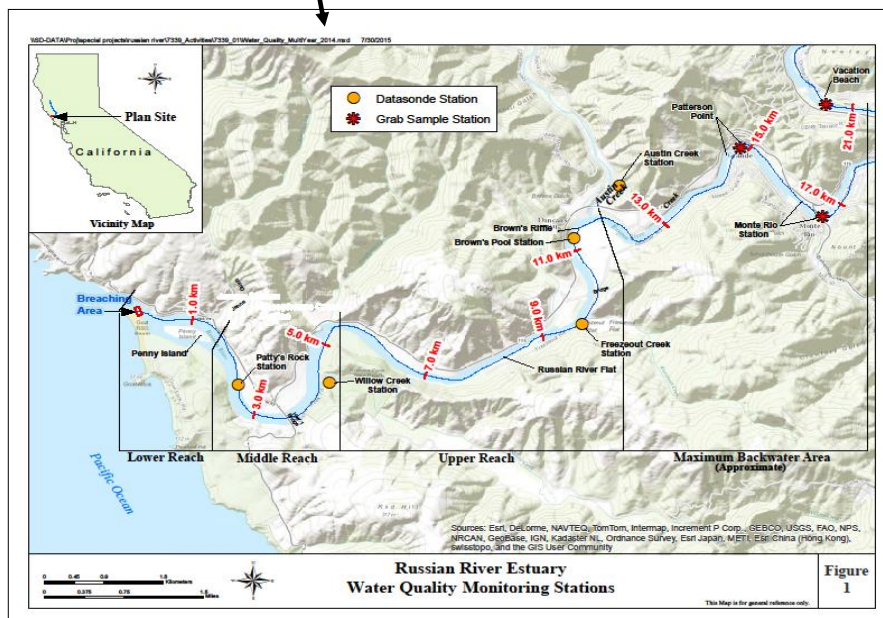
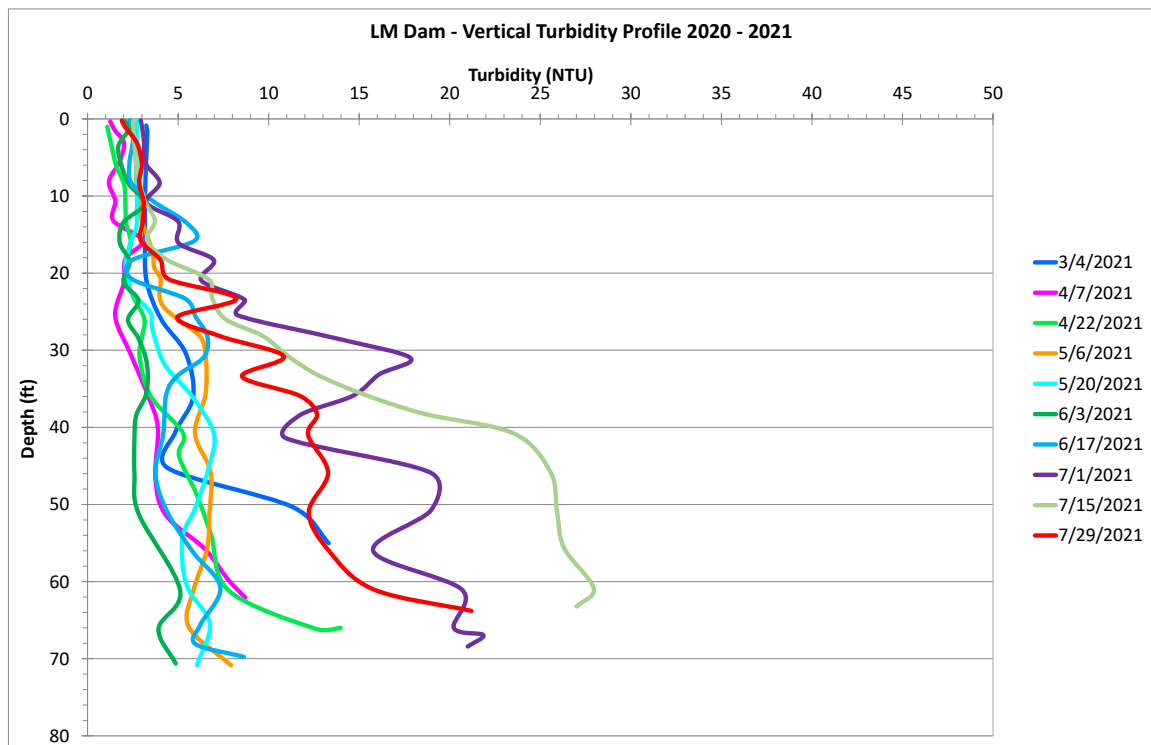
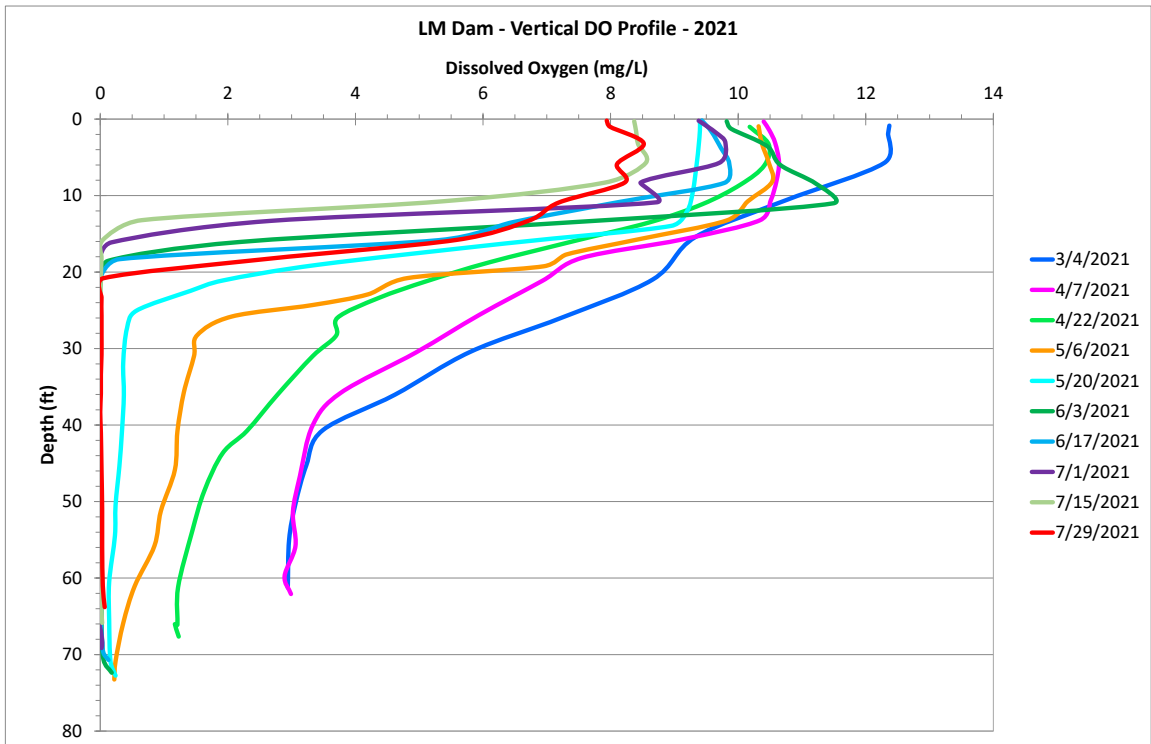
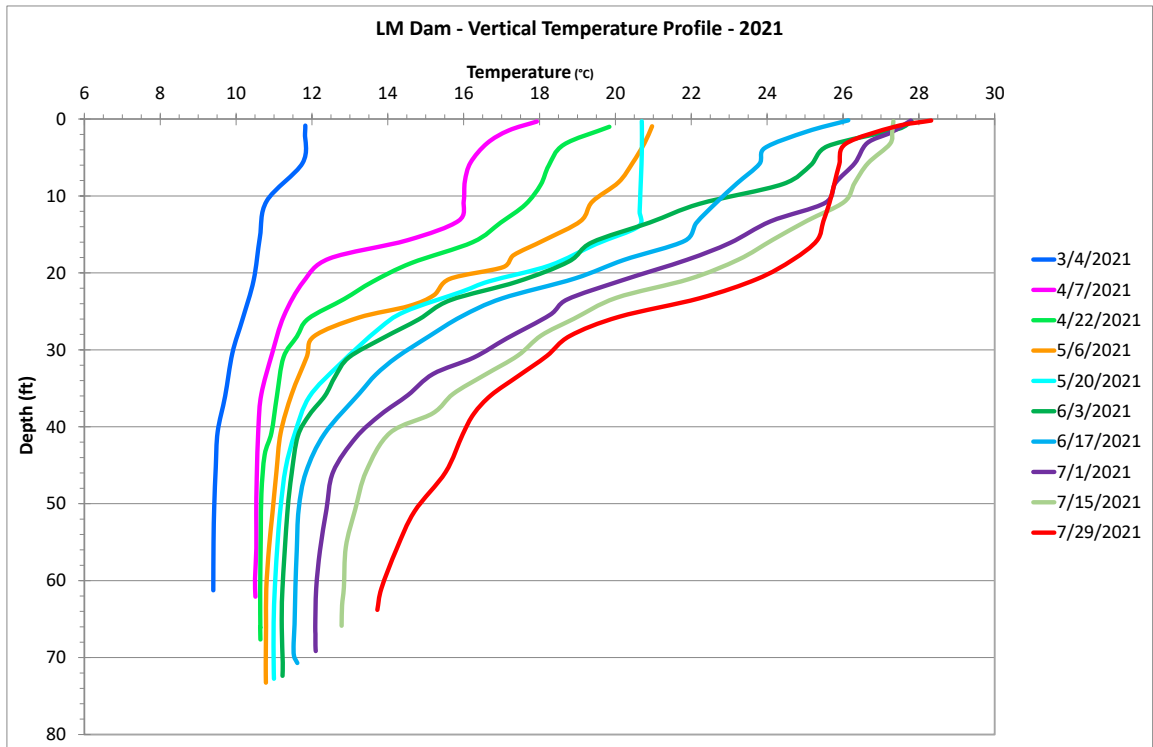


Prepared as a requirement of the Order approving Sonoma Water's Petition for Temporary Urgency Change in Permits 12947A, 12949, 12950, and 16596 (Applications 12919A, 15736, 15737, and 19351).



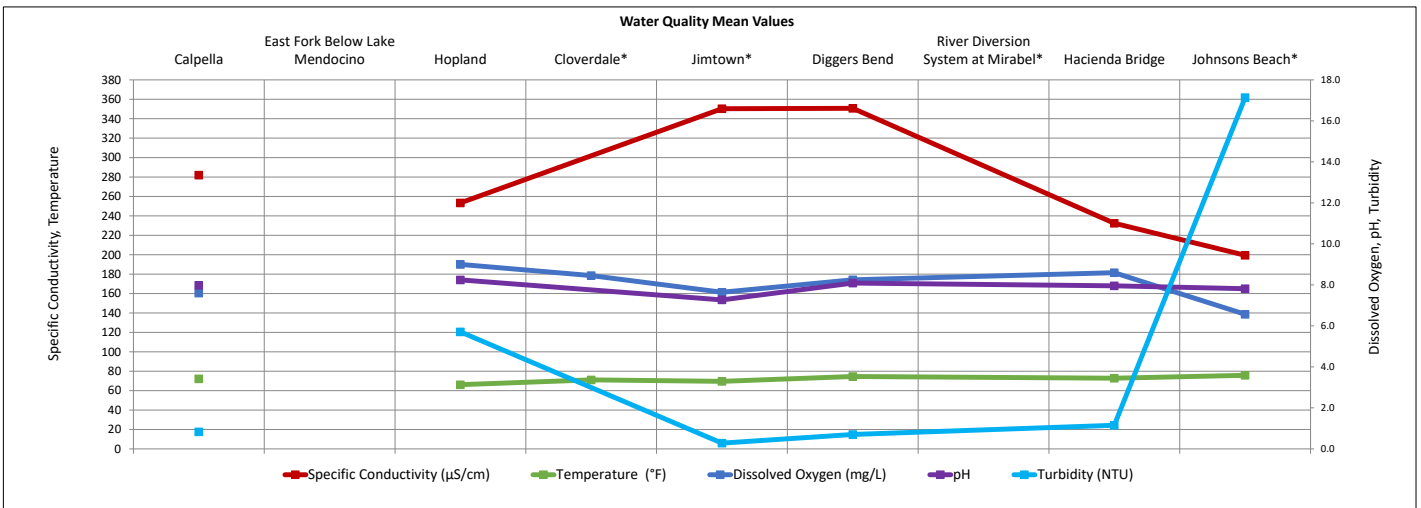
Lake Mendocino Water Quality Vertical Profiles (March 4 - July 29, 2021)  
Provisional Data Subject to Revision



**Russian River Water Quality Sondes (July 23 - July 29, 2021)**  
**Provisional Data Subject to Revision**

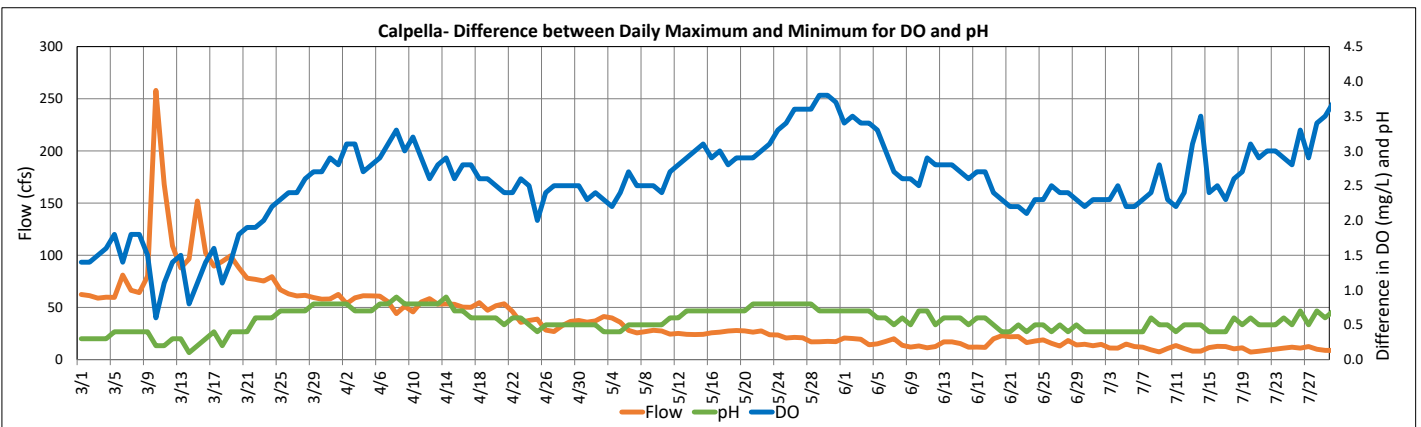
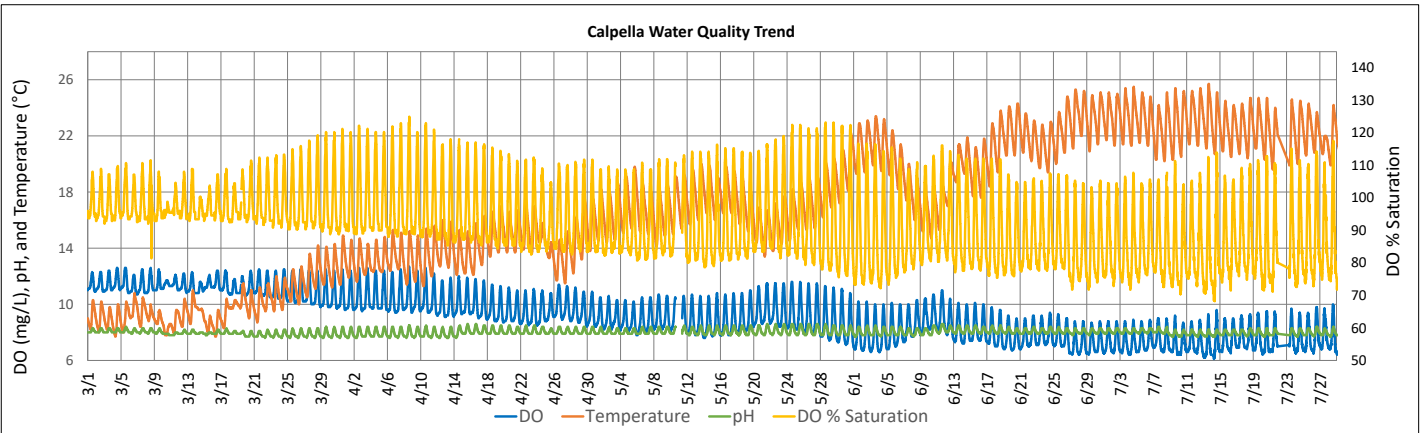
Parameter		Calpella	East Fork Below Lake Mendocino	Hopland	Cloverdale*	Jimtown*	Diggers Bend	River Diversion System at Mirabel*	Hacienda Bridge	Johnsons Beach*
		USGS 11461500	SCWA	USGS 11462500	USGS 11463200	USGS 11463682	USGS 11463980	SCWA	USGS 11467000	SCWA
Temperature (°F)	Min	67.8		61.0	66.9	65.1	69.1		69.3	72.5
	Max	77.5		70.9	76.1	75.0	80.6		76.5	78.7
	Mean	72.1		66.1	71.1	69.5	74.5		72.8	75.8
Specific Conductivity (µS/cm)	Min	272		248		346	347		227	137.2
	Max	290		257		354	354		239	209.4
	Mean	282		253		350	351		232	199.4
Dissolved Oxygen (mg/L)	Min	6.1		6.8	7.3	4.8	6.0		7.7	2.4
	Max	10.0		12.3	10.1	11.8	11.0		9.5	9.6
	Mean	7.6		9.0	8.5	7.6	8.2		8.6	6.6
Dissolved Oxygen (% Saturation)	Min	66		69	79	51	66		85	26.9
	Max	121		138	120	138	138		113	116.7
	Mean	87		95	95	84	96		98	78.0
pH	Min	7.7		7.7		7.1	7.8		7.8	7.5
	Max	8.4		8.9		7.5	8.4		8.2	8.1
	Mean	8.0		8.2		7.3	8.1		8.0	7.8
Turbidity (NTU)	Min	0.3		3.8		0.0	0.3		0.7	0.3
	Max	11.8		28.9		0.8	2.3		2.8	779.2
	Mean	0.8		5.7		0.3	0.7		1.2	17.1

