and every hour from 11 a.m. to 3 p.m. on Sunday (Bradford Island Reclamation District 2059 2020). During 2015 Emergency Drought Barrier (EDB) Project operations, the ferry became grounded several times, resulting in

a damaged propeller and cessation of operations (Gafni 2015). The difficulties resulted mainly from increased velocity flows at the Bradford Island ferry slip (Gafni 2015). However, to address this issue, the *Victory II* ferry was upgraded with new engines and propellers, funded by DWR.

Recreational Boating

With the barrier in place, boaters would be able to access all of the same places that they can access when the barrier is not in place, but they may need to travel via a short detour. West False River provides a connection between the San Joaquin River and Fisherman's Cut and Franks Tract State Recreation Area. Nine marinas operate on the southwest side of Franks Tract, approximately 1.5 to 4.5 miles east of the project site. Three other marinas are located along Taylor Slough, approximately 1.5 to 2.1 miles to the south. Each marina supports a variety of recreational opportunities, including boating, swimming, fishing, and other water-related public uses. In addition, dozens more marinas and other facilities offer boat access to the Sacramento River and other channels in the Delta, which provide boating access to the project vicinity.

Boat traffic on West False River would be temporarily restricted upstream and downstream of the barrier while the barrier is in place. Alternative routes would be available, such as through Fisherman's Cut or Taylor Slough to access West False River. The extra distance that boaters would need to travel around West False River would be approximately 4.5 miles in each direction, or 9 miles round trip. This amounts to approximately 14 minutes of extra time traveled per direction using alternative routes, or 28 minutes round trip (assuming that a boat travels at 20 miles per hour).

Navigational buoys, lights, and signage would be installed in West False River upstream and downstream of the proposed drought salinity barrier, and near Fisherman's Cut, to advise boaters of the presence of the barrier and maintain navigation along both waterways. Temporary floating signs and buoys would be anchored to the bottom with cables and concrete anchor blocks. Not all boating access issues could be entirely avoided while the drought salinity barrier is in place; however, because alternative routes would be maintained and the presence of the rock barrier would be temporary, DWR has demonstrated its efforts to minimize inconvenience to affected Delta recreational boaters.

The waterways in the project area are also used for emergency response. Bradford Island is located north of the project site. Emergency services to the island are provided by the ferry slip on the southwest tip of the island, or by helicopter. The Bradford Island ferry slip would remain open during construction and would not be obstructed while the barrier is in place, and Bradford Island would remain accessible by helicopter.

The proposed project could affect emergency response times upstream and downstream of the drought salinity barrier location because the barrier would block passage through West False River. Boats would have to detour around the barrier, using Fisherman's Cut or Taylor Slough to access West False River. As noted above, the Bradford Island ferry slip would remain open during construction and would not be obstructed while the barrier is in place, and Bradford Island would remain accessible by helicopter. Given the temporary nature of the proposed project and

the availability of alternate routes, the proposed project would have minimal impacts on emergency response times.

Consideration of Comments from Local Agencies and Delta Protection Commission

Written comment letters, including comments from the Delta Protection Commission and Contra Costa Water District, were submitted in response to the California Environmental Quality Act Notice of Preparation (NOP) for the project. The issues raised in the comments were considered during preparation of the draft environmental impact report (DEIR). In addition, the Delta Protection Commission, Contra Costa Water District, and East Bay Municipal Utility District submitted comment letters on the DEIR during its public comment period. To comply with Delta Plan Policy DP P2, which calls for respect of local land use and consideration of comments from local agencies and the Delta Protection Commission when siting water projects, DWR considered the comments submitted by the Delta Protection Commission, Contra Costa Water District, and East Bay Municipal Water District. The following summarizes the contents of the three agencies' letters and DWR responses that pertain to reducing conflicts with existing and/or planned land uses.

