



## Interagency Ecological Program 2023 Work Plan Element San Francisco Bay Study (Shrimp)

### Project Manager and Affiliation

Jim Hobbs, CDFW

### Principal Investigator and Affiliation

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### Costs (thousands) and Funding Sources

\$84 (DWR) \$84 (USBR)



*Figure: Bay Study Otter Trawl Sample*

### Description

The San Francisco Bay Study (Bay Study) started monthly sampling in 1980, conducting trawls from a research vessel from South San Francisco Bay to the western Delta. Bay shrimp are sampled with an otter trawl, which effectively collects juvenile and adult shrimp. The primary objective of this Bay Study program element is to determine the effects of freshwater outflow and outflow related mechanisms on the abundance and distribution of estuarine and marine shrimp. Note that fish and crabs are the subject of a separate, but complementary, IEP program element.

### Need

Provides data and knowledge used to inform and set water quality standards for the protection of Bay shrimp in the San Francisco Estuary, primarily downstream of the Delta. This study was mandated by SWRCB's Water Rights Decisions 1485 and 1641.

### Objectives

- What are the annual abundance trends of the major shrimp species in the estuary?
- What are the changes in the estuary's shrimp communities over time?
- How does freshwater outflow and outflow related mechanisms affect the abundance and distribution of shrimp species and groups of species?

- How do other physical and biological factors affect the abundance and distribution of shrimp species and groups of species?
- Have recently introduced shrimp in the upper estuary displaced or otherwise impacted other shrimp species or fishes?

**Schedule of Milestones**

- January – December 2023      Monthly sampling at 52 stations
- April 2023                              2022 sample processing completed
- May 2023                                 2022 sample QC checks completed; data edited
- June 2023                                2022 catch matrix produced and posted to FTP site
- June 2023                                2022 shrimp abundance indices calculated
- Summer 2023                            2022 shrimp data released to public
- Fall 2023                                 2022 Status and Trends reports completed
- May 2023 – April 2024              2023 samples processed (approximately)