

# Interagency Ecological Program 2023 Work Plan Element Investigation of the Distribution and Abundance of Longfin Smelt in the SFE

## Project Manager and Affiliation

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## Principal Investigator and Affiliation

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## Annual Costs (thousands) and Funding Sources

\$250 (DWR); \$50 (SJSCRWF); \$50 (USGS)

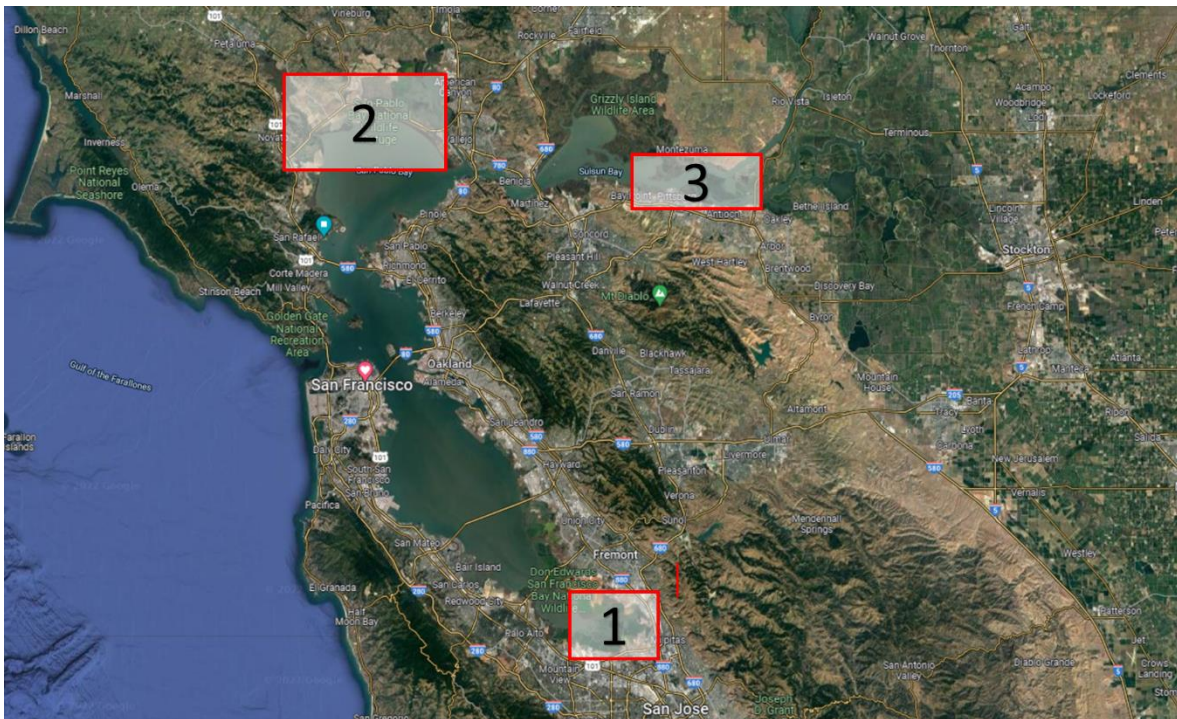


Figure: Map of San Francisco Estuary Showing areas of expanded wetland monitoring for Longfin Smelt (1,2) and collection of Longfin Smelt Broodstock (1,3). 1-Lower South Bay and Alviso Marsh, 2-Petaluma R. & Wetlands, 3-Suisun Bay and Delta Confluence.

## Description

The Otolith Geochemistry and Fish Ecology Laboratory aims to continue sampling for Longfin Smelt under PEN#296. All prior sampling for this project has been conducted downstream of Carquinez Strait where the catch of Delta Smelt is highly unlikely; however, one Delta Smelt was captured in the Petaluma River in 2017 (an extreme wet year). Prior incidental take limits of 5 adult equivalents was therefore provided under the IEP workplan PEN#296; however, no Delta Smelt have been captured since the wet

year of 2017. Continued funding for sampling Longfin Smelt in wetland habitats of the lower SFE comes from the California Department of Water Resources and the City of San Jose. We plan to re-initiate monitoring of Longfin Smelt in North Bay wetlands in 2023 with funding from the Army Corps of Engineers, passed through USGS in 2023-2024, and possibly additional funds. Study objectives continue to focus on the abundance and distribution of juvenile and adult Longfin Smelt in wetland habitats downstream of Carquinez Strait. Additional objectives include the collection of broodstock to support the DWR Longfin Smelt Culture Program (DWR) and joint sampling of water and fishes to validate eDNA tools (USGS). In support of the IEP Longfin Smelt Science Plan, we anticipate the potential need to assist the FCCL with Longfin Smelt broodstock collections into the Delta in 2023. Key personnel include Levi Lewis, Micah Bisson, and Alexander Scott (all at UC Davis).

### **Need**

This work addresses the need for expanded monitoring of Longfin Smelt and collection of Longfin Smelt Broodstock as specified in the IEP Longfin Smelt Science Plan.

### **Objectives**

- Expand monitoring of the abundance and distribution of Longfin Smelt into wetland habitats of the lower San Francisco Estuary
- Collect Longfin Smelt broodstock in support of the Longfin Smelt Culture Program

### **Schedule of Milestones**

8/1/2023: Monitoring will be conducted each winter (Dec-Mar) in North Bay and South Bay wetlands in accordance with the Longfin Smelt Science Plan. Densities and size structure of Longfin Smelt and associated water quality data from wetland habitats will be available each summer following sampling.

8/1/2023: Collection of broodstock will be conducted each winter (Dec-Mar) in Lower South Bay and Suisun Bay and Delta Confluence to support the captive culture of Longfin Smelt in accordance with the Longfin Smelt Science Plan. Information on broodstock sampling, catches, and conditions will be available each summer following sampling.