



Interagency Ecological Program 2023 Work Plan Element Suisun Marsh Fish Study (SMFS)

Project Manager and Affiliation

Teejay O'Rear, UC Davis

Principal Investigator and Affiliation

Dr. John Durand and Dr. Peter Moyle, UC Davis

Costs (thousands) and Funding Sources

\$300 DWR



Volunteer with adult striped bass.

Description

The Suisun Marsh Fish Study has been a collaboration among UC Davis, volunteers from all swaths of life interested in the marsh, and the California Department of Water Resources. Since 1980, the study has been sampling fishes and invertebrates monthly at fixed stations in subtidal sloughs throughout the marsh, with otter trawls and beach

seines. Work in the subtidal sloughs has provided the methods, context, and direction for expanded finer-scale studies focused on topics such as (1) invasive jellyfish ecology, (2) differences in aquatic community composition between managed and unmanaged wetlands, (3) plankton production in managed wetlands in relation to geography and water management, and (4) fish diets in relation to habitat type. Data collected by the fish study has been and remains crucial for (1) gauging management actions, such as tidal restoration, focused on fish and wildlife within the marsh; (2) assessing effects of management and conditions outside (e.g., Delta outflow) the marsh on Suisun Marsh fishes and invertebrates; and (3) delineating long-term trends of fishes and invertebrates, which can direct future management towards more desirable outcomes.

Need

In January 1980, the California Department of Water Resources contracted with UC Davis to monitor fishes in Suisun Marsh. Since then, monitoring has remained continuous and in compliance with regulatory requirements of (1) the San Francisco Bay Conservation and Development Commission 4-84 (M) Special Condition B, (2) the US Army Corps of Engineers 16223E58B Special Condition 1, and (3) the Suisun Marsh Preservation Agreement 2015 (Agreement Number 4600000633), formerly the Revised Suisun Marsh Monitoring Agreement.

Objectives

- Delineating the major factors affecting the aquatic community in Suisun Marsh
- Evaluating changes in water management on the aquatic community
- Informing and monitoring the effects of restoration
- Corroborating/contradicting changes (e.g., the Pelagic Organism Decline) seen in other areas of the estuary
- Evaluating the contribution of wetlands to multiple taxa across diked and undiked slough complexes

Schedule of Milestones

June 2023: Annual Report

2023: Diets of adult striped bass in Suisun Marsh; *California Fish and Game*

2023: Jellyfish ecology in the San Francisco Estuary; *San Francisco Estuary and Watershed Science*