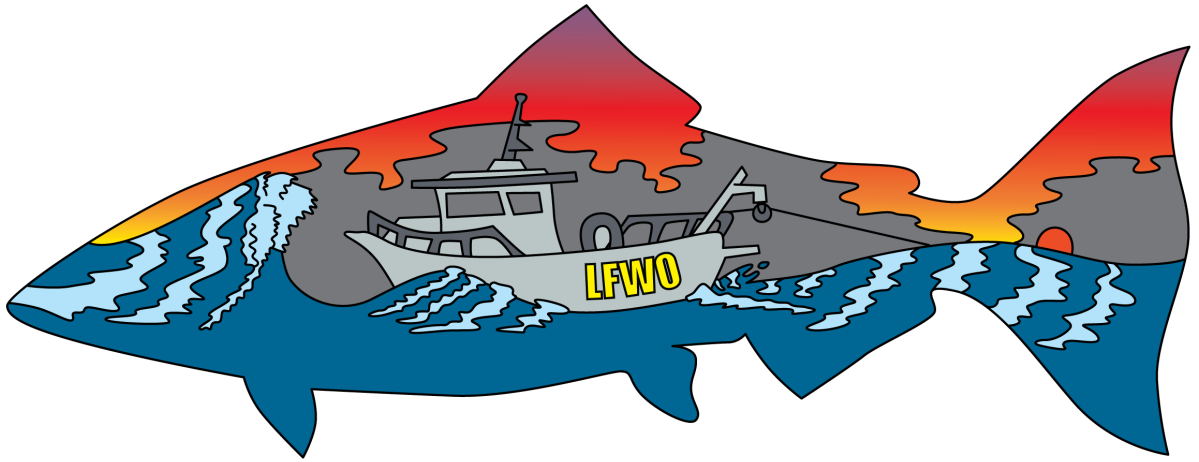
# Delta Juvenile Fish Monitoring Program Fish Finder




Jacob Stagg* (USFWS), Susannah Iltis* (SacPAS/UW),
Kevin Kwok (SacPAS/UW), Adam Nanninga (USFWS), and Lillian McCormick (USBR)

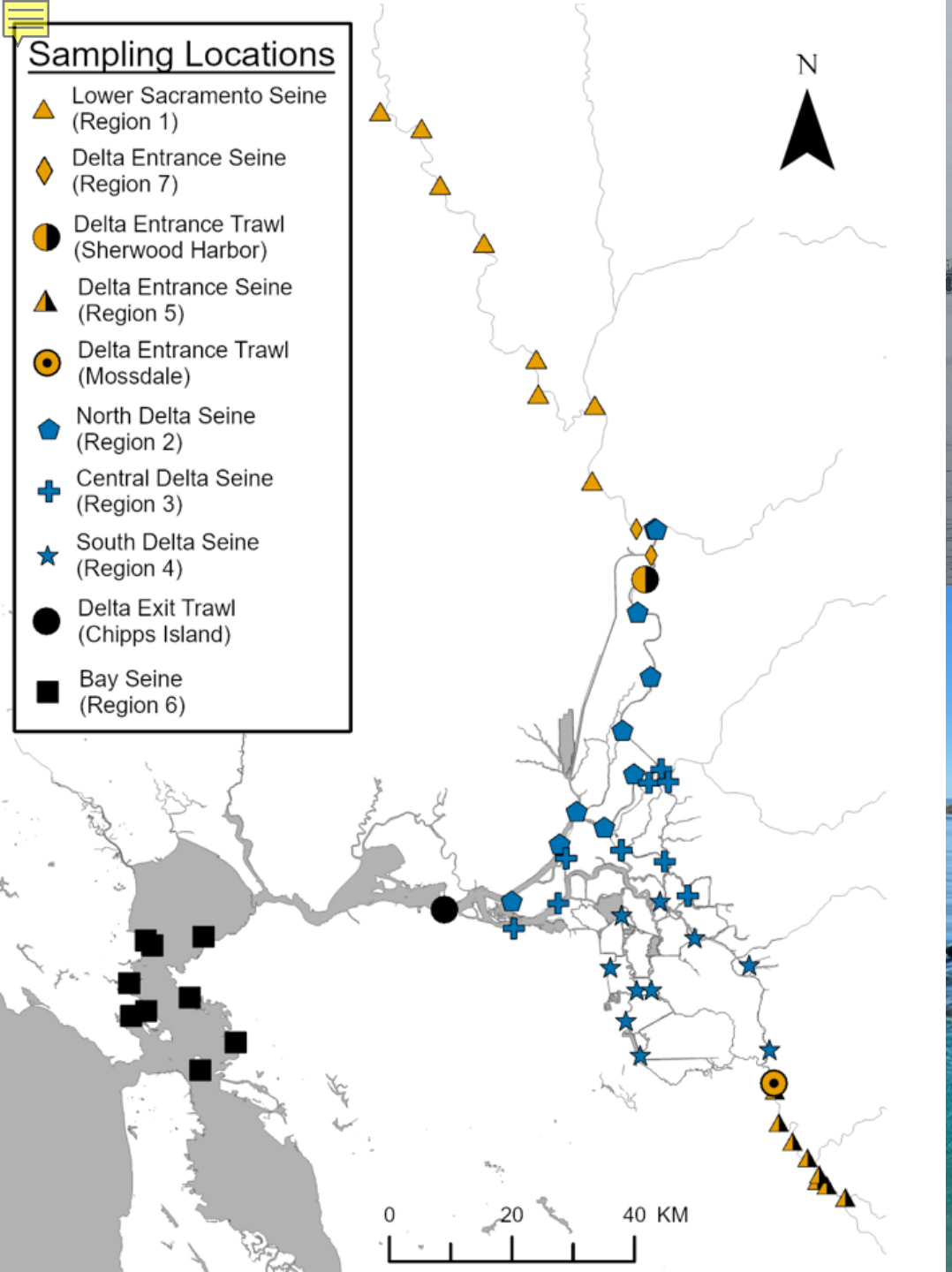
United States Fish and Wildlife Service's

