

Current Report

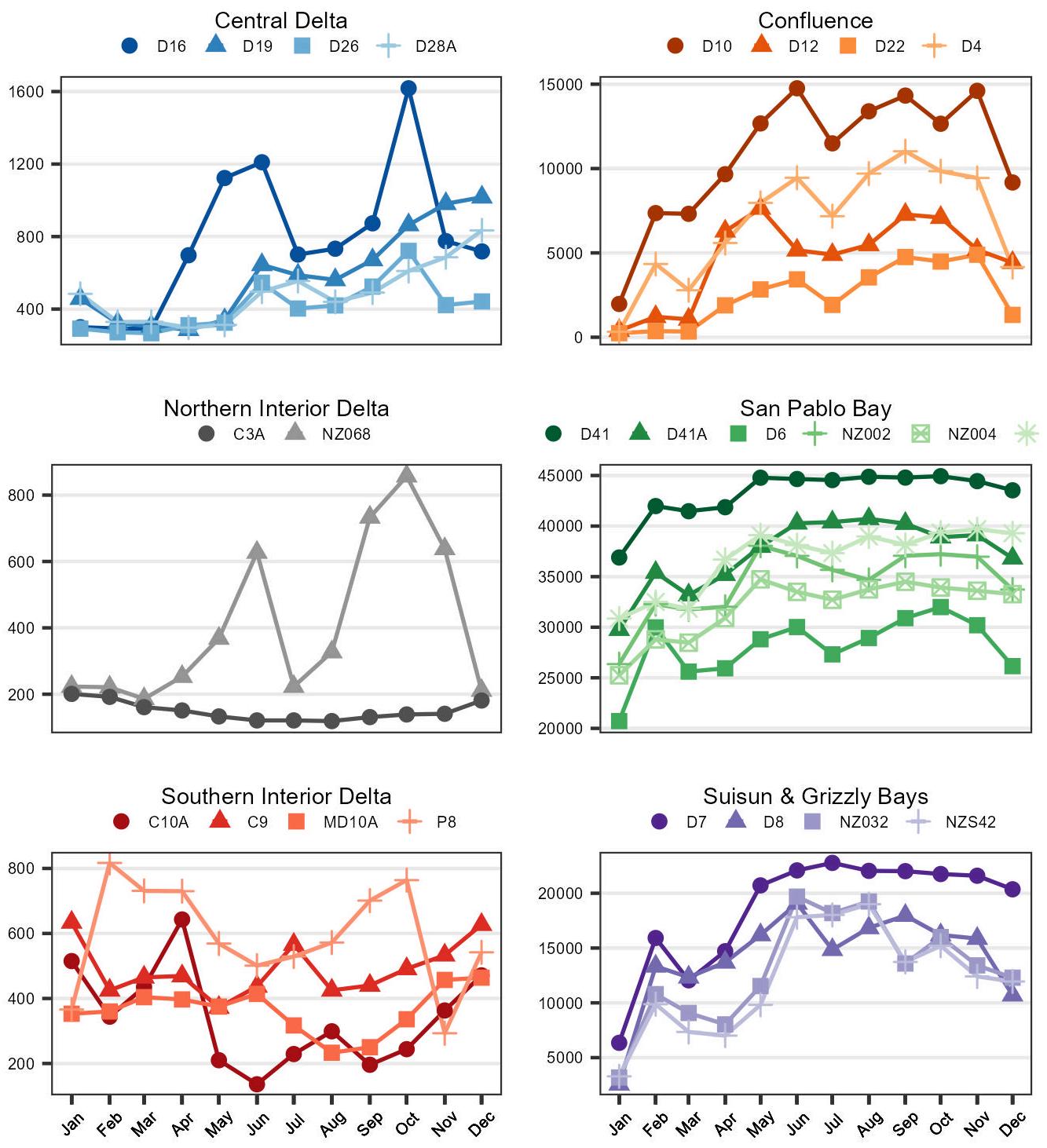
Introduction

Water year 2022 was classified as critical in the Sacramento Valley due to ongoing drought; the previous year was classified as critical (source). Regional facet graphs for 2022 were created for each parameter. The minimum and maximum values were determined for each field parameter or laboratory analyte to show that year's range; instances when a result fell below the reporting limit were excluded from these minimum and maximum calculations. When this occurred, for the corresponding graph, a vertical dashed line capped at the reporting limit was used to represent the presence of a non-detect.