\*Station operated seasonally



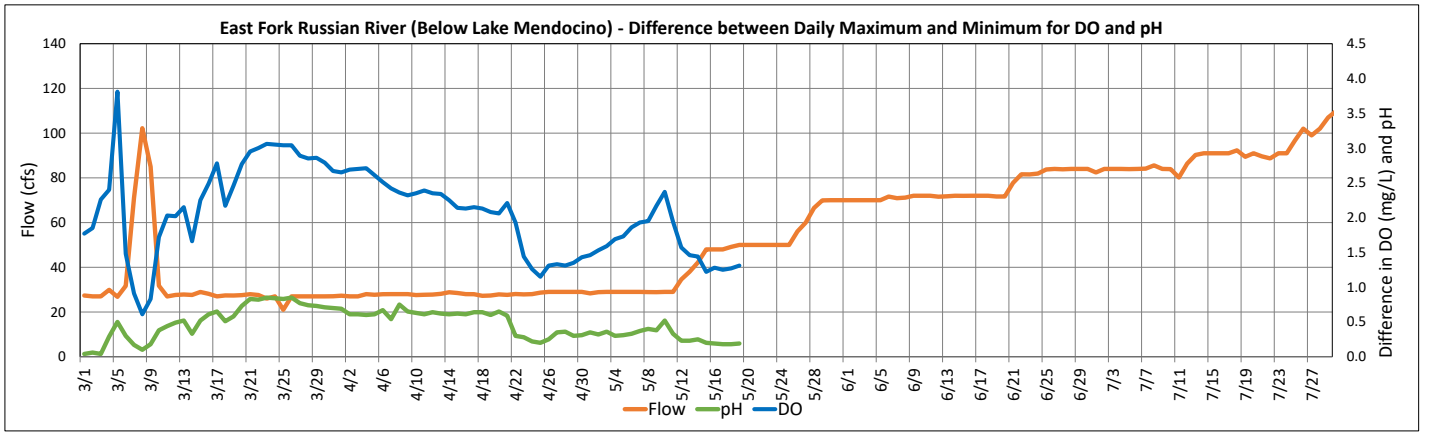
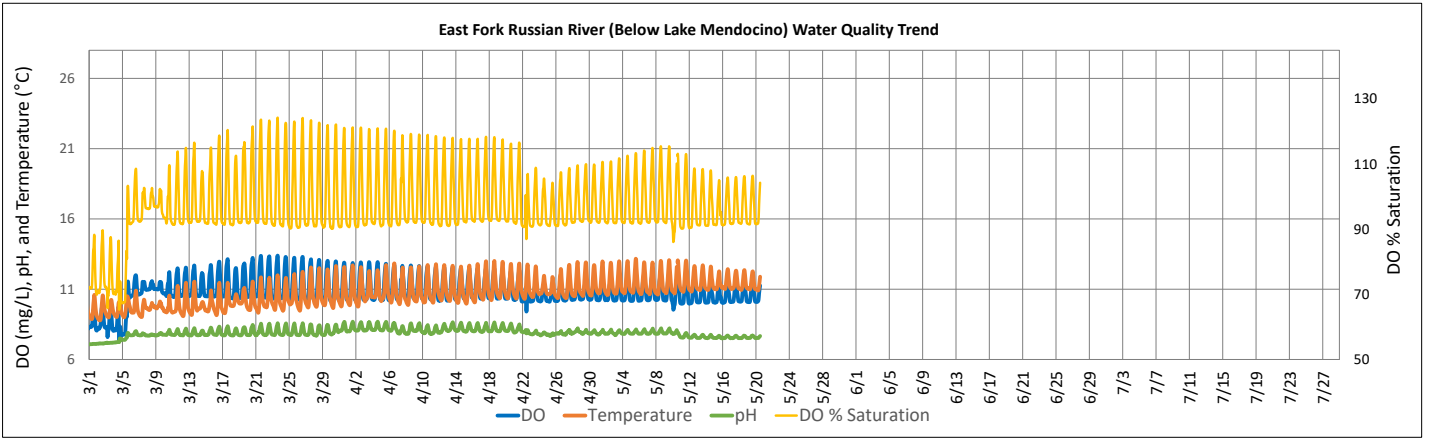
**Russian River Water Quality Sonde Data (March 1 - July 29, 2021)**  
**Provisional Data Subject to Revision**

**Calpella (East Fork Russian River)**

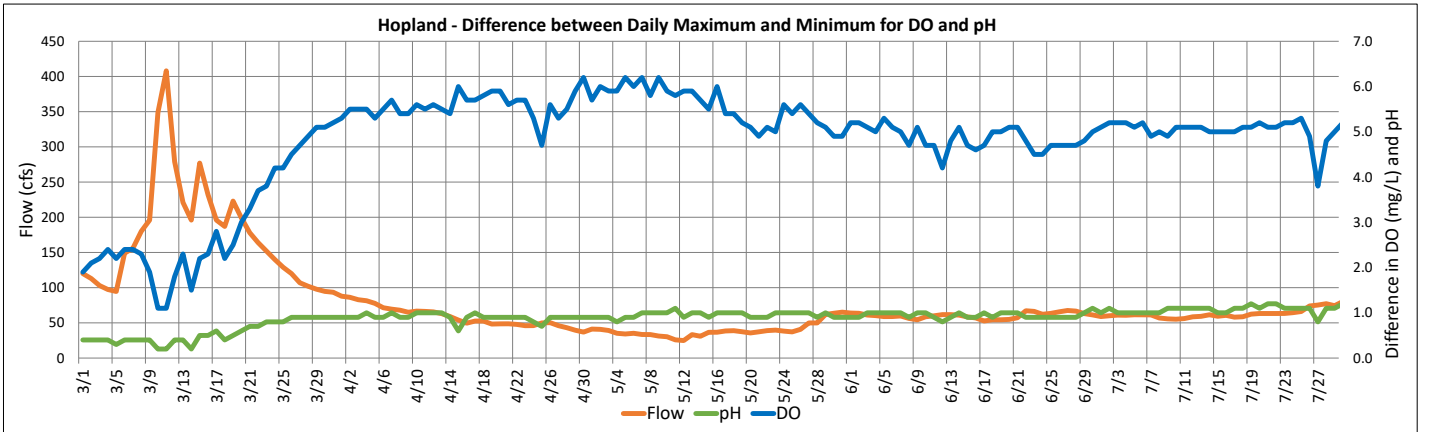
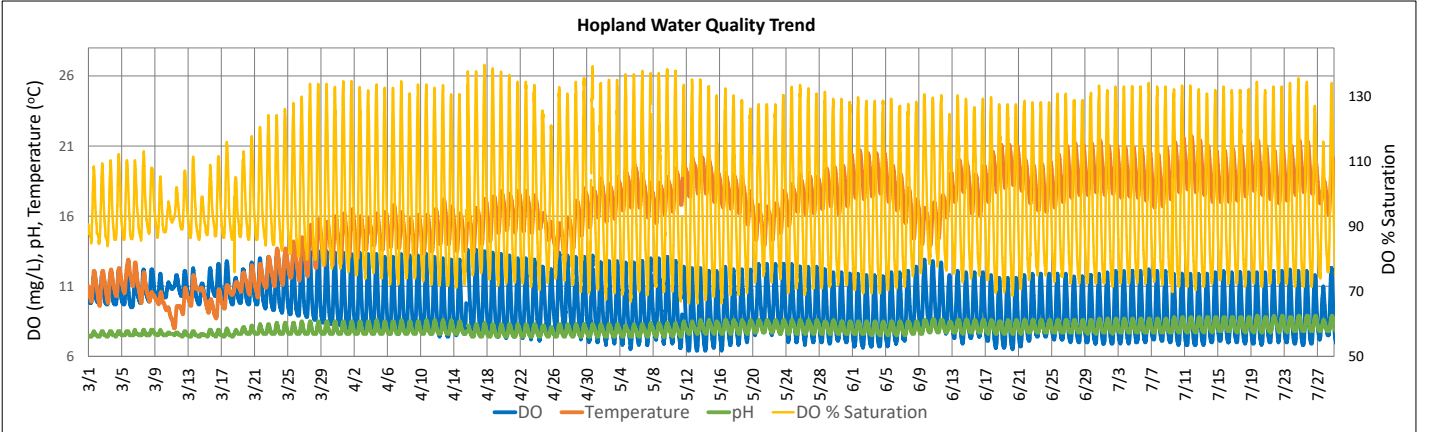


**Russian River Water Quality Sonde Data (March 1 - July 29, 2021)**  
 Provisional Data Subject to Revision

**East Fork Russian River (Below Lake Mendocino)**

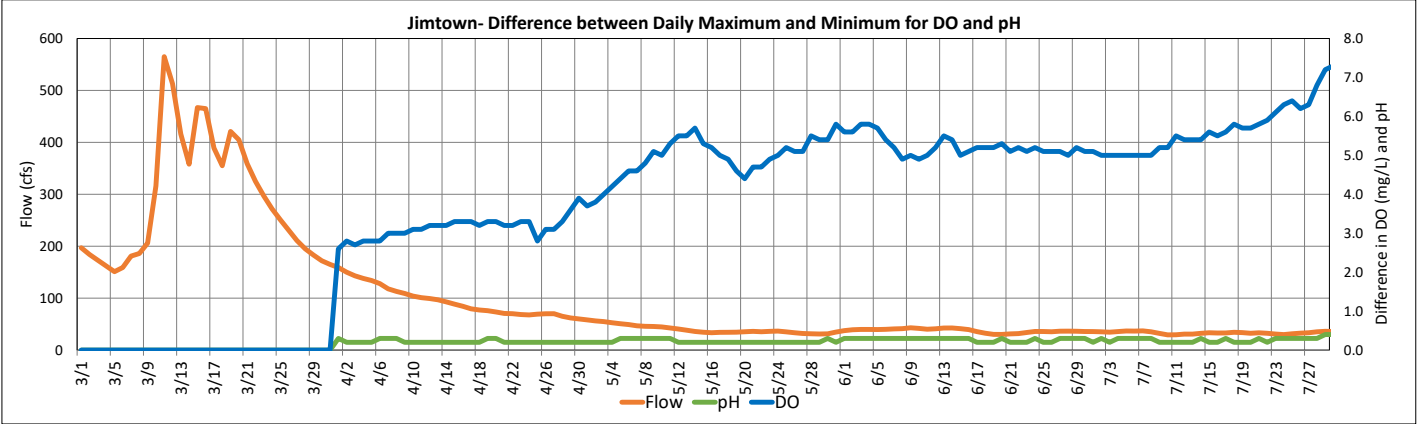
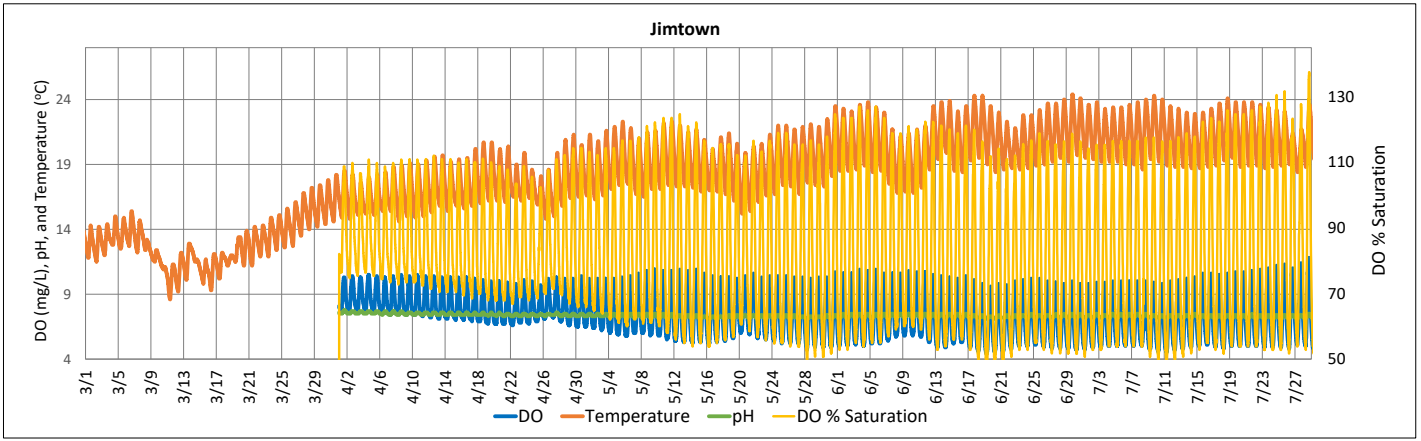


**Hopland**

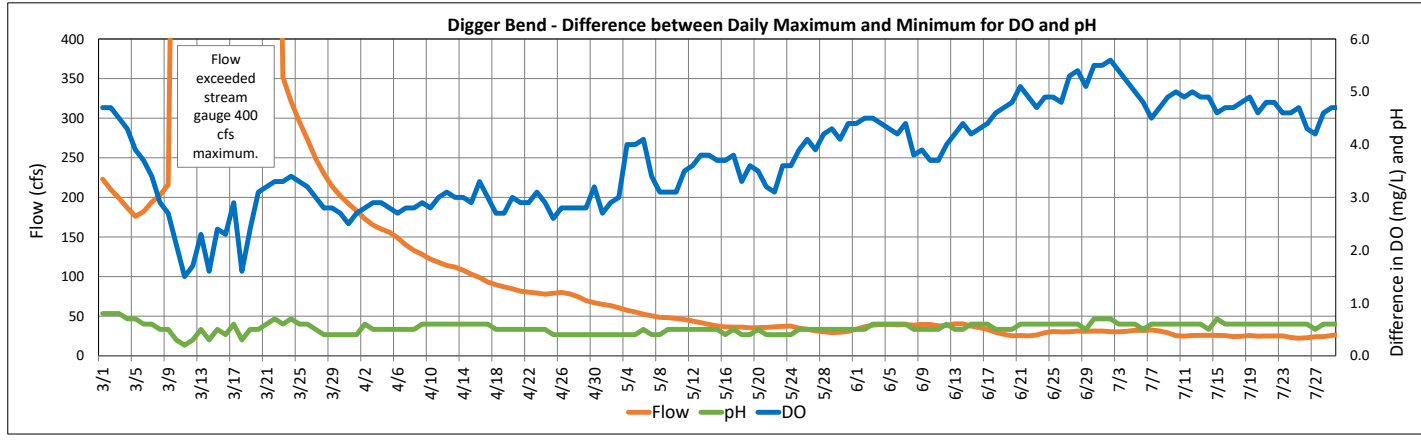
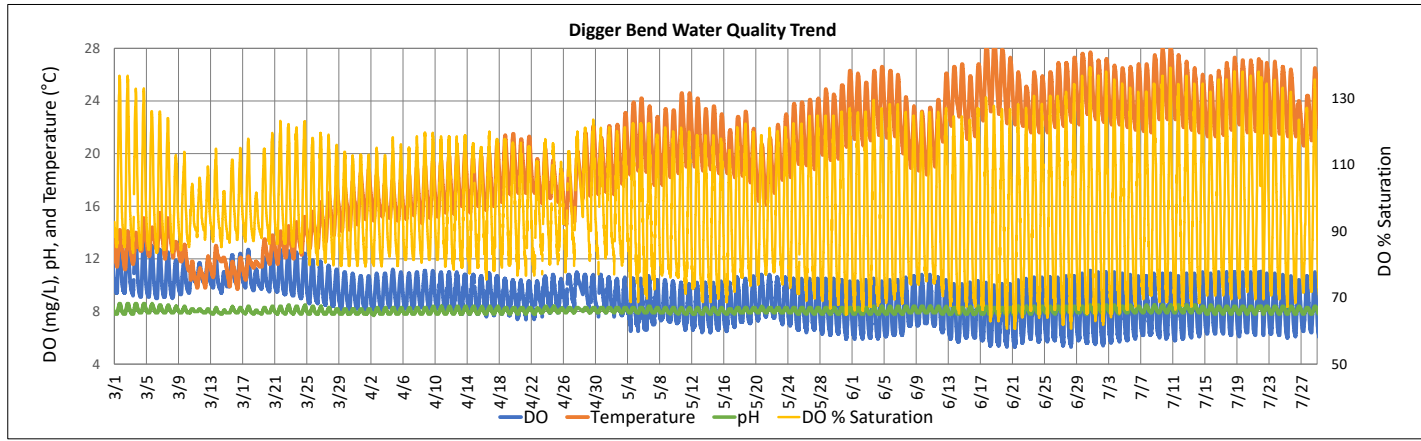