# Delta Juvenile Fish Monitoring Program




## Objectives Since 1976

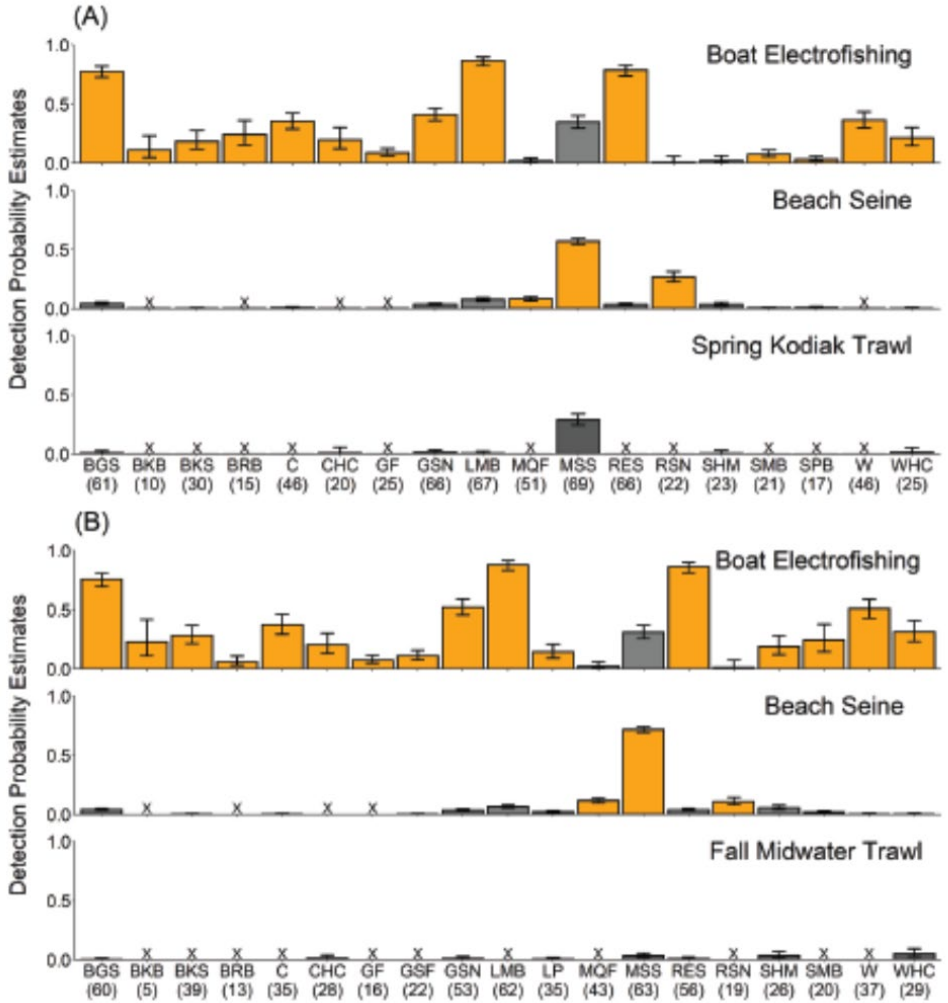
- Document the abundance, distribution, and survival of juvenile salmon within the estuary
- Intensively monitor salmon during the fall and winter on a real-time basis to manage water operations (i.e., exports and diversions)
- Identify the factors influencing salmonid survival in the Delta
- Document the abundance and distribution of non-salmon species


Sampling Locations
Lower Sacramento Seine (Region 1)
Delta Entrance Seine (Region 7)
Delta Entrance Trawl (Sherwood Harbor)
Delta Entrance Seine (Region 5)
Delta Entrance Trawl (Mossdale)
North Delta Seine (Region 2)
Central Delta Seine (Region 3)
South Delta Seine (Region 4)
Delta Exit Trawl (Chipps Island)
Bay Seine (Region 6)
N
0
20
40 KM