Specific Conductance

Surface specific conductance varied greatly in 2022 across the sampling regions with the highest levels occurring in the western regions (San Pablo Bay, Suisun & Grizzly Bays, Confluence) due to the strong marine influence from the Pacific Ocean. Surface specific conductance ranged from 119 $\mu\text{S}/\text{cm}$ (C3A in Northern Interior Delta, August) to 44933 $\mu\text{S}/\text{cm}$ (D41 in San Pablo Bay, October) in 2022. Median specific conductance values in 2022 ($\text{med}_{\text{SpCnd}} = 4227 \mu\text{S}/\text{cm}$) were lower than the 2021 median ($\text{med}_{\text{SpCnd}} = 5101 \mu\text{S}/\text{cm}$).

Specific Conductance ($\mu\text{S}/\text{cm}$)

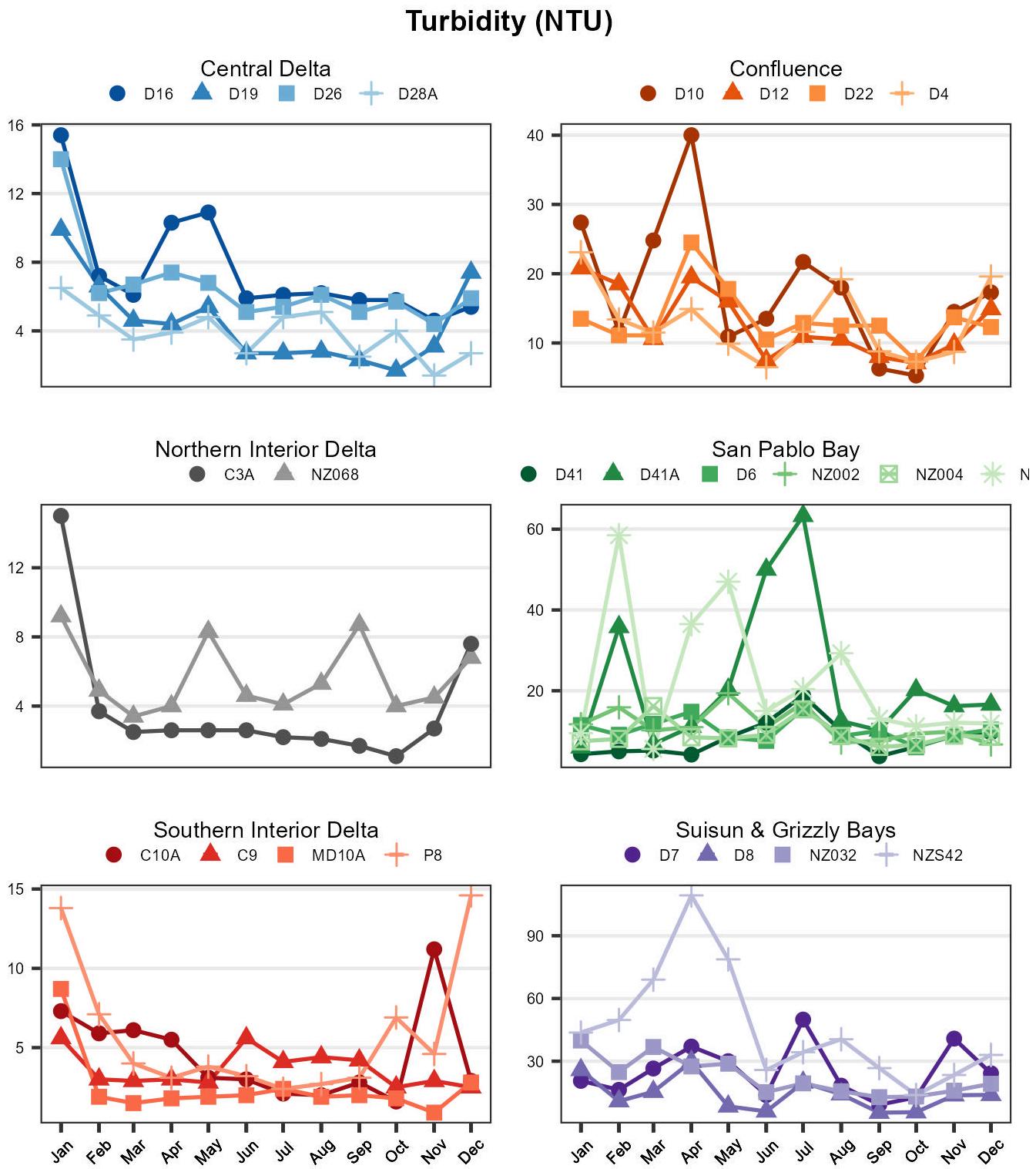


Specific Conductance ($\mu\text{S}/\text{cm}$) at six regions in the San Francisco Bay-Delta estuary in 2022.

Figure 1: Specific Conductance at six regions in the San Francisco Bay-Delta estuary.

Turbidity

Surface turbidity values ranged from 0.9 FNU (MD10A in Southern Interior Delta, November) to 109.3 FNU (NZS42 in Suisun & Grizzly Bays, April) in 2022. Median turbidity values in 2022 ($\text{med}_{\text{Turb}} = 9.1 \text{ FNU}$) were higher than the 2021 median ($\text{med}_{\text{Turb}} = 8.3 \text{ FNU}$).



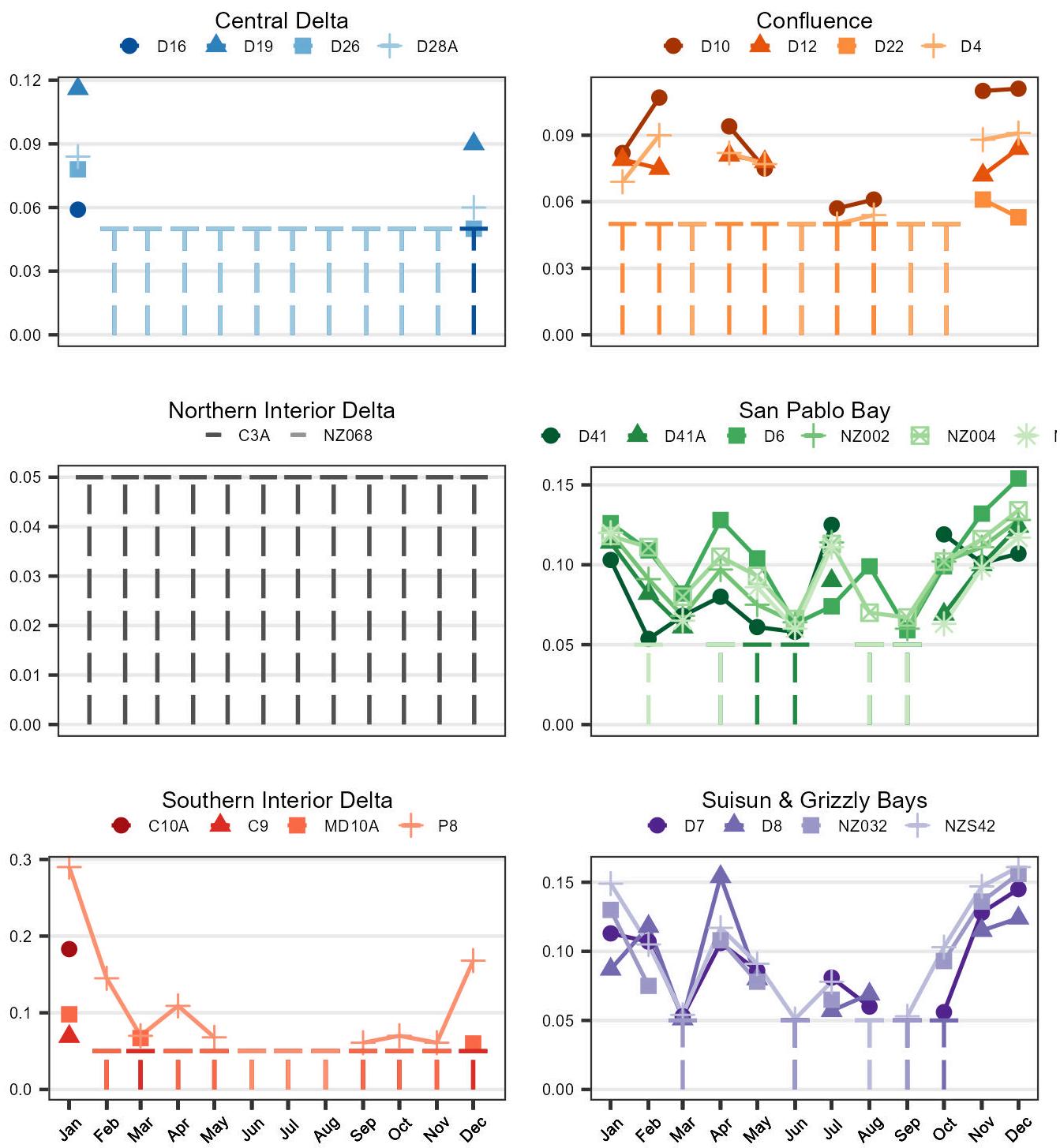
Turbidity (NTU) at six regions in the San Francisco Bay-Delta estuary in 2022.

