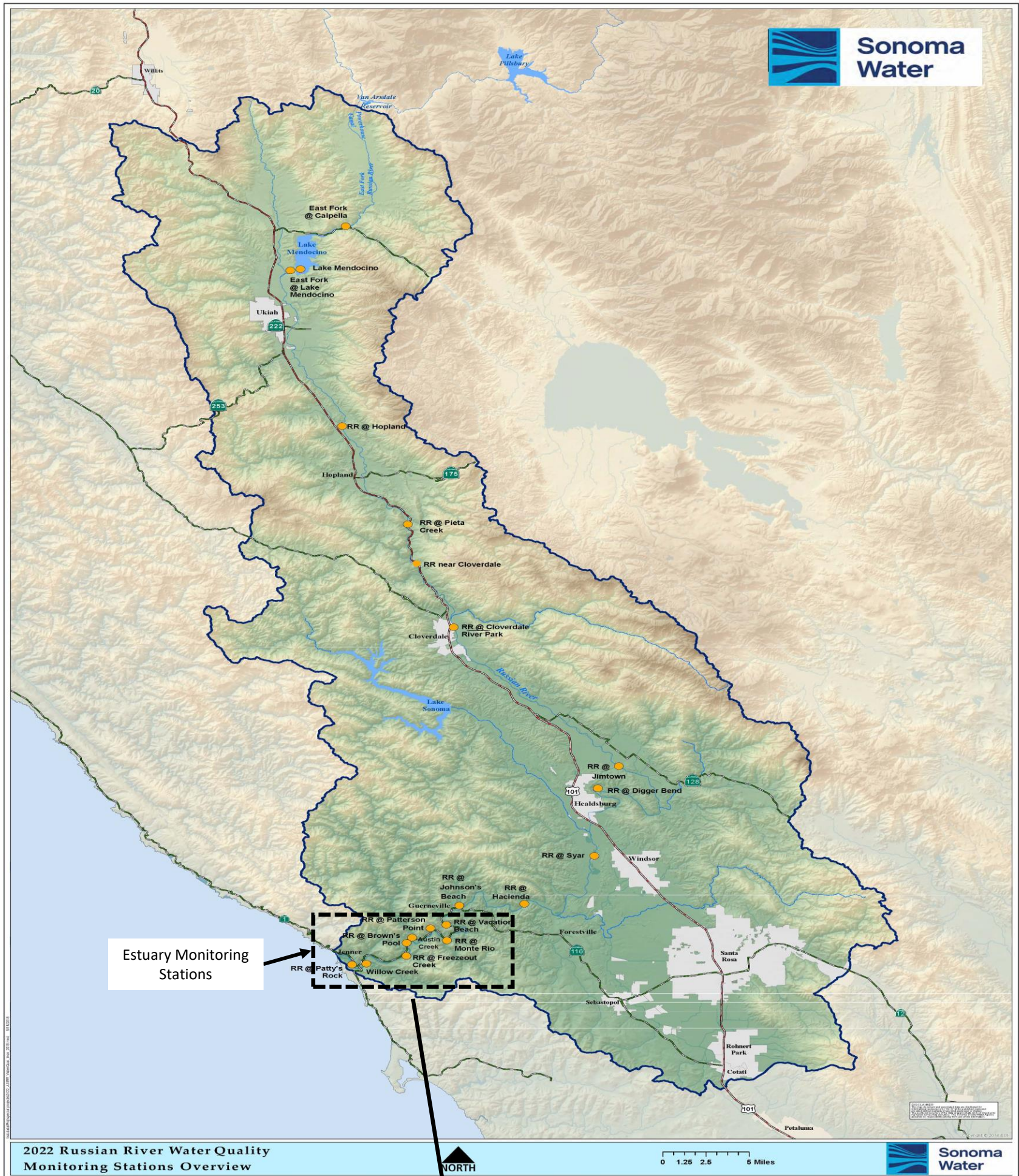


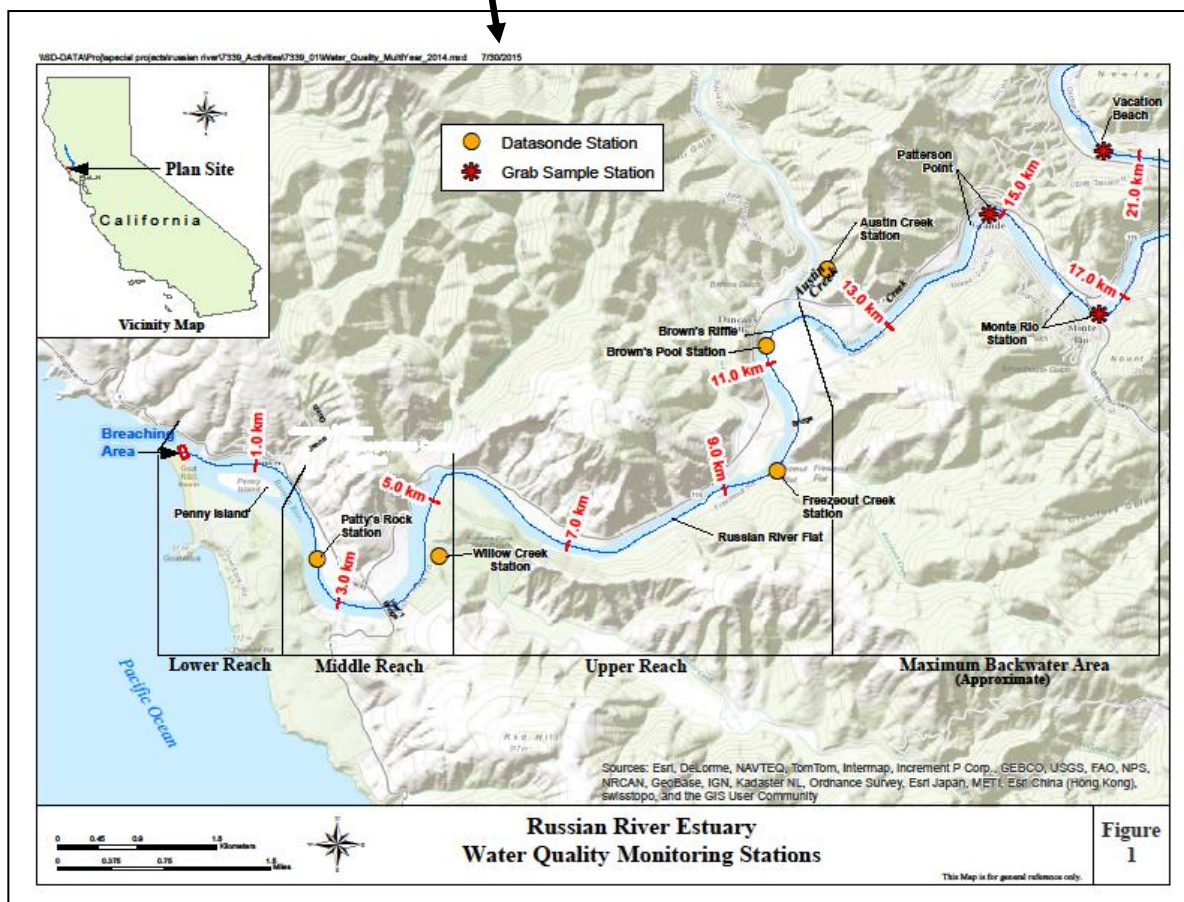


Sonoma Water

State Water Resources Control Board Temporary Urgency Change Order (6/17/2022) Russian River Water Quality Report October 7 – October 13, 2022



2022 Russian River Water Quality Monitoring Stations Overview



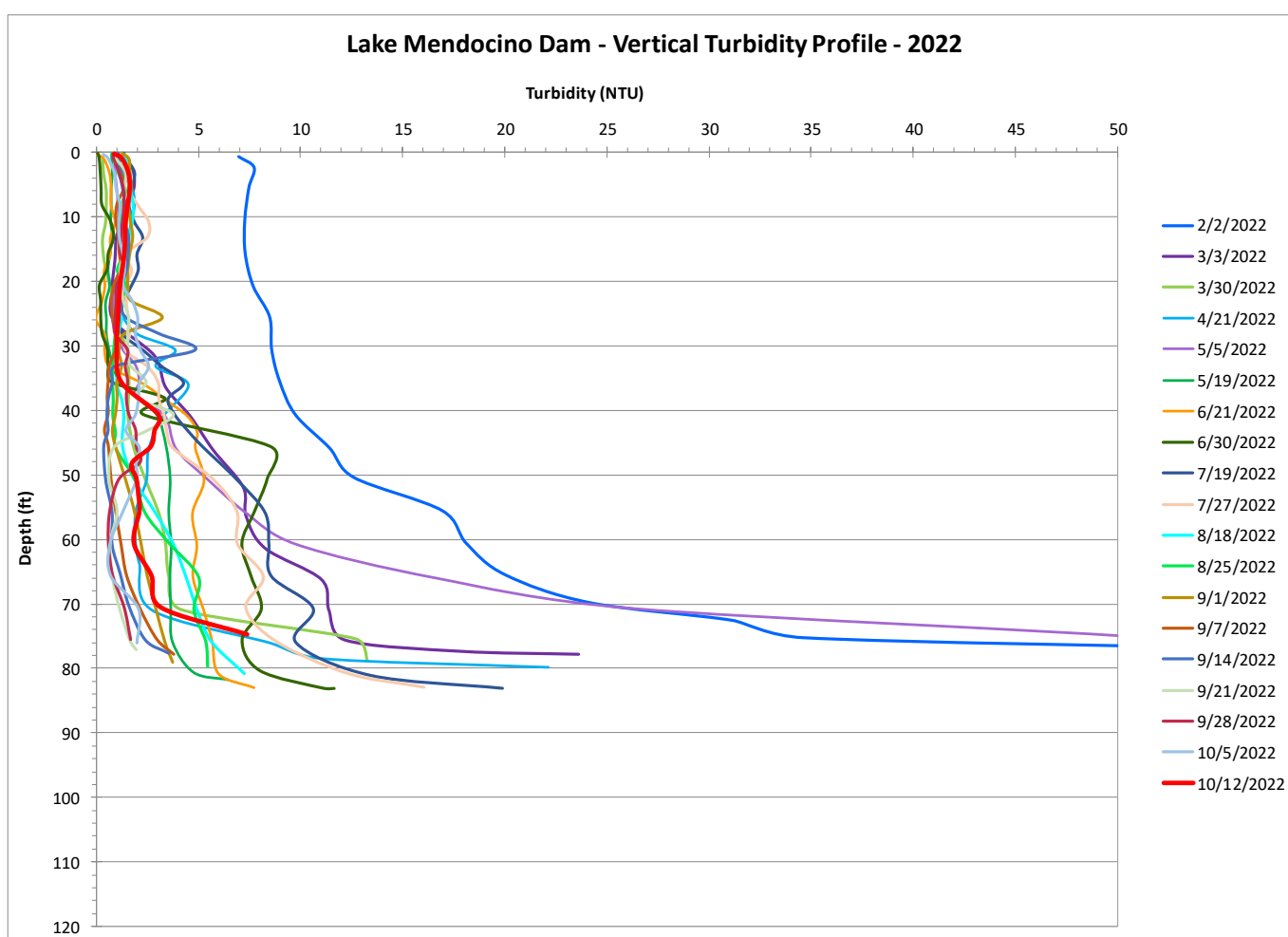
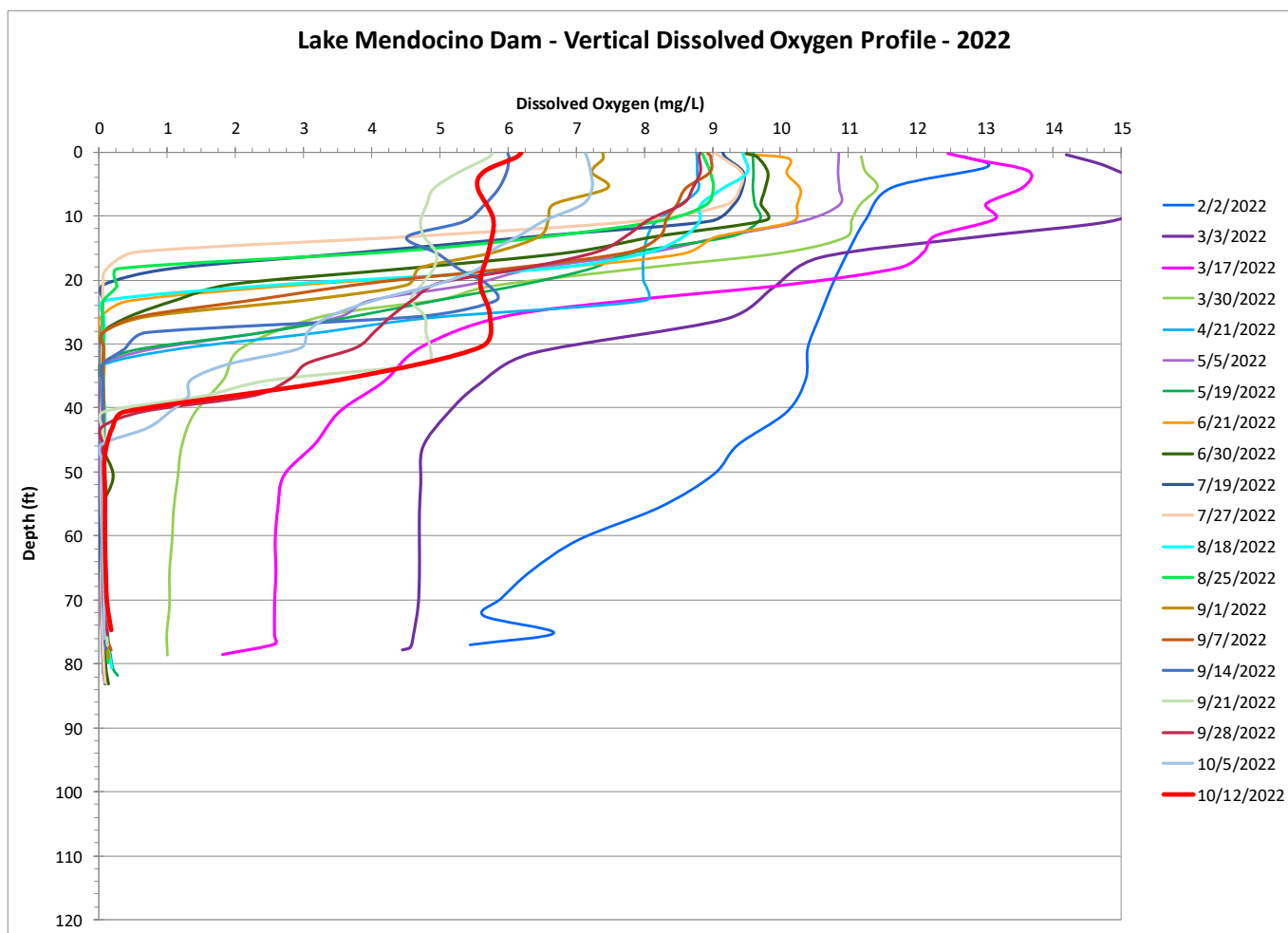
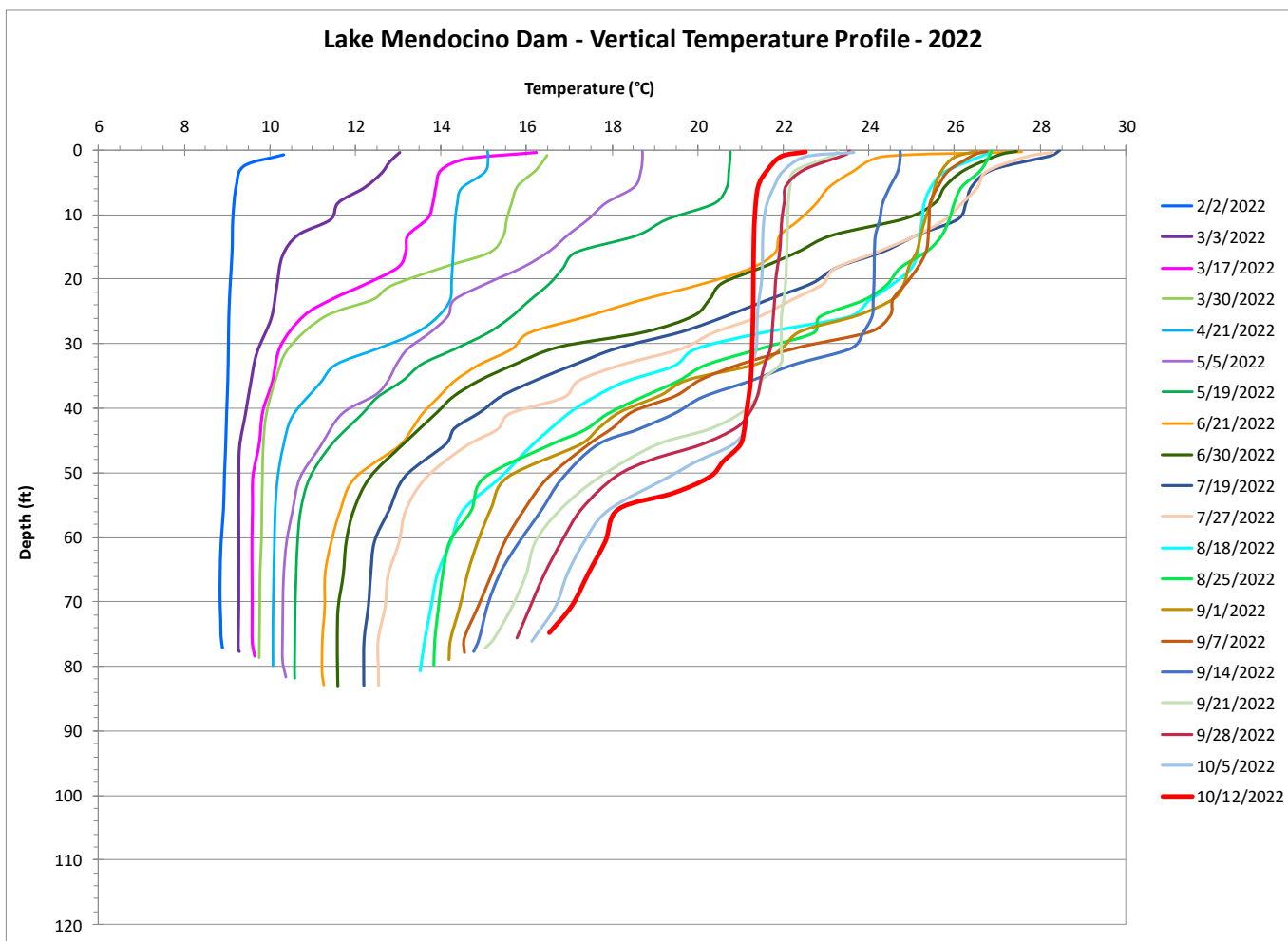
Russian River Estuary Water Quality Monitoring Stations