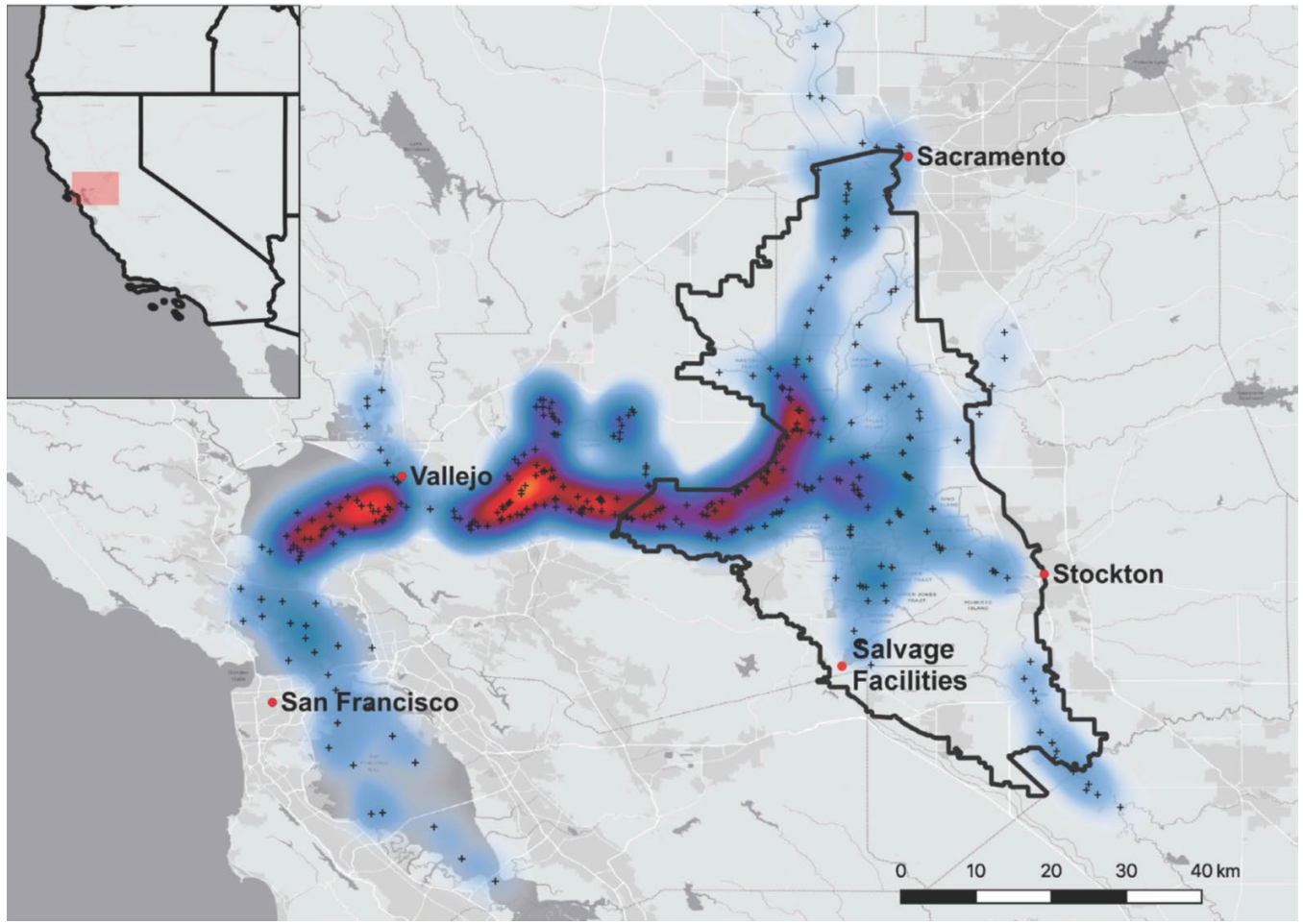




# 2013-2014: IEP SAG Review




McKenzie and Mahardja. 2021



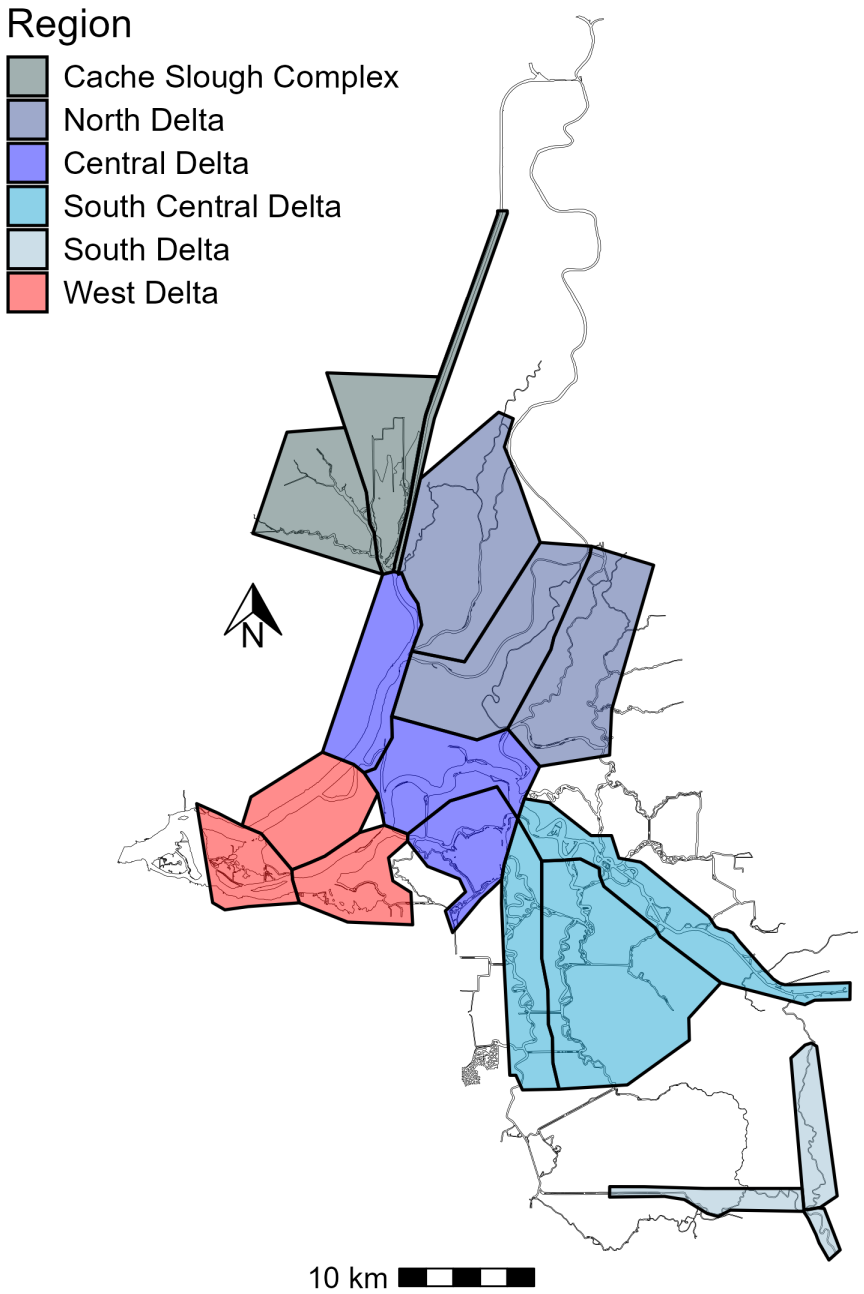

Stompe et al. 2020