**Russian River Water Quality Sonde Data (March 1 - July 29, 2021)**  
 Provisional Data Subject to Revision

**Jimtown Water Quality**

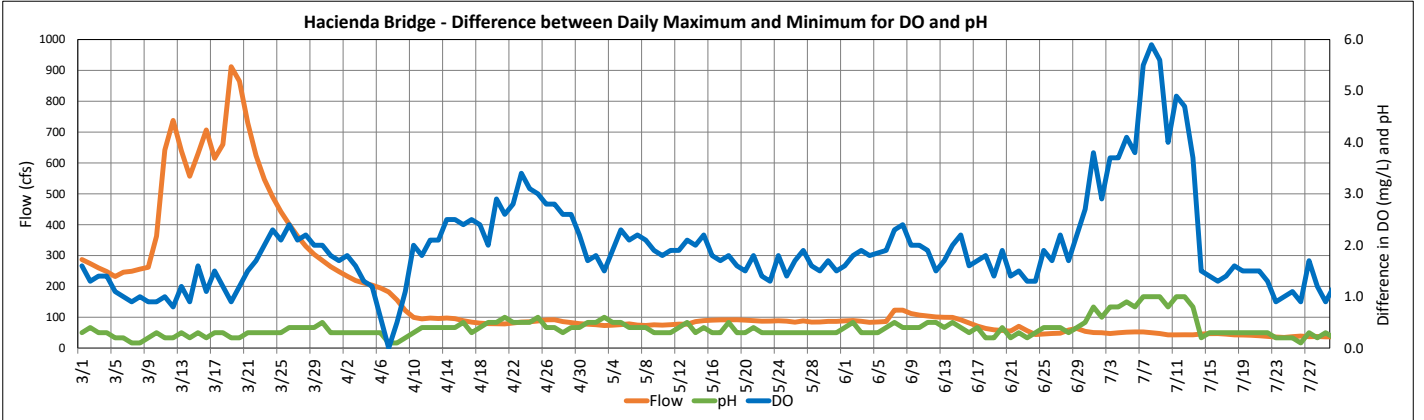
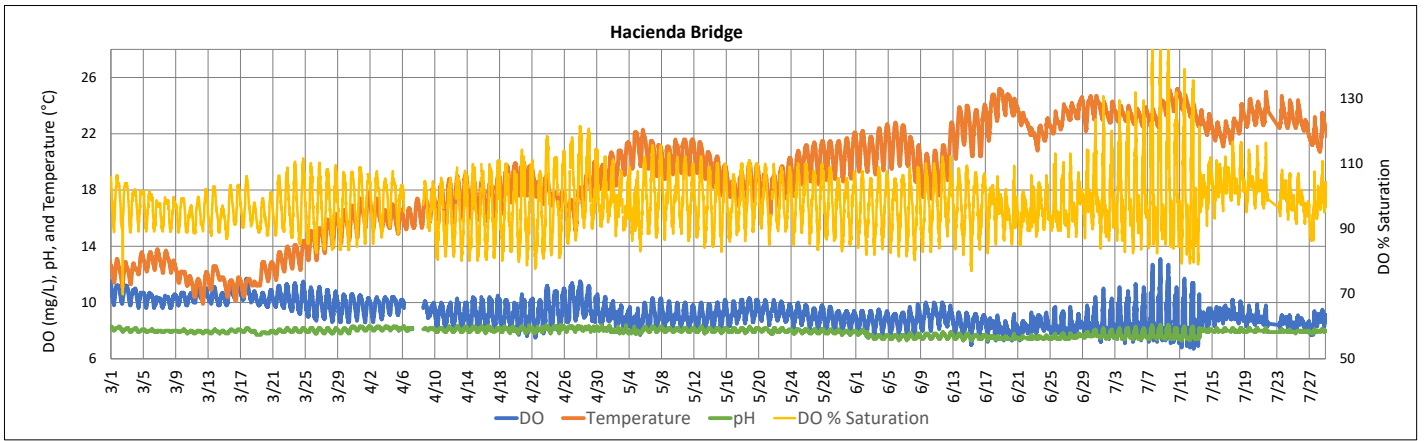


**Digger Bend**

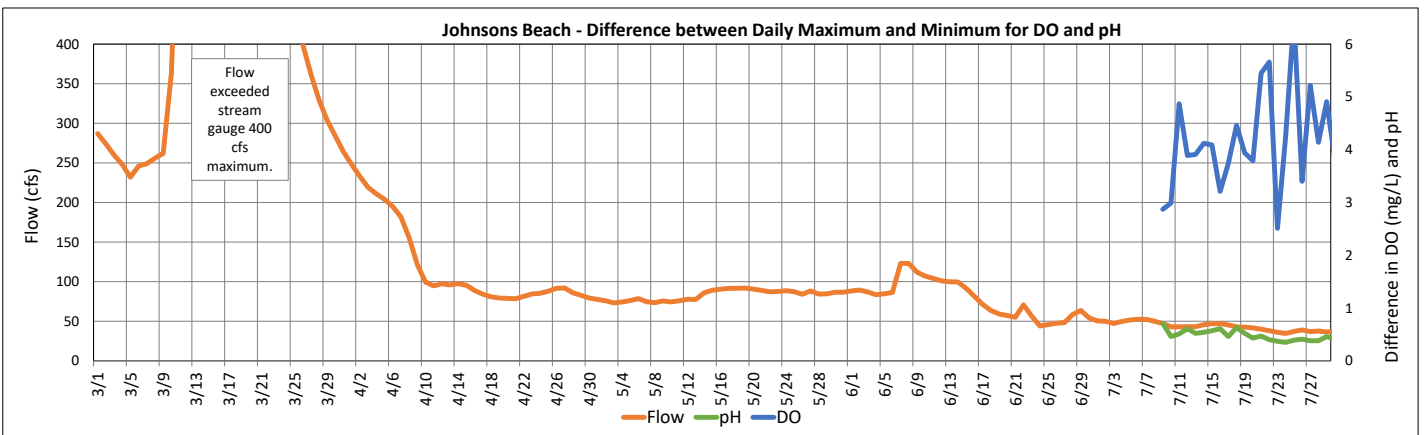
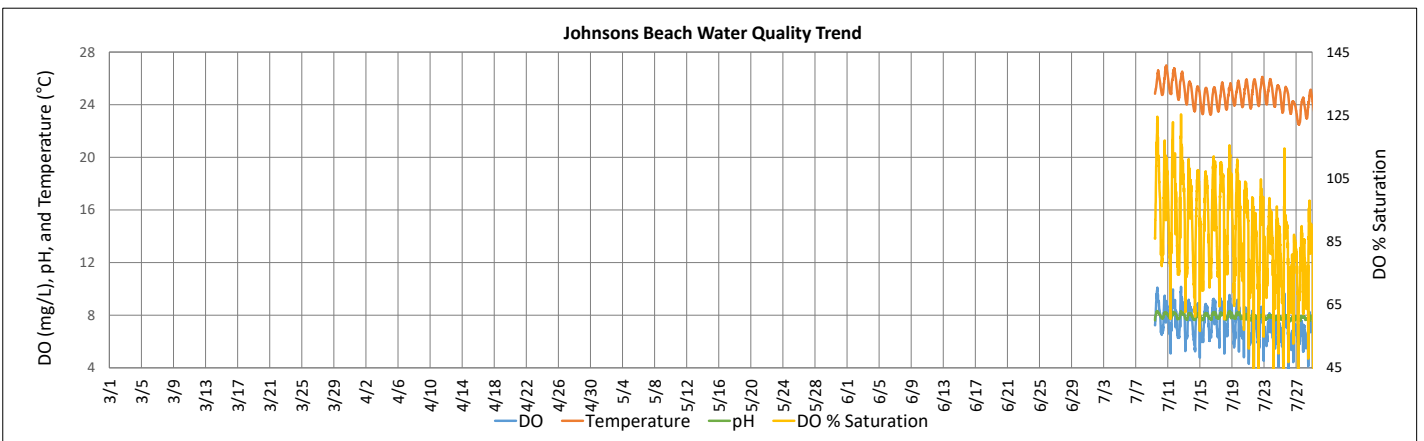


**Russian River Water Quality Sonde Data (March 1 - July 29, 2021)**  
 Provisional Data Subject to Revision

**Hacienda Bridge Water Quality**

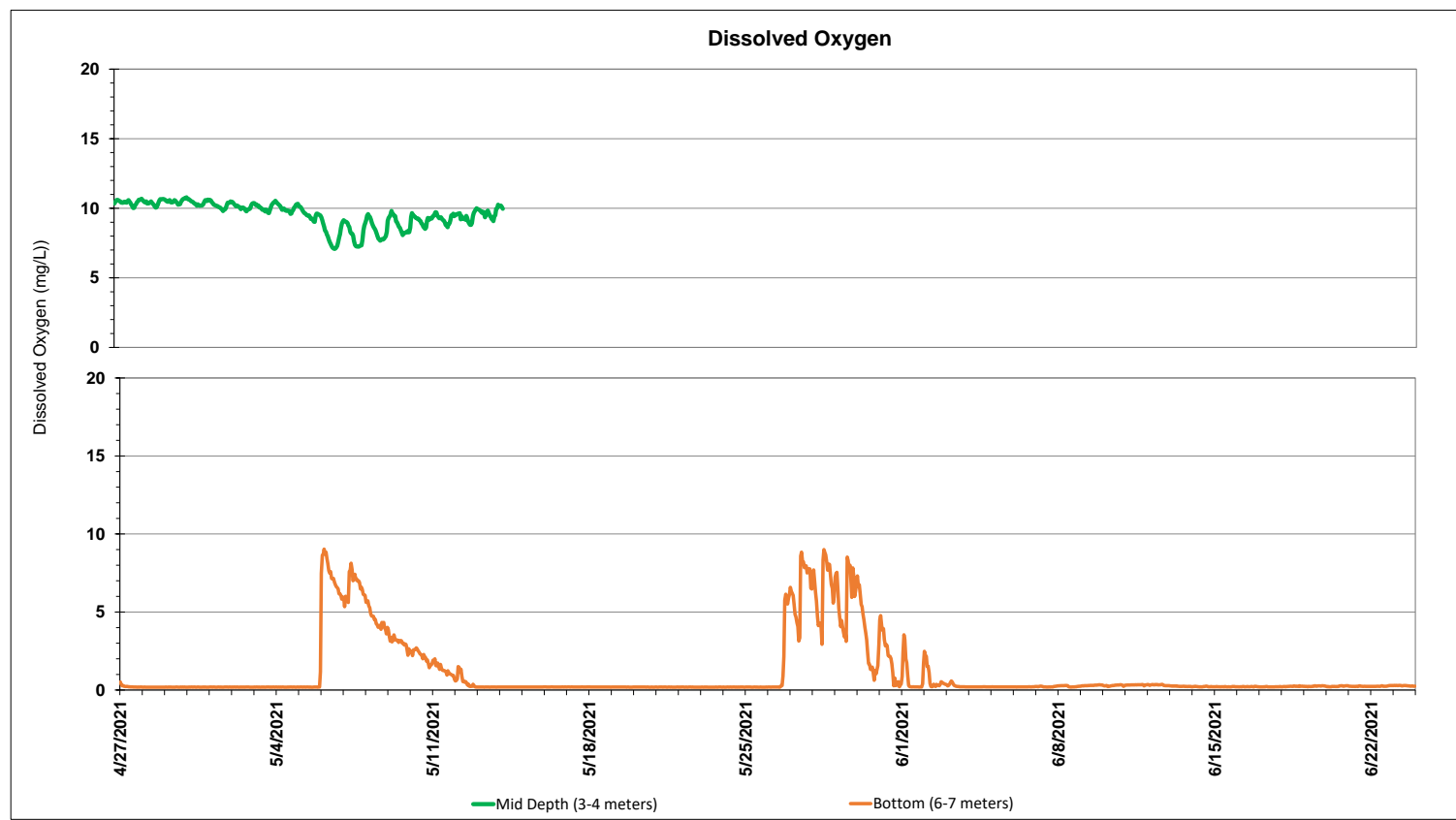
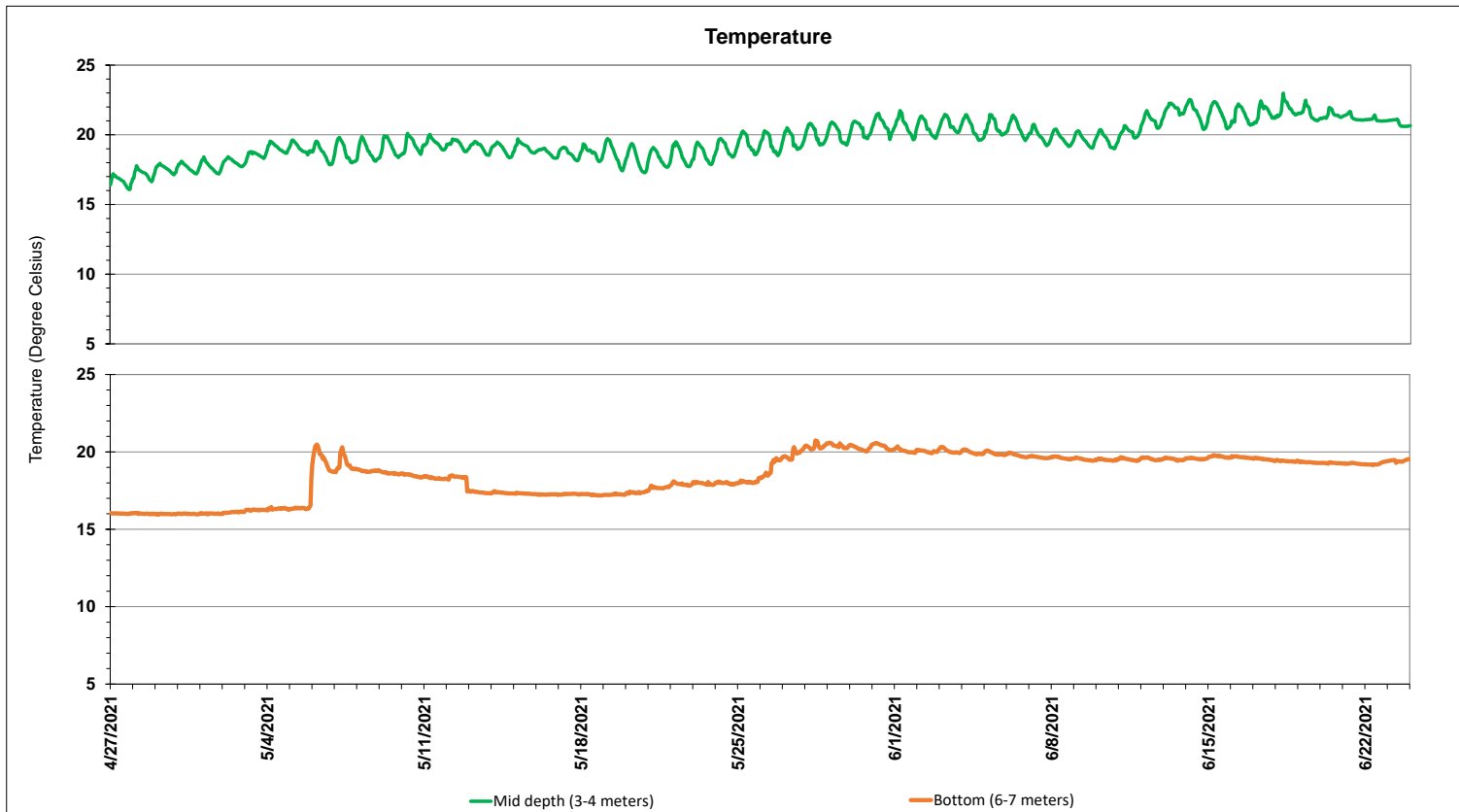