Figure 1

This Map is for general reference only.

Lake Mendocino Water Quality Vertical Profiles (February 2 – October 12, 2022)

Provisional Data Subject to Revision

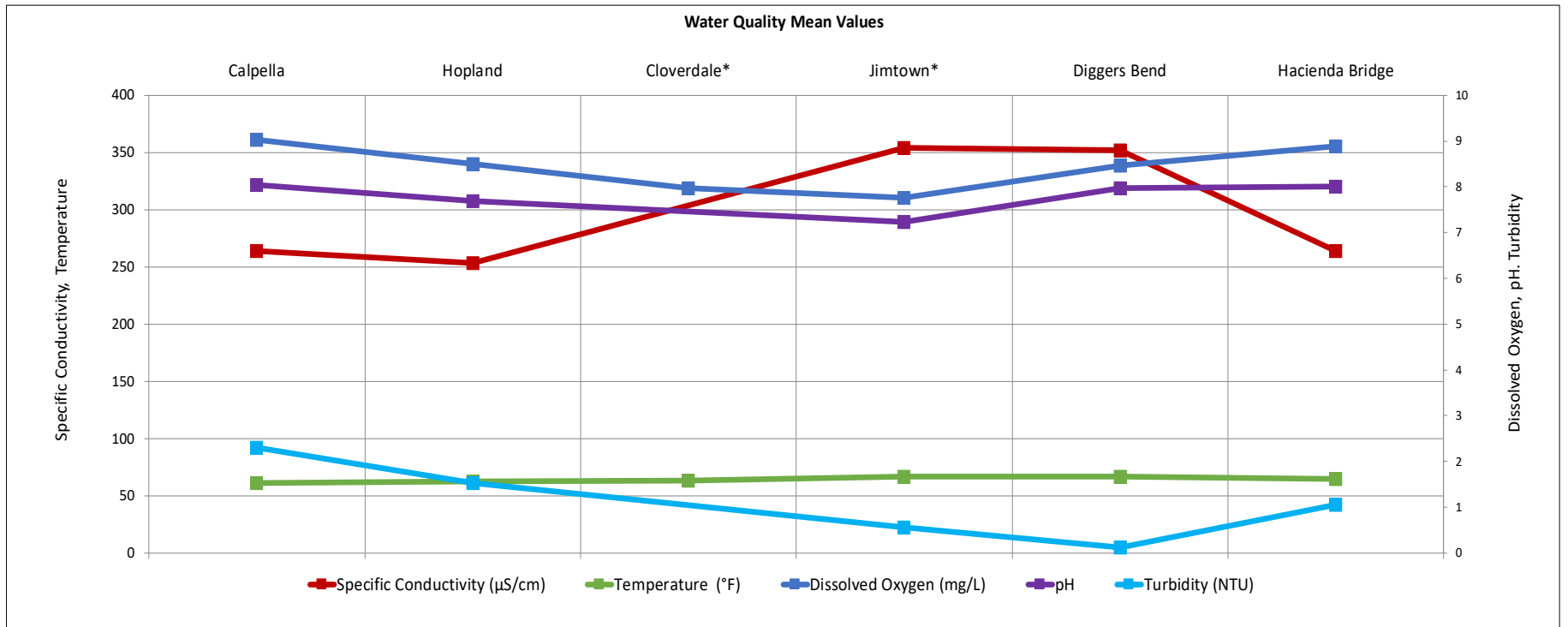


Russian River Water Quality Sondes (October 7 2022 – October 13, 2022)

Provisional Data Subject to Revision

| Parameter | | Calpella | Hopland | Cloverdale* | Jimtown* | Diggers Bend | River Diversion System at Mirabel* | Hacienda Bridge | Johnsons Beach* |
|---------------------------------|------|---------------|---------------|---------------|---------------|---------------|------------------------------------|-----------------|-----------------|
| | | USGS 11461500 | USGS 11462500 | USGS 11463000 | USGS 11463682 | USGS 11463980 | SCWA | USGS 11467000 | SCWA |
| Temperature (°F) | Min | 58.3 | 59.7 | 60.8 | 64.0 | 64.0 | | 63.0 | |
| | Max | 64.2 | 64.9 | 66.7 | 69.1 | 70.2 | | 67.6 | |
| | Mean | 61.3 | 62.4 | 63.5 | 66.5 | 66.8 | | 64.9 | |
| Specific Conductivity (µS/cm) | Min | 250.0 | 251.0 | | 354.0 | 349.0 | | 259.0 | |
| | Max | 274.0 | 257.0 | | 355.0 | 355.0 | | 277.0 | |
| | Mean | 264.2 | 253.4 | | 354.4 | 352.4 | | 264.1 | |
| Dissolved Oxygen (mg/L) | Min | 8.5 | 7.5 | 5.8 | 5.9 | 7.0 | | 7.8 | |
| | Max | 9.9 | 9.6 | 10.6 | 10.1 | 10.5 | | 9.6 | |
| | Mean | 9.0 | 8.5 | 8.0 | 7.8 | 8.5 | | 8.9 | |
| Dissolved Oxygen (% Saturation) | Min | 86.6 | 76.0 | 59.1 | 62.8 | 74.4 | | 81.4 | |
| | Max | 101.8 | 100.4 | 112.6 | 111.9 | 117.1 | | 103.4 | |
| | Mean | 92.0 | 87.8 | 83.4 | 84.0 | 92.1 | | 94.3 | |
| pH | Min | 7.9 | 7.5 | | 7.1 | 7.8 | | 7.8 | |
| | Max | 8.2 | 7.9 | | 7.5 | 8.2 | | 8.2 | |
| | Mean | 8.0 | 7.7 | | 7.2 | 8.0 | | 8.0 | |
| Turbidity (NTU) | Min | 0.9 | 0.9 | | 0.2 | 0.0 | | 0.5 | |
| | Max | 22.9 | 4.0 | | 1.1 | 1.0 | | 2.1 | |
| | Mean | 2.3 | 1.5 | | 0.6 | 0.1 | | 1.1 | |