# DJFMP's Electrofishing Survey

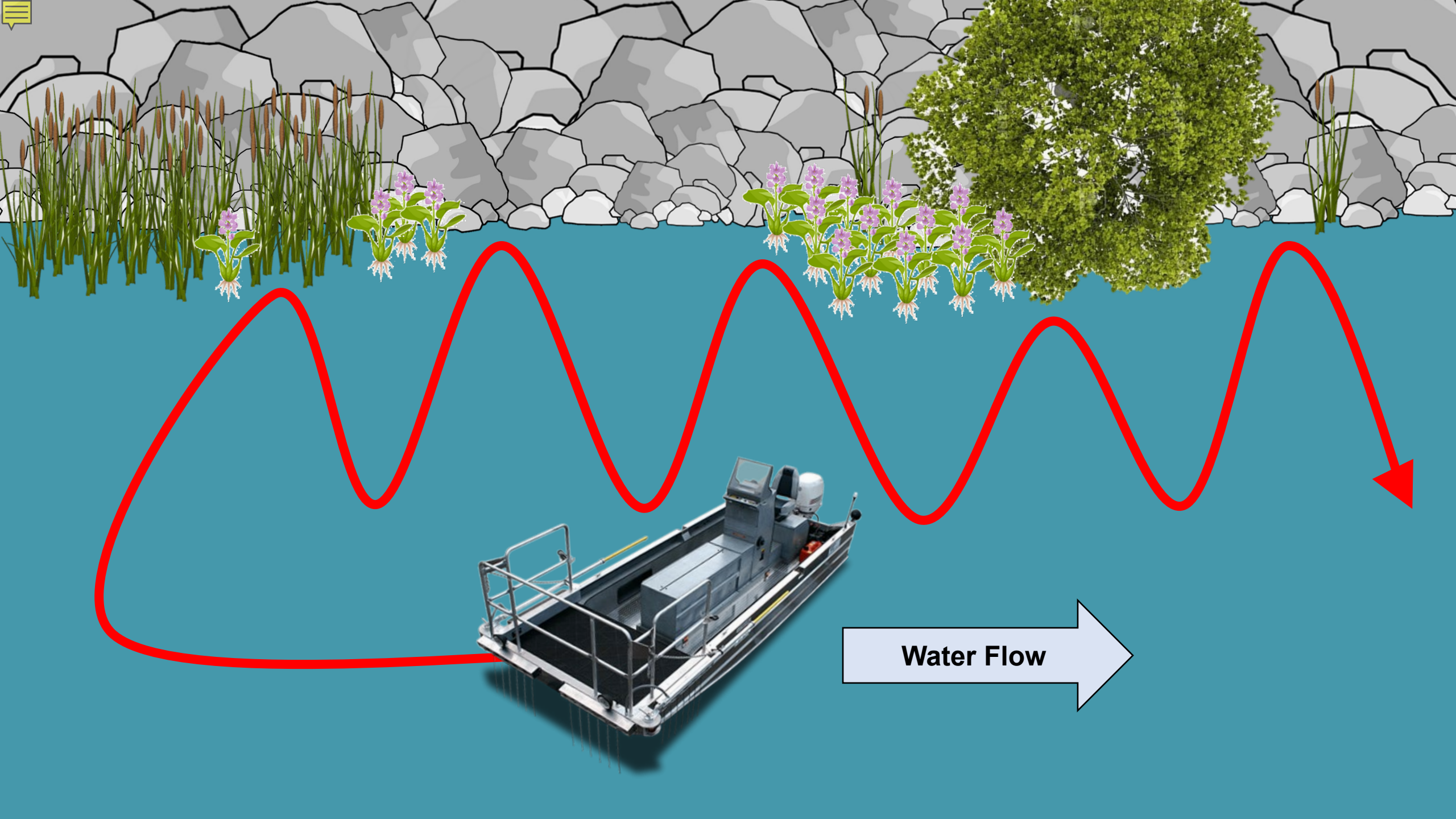
## Objectives

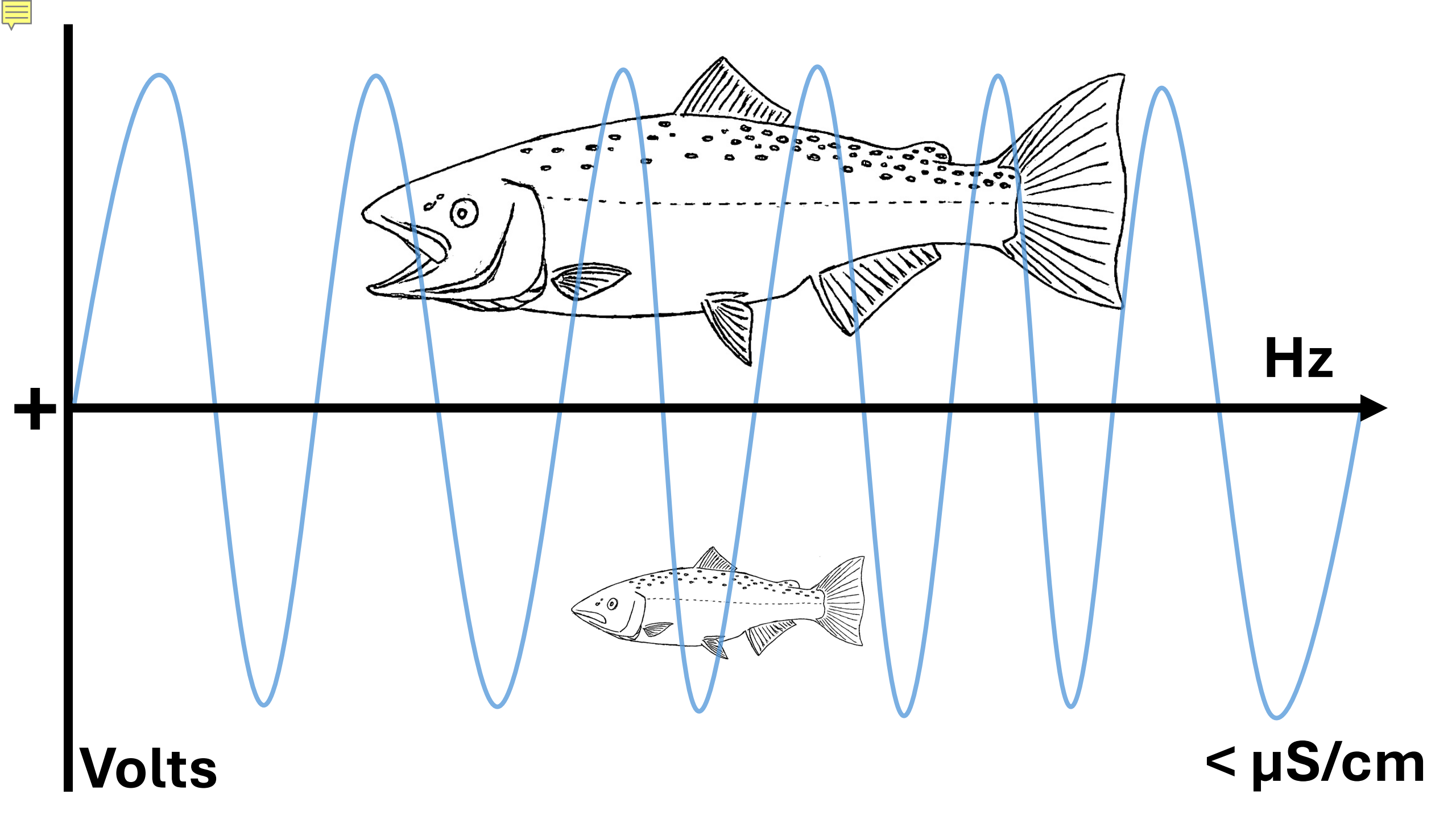
- Development of methods to estimate detection probability and spatiotemporal occupancy patterns of fish within the delta
- Selection of sampling sites based on a stratified random design
- Sample littoral habitats inaccessible to other methods