Figure 2: Turbidity at six regions in the San Francisco Bay-Delta estuary.

Dissolved Ammonia

Dissolved ammonia levels in 2022 ranged from < 0.05 mg/L (the reporting limit) to 0.29 mg/L (P8 in Southern Interior Delta, January) in 2022. Ammonia levels are typically lower throughout the Delta and Bays, likely due to dilution and nitrification. Median dissolved ammonia values in 2022 ($\text{med}_{\text{NH}_3} = 0.05 \text{ mg/L}$) were lower than the 2021 median ($\text{med}_{\text{NH}_3} = 0.057 \text{ mg/L}$).

Dissolved Ammonia (mg/L)



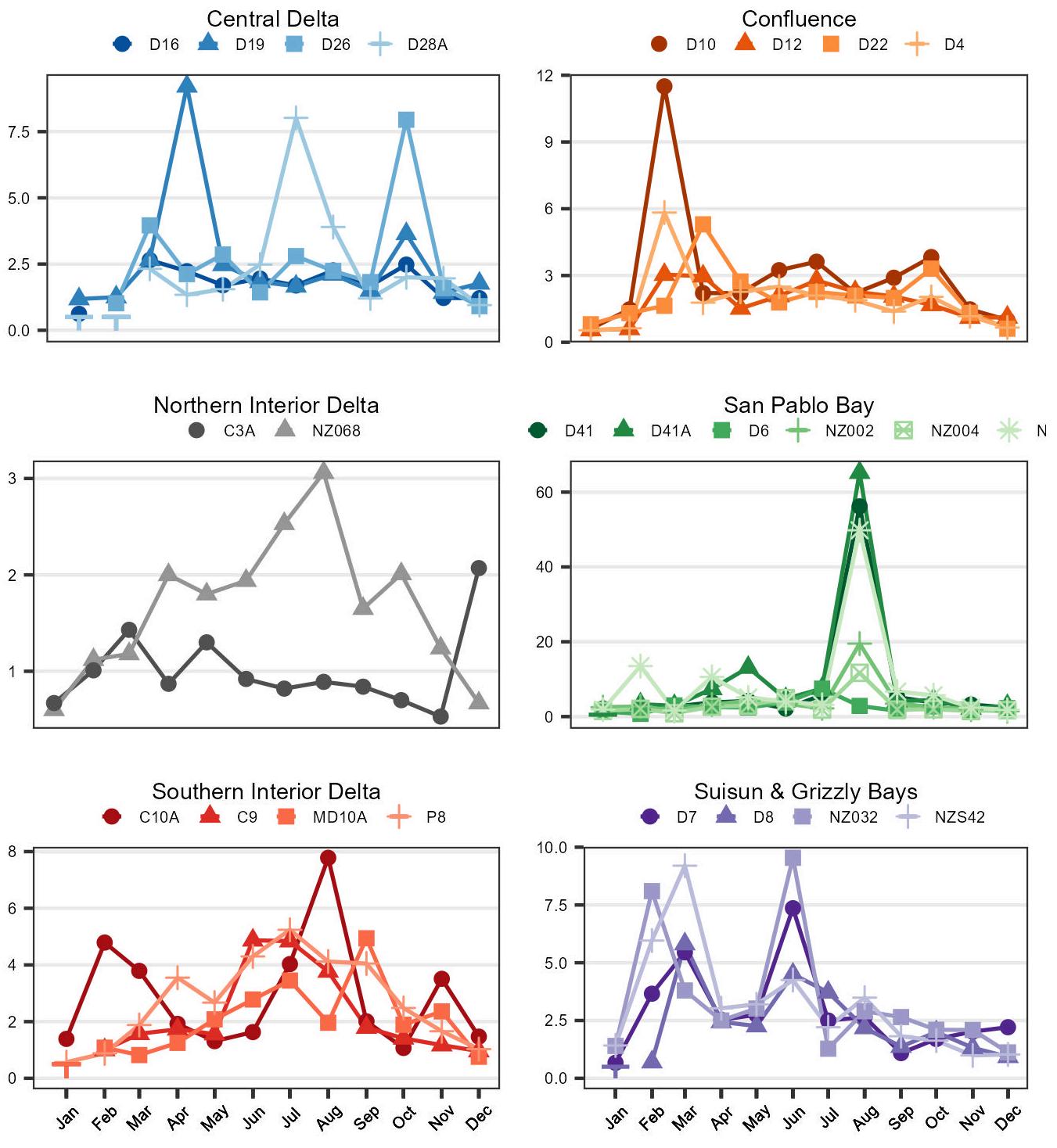
Dissolved Ammonia (mg/L) at six regions in the San Francisco Bay-Delta estuary in 2022.