*Station operated seasonally

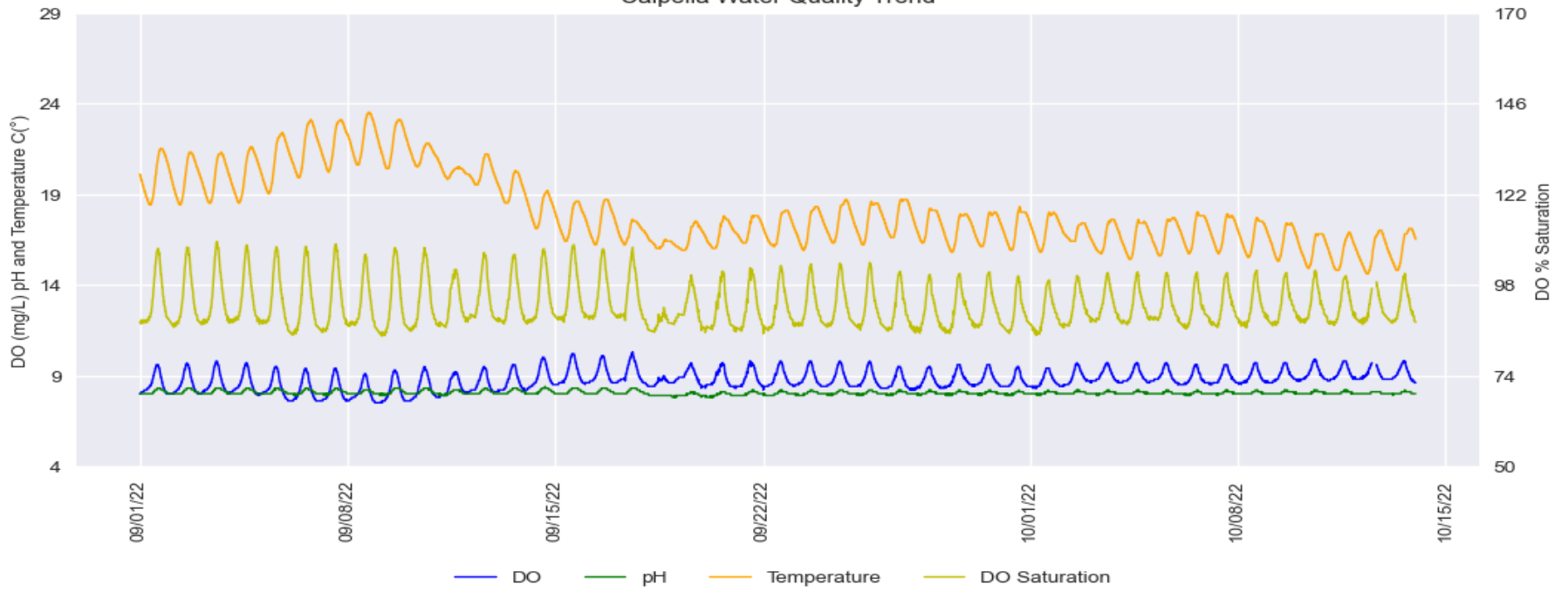


Russian River Water Quality September 01, 2022 - October 13, 2022

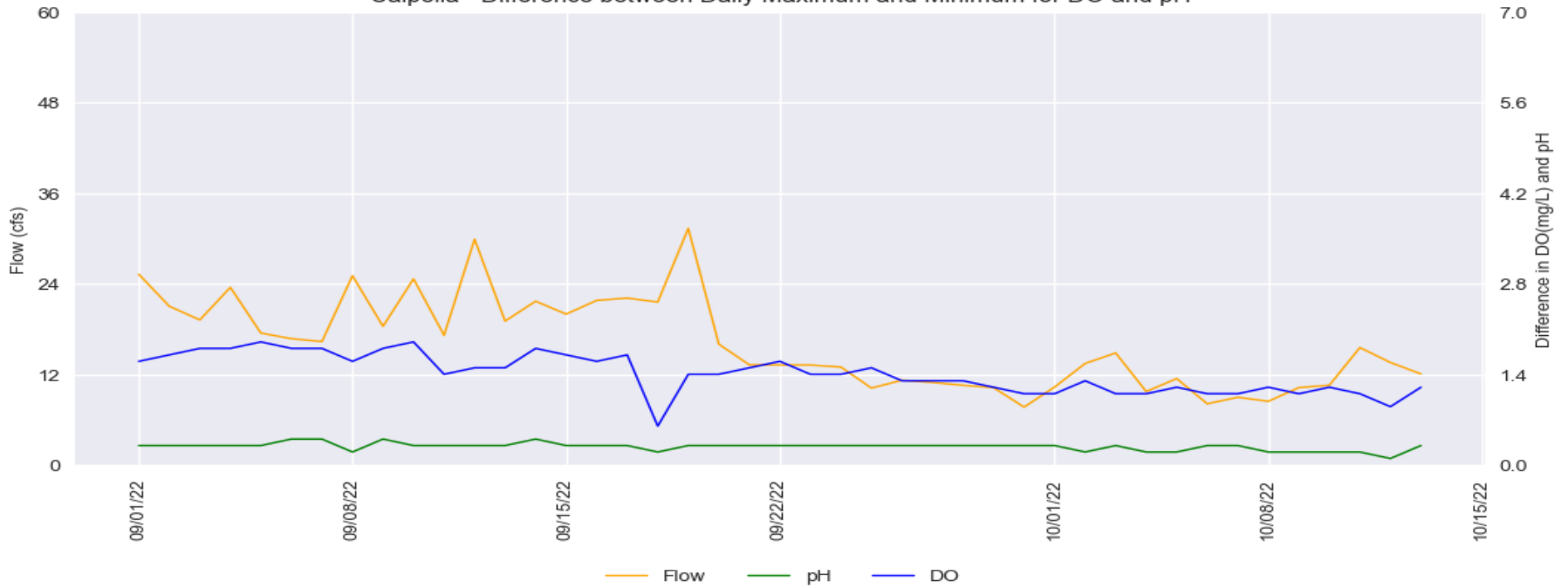
Provisional Data Subject to Revision

Calpella (East Fork Russian River)

