



## Interagency Ecological Program 2023 Work Plan Element Using Delta Smelt Enclosures to Support Species Recovery

### Project Manager and Affiliation

Melinda Baerwald, DWR

Brian Schreier, DWR

Trishelle Tempel, DWR

### Principal Investigator and Affiliation

Melinda Baerwald, DWR

Brian Schreier, DWR

Trishelle Tempel, DWR

### Costs (thousands) and Funding Sources

\$400 (DWR Internal Funds)



Figure: R/V Sentinel assists with the installation of Delta Smelt enclosures in the Sacramento River near Rio Vista.

### Description

With the wild Delta Smelt population's continued decline, cultured Delta Smelt are being used to evaluate management actions and support species recovery through experimental releases as mandated in the 2019 USFWS Biological Opinion. In the spring of 2024, we propose to deploy larval Delta Smelt into enclosures in the North

Delta Arc to assess larval survival in enclosures in a naturalized environment. In the summer of 2024, we propose to deploy enclosures with juvenile Delta Smelt to assist in collecting effectiveness data in association with the Suisun Marsh Salinity Control Gate (SMSCG) action, which is a component of the Summer-Fall Habitat Action mandated in the 2020 DFW Incidental Take Permit (Condition of Approval 9.1.3).

### **Need**

This study aims to use *in situ* Delta Smelt to evaluate the efficacy of recovery actions such as managed flow actions, which can no longer be effectively evaluated using traditional sampling for wild fish due to low population abundance. This project will also provide critical information to inform Delta Smelt supplementation strategies mandated in the 2019 USFWS Biological Opinion. This work originated from recommendations made during the 2017 Smelt Supplementation Workshop and resulting work plan (Lessard et al. 2018) and additionally addresses key knowledge gaps identified in the draft Hatchery and Genetic Management Plan for Delta Smelt, as well as Appendix 5 of the USFWS Delta Smelt Supplementation Strategy (USFWS 2020).

### **Objectives**

- Evaluate the effectiveness of managed flow actions on *in situ* juvenile Delta Smelt, particularly the Suisun Marsh Salinity Control Gate Action.
- Evaluate survival of larval Delta Smelt in enclosures in a naturalized environment.

### **Schedule of Milestones**

Feb-June 2024: Deployment of larval Delta Smelt cages in the North Delta Arc

July - Nov 2024: Deployment in support of evaluating the Suisun Marsh Salinity Control Gate action.

Nov 2024 - Dec 2025: Analyze data and communicate findings (BDSC/IEP workshop presentation, newsletter articles, manuscripts, etc.).