Figure 3: Dissolved Ammonia at six regions in the San Francisco Bay-Delta estuary.

Chlorophyll a

Chlorophyll a values in 2022 ranged from < 0.5 µ/L (the reporting limit) to 65.2 µ/L (D41A in San Pablo Bay, August) in 2022. The highest levels of chlorophyll a were seen in the San Pablo Bay region during August. Median chlorophyll a values in 2022 ($\text{med}_{\text{Chla}} = 2.08 \mu\text{L}$) were lower than the 2021 median ($\text{med}_{\text{Chla}} = 2.37 \mu\text{L}$). This was due to a harmful algal bloom of *Heterosigma akashiwo*. More information about the phytoplankton genera is described in the phytoplankton section.

Chlorophyll α ($\mu\text{g/L}$)



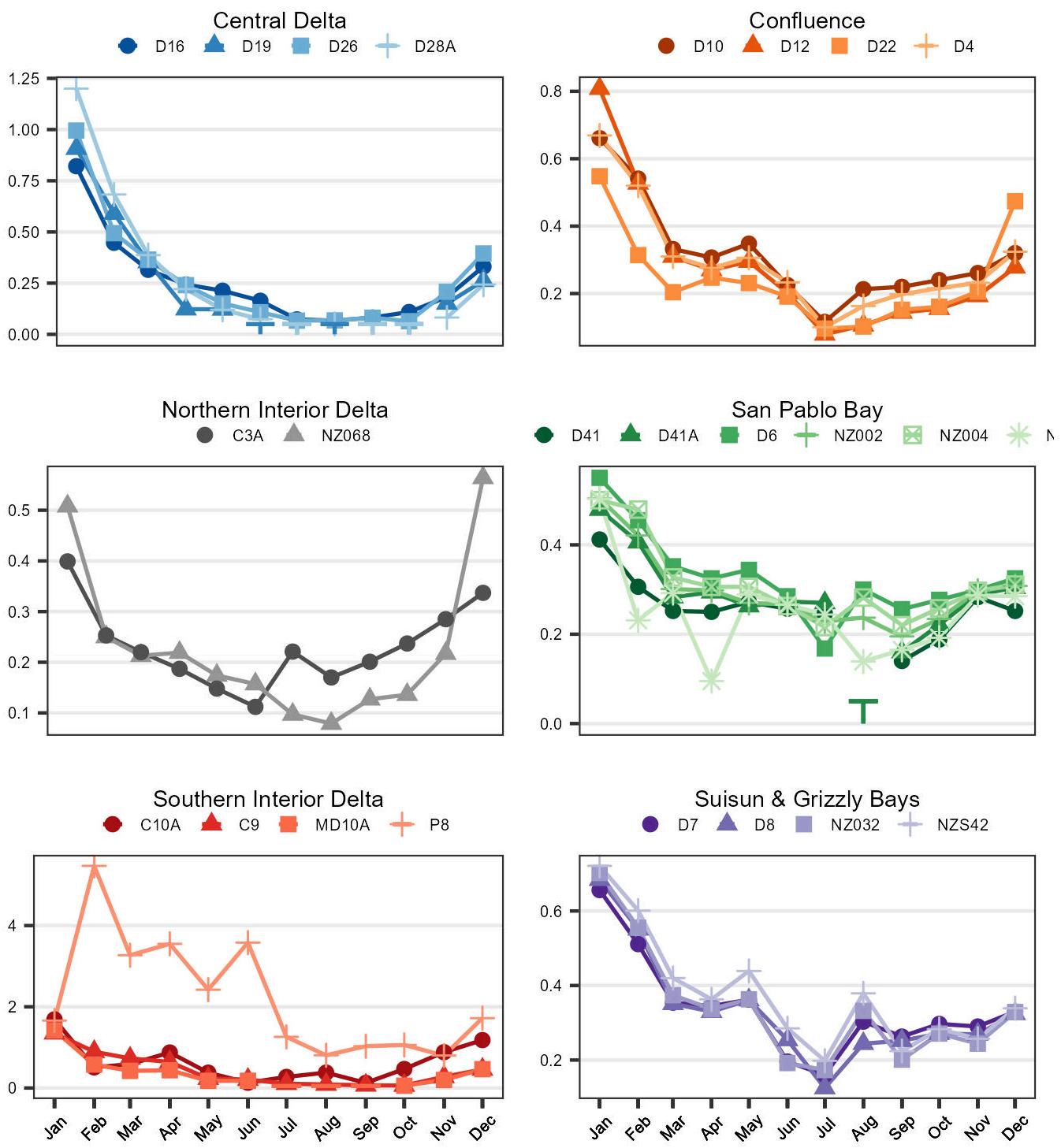
Chlorophyll α ($\mu\text{g/L}$) at six regions in the San Francisco Bay-Delta estuary in 2022.

Figure 4: Chlorophyll α at six regions in the San Francisco Bay-Delta estuary.

Dissolved Nitrate + Nitrite

Dissolved nitrate + nitrite levels in 2022 ranged from < 0.05 mg/L (the reporting limit) to 5.47 mg/L (P8 in Southern Interior Delta, February) in 2022. Median dissolved nitrate/nitrite values in 2022 ($\text{med}_{\text{DNN}} = 0.266 \text{ mg/L}$) were lower than the 2021 median ($\text{med}_{\text{DNN}} = 0.33 \text{ mg/L}$). The Southern Interior Delta region had the highest fluctuation of dissolved nitrate + nitrite concentrations and had the highest levels compared to the rest of the estuary, likely due to influence from nearby agricultural land use and wastewater treatment effluent.

Dissolved Nitrate+Nitrite (mg/L)