Calpella Water Quality Trend



Calpella - Difference between Daily Maximum and Minimum for DO and pH

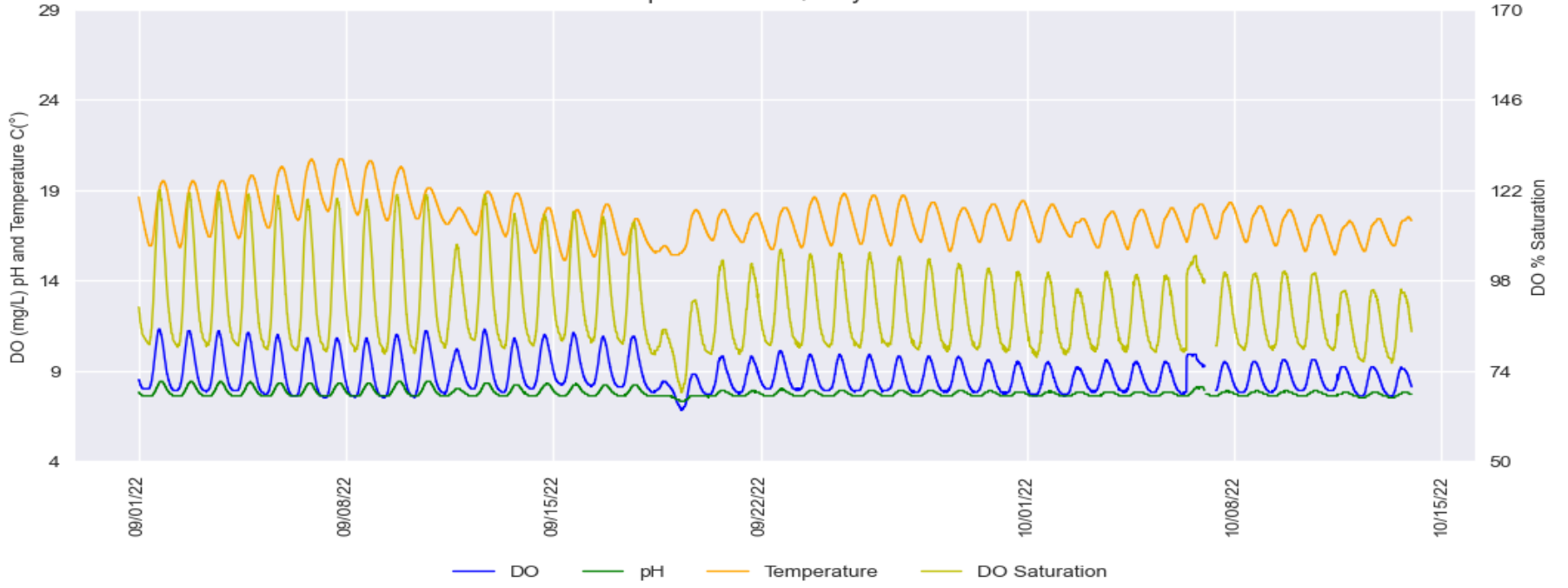


Russian River Water Quality September 01, 2022 - October 13, 2022

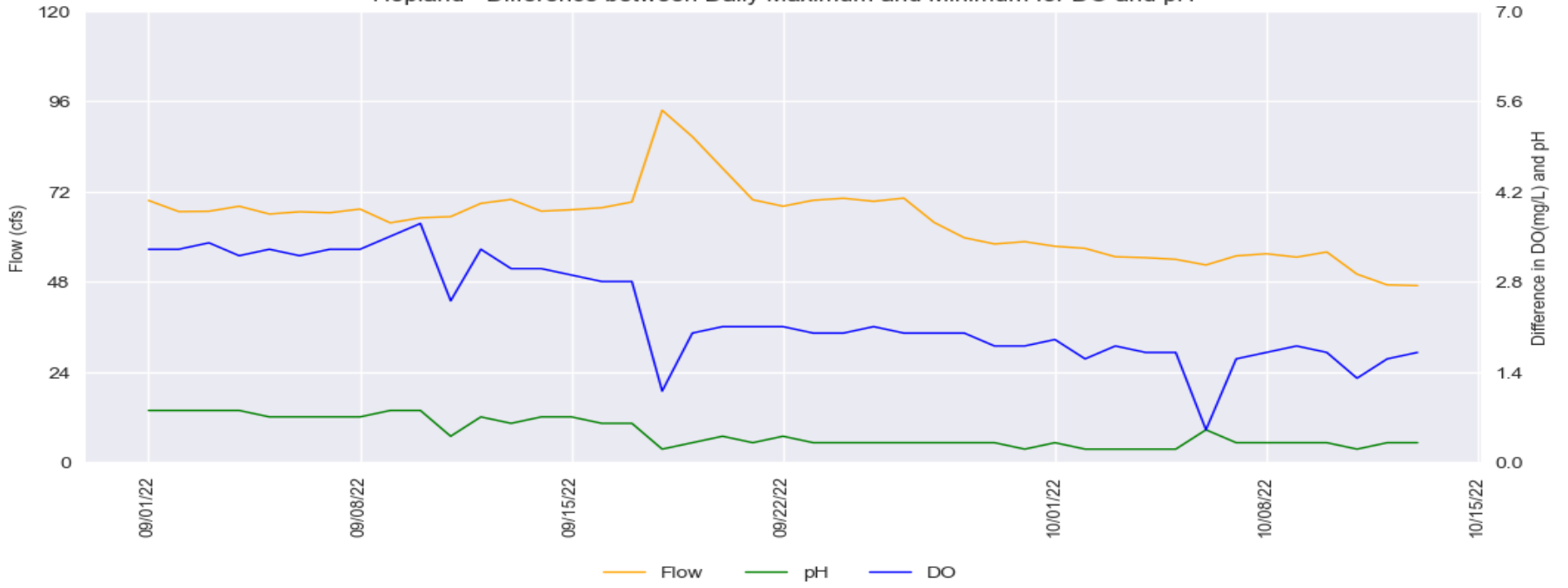
Provisional Data Subject to Revision

Hopland

Hopland Water Quality Trend

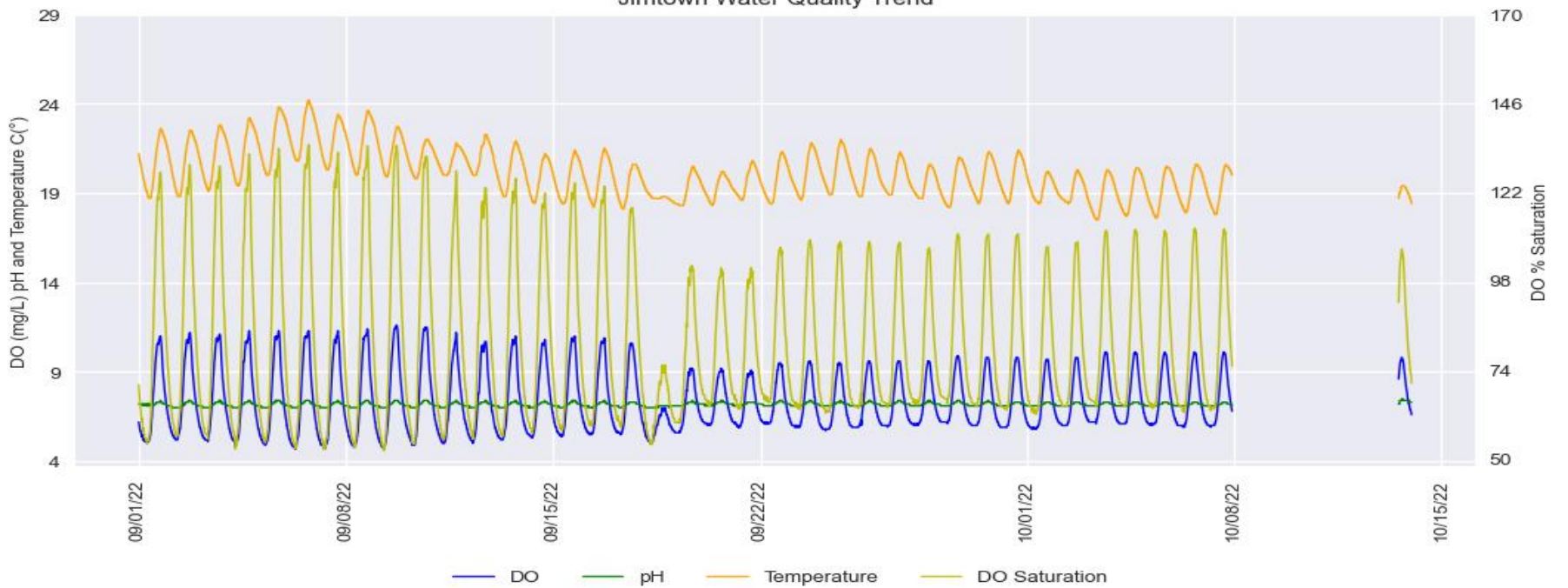


Hopland - Difference between Daily Maximum and Minimum for DO and pH

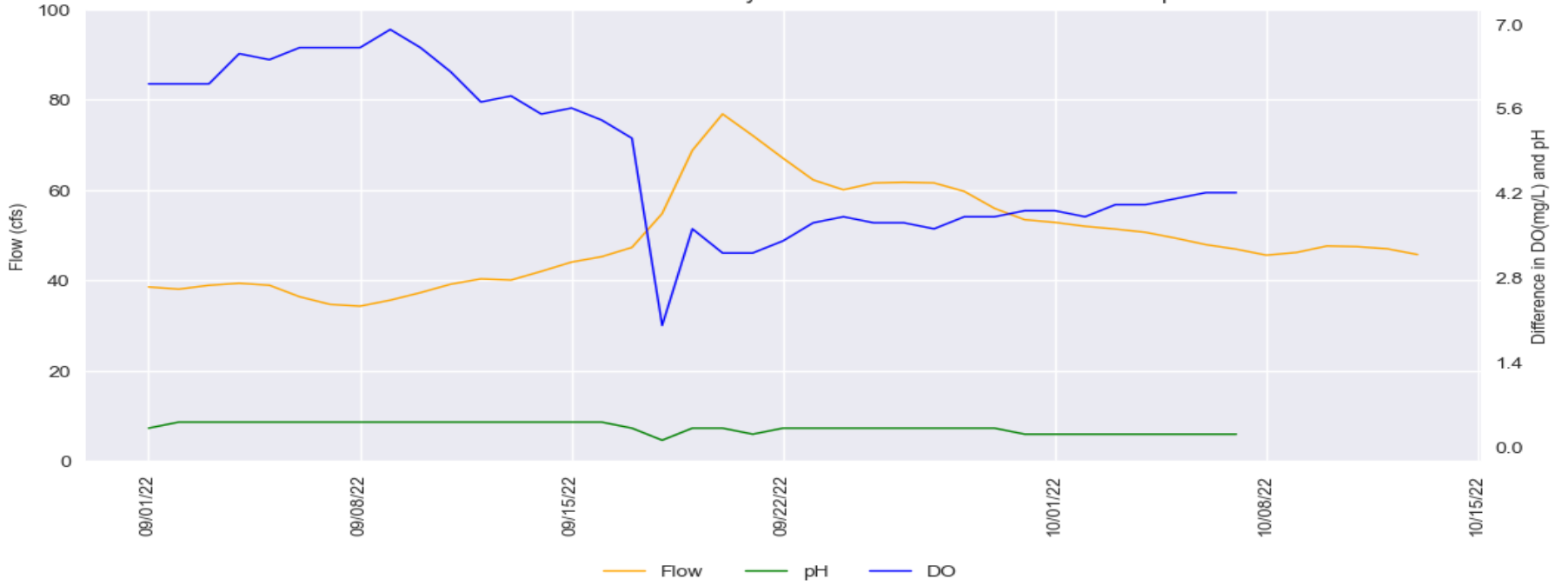


Jimtown

Jimtown Water Quality Trend



Jimtown - Difference between Daily Maximum and Minimum for DO and pH

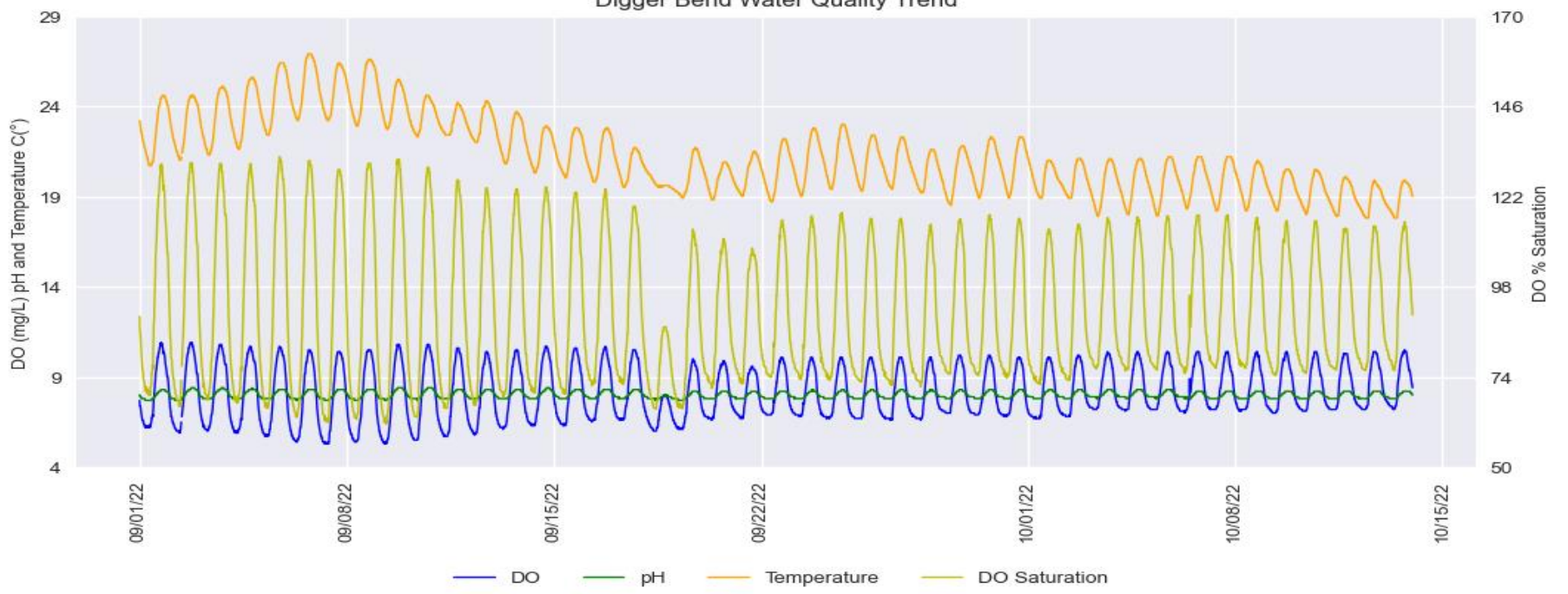


Russian River Water Quality September 01, 2022 - October 13, 2022

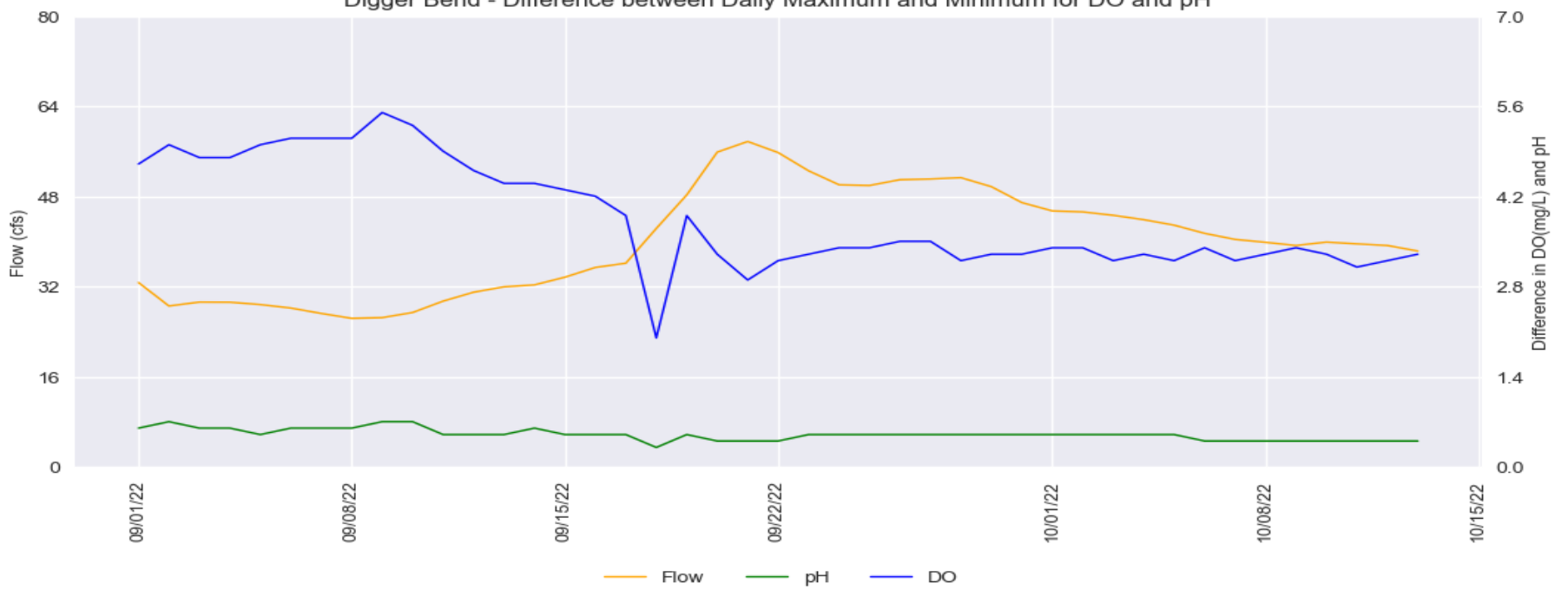