Delta Protection Commission

DWR should analyze how previous barriers affected surface water elevations and increased water temperatures due to decreased flows and how lessons learned from previous barriers are being used to inform the project. DWR should address harmful algal blooms and invasive aquatic weeds, and impacts on neighboring levees. DWR should address recreational boating in the project area and identify mitigation measures to minimize recreation impacts. DWR should also evaluate the impact on traffic in the Delta.

Contra Costa Water District

The project design should consider culverts with flap gates to allow one-way flow from Franks Tract to the San Joaquin River at Jersey Point on ebb tides to improve flow circulation and reduce the potential for algae growth in the area. DWR should add chlorophyll-*a* continuous sensors paired with flow stations at the three new monitoring locations and at the existing flow station on Old River near Bacon Island to allow quantified comparison of algae growth and transport in the Old River and Middle River corridor in the years with and without the drought salinity barrier.

East Bay Municipal Utility District

DWR should consider acoustic receivers that complement existing monitoring arrays already in place in the region, which would help analyze the effects of the barrier on native fishes.

Consideration of Delta Protection Commission Comments

DWR consulted with the Delta Protection Commission on April 4, 2022, to discuss its comments received on the NOP. The commission submitted a comment letter on the project DEIR. DWR's responses to the Delta Protection Commission's comment letter on the DEIR are provided below.

Delta Protection Commission Comment: DWR should discuss how previous barriers affected surface water elevations and increased water temperatures due to decreased flows and how lessons learned from previous barriers are being used to inform the project.

DWR response: Data collected during installation of the 2015 EDB in West False River from May through October were used to evaluate potential impacts on hydrology and water quality. Flow stations measuring velocity were also consulted to determine whether the proposed project may result in significant changes to existing conditions (California Department of Water Resources 2019).

The proposed project would cause small changes in tidal height and flow velocity locally, but almost no change in mean tidal elevations would result. Therefore, with the barrier in place, water intakes located near the barrier would not experience lower water levels that would affect their operations.

The comment regarding increased water temperatures is principally due to the association of higher water temperatures with the proliferation of harmful algal blooms (HABs). This consideration of HABs is described in the section below.

Delta Protection Commission Comment: DWR should consider harmful algal blooms.

DWR response: DWR conducted a special study investigating HABs caused by cyanobacteria in the Delta. HABs are more common in drought years than in wet years, likely because of high temperatures, residence time, and greater water clarity (Hartman et al. 2022). The presence of the drought salinity barrier would increase residence time and reduce water movement, further increasing the likelihood of HABs occurring during drought years when the barrier is present. HABs caused by cyanobacteria have the potential to degrade water quality as a result of the release of microcystins, a cyanotoxin, in the water column. A multitude of toxins are present in the Delta, not including those associated with HABs, and have the potential to affect fish and other biota in the Delta.

Concentrations of HABs and cyanotoxins are associated with dry years, with visual index data indicating that there is a significantly higher incidence and abundance of cyanoHABs in dry years than in wet years (Hartman et al. 2022). In addition, a slightly higher incidence of *Microcystis* was observed in 2020 (a year without the drought barrier installed) than in 2021, when the barrier at West False River was installed. When comparing visual *Microcystis* observation results with years when the barrier was present, there are no clear patterns between the presence and absence of the drought barrier and elevated HABs. Additionally, cyanobacteria concentrations were

higher in 2021 than in 2015, both years when the barrier was present; however, the 2015 data do not indicate that the barrier increased the potential for HABs.

Harmful effects of elevated microcystins can include impacts on the liver, kidney, gills, growth rate, and behavior of fish (Acuña et al. 2012a, 2012b; California Office of Environmental Health Hazard Assessment Ecotoxicology et al. 2009). Microcystin concentrations detected in the Delta were well below the median lethal dose (LD₅₀) for fish taxa, but nonlethal effects have also been reported at lower levels (California Office of Environmental Health Hazard Assessment Ecotoxicology et al. 2009). Based on toxicity levels associated with microcystin data from low-water years when compared to levels observed in the Delta with the presence of the 2015 and 2021 EDBs, impacts on humans and sensitive fish would be less than significant.