**Johnsons Beach**



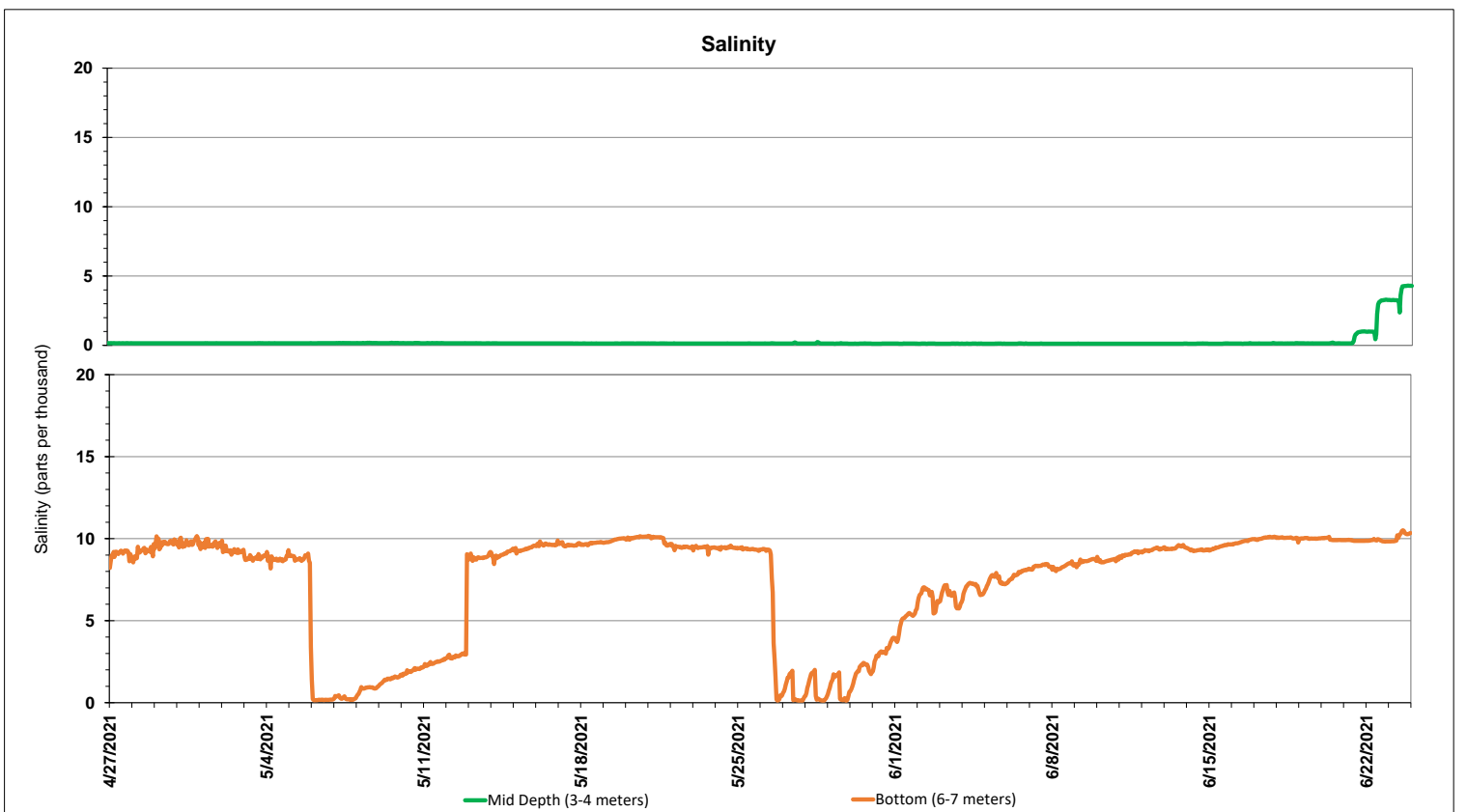
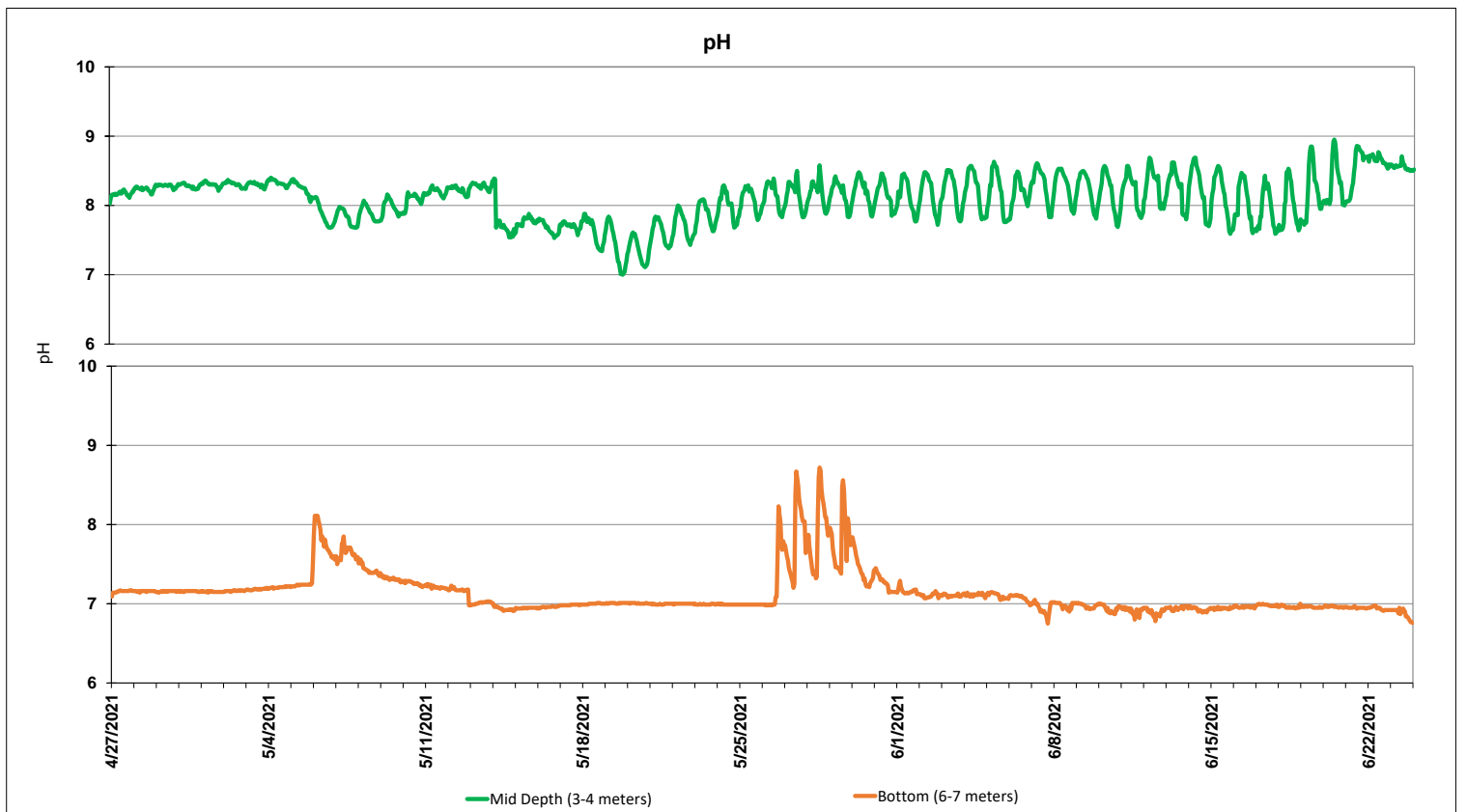
Russian River Water Quality Sonde Data - Estuary (April 27 - July 29, 2021)  
Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality



Russian River Water Quality Sonde Data - Estuary (April 27 - July 29, 2021)  
Provisional Data Subject to Revision

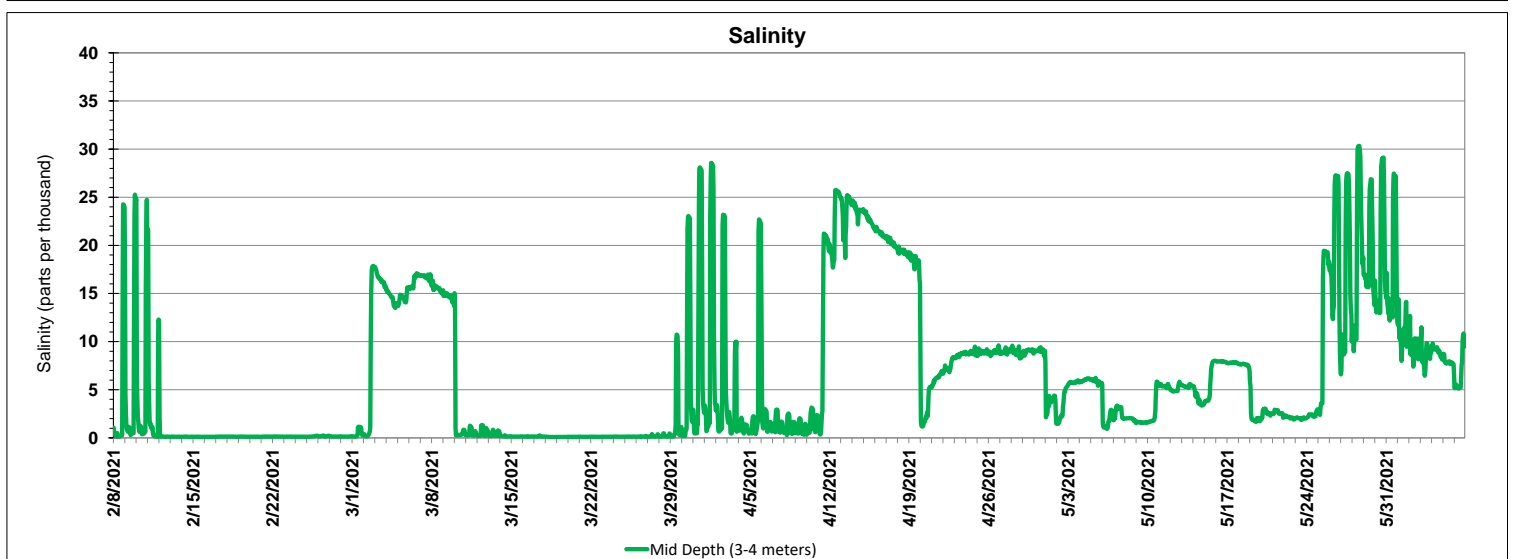
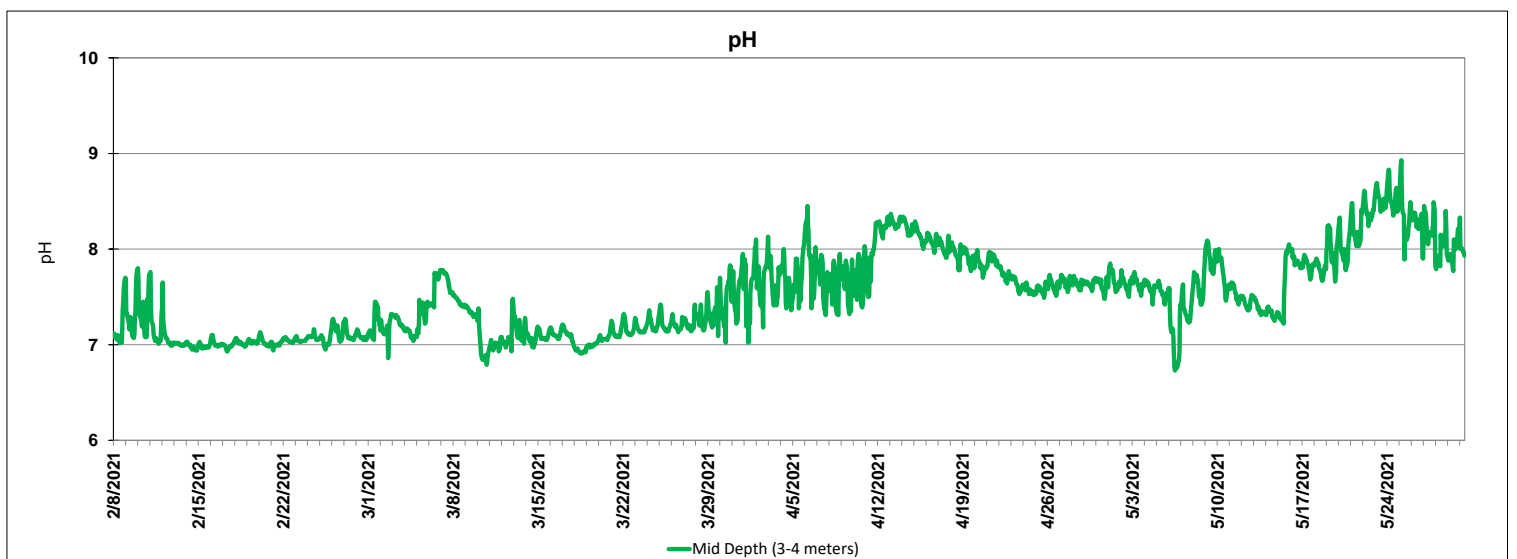
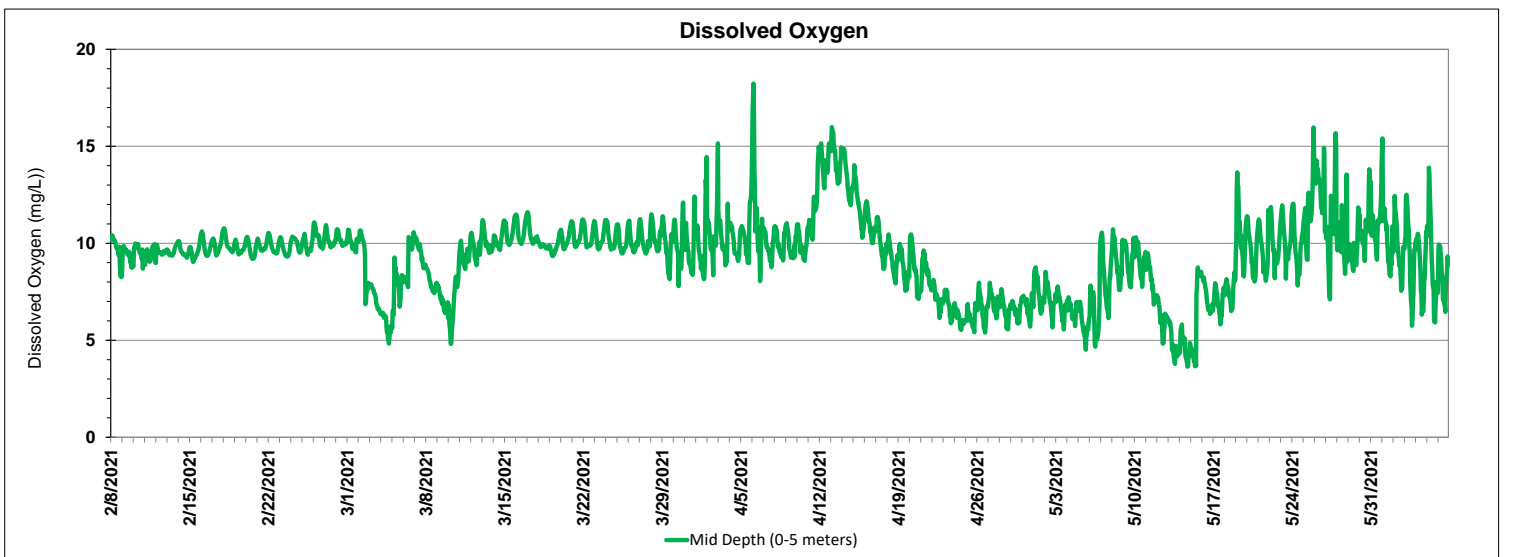
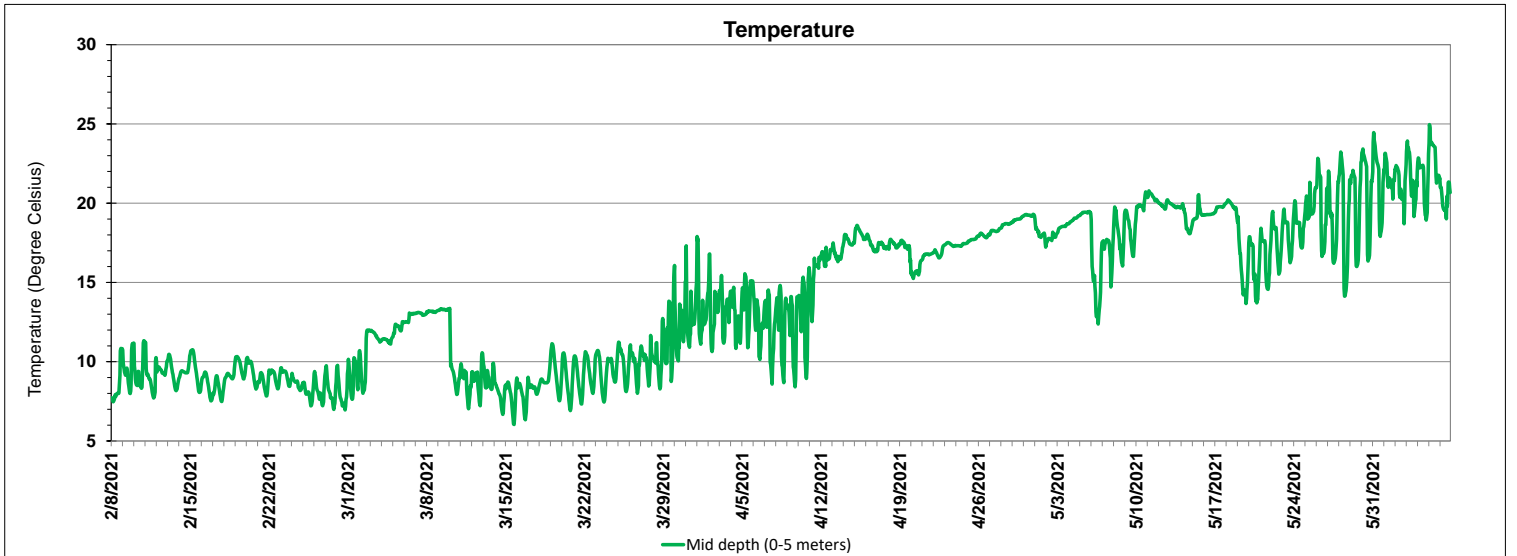
Russian River at Freezeout Creek Water Quality





Russian River Water Quality Sonde Data - Estuary (February 28 - July 29, 2021)  
Provisional Data Subject to Revision