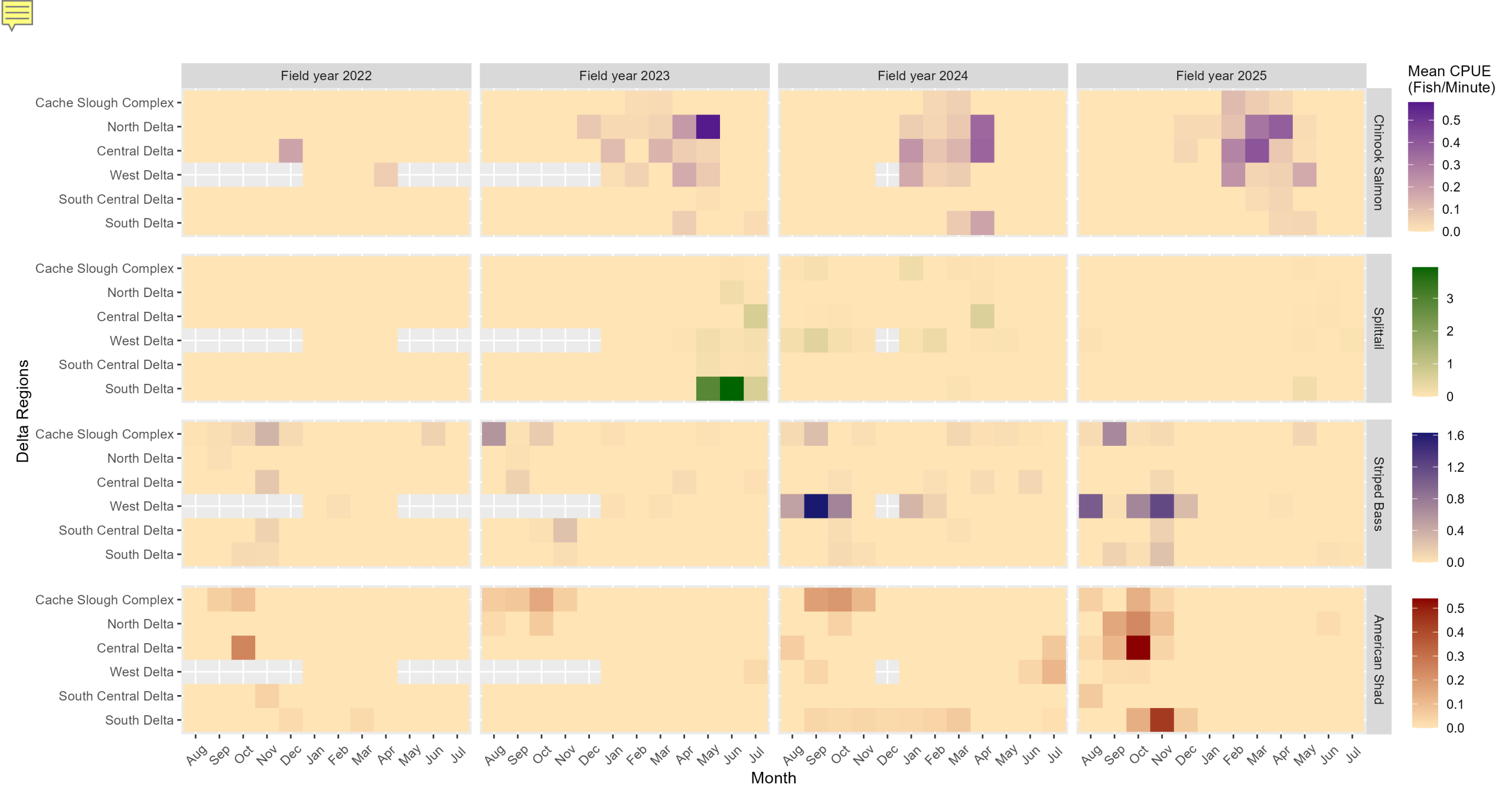



Region
Cache Slough Complex
North Delta
Central Delta
South Central Delta
South Delta
West Delta
N
10 km


38.6°N
38.4°N
38.2°N
38.0°N
37.8°N
121.9°W
121.8°W
121.7°W
121.6°W
121.5°W
121.4°W
121.3°W


Water Flow


Hz
+
Volts
< µS/cm


Field year 2022
Field year 2023
Field year 2024
Field year 2025
Chinook Salmon
Splittail
Striped Bass
American Shad
Cache Slough Complex
North Delta
Central Delta
West Delta
South Central Delta
South Delta
Delta Regions
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Month
Mean CPUE (Fish/Minute)
0.0
0.1
0.2
0.3
0.4
0.5
0
1
2
3
0.0
0.4
0.8
1.2
1.6
0.0
0.1
0.2
0.3
0.4
0.5

EDI Data Portal

## Data Package Summary

View Full Metadata

*Title:* Interagency Ecological Program: USFWS Delta Boat Electrofishing Survey, 2018-2026

*Creators:* Interagency Ecological Program (IEP)
Stagg, Jacob; United States Fish and Wildlife Service
Speegle, Jonathan; United States Fish and Wildlife Service...