Delta Protection Commission Comment: DWR should consider... invasive aquatic weeds.

DWR response: To address the potential for the drought salinity barrier to increase the local distribution of aquatic invasive vegetation near the barrier, DWR identified the following mitigation measure in the DEIR:

Mitigation Measure BIO-10: Remove Invasive Aquatic Vegetation.

The spread of invasive aquatic weeds is an issue throughout the Delta, regardless of the presence or absence of the West False River drought salinity barrier. While the barrier is in place, DWR shall coordinate with the Aquatic Invasive Plant Control Program of the California Department of Parks and Recreation, Division of Boating and Waterways for the control of invasive aquatic weeds near the barrier that are covered by the control program. DWR shall coordinate with the Division of Boating and Waterways on implementation of treatment or removal strategies for covered invasive aquatic weeds near the barrier to the greatest extent practicable.

Delta Protection Commission Comment: DWR should consider... impacts on neighboring levees.

DWR response: On July 13, 2021, a Bethel Island resident contacted DWR staff about the Little Franks Tract remnant levee, stating that a portion of the north levee should be shored up as part of the 2021 EDB Project. The resident claimed that the EDB has caused erosion to a stretch of the north levee. DWR reached out to the resident on July 15, 2021, to better understand the concern. The resident claimed that higher velocities from flow coming down Fisherman's Cut were hitting a portion of the north levee located downstream, causing erosion to the levee that would not have occurred without the presence of the EDB. In addition to the higher flow velocities, the wind and wave run-up associated with the winds coming out of the north exacerbated the erosion. During the next couple of months, DWR gathered and reviewed past bathymetry, aerial photography, and mobile acoustic Doppler current profile surveys collected in the area to try to determine whether there was a 1:1 causal relationship. DWR's determination was inconclusive based on the information reviewed. On October 14, 2021, DWR staff joined the resident in his personal boat to see the site firsthand. Velocities from the flow coming down Fisherman's Cut were swift and could be seen flowing through the eroded portions of the north levee, although no immediate

concerns were observed. In direct response to the concern raised by the Bethel Island resident, DWR identified **Mitigation Measure HYDRO-1** in the DEIR to monitor tidal velocities in West False River, Fisherman's Cut, and Franks Tract and the levees around Bradford Island and Jersey Island if the West False River drought salinity barrier is installed in the future. The mitigation measure is as follows:

Mitigation Measure HYDRO-1: Monitor Water Velocity near Existing Levees and the Stability of Levees, and Monitor Scour in the Vicinity of the Barrier with the Notch in Place.

DWR shall monitor tidal velocities in West False River, Fisherman's Cut, and Franks Tract, and the levees around Bradford Island (RD 2059) and Jersey Island (RD 830) while the West False River drought salinity barrier is in place (under all three installation scenarios). Should DWR discover levee scouring of concern that is a result of the drought salinity barrier, DWR shall consult with RD 2059 and/or RD 830 as expeditiously as possible, as necessary, to develop a plan on corrective measures.

Under Installation Scenario 2, DWR shall regularly conduct bathymetric surveys to monitor for potential scour at the riverbed, collect inclinometer measurements on Bradford Island to ensure there is no observed movement of the adjacent levee, and monitor velocity measurements around the barrier while the notch is in place. Corrective measures, such as early filling of the notch, shall be implemented as expeditiously as possible if the stability of the barrier or levees may be compromised by the scour.

DWR has considered additional corrective actions, other than filling the notch, if the stability of the levees becomes compromised. These corrective actions may include preventive measures to ensure that the integrity of the levees remains in place with or without the notch, such as installing riprap along the levees to protect against further erosion. Furthermore, in preparation for a potential future installation of the barrier, DWR engineers would conduct a design review and would adjust the design if needed based on experiences from prior installations.

