

Continuous Water Quality Report

1 Introduction

The Department of Water Resources (DWR) and the US Bureau of Reclamation (USBR) are required by Water Right Decision 1641 (D-1641) to collect continuous water chemistry data to monitor the water quality at select sites in the upper San Francisco Estuary (Estuary). This report describes the results of these monitoring efforts for water year 2023 (October 1st 2022 through September 30th 2023), which was classified as a wet year in the Sacramento Valley ([source](#)). Results are compared to the previous water year, which was classified as a critically dry year.

2 Methods

Discrete water quality samples were collected monthly at 24 monitoring sites throughout the Upper Estuary and were grouped into regions based on their geographic location. These sites represent a variety of aquatic habitats, from narrow, freshwater channels to broad, estuarine bays.

Water quality data was continuously monitored at 15 sites throughout the Upper Estuary and were grouped into regions based on their geographic location (Figure 1; **tbl-stations**). These sites represent a variety of aquatic habitats, from narrow, freshwater channels to broad, estuarine bays. **Note:** CEMP's Sherman Island station (SSI), which was called D11A in previous reports, has been renamed D22A to better reflect its location in relation to historical station D22.

Data were collected for six water quality parameters. All water samples were collected 1-meter below the water surface using a float-mounted YSI EXO2 multi-parameter water quality sonde. These parameters are:

- Water Temperature (°C)
- Specific Conductance (S/cm)
- Dissolved Oxygen (mg/L)
- pH
- Turbidity (FNU)
- Fluorescence (g/L)

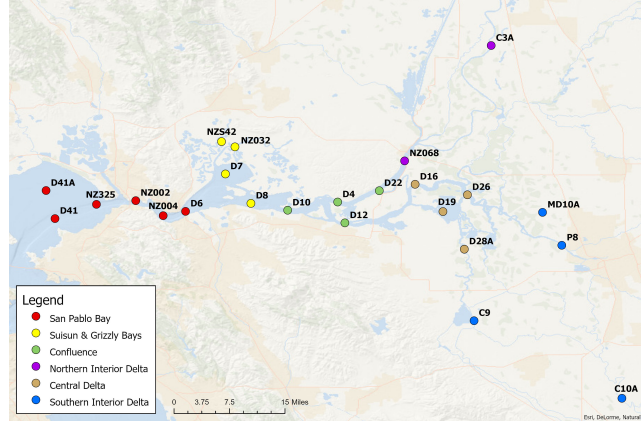


Figure 1: test

Regional facet graphs were created for each parameter. The average, minimum, and maximum values were determined for parameter, both overall and per region. Average summary statistics are reported as the mean () \pm the standard deviation.

For more in-depth methodology, see [here](#).

3 Results

3.1 Water Temperature

The average water temperature value was 13.96 ± 4.23 °C; for comparison, the previous year average was 18.03 ± 5.11 °C. Values ranged from 7.729104167 °C to 23.60645833 °C. Per region average, minimum, and maximum values are shown in `?@tbl-wt`; time series plots are shown in Figure y.

3.2 Specific Conductance

The average water temperature value was 7393.65 ± 8987.78 S/cm; for comparison, the previous year average was 5469.44 ± 7802.69 S/cm. Values ranged from 73.63541667 S/cm to 31598.125 S/cm. Per region average, minimum, and maximum values are shown in `?@tbl-spc`; time series plots are shown in Figure y.

4 Interpretations

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5 References

[CVRWQCB] Central Valley Regional Water Quality Control Board. (1998). Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, the Sacramento River Basin, and San Joaquin River Basin [Basin Plan] (4th ed.).

[SWRCB] State Water Resources Control Board. (1995). Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Estuary [Bay-Delta Plan] (Adopted May 22, 1995, pursuant to Water Right Order 95-1). Sacramento, CA.

[SWRCB] State Water Resources Control Board. (1999). Water Rights Decision 1641 for the Sacramento-San Joaquin Delta and Suisun Marsh (Adopted December 29, 1999, Revised in Accordance with order WR2000-02 March 15, 2000). Sacramento, CA.

6 Archived Reports

Old EMP continuous water quality reports can be found [here](#).