

# Skinner Evaluation and Improvement Study

## Project Description:

This project utilizes mark-recapture methods to evaluate direct losses of salmonids at SWP facilities including Clifton Court Forebay and the John E. Skinner Delta Fish Protective Facility (SDFPF) to measure the performance of predation reduction actions, and to develop recommendations for improving survival and salvage efficiency at these facilities. The study also aims to examine the effectiveness of the SDFPF for salvaging juvenile Longfin Smelt.

## Project Need:

To comply with the requirements of National Marine Fisheries Service (NMFS) Biological Opinion (BiOp) Reasonable and Prudent Alternative (RPA) IV.4.2, NMFS BiOp Term and Condition 2a, and the Department of Fish and Wildlife's (DFW) Incidental Take Permit Conditions of Approval 6.2.1 and 8.5. Specifically, RPA IV.4.2 requires that 1) The SDFPF operate at a minimum 75 % salvage efficiency, and 2) reduction of pre-screen losses for salmonids in Clifton Court Forebay to more than 40%; while DFW Conditions 6.2.1 and 8.5 require DWR to evaluate the effectiveness of the SDFPF for Longfin Smelt salvage, and to develop projects to improve Longfin Smelt salvage and survival at the facility.

## Project Objectives:

- 1) Evaluate pre-screen loss in Clifton Court Forebay to evaluate the effectiveness of predator management actions including predator relocation efforts.
- 2) Evaluate Whole Facility Efficiency (WFE) at the SDFPF for salmonids including fish losses through the louvers, screens, and other components of the SDFPF, and hydraulic conditions at the facility.
- 3) Evaluate WFE at the SDFPF for juvenile Longfin Smelt.
- 4) Recommend improvements to the physical structures and/or operations of the SDFPF, CCF, and Banks Pumping plant to improve the salvage of salmonids and Longfin Smelt.

## Schedule of Milestones:

- 2016-2018. . . . . Evaluate salvage efficiency and pre-screen losses for salmonids during the Predatory Fish Electrofishing Study (PRES)
- 2019-2021 . . . . . Evaluate salvage efficiency and pre-screen losses for salmonids during the Predatory Fish Relocation Study (PFRS)
- 2016-2021. . . . . Develop estimates of salvage efficiency for Longfin Smelt

**Project Cost:**  
\$ 7.79 Million

**Project Manager:**  
Curtis Yip  
Curtis.Yip@water.ca.gov  
(916) 654-0847

**Longfin Smelt Job Manager**  
Virginia Afentoulis  
Virginia.Afentoulis@water.ca.gov  
(209) 833-1021

**Hydraulics Job Manager**  
Adil Shah  
Shah.Adil@water.ca.gov  
(916) 653-9837