Show more >

*Publication Date:* 2026-09-15

*Citation:* Interagency Ecological Program (IEP), J. Stagg, J. Speegle, A. Nanninga, E. Huber, S. Yun, J. Falcon, L. Mitchell, R. McKenzie, and D. Marcetti. 2026. Interagency Ecological Program: USFWS Delta Boat Electrofishing Survey, 2018-2026 ver 7. Environmental Data Initiative. https://doi.org/10.6073/pasta/1e762637531d8b20a4a3b25361b3ab1f (Accessed 2026-10-21).

Copy Citation

*Abstract:* The United States Fish and Wildlife Service's (USFWS) Delta Boat Electrofishing Survey was designed to estimate spatial and temporal trends in abundance, occupancy, capture probabilities, and related environmental drivers of fish assemblages across nearshore littoral habitats within the Sacramento-San Joaquin River Delta. The USFWS Lo...

Show more >

*Spatial Coverage:*




N: 39.21999207 S: 37.6131828 E: -121.176304 W: -122.4899

*Package ID:* edi.692.7 (*Uploaded 2026-09-15*)
previous revision
all revisions

Basic Filters

Advanced Settings

**Fork Length for Chinook Salmon**

0 633

0 64 128 192 256 320 384 448 512 576 633

Show 10 entries Search:

| | SubRegion | Species | Total Biomass (kg) |
|---|---|---|---|
| 1 | Cache Slough and Lindsey Slough | Chinook Salmon | 2 |
| 2 | Confluence | Chinook Salmon | 17 |
| 3 | Franks Tract | Chinook Salmon | 1 |
| 4 | Grant Line Canal | Chinook Salmon | 35 |
| 7 | Lower San Joaquin River | Chinook Salmon | 2 |
| 9 | Miner and Steamboat Slough | Chinook Salmon | 44 |

Download CSV Share this view

# Protype FishFindR

## By Alex Vaisvil (Formerly USBR)

# DJFMP Fish Finder Live on SacPAS

SacPAS
CENTRAL VALLEY PREDICTION AND ASSESSMENT OF SALMON

## Phase 1

Fully functional mapping tool that provides access to the electrofishing data with query selections, including date range, species selection, fish length, and environmental ranges.

## Phase 2

Include survey information, habitat data, regional selection tools, and develop data visualizations and summaries.

## Phase 3

Analysis tools: electrofishing occupancy model, spatiotemporal distribution maps, and habitat associations.

# Delta Juvenile Fishes Monitoring Surveys Fish Finder

(in development)

SacPAS

USFWS

**Select** (•) Data ( ) Spatial Distribution

**Fish**

**Species 1** None

**Species 2** None

**Species 3** None

**Region & Subregion**

All

Data available for this selection: Jul 2021 to Jul 2026.