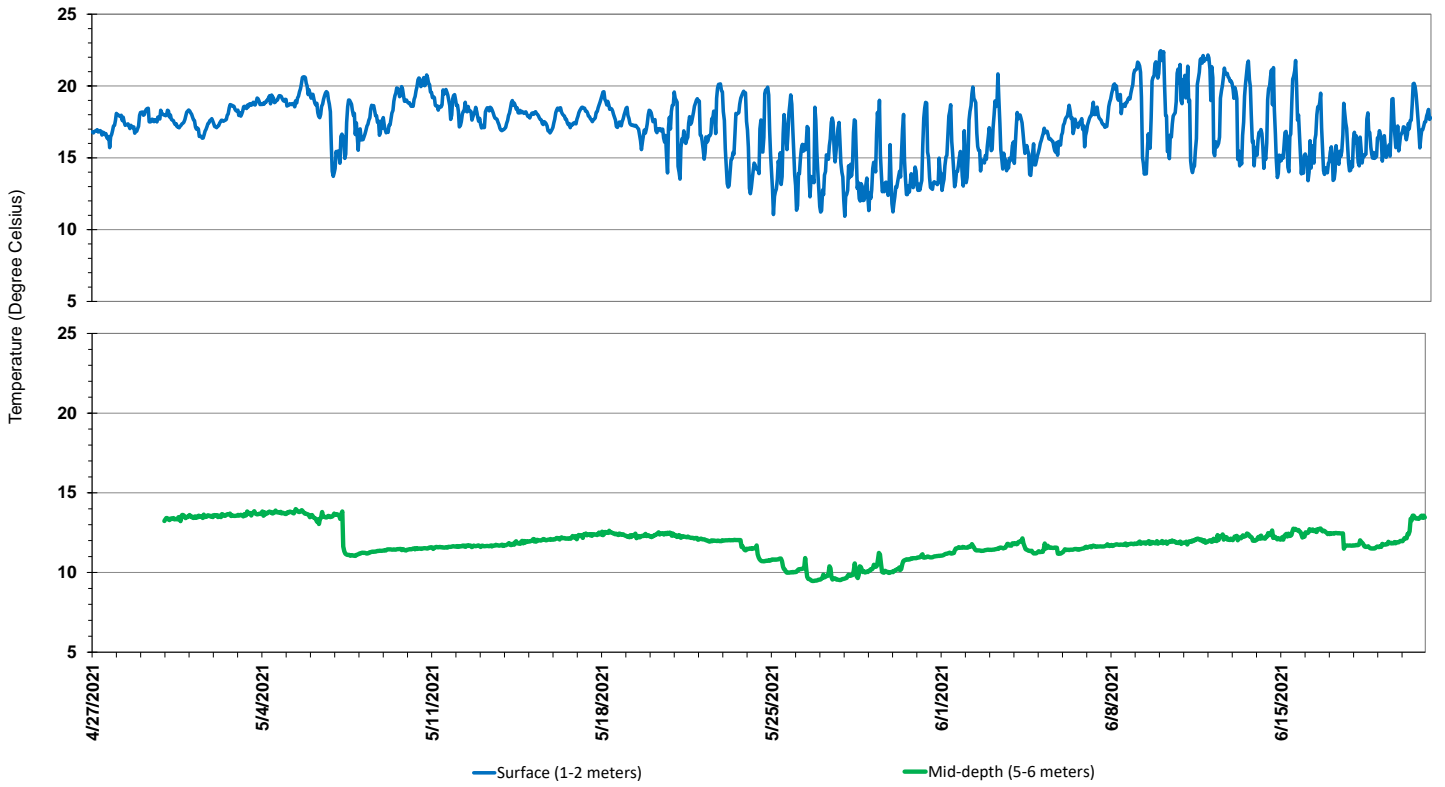
Willow Creek Water Quality



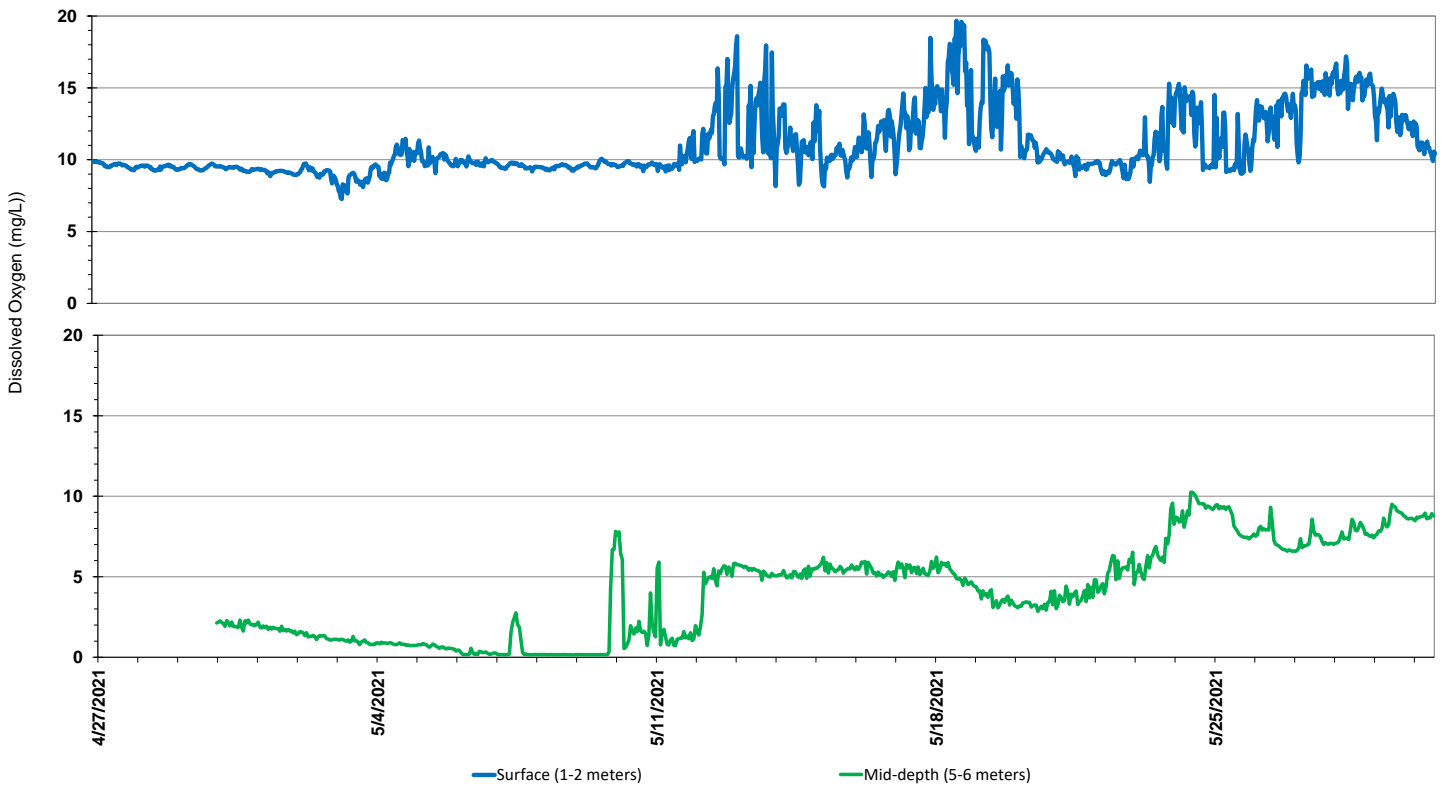
Russian River Water Quality Sonde Data - Estuary (April 27 - July 29, 2021)  
Provisional Data Subject to Revision

Russian River at Patty's Rock Water Quality

Temperature

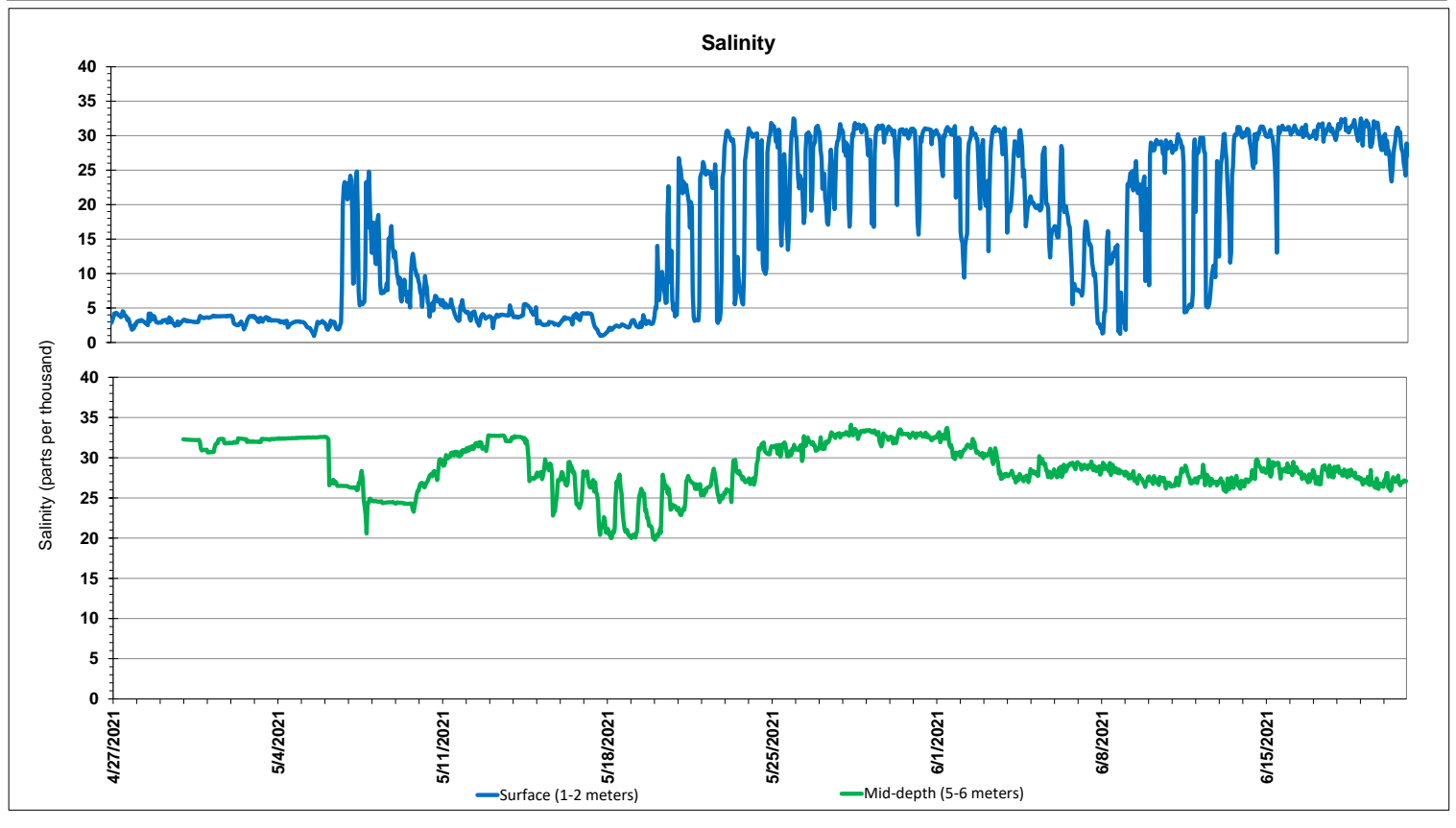
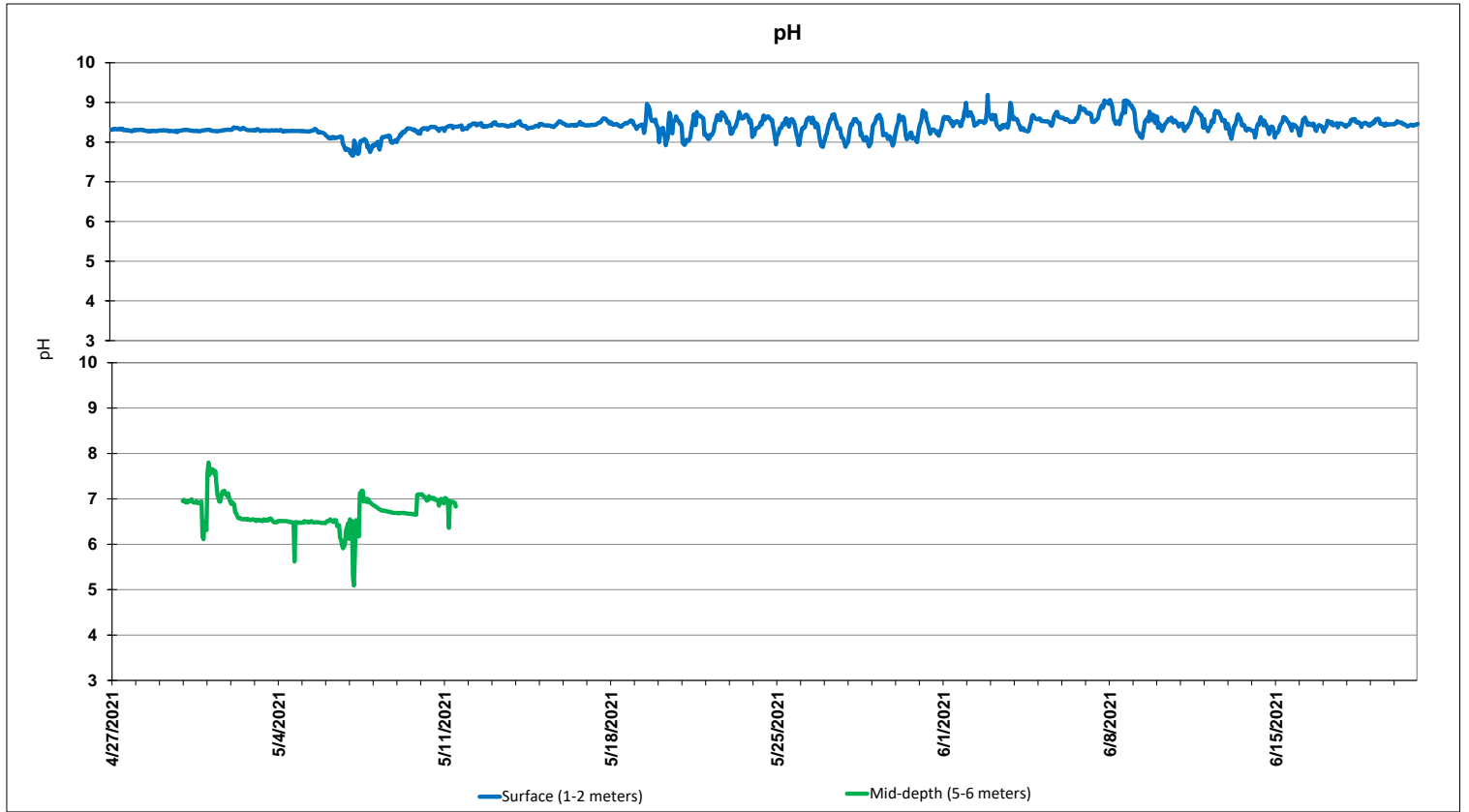


Dissolved Oxygen



Russian River Water Quality Sonde Data - Estuary (April 27 - July 29, 2021)  
Provisional Data Subject to Revision

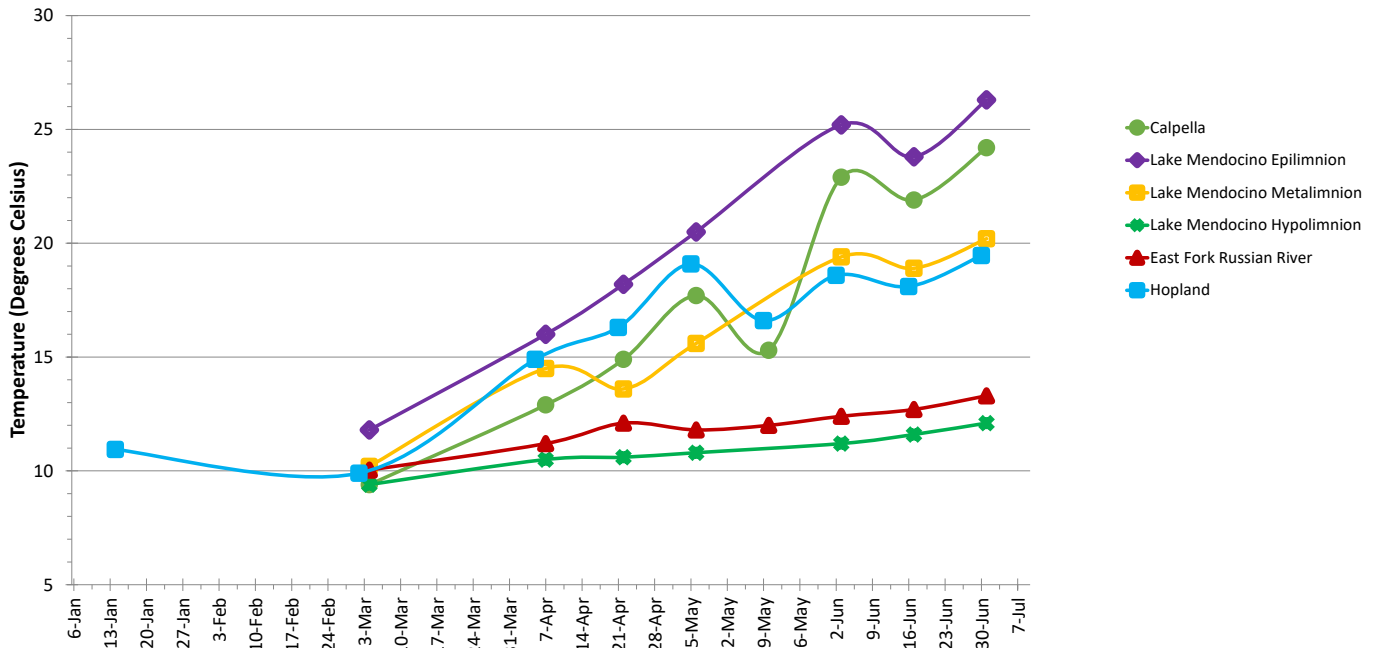
Russian River at Patty's Rock Water Quality