Delta Protection Commission Comment: DWR should address recreational boating in the project area and identify mitigation measures to minimize recreation impacts.

DWR response: The proposed project (under all three installation scenarios) would not cause a reduction in access to regional recreational areas. Construction activities would be short term, the barrier would be temporary, and alternative routes around the project site are available. Therefore, the proposed project would not include the construction of any recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. DWR would maintain the navigational aids in West False River with the barrier in place (e.g., signage and warning buoy lines), and after removal of the barrier, full recreational boat access would resume in the waterway.

DWR investigated the potential for constructing a boat portage facility that would transport boats in West False River from one side of the barrier to the other. The portage facility would increase the proposed project's footprint by approximately 0.5 acre. The investigation considered operation of the boat portage facility from dusk to dawn. Facility operation would require a DWR

boat tender to hook up the boats to a universal boat trailer and transfer them to the other side of the barrier. The estimated time to transfer boats would be 10 minutes per trip, or 20 minutes round trip. The net difference in time saved or gained as a result of boat portage would only be approximately eight minutes per round trip (i.e., 28 round-trip minutes using alternative routes minus 20 minutes round trip with boat portage in West False River), which is not considered a significant delay.¹ DWR therefore determined that the time saved or gained (i.e., eight minutes) and substantial additional project costs (approximately \$2.2 million) for constructing a portage facility made such a facility infeasible (Le 2022).

Delta Protection Commission Comment: The DEIR should also evaluate the impact to traffic in the Delta.

DWR response: The DEIR analyzes the potential effects of the proposed project on traffic in the Delta, focusing on traffic patterns. The analysis determined that the construction activities would not adversely affect road traffic or transportation patterns. Most materials and construction equipment would be brought to the project site by barge, and most construction work would take place in the water; transporting materials and heavy equipment for construction would require a minimal number of truck trips. Equipment and workers would use existing roadways to travel to the project area. Vehicles hauling materials to the site by road would travel along local roadways, such as River Road and Airport Road. Roadway traffic would return to existing conditions after completion of the project.

This analysis used the recommended screening criterion from the Institute of Transportation Engineers (Transportation Planners Council of the Institute of Transportation Engineers 1988) for assessing the effects of construction projects that create temporary increases in traffic levels. Daily truck traffic volumes were estimated using the maximum number of haul trucks anticipated for the proposed project, about 134 truck trips per day during 8- to 24-hour operations. Therefore, hourly volumes of haul trucks for the assigned route segments (River Road to Airport Road to the staging area) were estimated based on an even distribution of truck trips throughout the 8- to 24-hour construction work window, for a total of 12–17 truck trips per hour. Therefore, the proposed project is not anticipated to cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. No new access roads would be required. Overall, the project would not result in a substantial increase in traffic levels compared to existing conditions.

¹ The Delta Protection Commission noted in a letter submitted in response to the DEIR that boating delays could be longer. DWR considered that comment and clarified that the analysis was based on an average boat velocity of 20 miles per hour. Unlike highway travel conditions, conditions on waterways typically include both slow and fast boats that travel at drastically different speeds.

Consideration of Contra Costa Water District Comments

Contra Costa Water District Comment: The project design should consider culverts with flap gates to allow one-way flow from Franks Tract to the San Joaquin River at Jersey Point on ebb tides to improve flow circulation and reduce the potential for algae growth in the area.

DWR response: In September 2022, DWR completed an analysis of incorporating culverts with flap gates into the proposed project design to allow one-way flow from Franks Tract to the San Joaquin River at Jersey Point on ebb tides. The analysis was based on hydrodynamic modeling using the Bay-Delta SCHISM three-dimensional circulation model (Ateljevich et al. 2014), which is an application of SCHISM, the Semi-implicit Cross-scale Hydroscience Integrated System Model (Zhang and Baptista 2008; Zhang et al. 2016). Simulations were conducted over the period April 20, 2021, through late December, but results focus on the August period. Mean water age was used as a surrogate for flushing and residence time. A No Barrier scenario was modeled to provide a basis for comparing water age/residence time changes due to the culverts to the original impacts of the barrier. DWR modeled a scenario in which 48 48-inch culverts would be installed into the barrier; another scenario was analyzed in which eight 48-inch culverts would be installed.

