

Riverine Habitat Restoration Projects

The Riverine Habitat Restoration Program is tasked with developing and implementing restoration actions primarily in the Yolo Bypass and Sacramento River basin to support operations of the State Water Project. The focus of the program includes implementing actions described in the 2019 National Marine Fisheries Service Biological Opinion (NMFS BO) for the long-term operation of the State Water Project and Central Valley Project, and the 2020 Incidental Take Permit for the operation of the State Water Project.

Several identified projects are being evaluated and are at various stages of implementation.

Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project (Big Notch Project)

DWR and Reclamation have developed the Yolo Bypass Salmonid Habitat Restoration and Fish Passage (Big Notch) Project to improve fish passage and increase floodplain fisheries rearing habitat in Yolo Bypass and the lower Sacramento River basin. The project would primarily consist of a new Fremont Weir headworks structure, an outlet channel, and downstream channel improvements.

To improve fish passage, the project will also include modification to an agricultural road crossing (Agricultural Road Crossing 1) in the Yolo Bypass.

Planning and Design Status: The Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was released on June 7, 2019. An electronic copy of the Final EIS/EIR can be accessed on [Reclamation's website](#). The Notice of Determination (NOD) was signed and filed with the State Clearinghouse on July 19, 2019 and can be accessed via [CEQAnet](#). Final design has been completed and all permits and right-of-way for construction have been obtained. DWR is working to acquire the necessary flowage easements for operation of the project by late 2023.

Anticipated Construction: Construction is anticipated to begin in June 2022. It will be a multiple year construction effort that should conclude in late 2023.

Agricultural Road Crossing 4 Fish Passage Project

The Yolo Bypass Salmonid Habitat Restoration and Fish Passage Implementation Plan identified Agricultural Road Crossing 4 as a fish passage impediment. To meet requirements of the Endangered Species Act, DWR and Reclamation plan to share the cost of this fish passage improvement project.

The project is an earthen road crossing that spans Tule Canal, just south of where the Sacramento Bypass connects with the Yolo Bypass. The crossing provides the ability to impound water for agricultural and waterfowl purposes. It would replace the existing earthen agricultural crossing with a permanent bridge structure that spans the Tule Canal. The existing culvert upstream of the crossing would be relocated further upstream to avoid interfering with the proposed facilities.

Planning and Design Status: Preliminary design for the project has been completed and permits are in the process of being submitted to the appropriate regulatory agencies.

Anticipated Construction: 2023

Fremont Weir Adult Fish Passage Modification Project

DWR and Reclamation have constructed the Fremont Weir Adult Fish Passage Modification Project, to improve salmonid and sturgeon passage in the Yolo Bypass by:

- Modifying the existing Fremont Weir fish ladder to provide upstream passage when the Sacramento River overtops Fremont Weir and immediately after the river recedes.
- Improving fish passage conditions in the channel that extends from the existing fish ladder upstream to the Sacramento River.
- Improving fish passage conditions in the scour channel the extends from the existing fish ladder downstream to an existing deep pond.
- Removing one earthen agricultural road crossing and replacing one earthen agricultural road crossing with a structure that allows for fish passage through the Tule Canal and continued agricultural utility.

Planning and Design Status: DWR and Reclamation released a draft Initial Study and Environmental Assessment (IS/EA) and proposed Mitigated Negative Declaration (MND) for the proposed Fremont Weir Adult Fish Passage Modification Project for public review in spring and summer of 2017 (State Clearinghouse Number 201702212). A Notice of Determination (NOD) and final IS/EA and MND was filed with the State Clearinghouse in August of 2017 and all permits were received in summer 2017.

Construction: Construction began in fall 2017 and was finished in early 2019.

Operations: According to the final IS/EA, and in conjunction with the NOAA California Nevada River Forecast Center (CNRFC) Sacramento River -Fremont Weir (FMWC1) gauge, the gated structure will be opened following a Fremont Weir overtopping event once the Sacramento River reaches a stage of 32.3 feet, at the location of the new structure. Two of the three operating scenarios identified in the final IS/EA will be implemented once the fish passage structure is opened. These scenarios are:

- Scenario 2: The fish passage structure remains open for three days after Fremont Weir stops overtopping; or
- Scenario 3: The fish passage structure remains open for one day after Fremont Weir stops overtopping and reopens when the river stage falls below 27 feet and closes when the river stage reaches 24 feet, for no longer than five days.

Modeling results for Scenarios 2 and 3 indicated no significant changes in Yolo Bypass drainage and inundation patterns (see IS/EA Figure 3.10-1 through Figure 3.10-3 in section 3.10 "Hydrology and Water Quality"), therefore, operation of the Project will have no significant impacts on land use in the Yolo Bypass.

Wallace Weir Adult Fish Rescue Facility

Wallace Weir is a water control structure on the Knights Landing Ridge Cut where it enters the west side of the Yolo Bypass. Adult salmon have been found in dead-end agricultural ditches upstream of the weir in the Colusa Basin Drain system, especially when flows in the Knights Landing Ridge Cut are high.

Once salmon enter the Knights Landing Ridge Cut, there is no upstream route for them to return to the Sacramento River; the fish are unable to spawn, and they perish without reproducing. The earthen dam, which washes away during high flow events, was replaced with a permanent structure that will prevent migration of salmon and sturgeon into the Knights Landing Ridge Cut and Colusa Basin Drain. The

Project also includes a facility to allow for efficient trapping and relocation of fish to the Sacramento River.

Planning and Design Status: DWR worked with Reclamation District (RD) 108 to plan and permit this Project. Visit RD 108 [Wallace Weir Fish Rescue Facility Page](#) to access more information and download the Initial Study and Mitigated Negative Declaration, which was released in April 2016.

Construction: Construction began in 2016 and finished in early 2019.

Resources

[Reclamation Bay Delta Office - Yolo Bypass Salmonid Habitat Restoration and Fish Passage](#)

[EcoRestore](#)

[2019 NOAA Fisheries Biological Opinion for the Reinitiation of Consultation on the Long-Term Operations of the Central Valley Project and State Water Project](#)

[CDFW Water Project Operations Page](#)