Provisional Data Subject to Revision

Digger Bend

Digger Bend Water Quality Trend

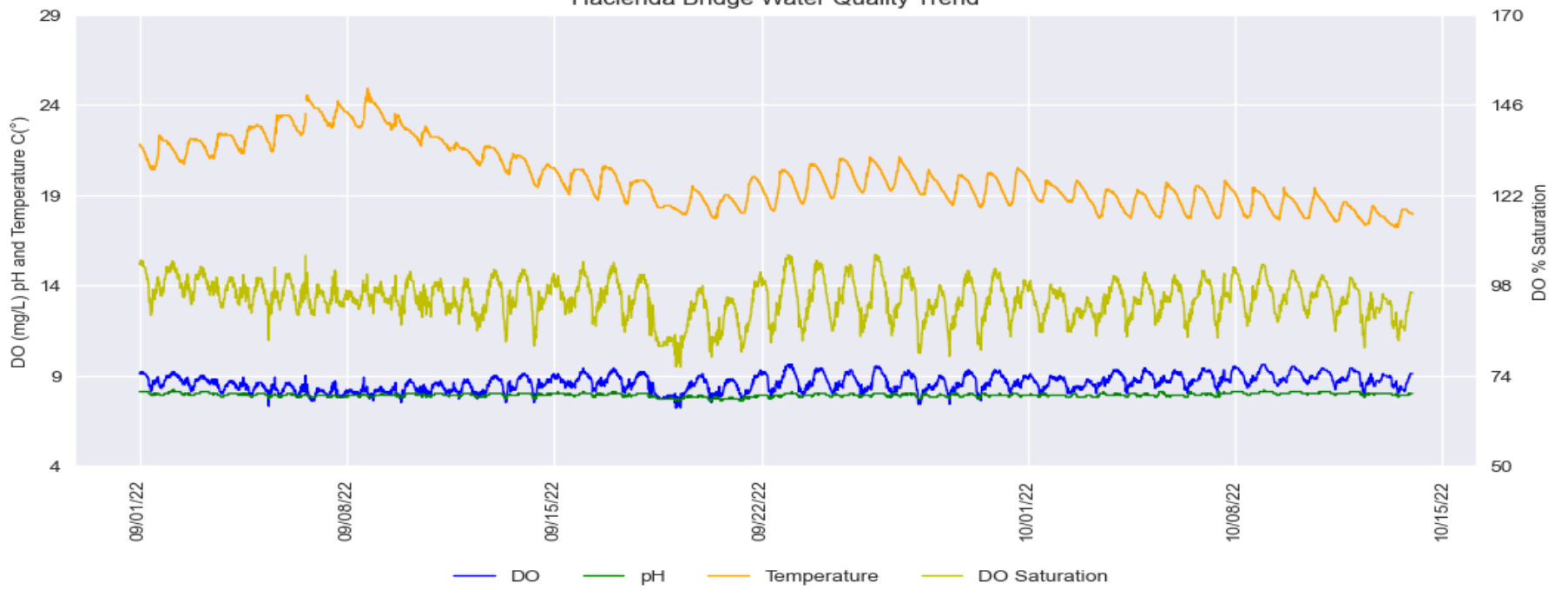


Digger Bend - Difference between Daily Maximum and Minimum for DO and pH

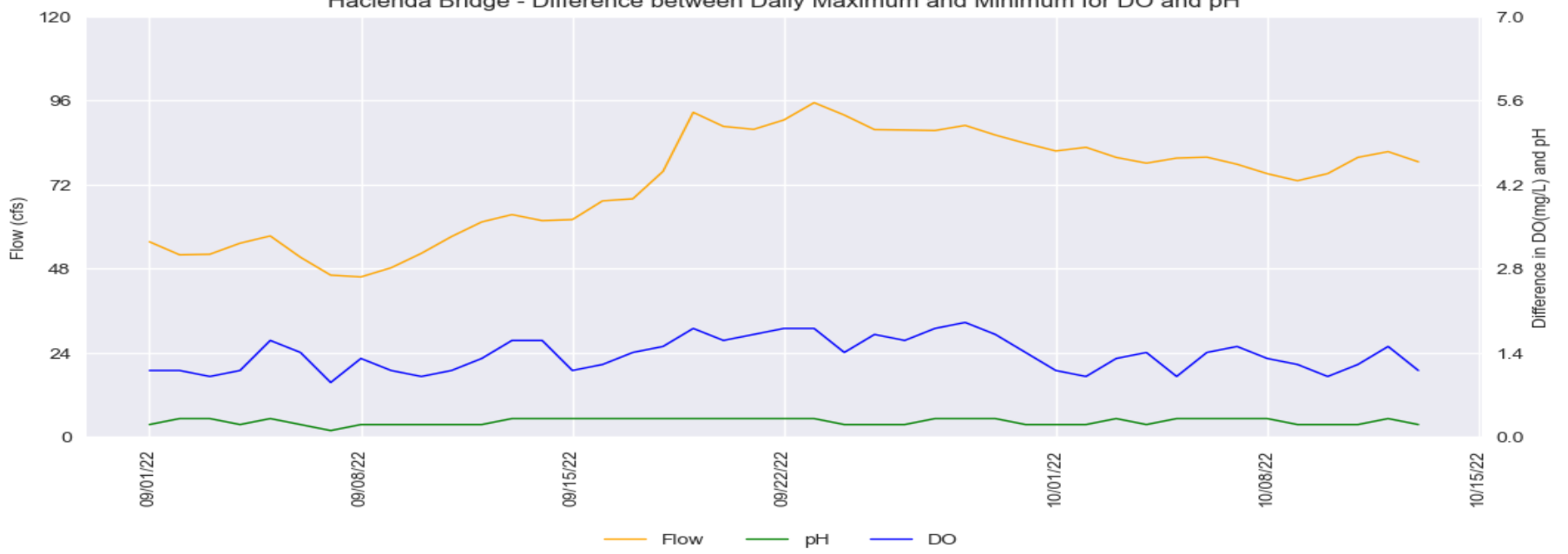


Hacienda Bridge

Hacienda Bridge Water Quality Trend

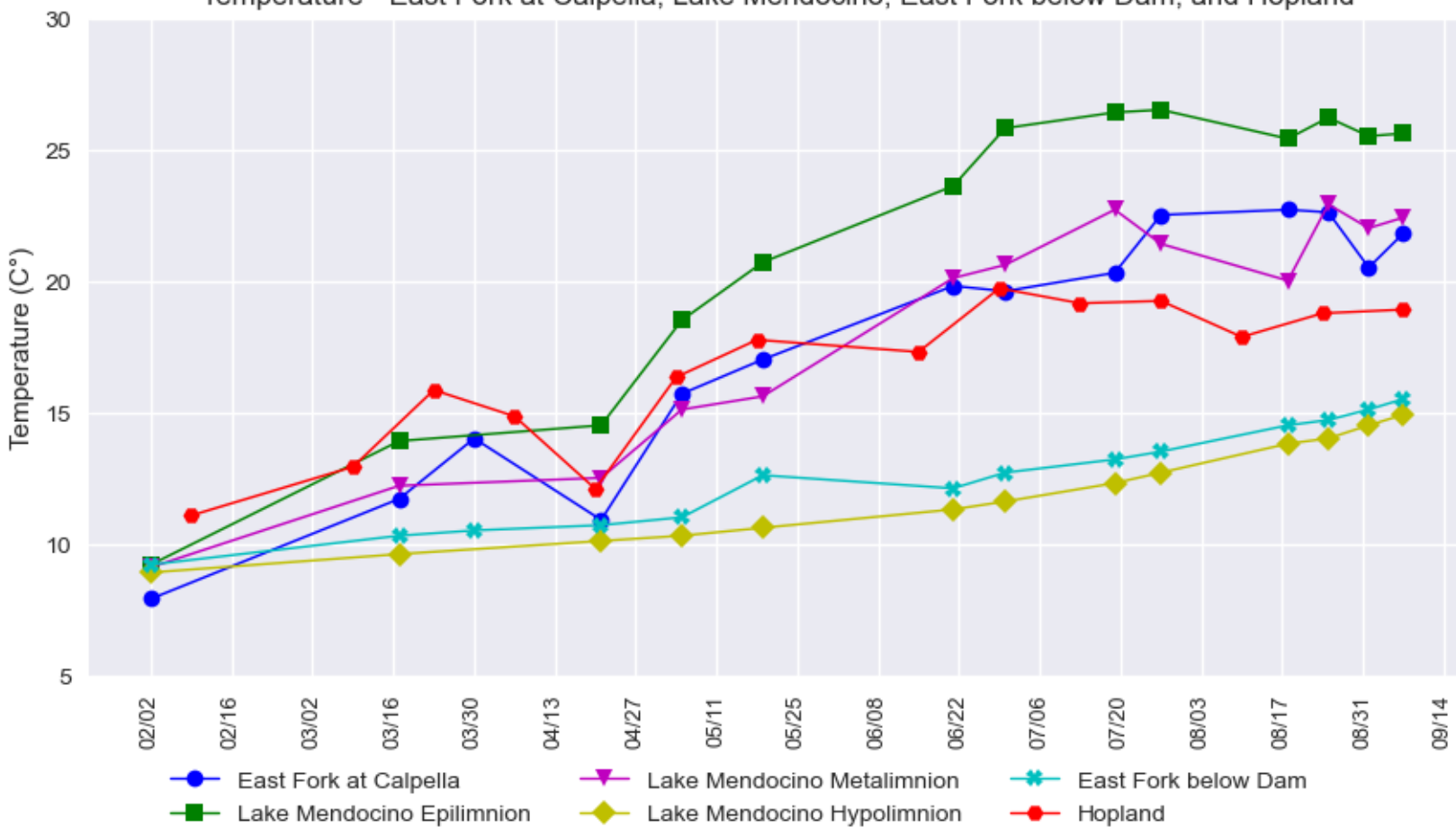


Hacienda Bridge - Difference between Daily Maximum and Minimum for DO and pH

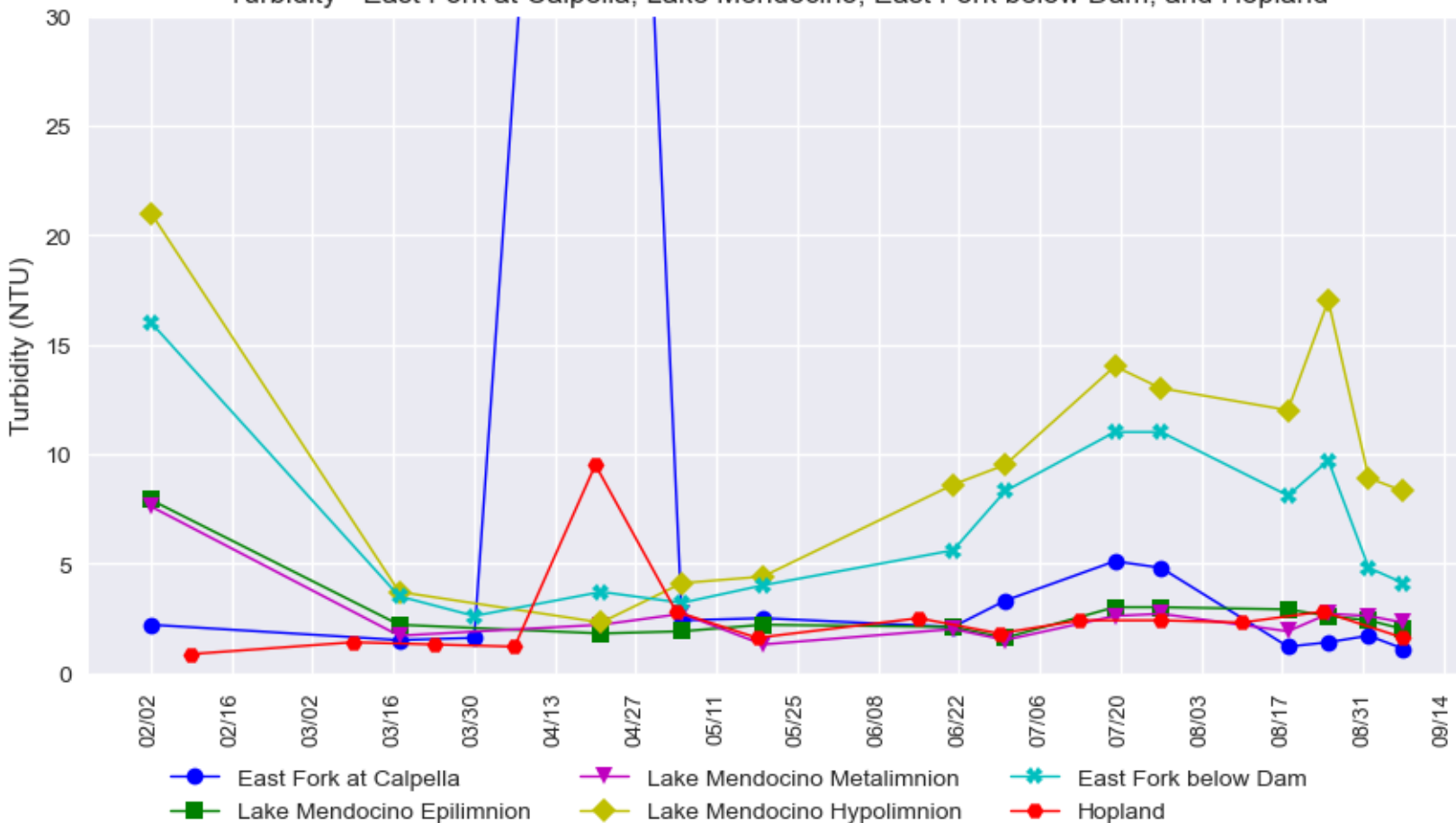


Lake Mendocino to Hopland Water Quality

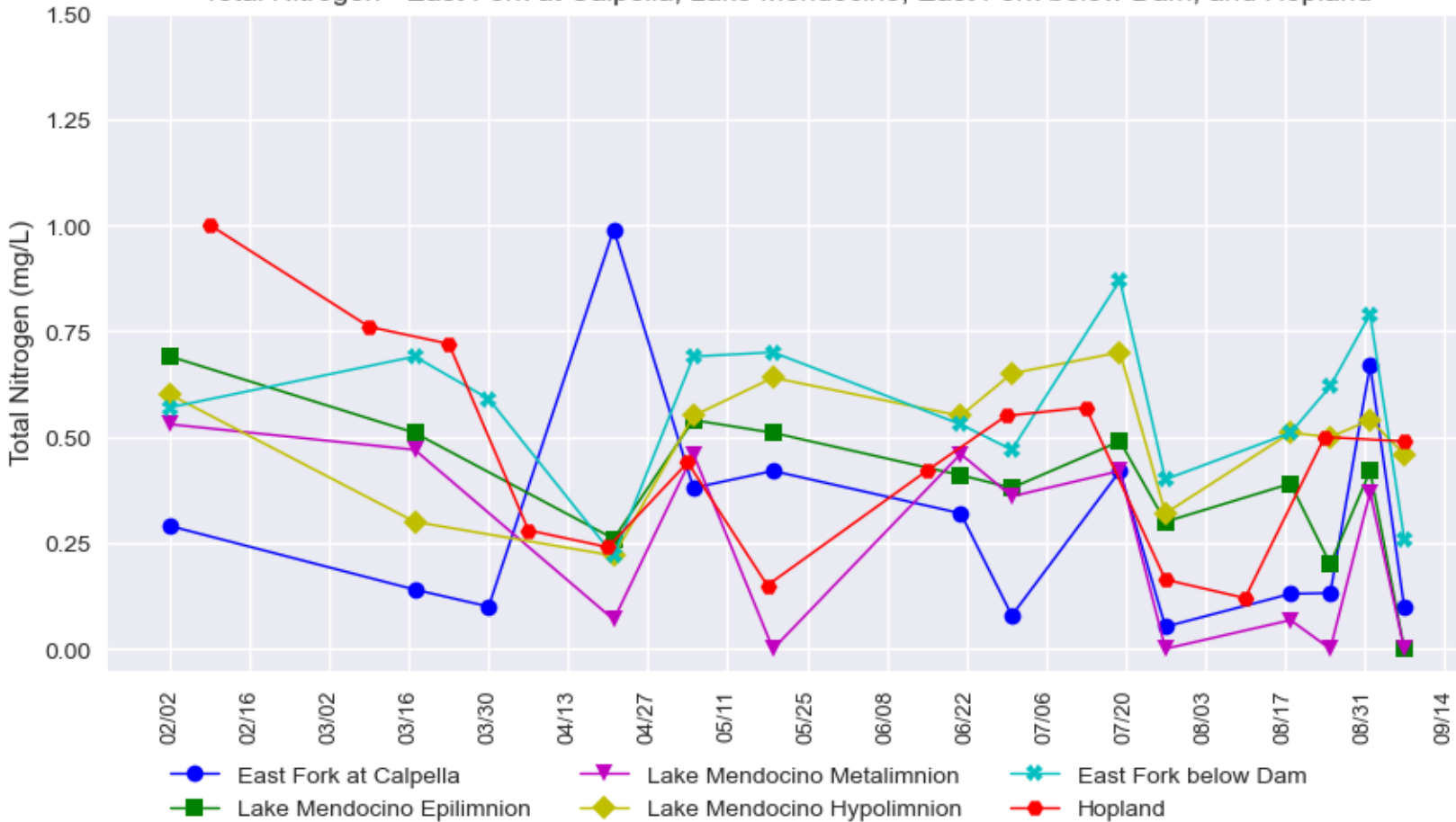
Temperature - East Fork at Calpella, Lake Mendocino, East Fork below Dam, and Hopland



Turbidity - East Fork at Calpella, Lake Mendocino, East Fork below Dam, and Hopland