The modeled 48-culvert scenario reduced mean water age by approximately three to four days in western Franks Tract, for instance from around three and half weeks to around three weeks. This reduction in water age is appreciable, but minimal when considering that the mean water age with no barrier is less than half that duration. The modeled eight culvert case scenario resulted in barely discernible changes to mean water age compared to DWR's current proposed rock barrier. The modeling thereby indicates that an enormous number of 48-inch culverts (likely well more than 48) would be necessary to make a meaningful contribution to decreasing residence time and improving circulation within Franks Tract. Given that adding 48 culverts to the project would cost an estimated \$6.4 million in material costs alone, and that even more culverts would likely be needed to achieve the intended effect specified by Contra Costa Water District, DWR has determined that the use of culverts within the rock barrier prism are not practicable from a cost perspective.

Contra Costa Water District Comment: DWR should add chlorophyll-*a* continuous sensors to allow quantified comparison of algae growth and transport in the Old River and Middle River corridor in the years with and without the drought salinity barrier.

DWR response: Contra Costa Water District's comment letter on the DEIR expressed appreciation that DWR included in the DEIR chlorophyll-*a* in water quality monitoring at specified stations as the district requested during its scoping comments. DWR intends to deploy a FluoroProbe during its monthly Environmental Monitoring Program (EMP) water quality cruises. The FluoroProbe detects various combinations of algal accessory pigments, which are related to phytoplankton functional groups. The data are available from the EMP data portal and will be included in future analyses of phytoplankton community composition in the Delta. Mitigation

Measure BIO-9 in the DEIR was also revised to include additional data collection from surface water samples collected from Station D-19 in Franks Tract.

Consideration of East Bay Municipal Utility District Comments

East Bay Municipal Utility District Comment: DWR should consider acoustic receivers that complement existing monitoring arrays already in place in the region, which would help analyze the effects of the barrier on native fishes.

DWR response: Acoustic receivers were placed on both sides of the False River barrier between December 2021 and June 2022 to assess the occurrence of acoustically tagged juvenile Chinook salmon during continued implementation of the 2021–2022 EDB. This study generally showed limited detections of these fish near the barrier. DWR is also committing to further understanding effects on fish passage near the barrier by evaluating fish passage data that compare passage with and without the barrier.

DWR would evaluate fish passage data through the use of acoustic telemetry receivers near the West False River barrier by funding and augmenting future or ongoing acoustic telemetry efforts around the Central Delta. These evaluations would be conducted to better understand fish passage effects of the proposed West False River drought salinity barrier and assess focal fish species movement based on acoustic telemetry. DWR would assess the near-field occurrence of focal fish species by supplementing (Pacific Aquatic Telemetry Hub; PATH) groups that are being used to assess far-field occurrence in the Delta. DWR would also consider supplementing efforts to incorporate predation detection acoustic tag technology to better understand predation effects in the vicinity of the barrier. Data would be collected during at least one season with and one season without the barrier in place. DWR would use detections of fish tagged from other studies to the extent possible but would fund additional tagging, should this be necessary to increase sample sizes. These data, in association with historical data from sources such as the PATH and Enhanced Acoustic Telemetry (EAT) databases, would be used to compare fish passage with and without the barrier. The comparison would be conducted by assessing overall through-Delta passage (i.e., the percentage of fish entering the Delta that were detected leaving the Delta), through-Delta passage time with and without the barrier installed, and coarse-scale route selection through the Delta.

