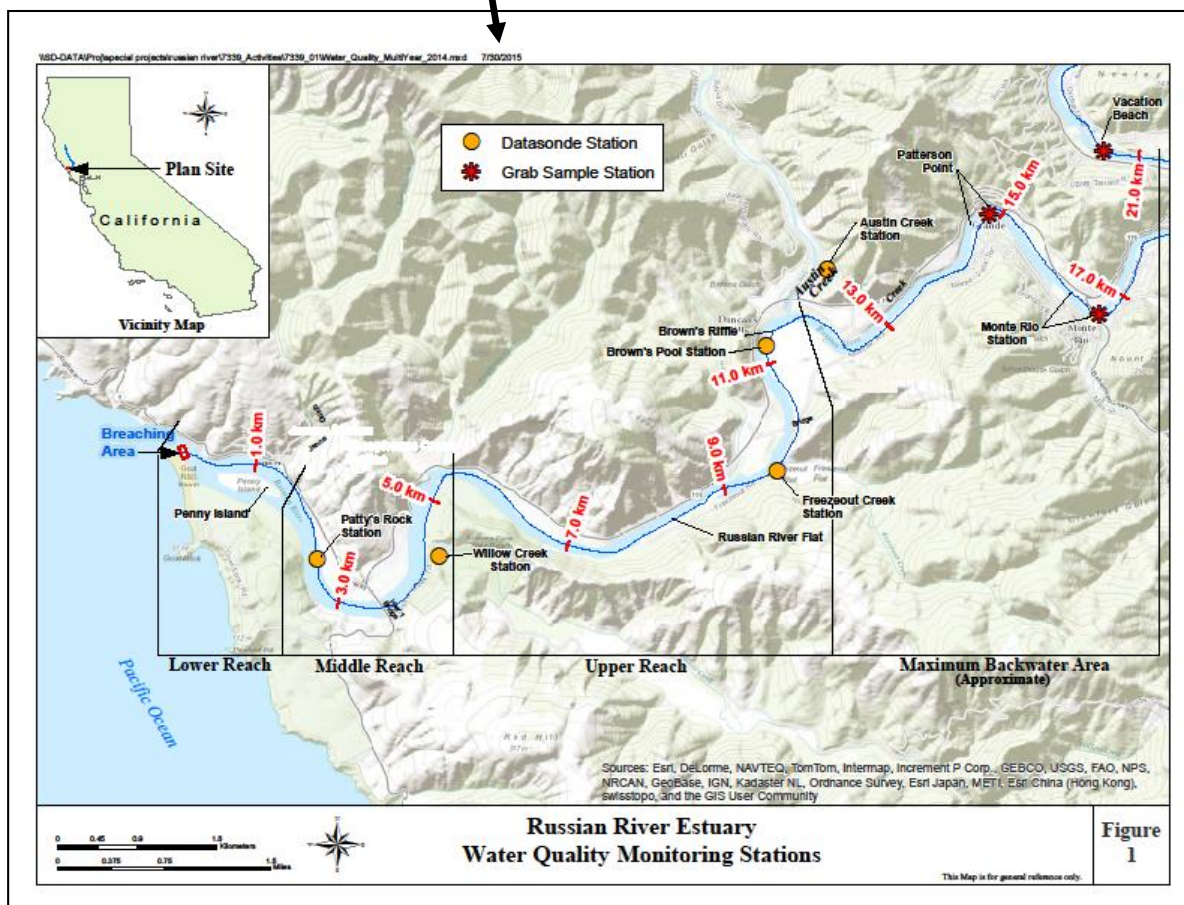




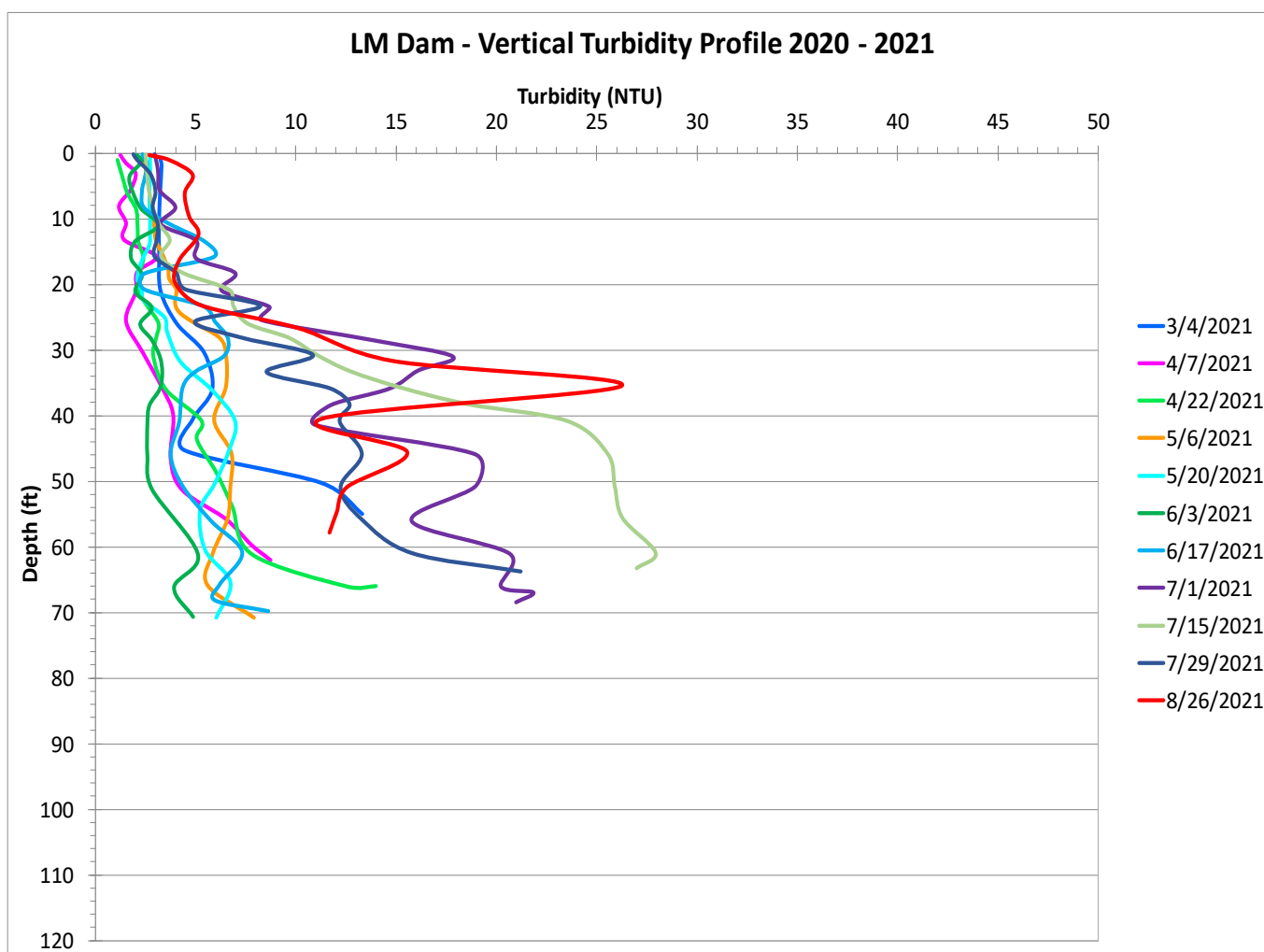