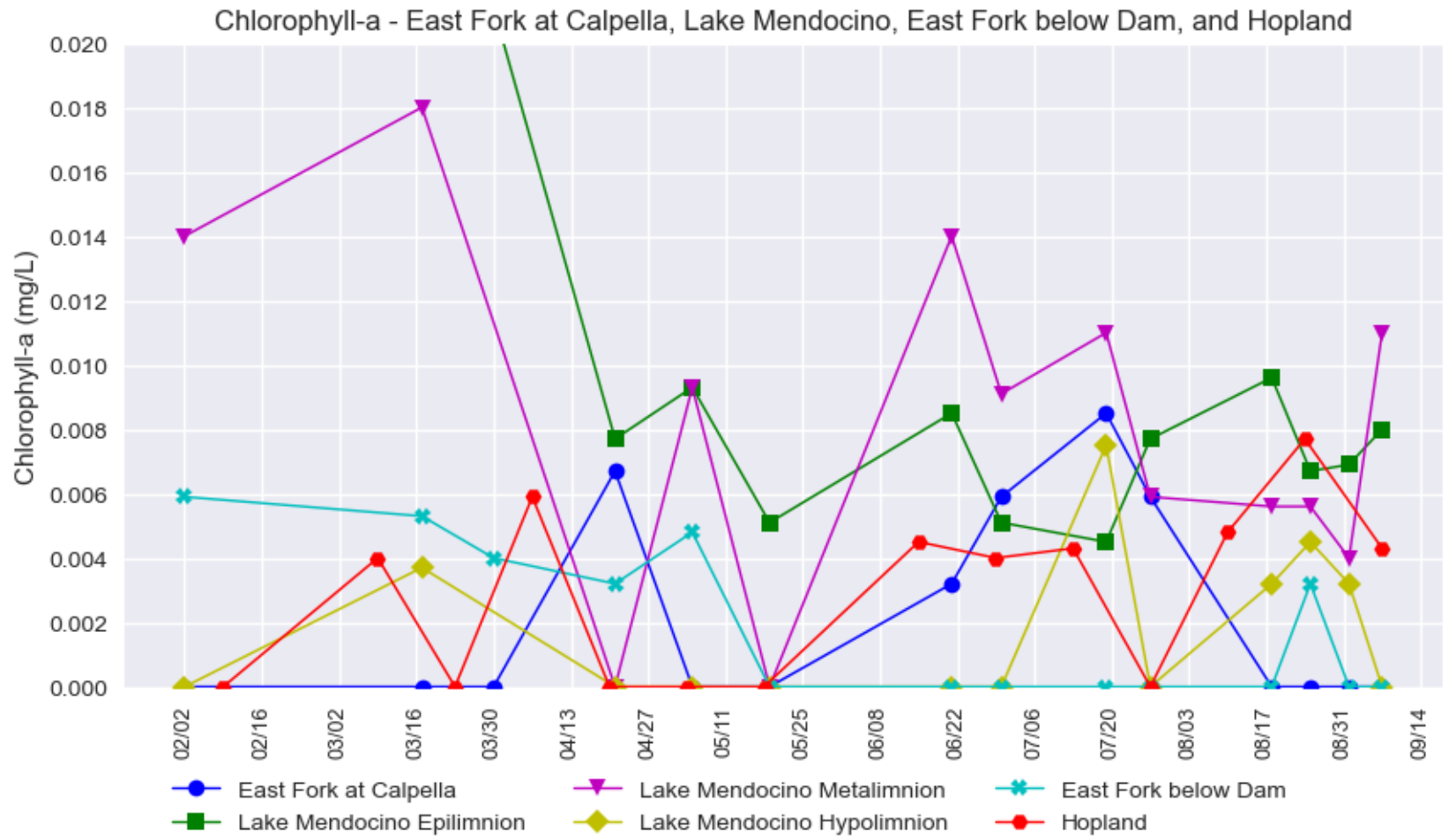
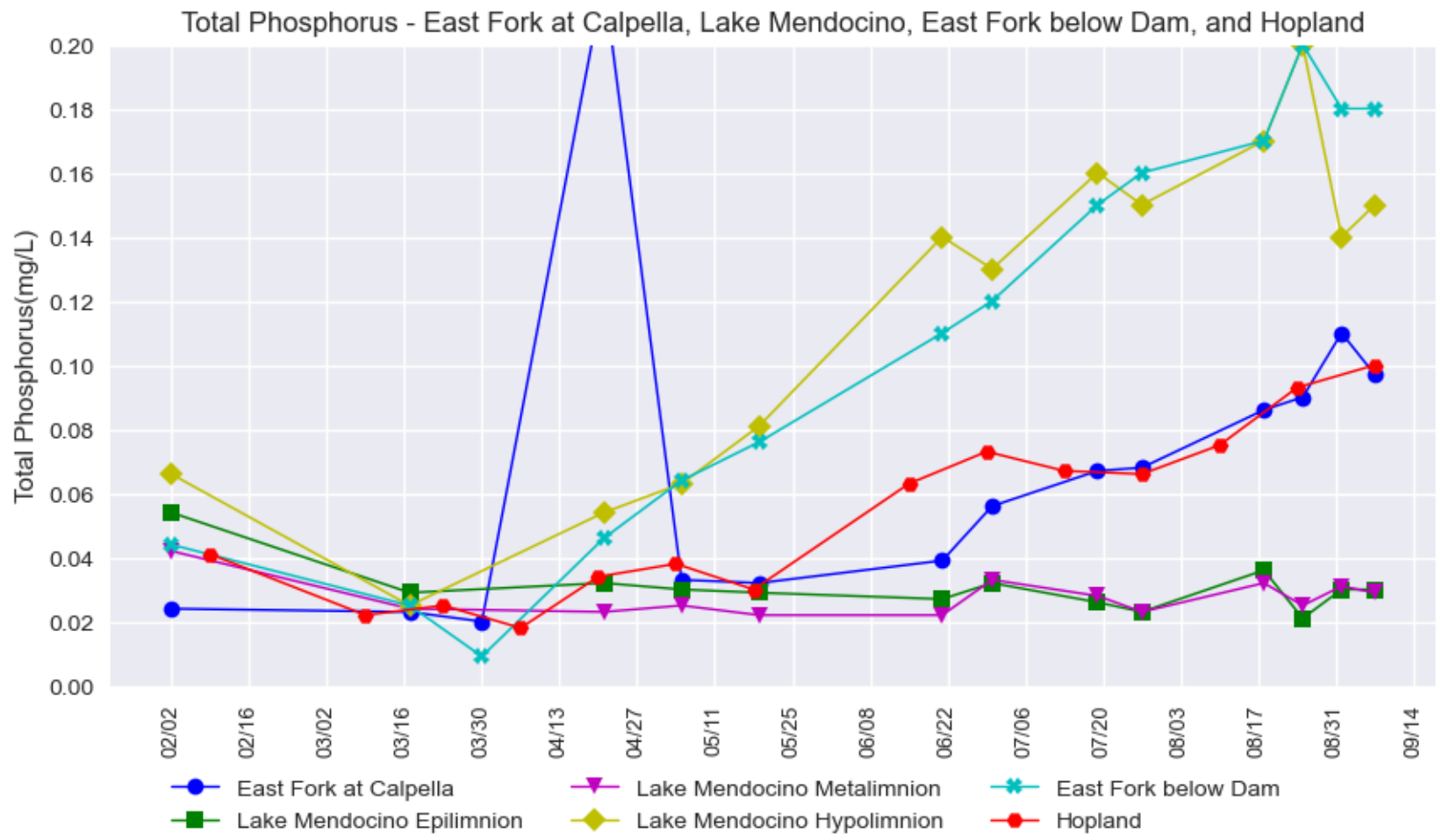
Total Nitrogen - East Fork at Calpella, Lake Mendocino, East Fork below Dam, and Hopland



*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples February 02 - September 13, 2022

Provisional Data Subject to Revision
 Lake Mendocino to Hopland Water Quality



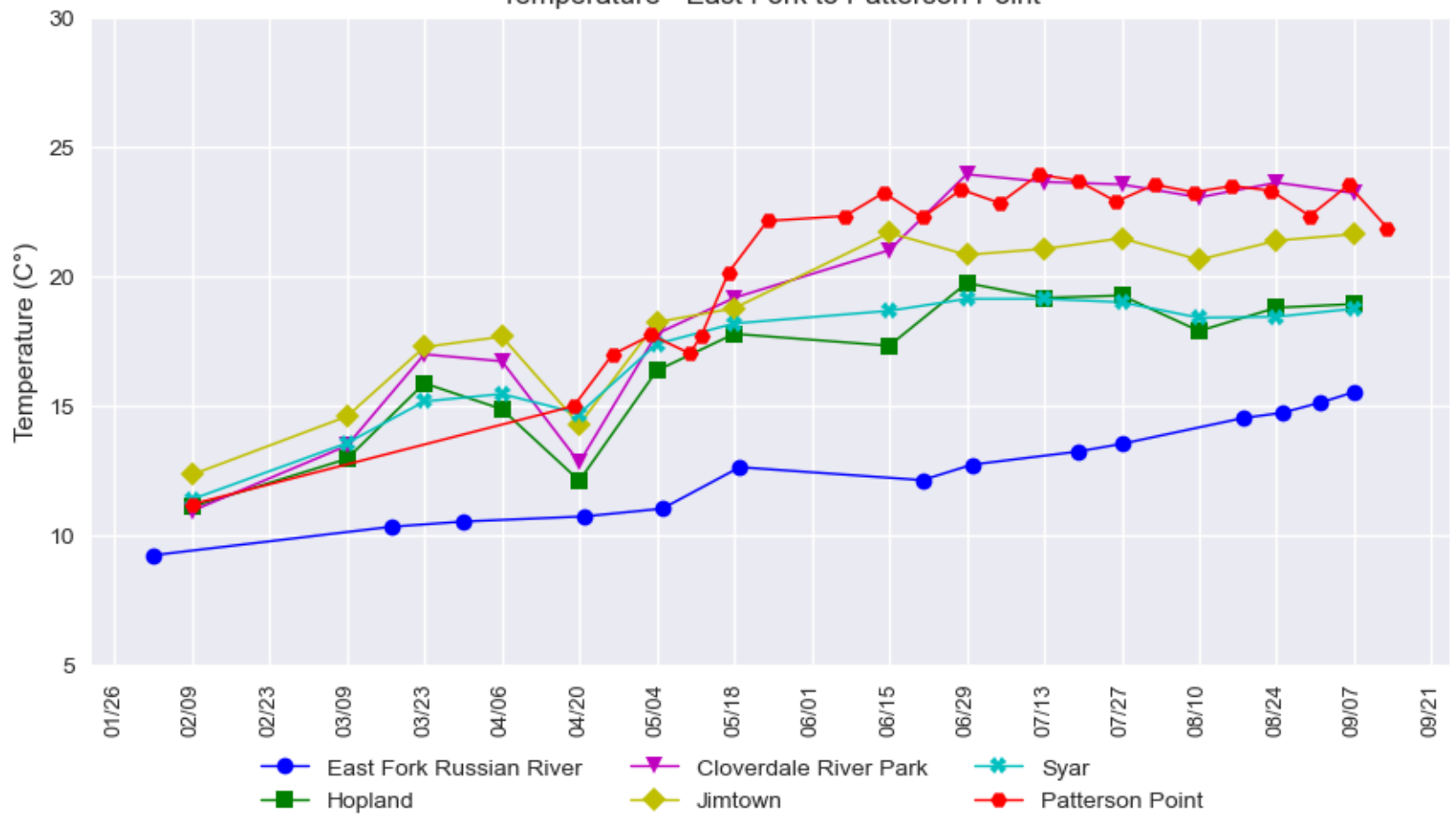
*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples February 02 - September 13, 2022