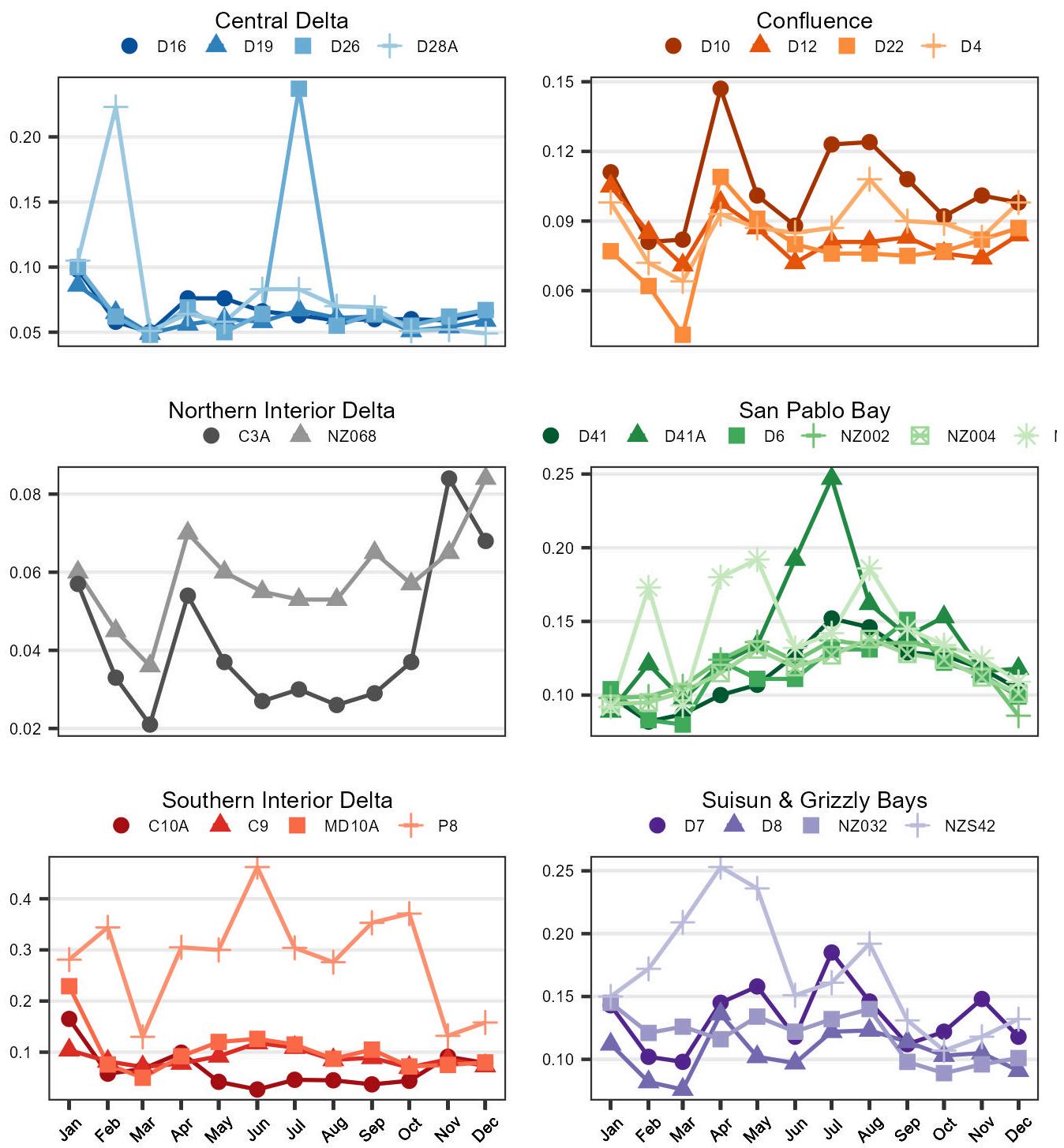
Dissolved Nitrate+Nitrite (mg/L) at six regions in the San Francisco Bay-Delta estuary in 2022.

Figure 5: Dissolved Nitrate + Nitrite at six regions in the San Francisco Bay-Delta estuary.

Total Phosphorus

Total phosphorus levels in 2022 ranged from 0.021 mg/L (C3A in Northern Interior Delta, March) to 0.462 mg/L (P8 in Southern Interior Delta, June) in 2022. Median specific conductance values in 2022 ($\text{med}_{\text{TotPhos}} = 0.091 \text{ mg/L}$) were lower than the 2021 median ($\text{med}_{\text{TotPhos}} = 0.097 \text{ mg/L}$). The Southern Interior Delta region had the highest fluctuation of total phosphorus concentrations and had the highest levels compared to the rest of the estuary, likely due to influence from nearby agricultural land use and wastewater treatment effluent.

Total Phosphorus (mg/L)



Total Phosphorus (mg/L) at six regions in the San Francisco Bay-Delta estuary in 2022.

Figure 6: Total Phosphorus at six regions in the San Francisco Bay-Delta estuary.

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