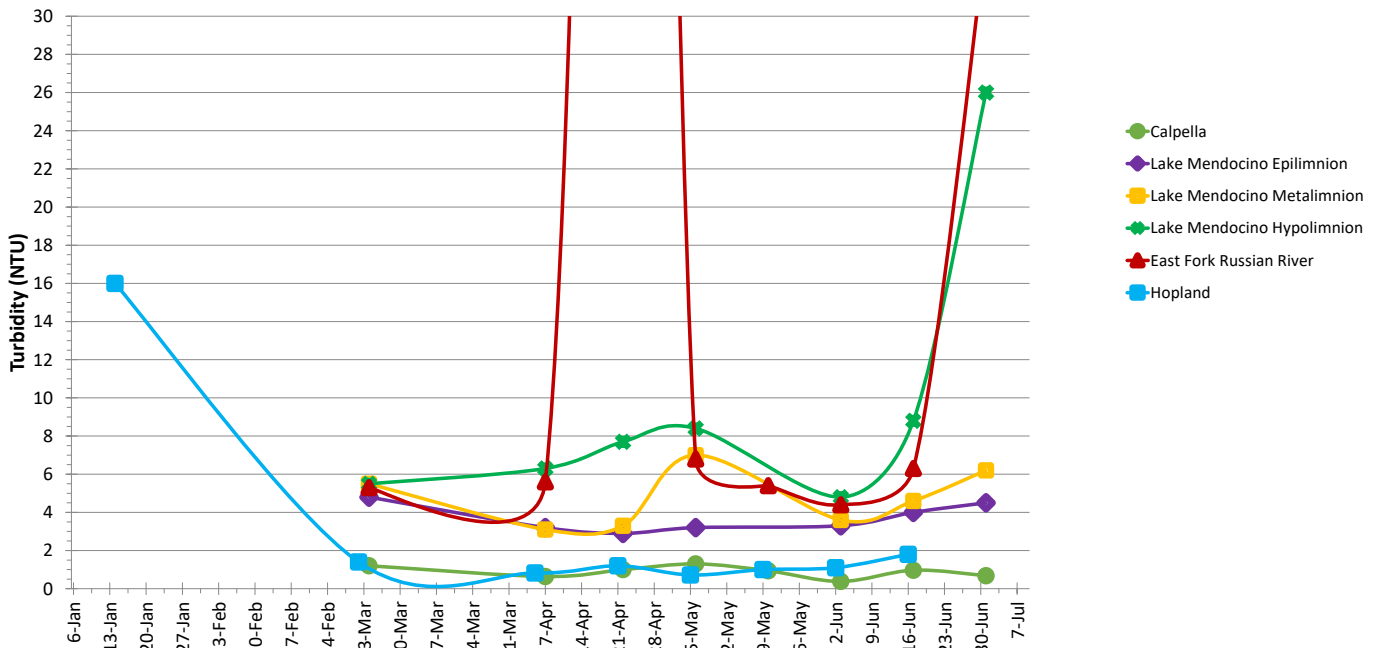
Russian River Water Quality Grab Samples (January 14 - July 29, 2021)  
Provisional Data Subject to Revision

Lake Mendocino to Hopland Water Quality

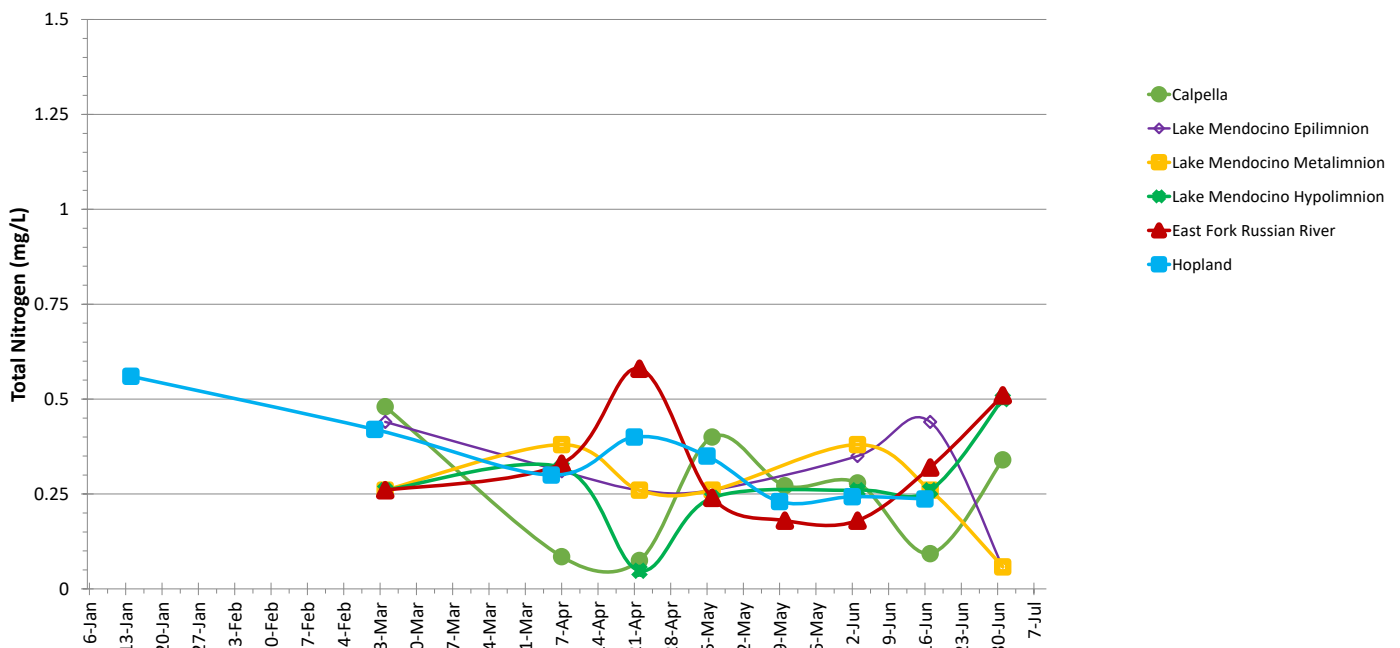
Temperature - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



Turbidity - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



Total Nitrogen - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021

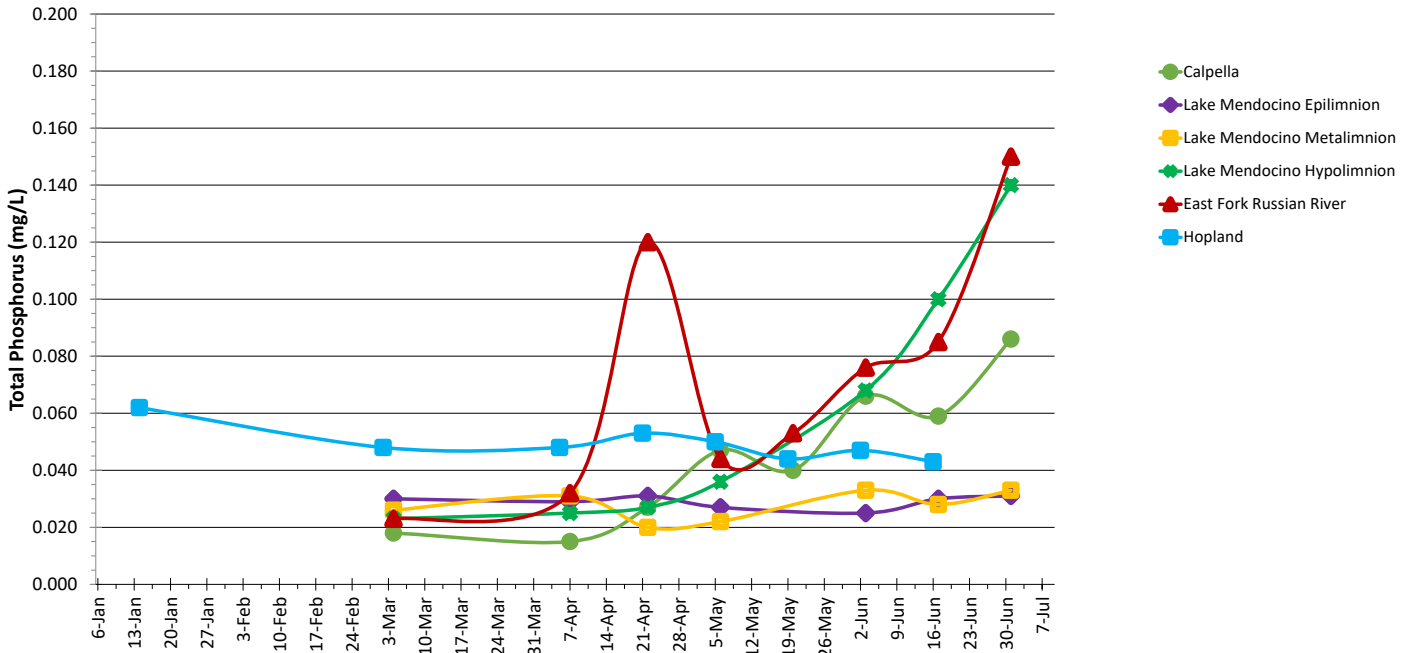


\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

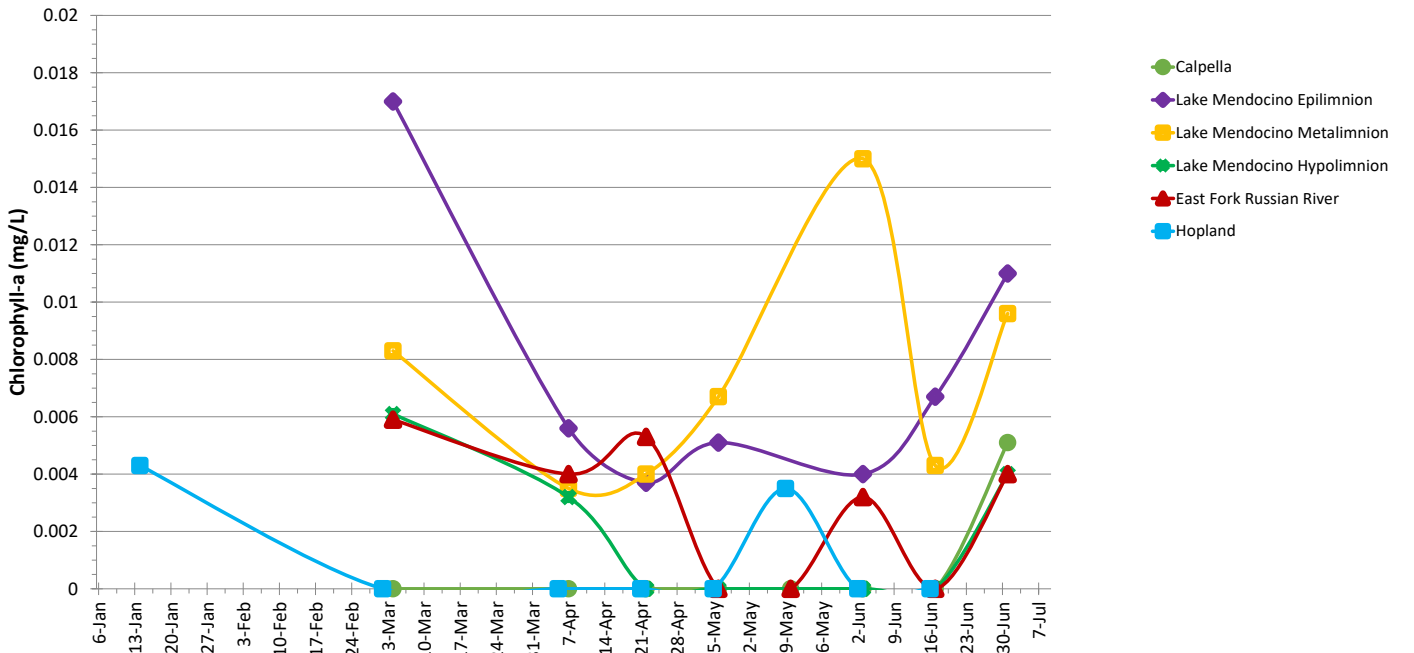
**Russian River Water Quality Grab Samples (January 14 - July 29, 2021)**  
 Provisional Data Subject to Revision

Lake Mendocino to Hopland Water Quality

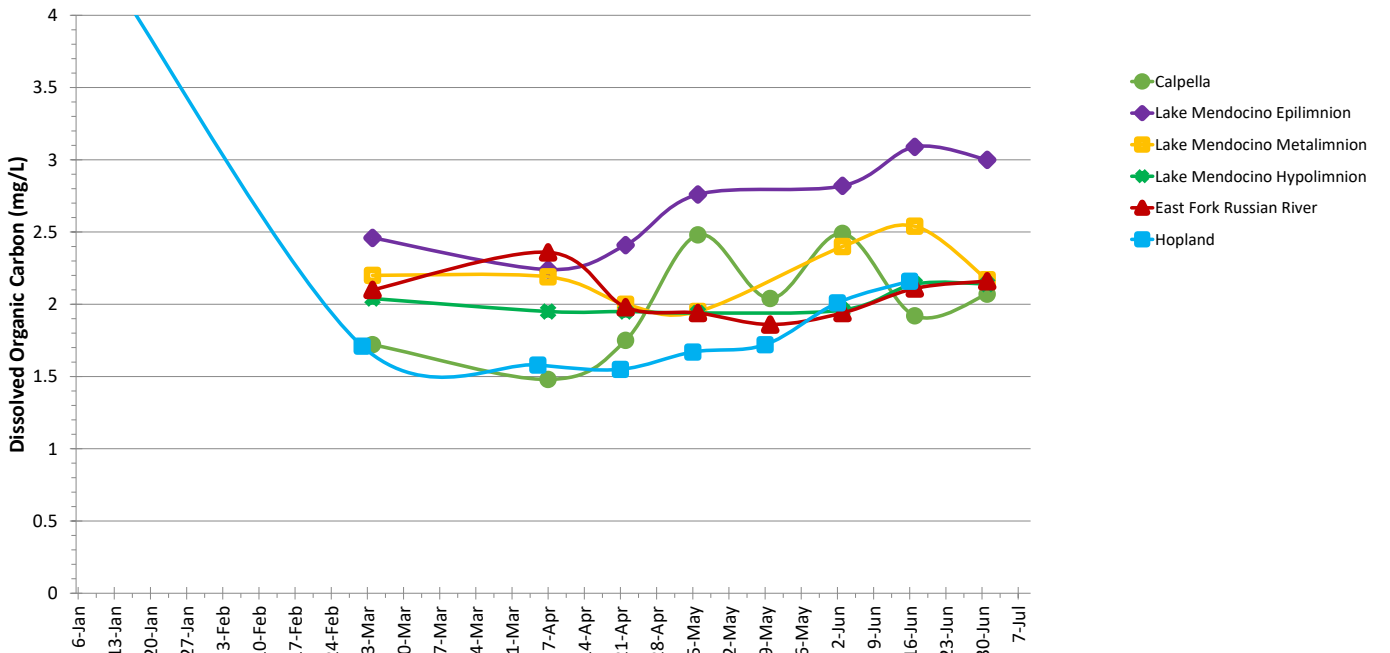
**Total Phosphorus - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



**Chlorophyll a - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



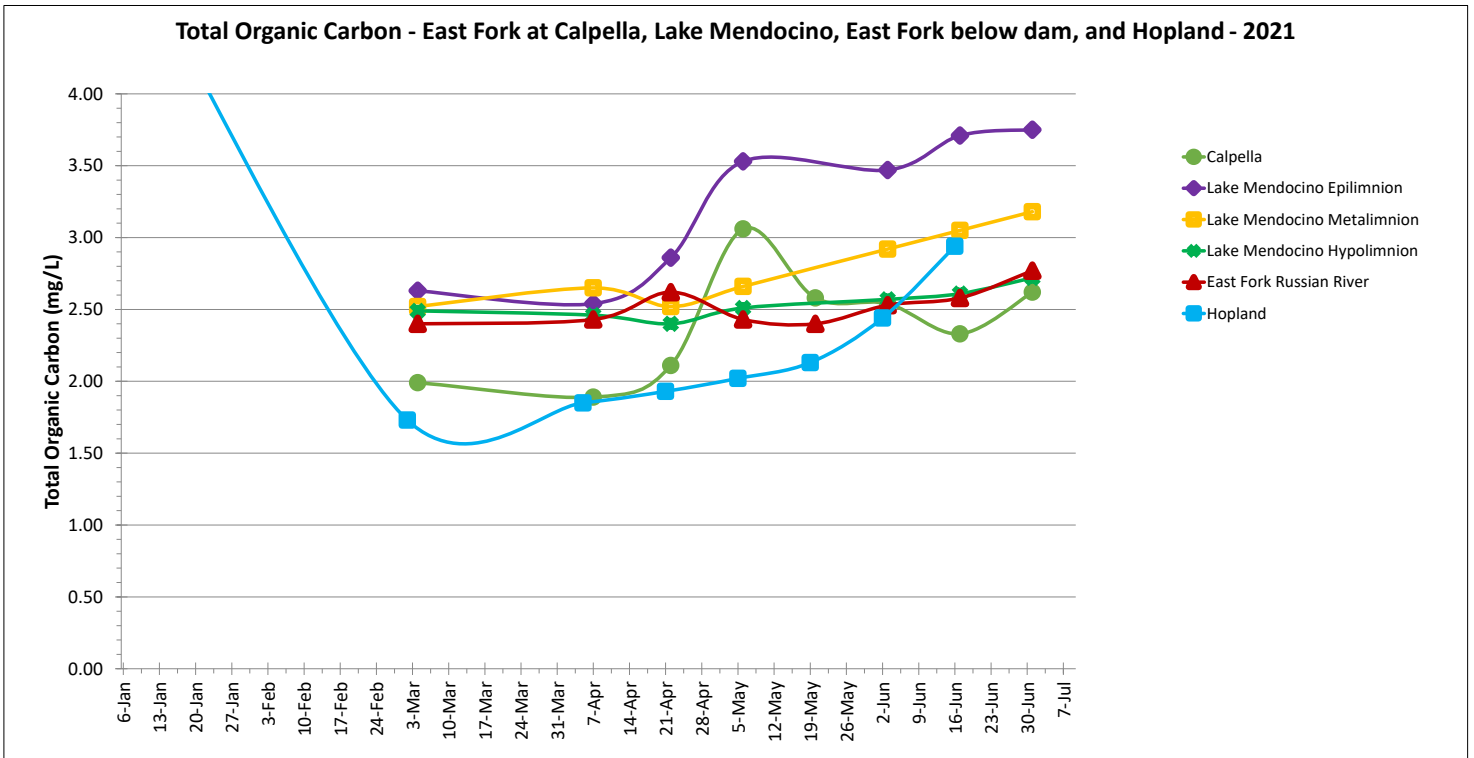
**Dissolved Organic Carbon - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