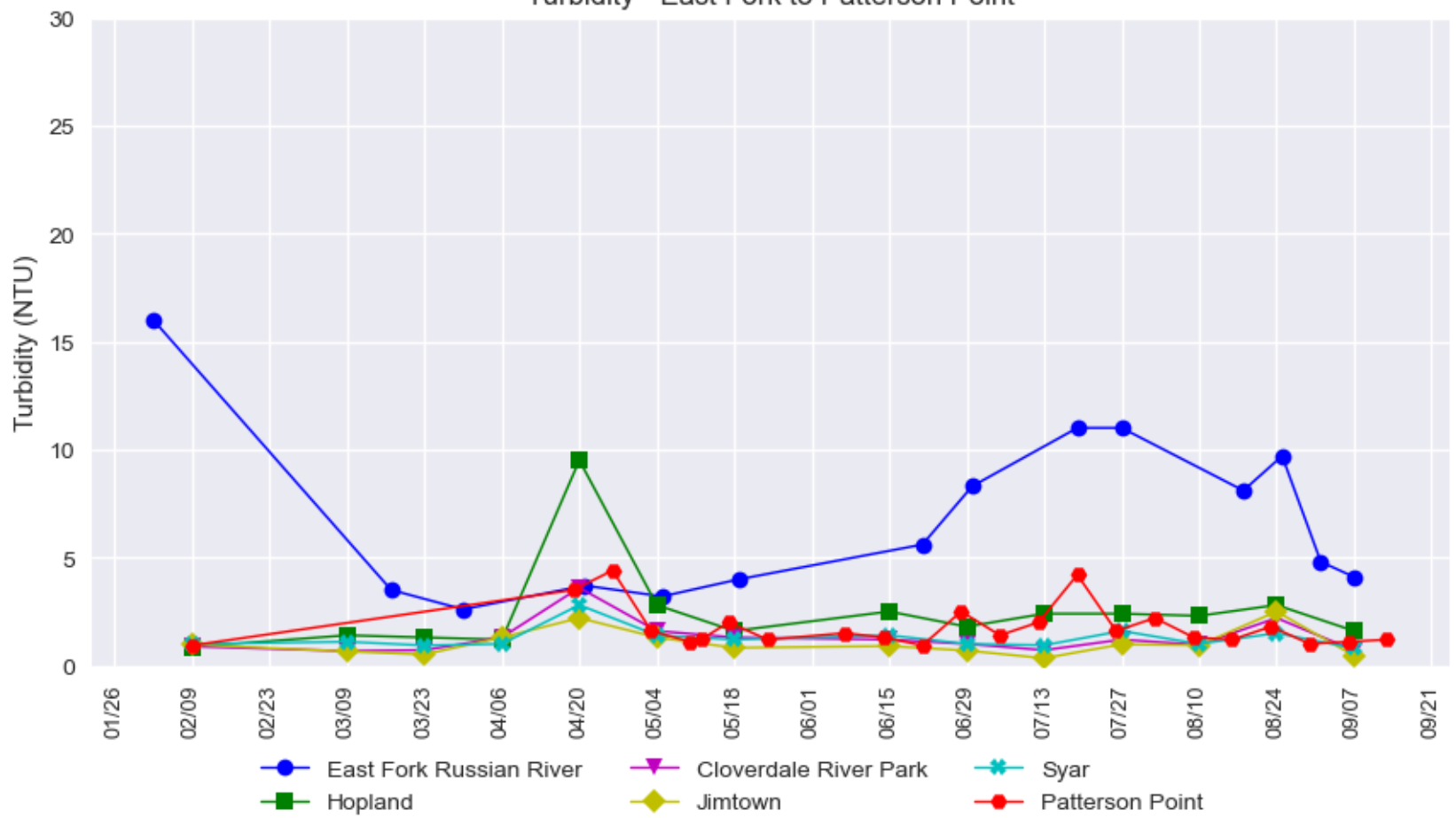
Provisional Data Subject to Revision

East Fork (below Lake Mendocino) to Patterson Point Water Quality

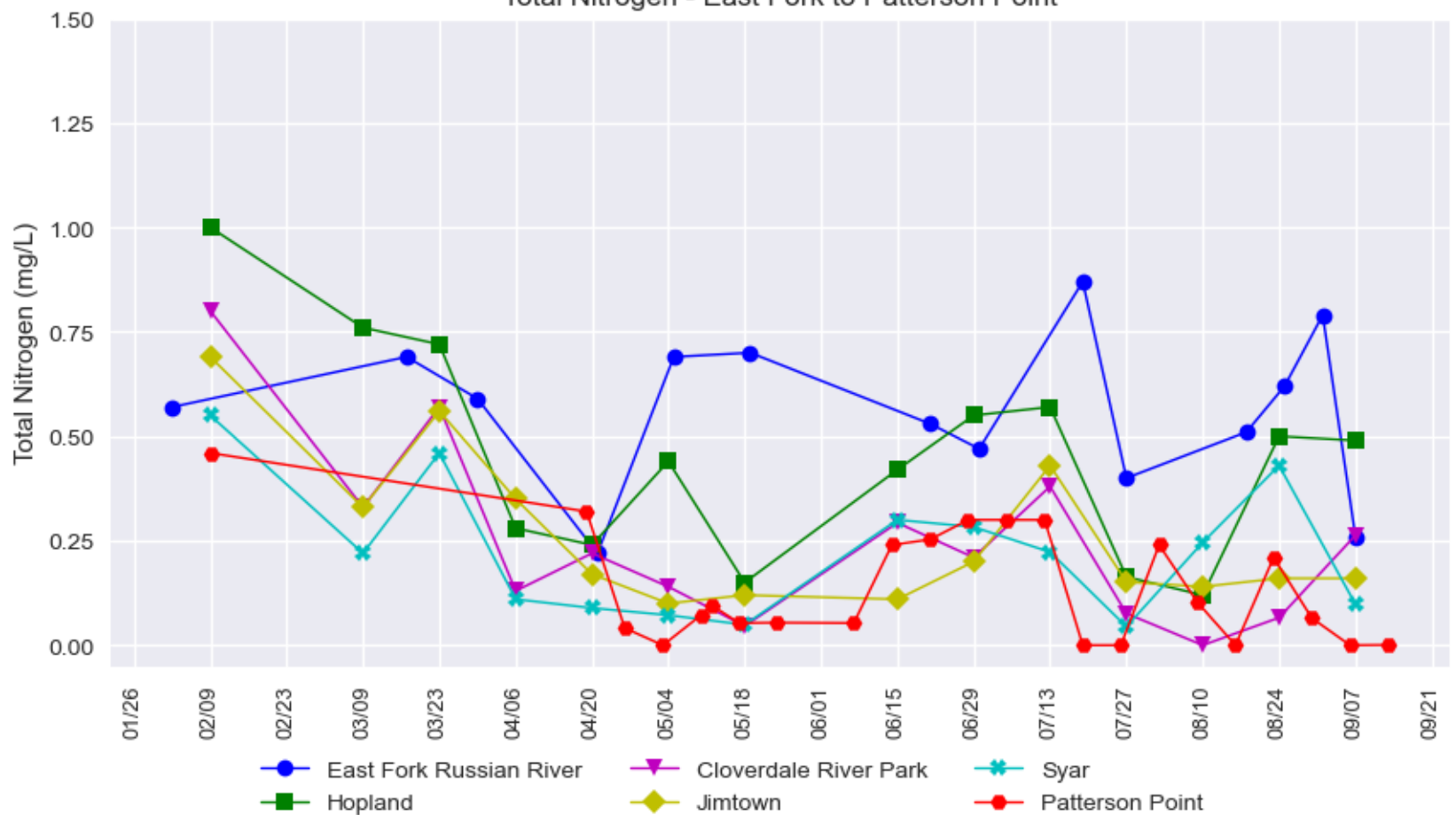
Temperature - East Fork to Patterson Point



Turbidity - East Fork to Patterson Point



Total Nitrogen - East Fork to Patterson Point



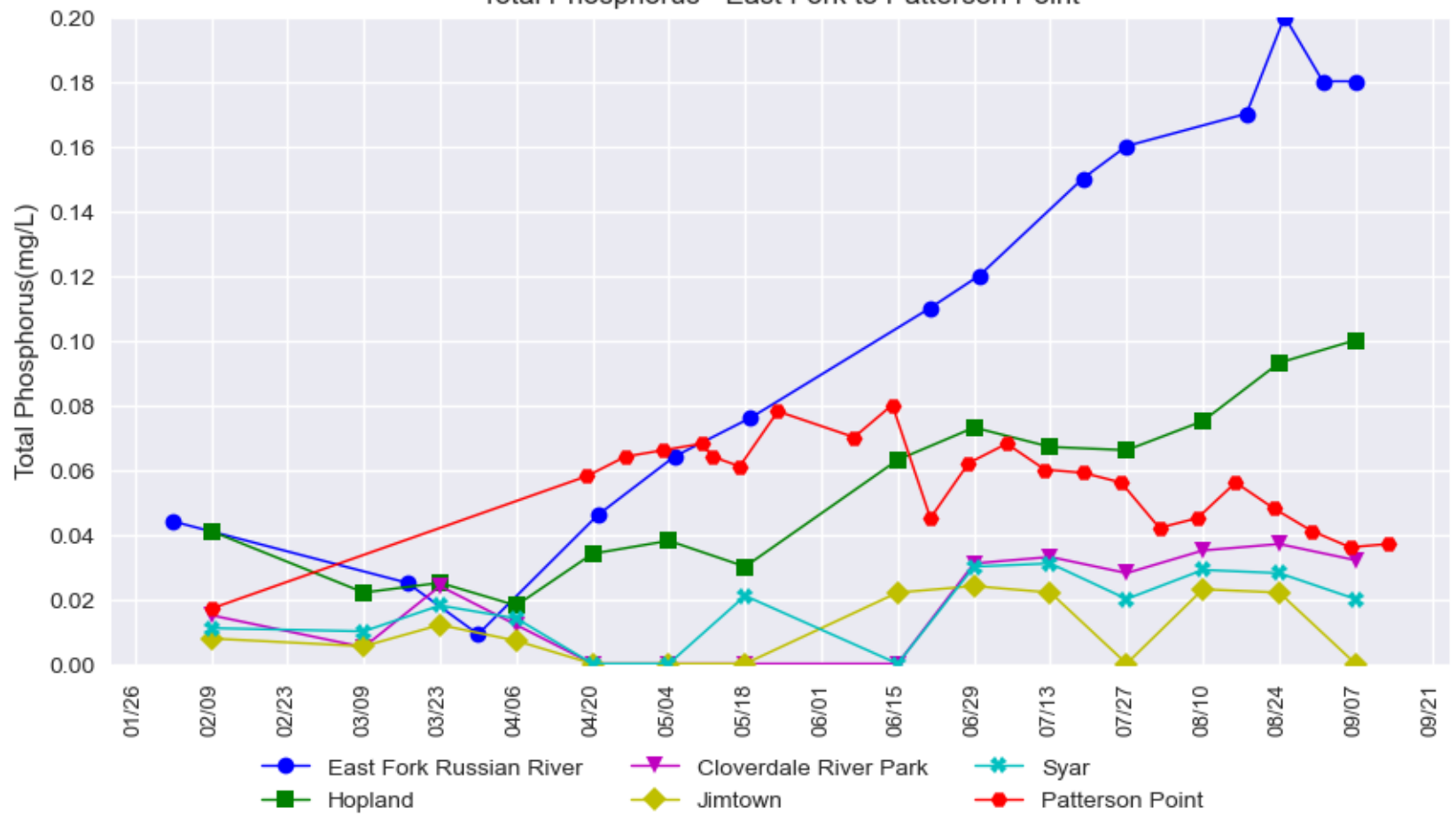
*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples February 02 - September 13, 2022

