



Interagency Ecological Program 2023 Work Plan Element Delta Juvenile Fish Monitoring Program (DJFMP)

Project Manager and Affiliation

Lori Smith, USFWS

Principal Investigator and Affiliation

Eric Huber, USFWS

Costs (thousands) and Funding Sources

\$2,575 (DWR) and \$1,545 (USBR)



Figure: Kodiak trawling at Mossdale on the San Joaquin River.

Description

The Delta Juvenile Fish Monitoring program samples year-round using beach seines and surface trawling in the Central Valley of California. Beach seines are used to monitor the abundance and distribution of Chinook Salmon and other juvenile fishes in unobstructed littoral habitats throughout the Sacramento-San Joaquin Delta and San Francisco Estuary. Surface trawls at Chipps Island, Sacramento, and Mossdale are used to monitor the relative abundance and distribution of juvenile Chinook Salmon and other native species as they enter and exit the Sacramento-San Joaquin Delta.

Need

This monitoring is mandated by the National Marine Fisheries Service's 2009 biological opinion and conference opinion on the long-term operations of the Central Valley Project and State Water Project. Currently, this survey is the only long-term IEP littoral fish survey occurring throughout the lower Sacramento and San Joaquin rivers and Delta. Data generated from this survey have informed research or management decisions (e.g., biological opinions) on fish assemblage structure, invasive species, and the ecology and status of Sacramento Splittail within the Delta and lower rivers.

Objectives

- Determine the status and trends of juvenile Chinook Salmon and other resident fishes in the San Francisco Estuary
- Examine factors influencing the status and trends of juvenile fishes
- Inform biological opinions, drought operations, and management action assessments

Schedule of Milestones

April 2020: DJFMP data updated on [Environmental Data Initiative \(EDI\) website](#)

2020: Publication: Mahardja, B., A. Goodman, A. Goodbla, A. D. Schreier, C. Johnston, D. Contreras, and L. McMartin. 2020. Introduction of Bluefin Killifish *Lucania goodei* into the Sacramento-San Joaquin Delta. *San Francisco Estuary and Watershed Science*: 18(2): Article 2.

2021: Publication: Mahardja, B., V. Tobias, S. Khanna, L. Mitchell, P. Lehman, T. Sommer, L. Brown, S. Culberson, J.L. Conrad. 2020. Resistance and resilience of pelagic and littoral fishes to drought in the San Francisco Estuary. *Ecological Applications* 31(2).

March 2021: 2019 Annual Report completed (submitted to IEP Newsletter)

May 2021: 2019-2020 and 2020-2021 Salmonid Annual Reports completed (planned submission to IEP Newsletter in June 2022)

May 2021: 2020-2021 Resident Fishes Annual Report (planned submission to IEP Newsletter in June 2022)