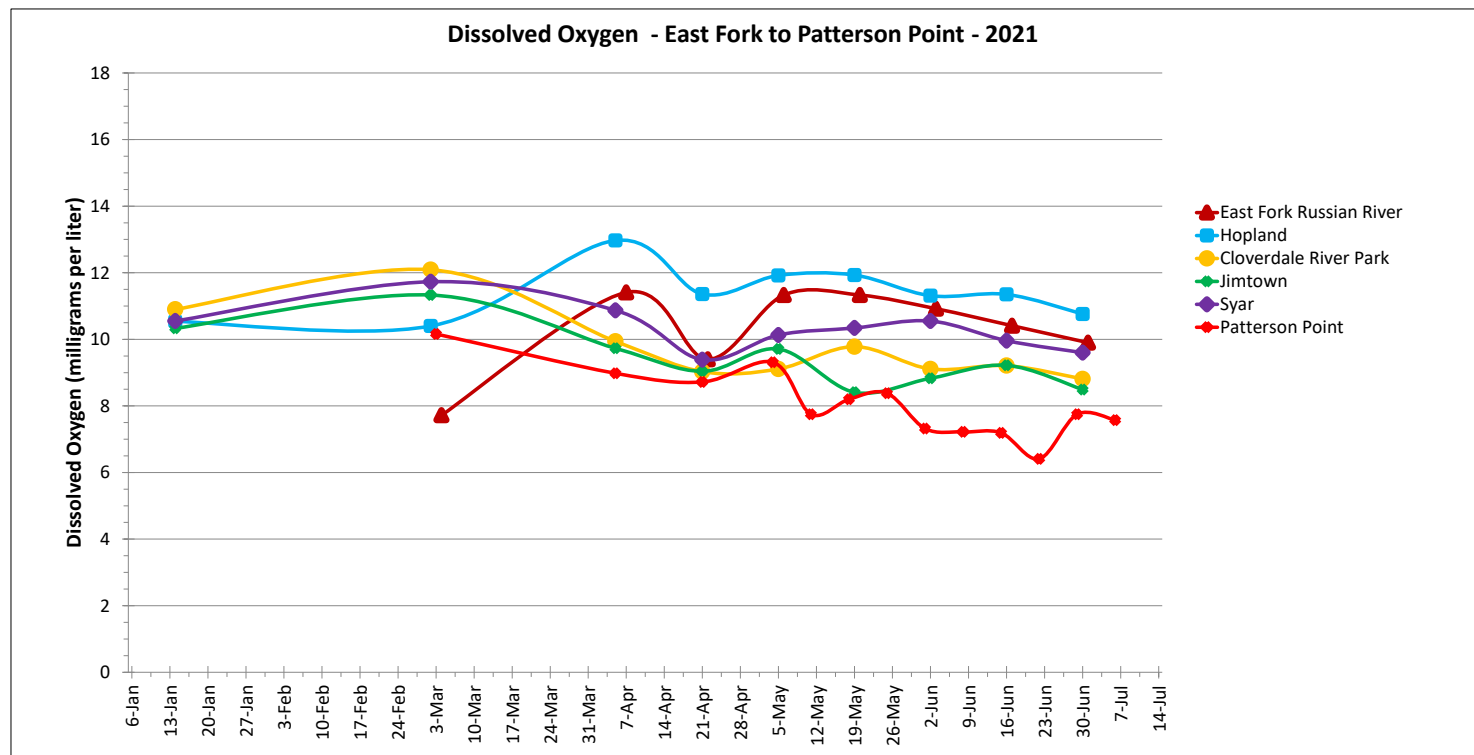
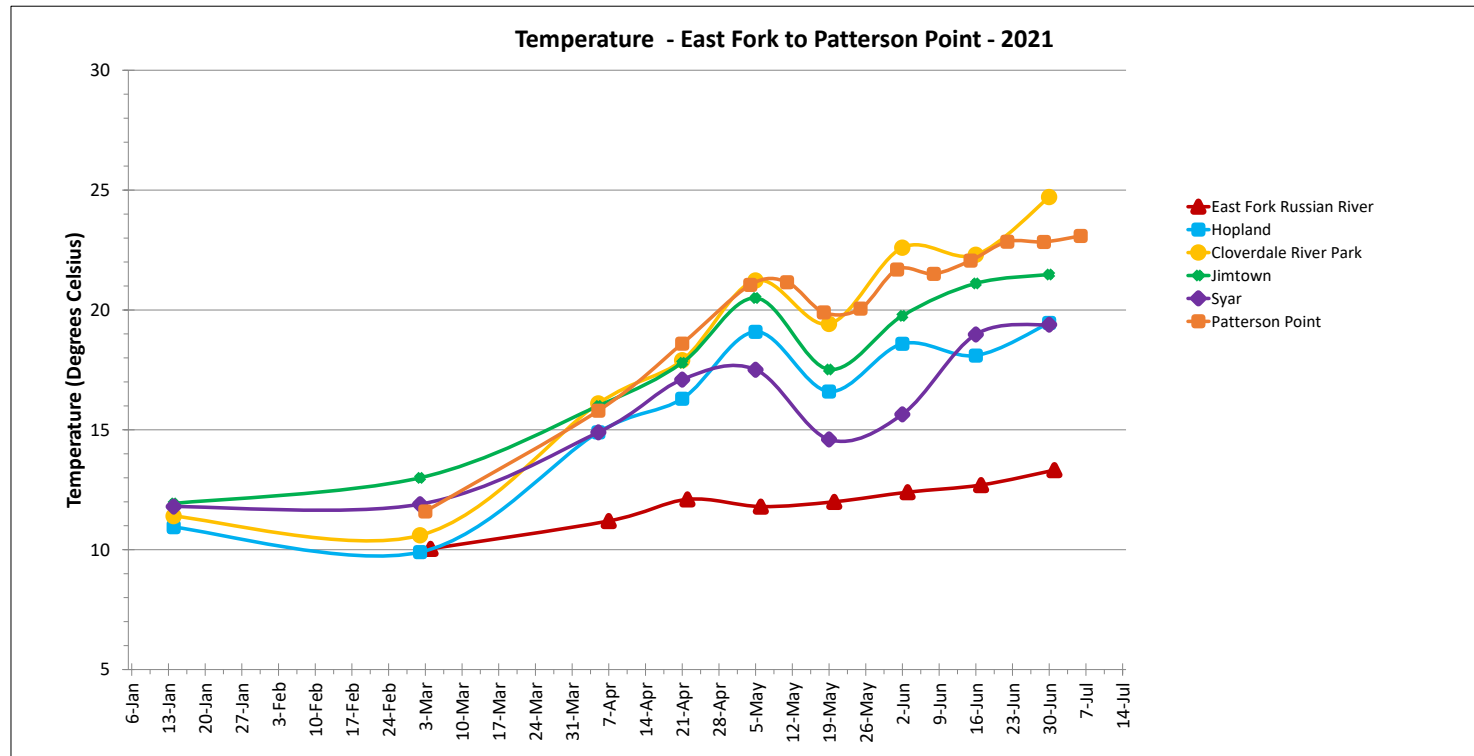
\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

**Russian River Water Quality Grab Samples (January 14 - July 29, 2021)**  
Provisional Data Subject to Revision

Lake Mendocino to Hopland Water Quality



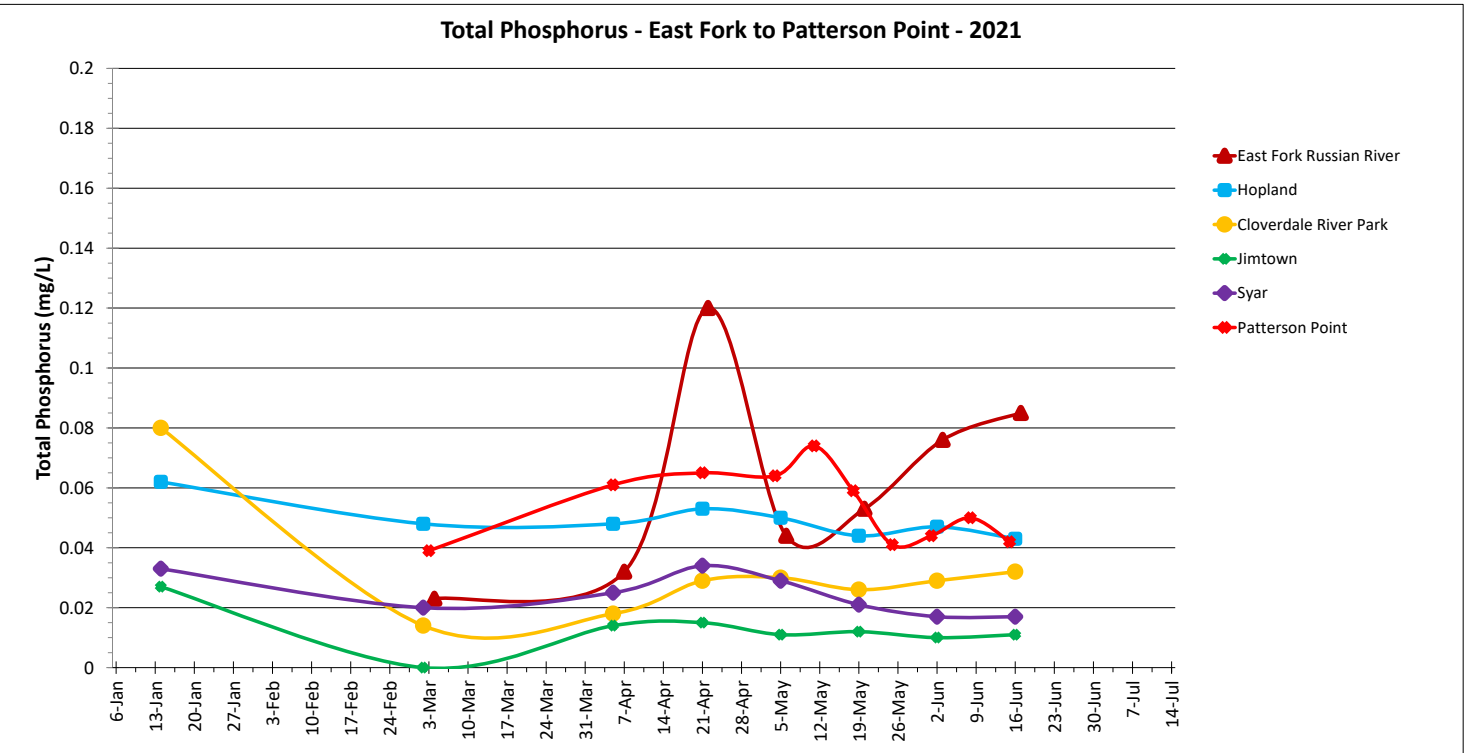
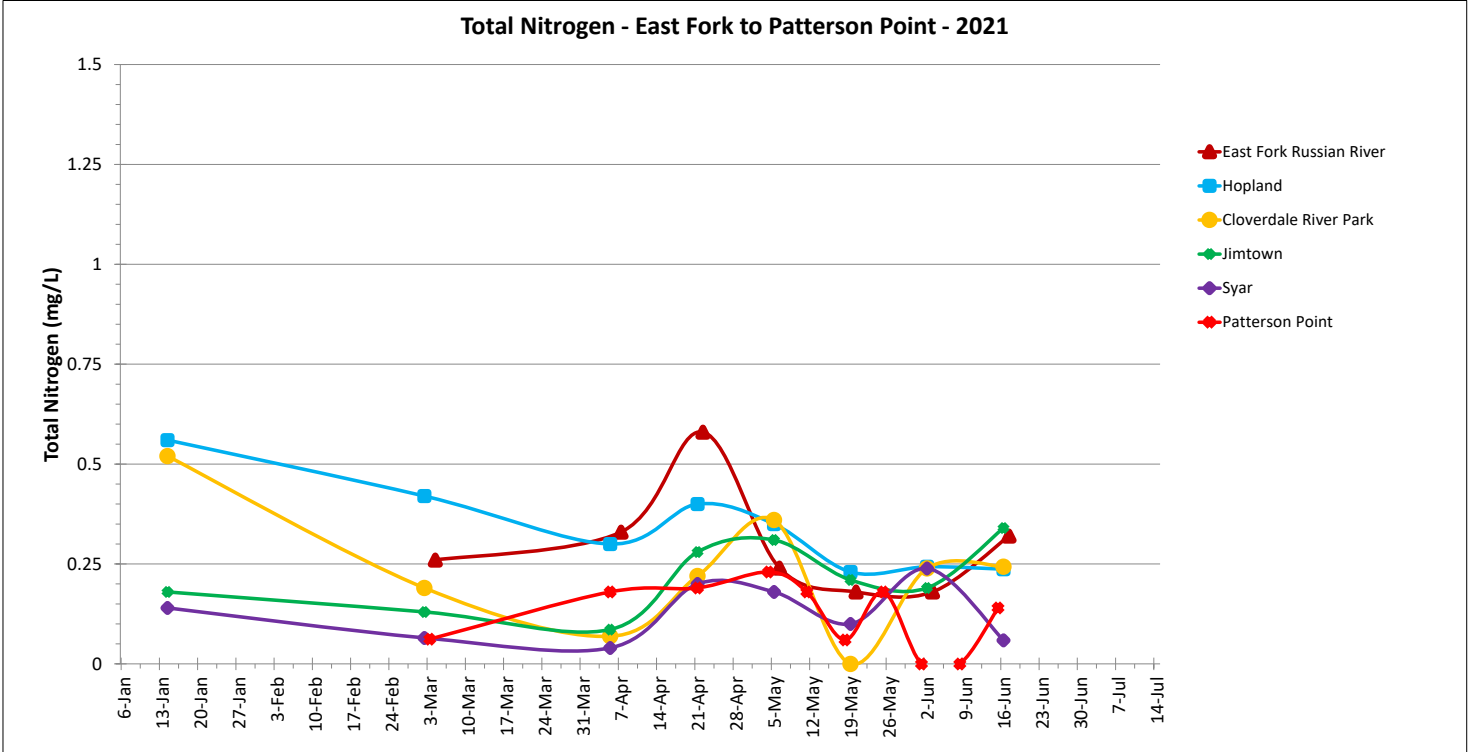
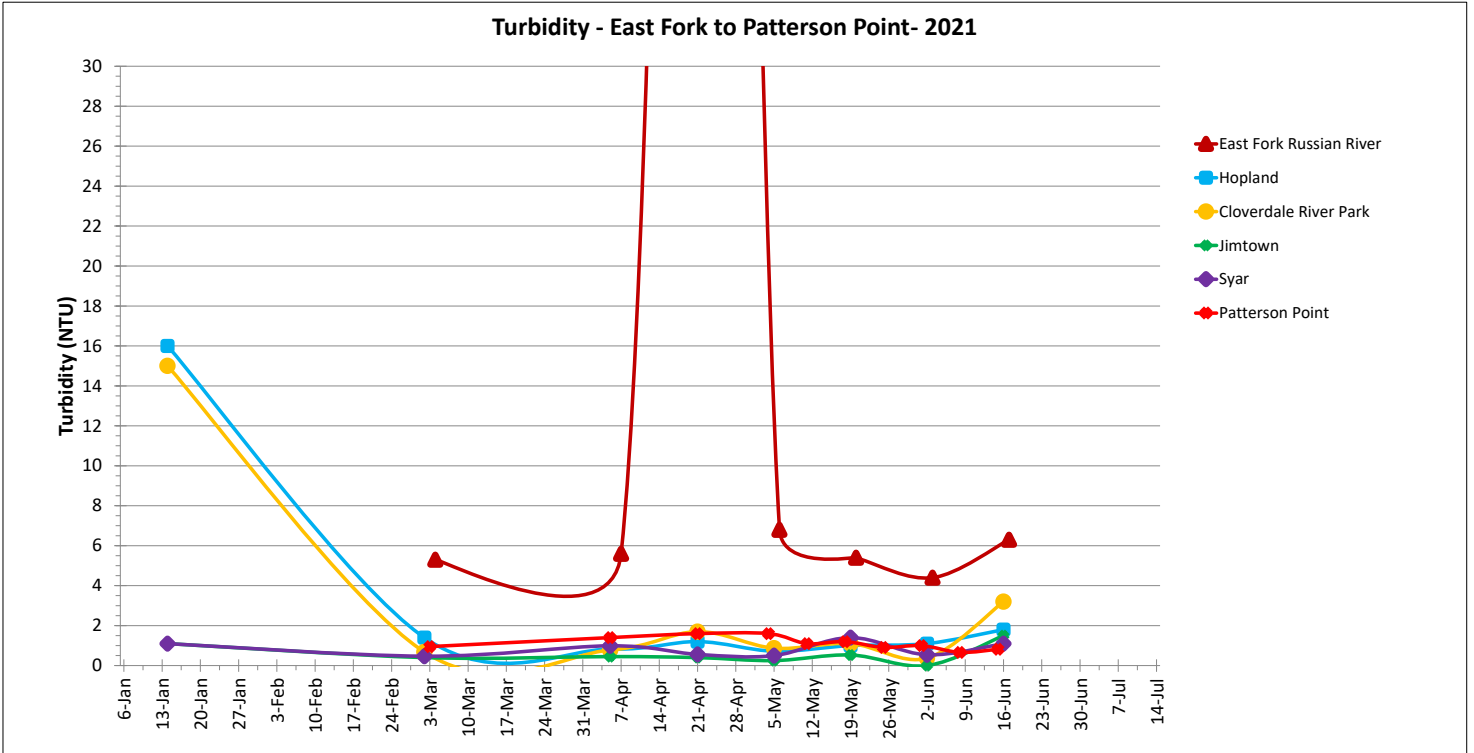
East Fork (below Lake Mendocino) to Patterson Water Quality



\*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 (January 14 - July 29, 2021)**  
 Provisional Data Subject to Revision