DWR recognizes that the presence of artificial structures can create habitat for predatory species and has proposed Mitigation Measure BIO-10 (Remove Invasive Aquatic Vegetation) and Mitigation Measure BIO-11 (Mitigate the Loss of Designated Critical Habitat) to mitigate potential predation impacts on native fish.

References

- Acuña S, Baxa D, Teh S. 2012a. “Sublethal Dietary Effects of Microcystin Producing *Microcystis* on Threadfin Shad, *Dorosoma petenense*.” *Toxicon* Volume 60: Pages 1191–1202.
- Acuña S, Deng DF, Lehman P, Teh S. 2012b. “Sublethal Dietary Effects of *Microcystis* on Sacramento Splittail, *Pogonichthys macrolepidotus*.” *Aquatic Toxicology* Volume 110–111: Pages 1–8.
- Ateljevich E, Nam K, Zhang Y, Wang R, Shu Q. 2014. “Bay-Delta SELFE Calibration Overview.” In: *Methodology for Flow and Salinity Estimates in the Sacramento–San Joaquin Delta and Suisun Marsh. 35th Annual Progress Report to the State Water Resources Control Board*. Chapter 7. Sacramento (CA): California Department of Water Resources, Bay-Delta Office. Delta Modeling Section.
- Bradford Island Reclamation District 2059. 2020. Ferry Information.
- California Department of Water Resources. 2009. Delta Drought Emergency Barriers, Administrative Draft. Sacramento (CA): Bay-Delta Office. April 2009.
- . 2019. *Efficacy Report: 2015 Emergency Drought Barrier Project*. Sacramento (CA): Bay-Delta Office. June 2019.
- California Office of Environmental Health Hazard Assessment Ecotoxicology, Butler N, Carlisle JC, Linville R, Washburn B. 2009. *Microcystins: A Brief Overview of Their Toxicity and Effects, with Special Reference to Fish, Wildlife, and Livestock*. Sacramento (CA): California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Integrated Risk Assessment Branch. 21 pp.
- Contra Costa County. 2014. *Contra Costa County General Plan 2005–2020*. Land Use Element. Viewed online at: <https://www.contracosta.ca.gov/DocumentCenter/View/30913/Ch3-Land-Use-Element?bidId=>.
- Gafni M. 2015. “Drought Barrier Wreaking Havoc on Delta Currents, Ferry Service.” *San Jose Mercury News*, June 8, 2015. Viewed online at: <https://www.mercurynews.com/2015/06/08/drought-barrier-wreaking-havoc-on-delta-currents-ferry-service/>.
- Hartman R, Rasmussen N, Bosworth D, Berg M, Flynn T, Ateljevich E, Wolf B, Britney E, Lyster S, Khanna S, Pennington T. 2022. *Report on the Impact of the Temporary Urgency Change Petition and Emergency Drought Barrier on Harmful Algal Blooms and Aquatic Weeds in the Delta*. Sacramento (CA): California Department of Water Resources. 210 pp. + appendix. [Government Report.]
- Le H. 2022. *West False River Drought Salinity Barrier Long Term Planning—Boat Portage*. Prepared for Robert Trang, Senior Engineer, California Department of Water Resources, Division of Operations and Maintenance, South Delta Branch. May 13, 2022.
- Transportation Planners Council of the Institute of Transportation Engineers. 1988. “A Summary of a Proposed Recommended Practice: Traffic Access and Impact Studies for Site Development.” *ITE Journal*, August 1988, Pages 17–24.

Zhang Y, Baptista AM. 2008. “SELFIE: A Semi-implicit Eulerian-Lagrangian Finite-Element Model for Cross-Scale Ocean Circulation.” *Ocean Modelling* Volume 21 (Issues 3–4): Pages 71–96.

Zhang Y, Ye F, Stanev EV, Grashorn S. 2016. “Seamless Cross-Scale Modeling with SCHISM.” *Ocean Modelling* Volume 102: Pages 64–81.