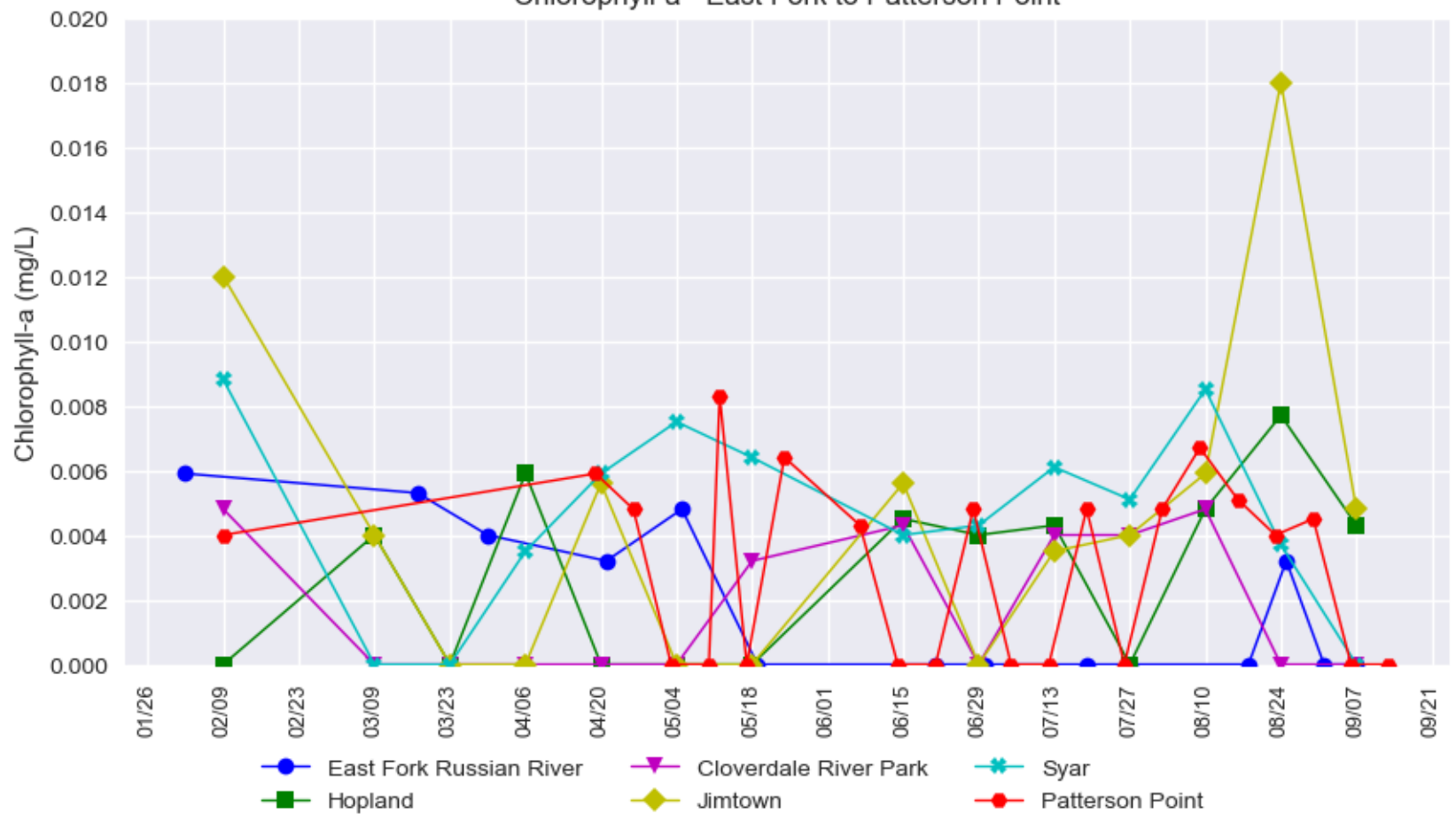
Provisional Data Subject to Revision

East Fork (below Lake Mendocino) to Syar Water Quality

Total Phosphorus - East Fork to Patterson Point



Chlorophyll-a - East Fork to Patterson Point



*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

**Russian River Water Quality Grab Samples (August 16 - October 4, 2022)
Provisional Data Subject to Revision**

| Parameter*** | CDPH Guidance* | Date | Patterson Point | Monte Rio | Vacation Beach |
|--------------------------------|----------------|-----------|-----------------|-----------|----------------|
| Total Coliforms MPN/100 mL | 10,000 | 8/16/2022 | 1046.2 | 1046.2 | 1986.3 |
| | | 8/23/2022 | 1236** | 1500** | 1439** |
| | | 8/30/2022 | 1720** | 1720** | 1956** |
| | | 9/6/2022 | 2014** | 2143** | 3654** |
| | | 9/13/2022 | 1515** | 12997** | 3076** |
| | | 9/20/2022 | 3282** | 1467** | 2098** |
| | | 9/27/2022 | 1850** | 2359** | 1918** |
| | | 10/4/2022 | 1413.6 | 980.4 | 1119.9 |
| E. Coli MPN/100 mL | 235 | 8/16/2022 | 5.2 | 10.8 | 12.2 |
| | | 8/23/2022 | 7.5 | 19.9 | 13.5 |
| | | 8/30/2022 | 12.1 | 12.2 | 17.3 |
| | | 9/6/2022 | 65.7 | 30.9 | 23.1 |
| | | 9/13/2022 | 9.7 | 17.5 | 63.7 |
| | | 9/20/2022 | 58.3 | 70.6 | 59.1 |
| | | 9/27/2022 | 34.5 | 51.2 | 25.6 |
| | | 10/4/2022 | 14.4 | 23.1 | 12.2 |
| Enterococcus MPN/100 mL**** | 61 | 8/16/2022 | 5.2 | 10.9 | 31 |
| | | 8/23/2022 | 8.6 | 8.4 | 4.1 |
| | | 8/30/2022 | 3.1 | 9.7 | 22.1 |
| | | 9/6/2022 | 65.1 | 7.5 | 7.5 |
| | | 9/13/2022 | 2 | 7.5 | 15.5 |
| | | 9/20/2022 | 151.5 | 21.3 | 25.9 |
| | | 9/27/2022 | 60.9 | 53.7 | 32.3 |
| | | 10/4/2022 | 14.5 | 12.1 | 5.2 |

*California Department of Public Health (CDPH) Guidance for Fresh Water Beaches - Single Sample Values:

Freshwater beaches include Patterson Point, Monte Rio, and Vacation Beach

Beach posting is recommended when indicator organisms exceed any of the above corresponding levels

**Sample diluted 1:10

***Method Detection Limit for all parameters = 2 MPN/100 mL or 20 MPN/100 mL if sample diluted

****We continue to collect enterococcus data, however it is not a reliable fecal indicator bacteria in freshwater environments and is not being relied upon for posting at freshwater beaches, per SoCo DHS and NCRWQCB.

Russian River Water Quality Grab Samples (July 12 - September 13, 2022)
Provisional Data Subject to Revision

| Parameter | | MDL* | Units | Date | Patterson Point | Monte Rio | Vacation Beach |
|----------------------|-----------------------------|-------|-----------|-----------|-----------------|-----------|----------------|
| Temperature | - | °C | 7/12/2022 | 23.9 | 23.7 | 24.5 | |
| | | | 7/19/2022 | 23.7 | 23.9 | 24.4 | |
| | | | 7/26/2022 | 22.9 | 23.1 | 23.3 | |
| | | | 8/2/2022 | 23.1 | 23.2 | 23.5 | |
| | | | 8/9/2022 | 23.2 | 23.6 | 23.2 | |
| | | | 8/16/2022 | 23.5 | 23.6 | 24.0 | |
| | | | 8/23/2022 | 23.3 | 23.5 | 23.7 | |
| | | | 8/30/2022 | 22.3 | 22.2 | 22.6 | |
| | | | 9/6/2022 | 23.5 | 23.7 | 24.1 | |
| | | | 9/13/2022 | 21.8 | 21.9 | 22.3 | |
| Nutrients | Ammonia as N | 0.1 | mg/L | 7/12/2022 | ND | ND | 0.11 |
| | | | | 7/19/2022 | ND | ND | ND |
| | | | | 7/26/2022 | ND | ND | ND |
| | | | | 8/2/2022 | ND | ND | ND |
| | | | | 8/9/2022 | 0.12 | 0.14 | 0.1 |
| | | | | 8/16/2022 | ND | ND | ND |
| | | | | 8/23/2022 | ND | ND | ND |
| | | | | 8/30/2022 | ND | ND | ND |
| | | | | 9/6/2022 | ND | ND | ND |
| | 9/13/2022 | ND | ND | ND | | | |
| | Nitrate as N | 0.04 | mg/L | 7/12/2022 | ND | 0.063 | ND |
| | | | | 7/19/2022 | ND | ND | ND |
| | | | | 7/26/2022 | ND | ND | ND |
| | | | | 8/2/2022 | ND | ND | ND |
| | | | | 8/9/2022 | ND | ND | ND |
| | | | | 8/16/2022 | ND | 0.063 | ND |
| | | | | 8/23/2022 | ND | ND | ND |
| | | | | 8/30/2022 | 0.065 | 0.063 | 0.063 |
| 9/6/2022 | | | | ND | ND | ND | |
| 9/13/2022 | ND | ND | ND | | | | |
| Nutrients | Nitrite as N | 0.05 | mg/L | 7/12/2022 | ND | ND | ND |
| | | | | 7/19/2022 | ND | ND | ND |
| | | | | 7/26/2022 | ND | ND | ND |
| | | | | 8/2/2022 | ND | ND | ND |
| | | | | 8/9/2022 | ND | ND | ND |
| | | | | 8/16/2022 | ND | ND | ND |
| | | | | 8/23/2022 | ND | ND | ND |
| | | | | 8/30/2022 | ND | ND | ND |
| | | | | 9/6/2022 | ND | ND | ND |
| | 9/13/2022 | ND | ND | ND | | | |
| | Total Organic Nitrogen as N | 0.1 | mg/L | 7/12/2022 | 0.3 | 0.25 | ND |
| | | | | 7/19/2022 | ND | ND | 0.47 |
| | | | | 7/26/2022 | ND | ND | ND |
| | | | | 8/2/2022 | ND | ND | 0.24 |
| | | | | 8/9/2022 | ND | ND | ND |
| | | | | 8/16/2022 | ND | ND | ND |
| | | | | 8/23/2022 | 0.21 | ND | ND |
| | | | | 8/30/2022 | ND | ND | ND |
| | | | | 9/6/2022 | ND | ND | ND |
| | 9/13/2022 | ND | ND | ND | | | |
| | Total Kjeldahl Nitrogen | 0.2 | mg/L | 7/12/2022 | 0.3 | 0.25 | ND |
| | | | | 7/19/2022 | ND | ND | 0.47 |
| | | | | 7/26/2022 | ND | ND | ND |
| | | | | 8/2/2022 | ND | ND | 0.24 |
| | | | | 8/9/2022 | ND | ND | ND |
| | | | | 8/16/2022 | ND | ND | ND |
| | | | | 8/23/2022 | 0.21 | ND | ND |
| | | | | 8/30/2022 | ND | ND | ND |
| | | | | 9/6/2022 | ND | ND | ND |
| | 9/13/2022 | ND | ND | ND | | | |
| | Total Phosphorus | 0.02 | mg/L | 7/12/2022 | 0.060 | 0.060 | 0.044 |
| | | | | 7/19/2022 | 0.059 | 0.058 | 0.050 |
| | | | | 7/26/2022 | 0.056 | 0.055 | 0.048 |
| | | | | 8/2/2022 | 0.056 | 0.052 | 0.042 |
| | | | | 8/9/2022 | 0.060 | 0.055 | 0.045 |
| | | | | 8/16/2022 | 0.056 | 0.051 | 0.044 |
| 8/23/2022 | | | | 0.048 | 0.049 | 0.042 | |
| 8/30/2022 | | | | 0.041 | 0.034 | 0.028 | |
| 9/6/2022 | | | | 0.036 | 0.033 | 0.026 | |
| 9/13/2022 | 0.037 | 0.033 | 0.031 | | | | |
| Total Orthophosphate | 0.03 | mg/L | 7/12/2022 | 0.12 | 0.11 | 0.077 | |
| | | | 7/19/2022 | 0.12 | 0.11 | 0.089 | |
| | | | 7/26/2022 | 0.099 | 0.099 | 0.076 | |
| | | | 8/2/2022 | 0.11 | 0.098 | 0.078 | |
| | | | 8/9/2022 | 0.093 | 0.085 | 0.057 | |
| | | | 8/16/2022 | 0.079 | 0.071 | 0.043 | |
| | | | 8/23/2022 | 0.077 | 0.069 | 0.049 | |
| | | | 8/30/2022 | 0.071 | 0.059 | 0.042 | |
| | | | 9/6/2022 | 0.053 | 0.041 | ND | |
| 9/13/2022 | 0.064 | 0.056 | 0.039 | | | | |

Russian River Water Quality Grab Samples (July 12 - September 13, 2022)
Provisional Data Subject to Revision

| Parameter | | MDL* | Units | Date | Patterson Point | Monte Rio | Vacation Beach |
|-------------|--------------------------|-------|-------|-----------|-----------------|-----------|----------------|
| Chlorophyll | Chlorophyll A | 0.003 | mg/L | 7/12/2022 | ND | ND | 0.0040 |
| | | | | 7/19/2022 | 0.0048 | 0.0045 | ND |
| | | | | 7/26/2022 | ND | ND | 0.0043 |
| | | | | 8/2/2022 | 0.0048 | 0.0045 | 0.0048 |
| | | | | 8/9/2022 | ND | ND | 0.0067 |
| | | | | 8/16/2022 | 0.0051 | ND | 0.0032 |
| | | | | 8/23/2022 | 0.0040 | ND | 0.0040 |
| | | | | 8/30/2022 | 0.0045 | ND | ND |
| | | | | 9/6/2022 | ND | ND | 0.0059 |
| | | | | 9/13/2022 | ND | 0.0043 | ND |
| Carbon | Total Organic Carbon | 0.3 | mg/L | 7/12/2022 | 2.79 | 2.62 | 2.77 |
| | | | | 7/19/2022 | 2.56 | 2.50 | 2.56 |
| | | | | 7/26/2022 | 2.52 | 2.41 | 2.44 |
| | | | | 8/2/2022 | 2.58 | 2.73 | 2.66 |
| | | | | 8/9/2022 | 2.43 | 2.39 | 2.33 |
| | | | | 8/16/2022 | 2.24 | 2.29 | 2.19 |
| | | | | 8/23/2022 | 2.24 | 2.21 | 2.18 |
| | | | | 8/30/2022 | 2.07 | 2.07 | 2.07 |
| | | | | 9/6/2022 | 2.09 | 2.03 | 1.96 |
| | 9/13/2022 | 2.01 | 2.16 | 2.07 | | | |
| | Dissolved Organic Carbon | 0.2 | mg/L | 7/12/2022 | 1.99 | 1.92 | 1.98 |
| | | | | 7/19/2022 | 2.24 | 1.98 | 2.07 |
| | | | | 7/26/2022 | 1.99 | 2.03 | 2.01 |
| | | | | 8/2/2022 | 2.11 | 2.25 | 2.06 |
| | | | | 8/9/2022 | 2.02 | 1.96 | 1.97 |
| | | | | 8/16/2022 | 1.91 | 1.87 | 2.04 |
| | | | | 8/23/2022 | 1.90 | 1.88 | 1.86 |
| | | | | 8/30/2022 | 1.68 | 1.65 | 1.67 |
| 9/6/2022 | | | | 1.75 | 1.68 | 1.62 | |
| 9/13/2022 | 1.64 | 1.78 | 1.67 | | | | |
| Solids | Turbidity | 0.1 | NTU | 7/12/2022 | 2.0 | 1.9 | 1.7 |
| | | | | 7/19/2022 | 4.2 | 3.2 | 1.9 |
| | | | | 7/26/2022 | 1.6 | 2.1 | 1.6 |
| | | | | 8/2/2022 | 2.1 | 2.4 | 2.2 |
| | | | | 8/9/2022 | 1.5 | 1.3 | 1.3 |
| | | | | 8/16/2022 | 1.2 | 1.2 | 1.8 |
| | | | | 8/23/2022 | 1.8 | 1.0 | 0.9 |
| | | | | 8/30/2022 | 1.0 | 1.1 | 1.2 |
| | | | | 9/6/2022 | 1.1 | 1.0 | 1.6 |
| | 9/13/2022 | 1.2 | 1.0 | 1.1 | | | |
| | TDS | 10 | mg/L | 7/12/2022 | 150 | 150 | 140 |
| | | | | 7/19/2022 | 150 | 160 | 150 |
| | | | | 7/26/2022 | 160 | 150 | 150 |
| | | | | 8/2/2022 | 180 | 170 | 150 |
| | | | | 8/9/2022 | 160 | 160 | 150 |
| | | | | 8/16/2022 | 140 | 140 | 140 |
| | | | | 8/23/2022 | 140 | 160 | 150 |
| | | | | 8/30/2022 | 140 | 130 | 130 |
| 9/6/2022 | | | | 150 | 140 | 140 | |
| 9/13/2022 | 150 | 150 | 130 | | | | |