**Date**

| Year | Start Month | End Month |
|---|---|---|
| 2025 | 01 | 12 |

**Environment**

**Turbidity (NTU/FNU):**

0.2 — 316

0.2 31.8 63.4 95 126.6 158.2 189.8 221.4 253 284.6 316

| Min | Max |
|---|---|
| 0.2 | 316 |

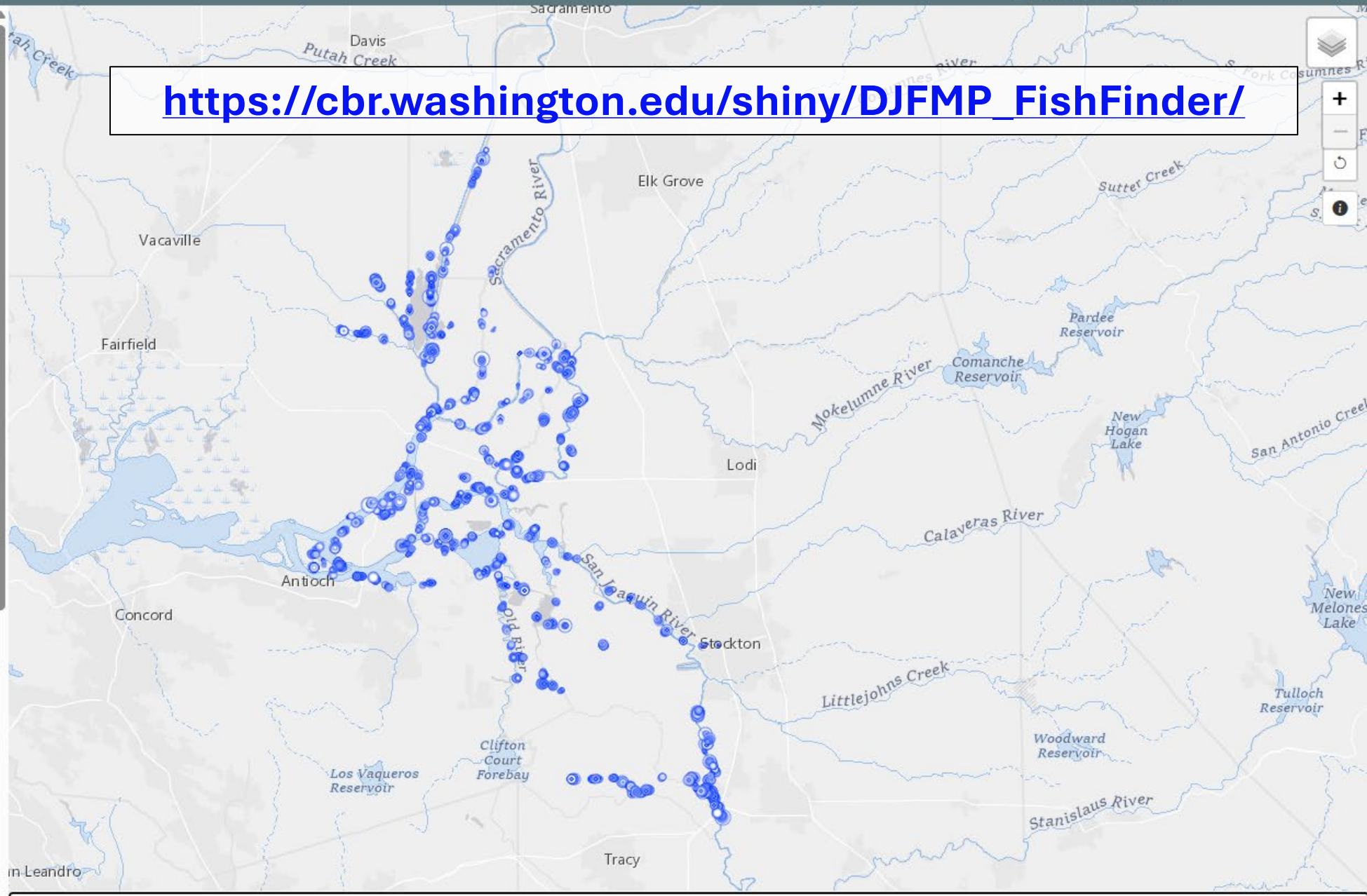
**Specific Conductance (µS/cm):**

32 — 2,733

32 303 574 845 1,116 1,387 1,658 1,929 2,200 2,471 2,733

Apply | Reset | Show Data

https://cbr.washington.edu/shiny/DJFMP_FishFinder/




Data Tables

# DJFMP Fish Finder Live on SacPAS

SacPAS
CENTRAL VALLEY PREDICTION AND ASSESSMENT OF SALMON

## Phase 1

Fully functional mapping tool that provides access to the electrofishing data with query selections, including date range, species selection, fish length, and environmental ranges.

## Phase 2

Include survey information, habitat data, regional selection tools, and develop data visualizations and summaries.

## Phase 3

Analysis tools: electrofishing occupancy model, spatiotemporal distribution maps, and habitat associations.

# DJFMP Fish Finder Live on SacPAS

SacPAS
CENTRAL VALLEY PREDICTION AND ASSESSMENT OF SALMON

## Phase 1

Fully functional mapping tool that provides access to the electrofishing data with query selections, including date range, species selection, fish length, and environmental ranges.

## Phase 2

Include survey information, habitat data, regional selection tools, and develop data visualizations and summaries.

## Phase 3

Analysis tools: electrofishing occupancy model, spatiotemporal distribution maps, and habitat associations.

# Thank You

BUREAU OF RECLAMATION




- Brown LR, Michniuk D. 2007. Littoral Fish Assemblages of the Alien-dominated Sacramento-San Joaquin Delta, California, 1980–1983 and 2001–2003. Estuaries and Coasts. 30(1):186–200. doi:10.1007/BF02782979.
- Hines JE, Nichols JH, Royle JA, MacKenzie DI, Gopalaswamy AM, Samba Kumar N, Karanth KU. 2010. Tigers on trails: occupancy modeling for cluster sampling. Ecol Appl. 20(5):1456–1466. doi.org/10.1890/09-0321.1
- IEP-SAG. 2013. Review of the IEP Delta juvenile fishes monitoring program and Delta juvenile salmonid survival studies. 27 pp.
- McKenzie R and Mahardja B. (2021). Evaluating the Role of Boat Electrofishing in Fish Monitoring of the Sacramento–San Joaquin Delta. *San Francisco Estuary and Watershed Science*, 19(1). doi:10.15447/sfews.2021v19iss1art4
- Stompe DK, Moyle PB, Kruger A, and Durand JR. 2020. Comparing and integrating fish surveys in the San Francisco Estuary: why diverse long-term monitoring programs are important. San Francisco Estuary and Watershed Science, 18(2). doi.org/10.15447/sfews.2020v18iss2art4