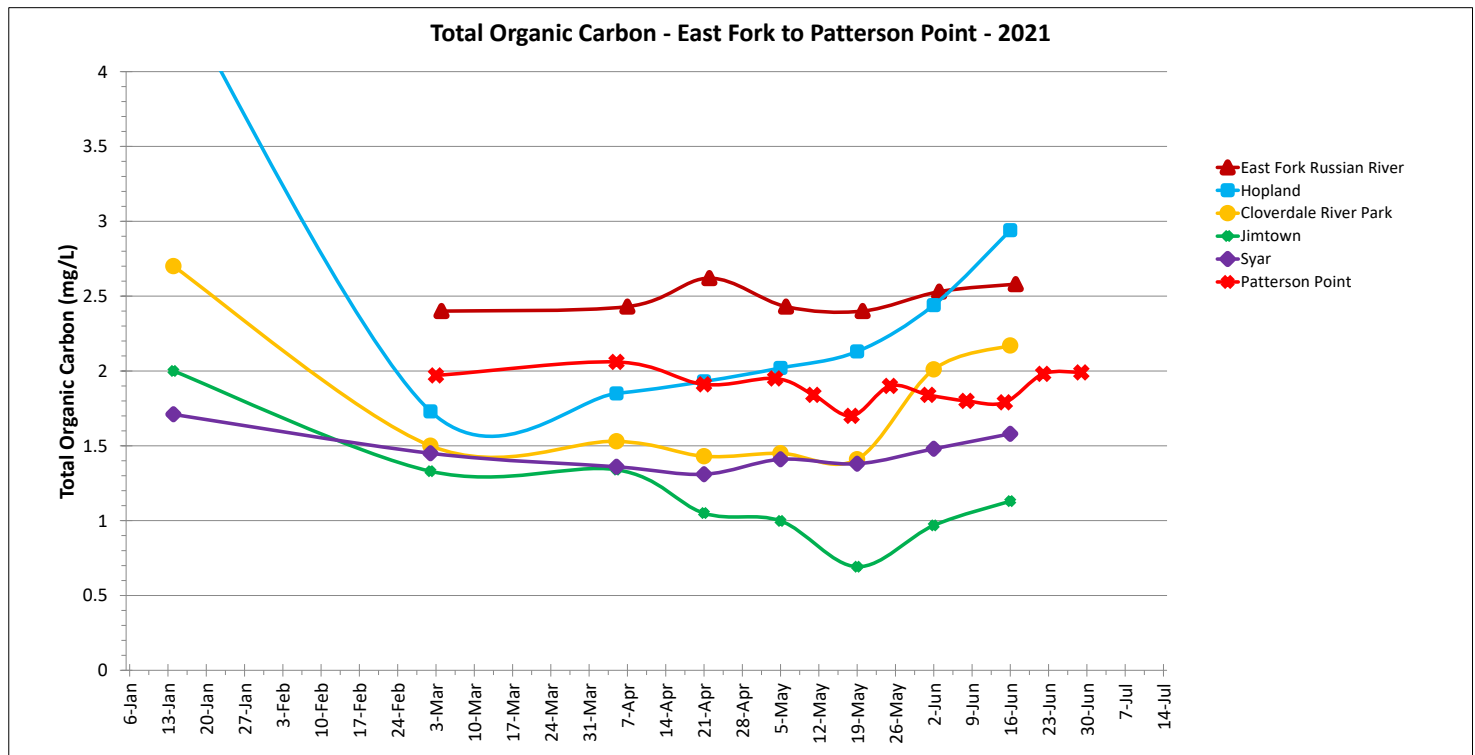
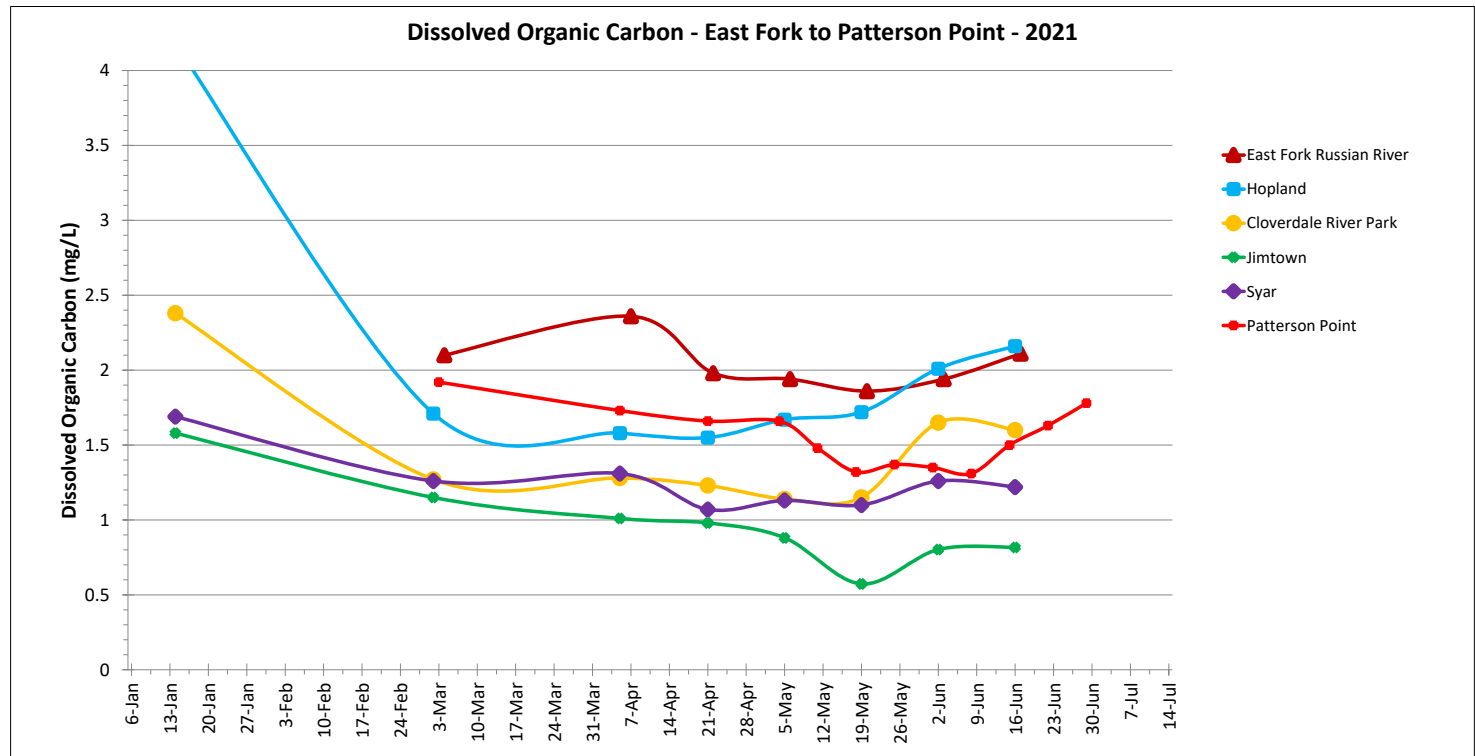
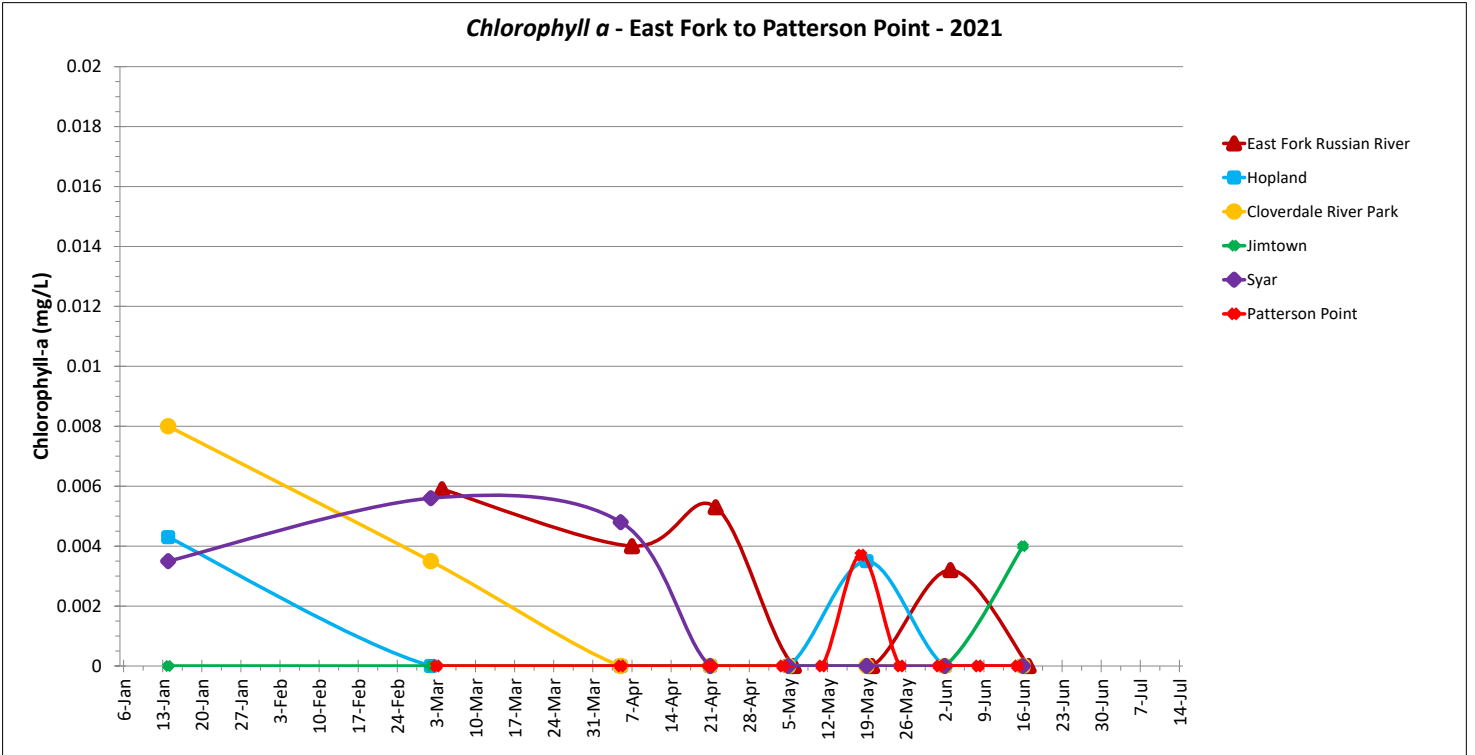
East Fork (below Lake Mendocino) to Patterson Point Water Quality



\*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 (January 14 - July 29, 2021)**  
 Provisional Data Subject to Revision

East Fork (below Lake Mendocino) to Patterson Point 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 (May 4 - June 22, 2021)  
Provisional Data Subject to Revision**

**Russian River Estuary Standard Bacterial Indicators**

Parameter***	CDPH Guidance*	Date	Patterson Point	Monte Rio	Vacation Beach
Total Coliforms MPN/100 mL	10,000	5/4/2021	435.2	648.8	816.4
		5/11/2021	1119.9	816.4	1986.3
		5/18/2021	1299.7	1203.3	1203.3
		5/25/2021	456.9	579.4	980.4
		6/1/2021	1046.2	980.4	1553.1
		6/8/2021	1553.1	1732.9	1732.9
		6/15/2021	934.0	1274.0	2187.0
		6/22/2021	1119.0	4611.0	>24196
E. Coli MPN/100 mL	235	5/4/2021	10.9	111.9	5.2
		5/11/2021	9.8	5.2	8.5
		5/18/2021	13.5	14.6	13.2
		5/25/2021	8.6	2.0	12.2
		6/1/2021	12.2	5.2	9.8
		6/8/2021	24.6	12.1	30.9
		6/15/2021	10.0	17.3	14.6
		6/22/2021	6.2	73.8	30.5
Enterococcus MPN/100 mL****	61	5/4/2021	8.4	128.1	4.1
		5/11/2021	4.1	2.0	6.3
		5/18/2021	4.1	4.1	24.3
		5/25/2021	3.0	4.1	6.3
		6/1/2021	5.2	4.1	7.5
		6/8/2021	28.8	21.3	49.5
		6/15/2021	14.8	18.7	8.4
		6/22/2021	8.5	128.1	190.4

\*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 (March 3 - June 22, 2021)**  
**Provisional Data Subject to Revision**

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
	Temperature	-	°C	3/3/2021	11.6	-	-
				4/5/2021	15.8	-	-
				4/21/2021	18.6	-	-
				5/4/2021	21.1	21.6	22.4
				5/11/2021	21.2	22.0	22.4
				5/18/2021	19.9	19.9	19.8
				5/25/2021	20.1	20.6	21.1
				6/1/2021	21.7	22.5	22.6
				6/15/2021	22.1	22.7	22.7
Nutrients	Ammonia as N	0.01	mg/L	3/3/2021	ND	-	-
				4/5/2021	ND	-	-
				4/21/2021	ND	-	-
				5/4/2021	ND	ND	ND
				5/11/2021	ND	ND	ND
				5/18/2021	ND	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
	Nitrate as N	0.03	mg/L	3/3/2021	0.1	-	-
				4/5/2021	ND	-	-
				4/21/2021	0.0	-	-
				5/4/2021	0.1	0.1	ND
				5/11/2021	ND	ND	ND
				5/18/2021	0.1	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
Nutrients	Nitrite as N	0.03	mg/L	3/3/2021	ND	-	-
				4/5/2021	ND	-	-
				4/21/2021	ND	-	-
				5/4/2021	ND	ND	ND
				5/11/2021	ND	ND	ND
				5/18/2021	ND	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
	Total Organic Nitrogen as N	0.2	mg/L	3/3/2021	ND	-	-
				4/5/2021	0.180	-	-
				4/21/2021	0.140	-	-
				5/4/2021	0.180	0.260	0.180
				5/11/2021	0.180	ND	0.180
				5/18/2021	ND	ND	0.180
				5/25/2021	0.180	0.180	0.180
				6/1/2021	ND	0.180	0.180
				6/15/2021	0.140	0.140	ND
	Total Kjeldahl Nitrogen	0.1	mg/L	3/3/2021	ND	-	-
				4/5/2021	ND	-	-
				4/21/2021	ND	-	-
				5/4/2021	ND	0.260	ND
				5/11/2021	ND	ND	ND
				5/18/2021	ND	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
	Total Phosphorus	0.02	mg/L	3/3/2021	0.039	-	-
				4/5/2021	0.061	-	-
				4/21/2021	0.065	-	-
				5/4/2021	0.064	0.065	0.050
				5/11/2021	0.074	0.073	0.054
				5/18/2021	0.059	0.051	0.043
				5/25/2021	0.041	0.041	0.037
				6/1/2021	0.044	0.044	0.037
				6/15/2021	0.042	0.042	0.035
Total Orthophosphate	0.02	mg/L	3/3/2021	0.076	-	-	
			4/5/2021	0.140	-	-	
			4/21/2021	0.170	-	-	
			5/4/2021	0.140	0.150	0.110	
			5/11/2021	0.170	0.180	0.120	
			5/18/2021	0.120	0.130	0.075	
			5/25/2021	0.081	0.081	0.069	
			6/1/2021	0.100	0.088	0.071	
			6/15/2021	0.097	0.089	0.052	

**Russian River Water Quality Grab Samples (March 3 - June 22, 2021)**  
**Provisional Data Subject to Revision**

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
Chlorophyll	Chlorophyll A	0.00005	mg/L	3/3/2021	ND	-	-
				4/5/2021	ND	-	-
				4/21/2021	ND	-	-
				5/4/2021	ND	ND	ND
				5/11/2021	ND	ND	0.004
				5/18/2021	0.004	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/8/2021	ND	ND	ND
6/15/2021	ND	ND	0.004				
Carbon	Total Organic Carbon	0.04	mg/L	3/3/2021	1.97	-	-
				4/5/2021	2.06	-	-
				4/21/2021	1.91	-	-
				5/4/2021	1.95	1.87	1.83
				5/11/2021	1.84	1.85	1.74
				5/18/2021	1.70	1.60	1.61
				5/25/2021	1.90	1.78	1.69
				6/1/2021	1.84	1.86	1.84
				6/8/2021	1.80	1.75	1.68
	6/15/2021	1.79	1.85	1.74			
	Dissolved Organic Carbon	0.04	mg/L	3/3/2021	1.92	-	-
				4/5/2021	1.73	-	-
				4/21/2021	1.66	-	-
				5/4/2021	1.66	1.54	1.44
				5/11/2021	1.48	1.40	1.66
				5/18/2021	1.32	1.19	1.53
				5/25/2021	1.37	1.25	1.20
				6/1/2021	1.35	1.31	1.59
6/8/2021				1.31	1.65	1.30	
6/15/2021	1.50	1.42	1.39				
Solids	Turbidity	0.02	NTU	3/3/2021	0.95	-	-
				4/5/2021	1.40	-	-
				4/21/2021	1.60	-	-
				5/4/2021	1.60	1.50	2.20
				5/11/2021	1.10	1.00	1.20
				5/18/2021	1.20	1.50	2.10
				5/25/2021	0.91	0.94	1.00
				6/1/2021	1.00	1.60	2.70
				6/8/2021	0.66	1.10	1.00
	6/15/2021	0.82	1.90	1.80			
	TDS	4.2	mg/L	3/3/2021	160.00	-	-
				4/5/2021	160.00	-	-
				4/21/2021	170.00	-	-
				5/4/2021	150.00	170.00	140.00
				5/11/2021	150.00	150.00	160.00
				5/18/2021	140.00	1100.00	80.00
				5/25/2021	150.00	140.00	140.00
				6/1/2021	140.00	140.00	140.00
6/8/2021				130.00	130.00	120.00	
6/15/2021	130.00	140.00	140.00				