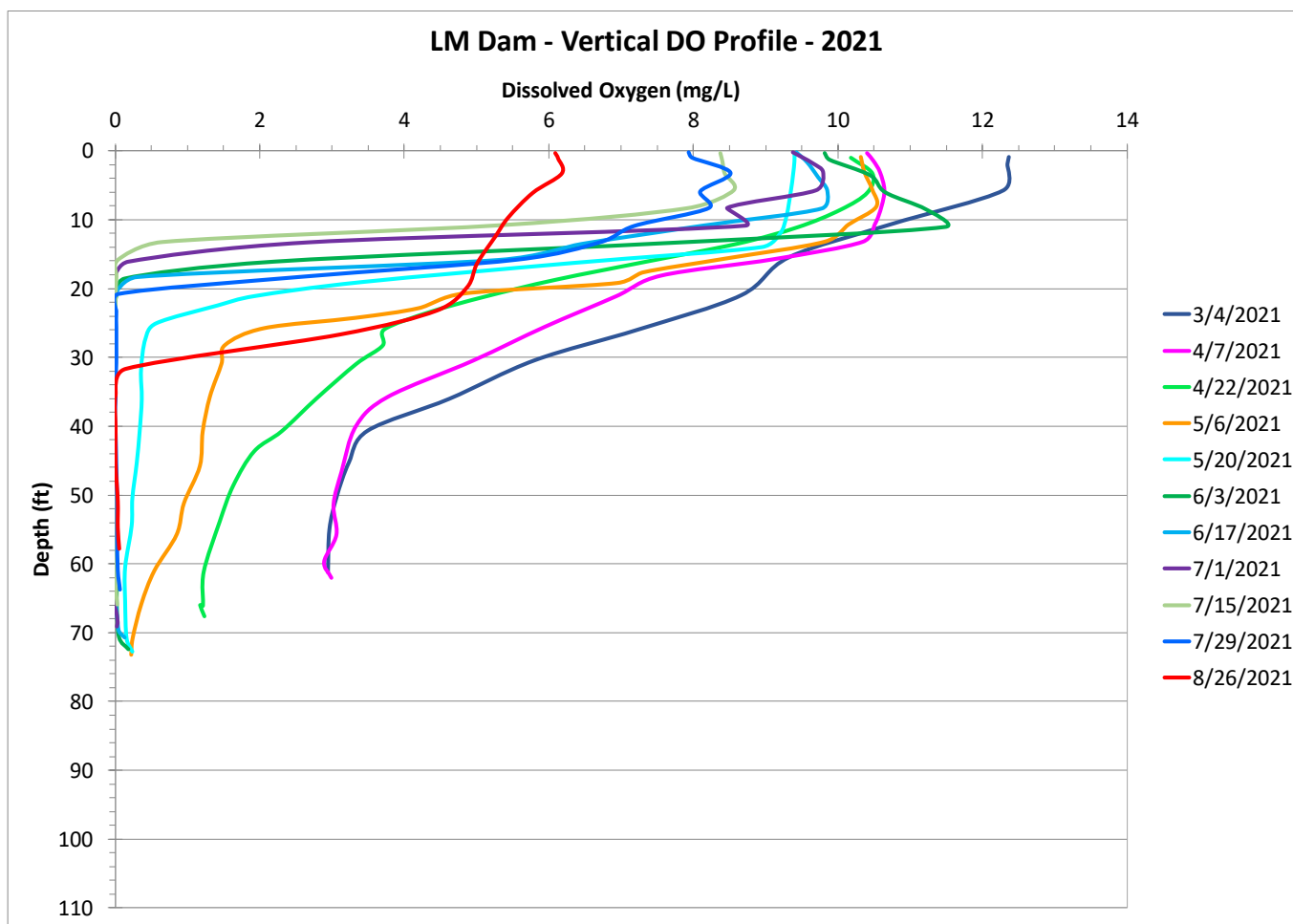
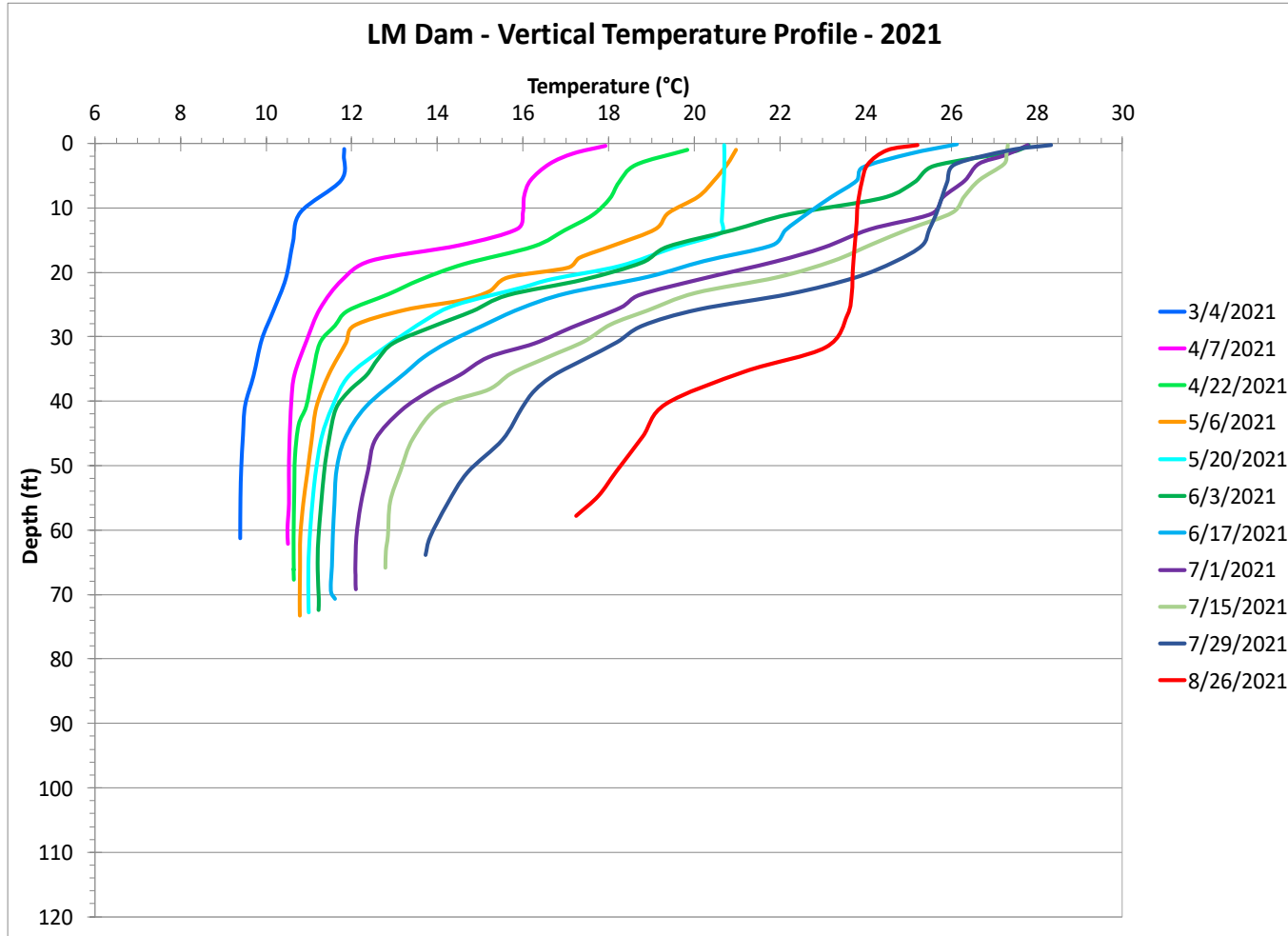
Sonoma Water

State Water Resources Control Board Temporary Urgency Change Order (6/14/2021) Russian River Water Quality Report August 27, 2021 - September 2, 2021

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).



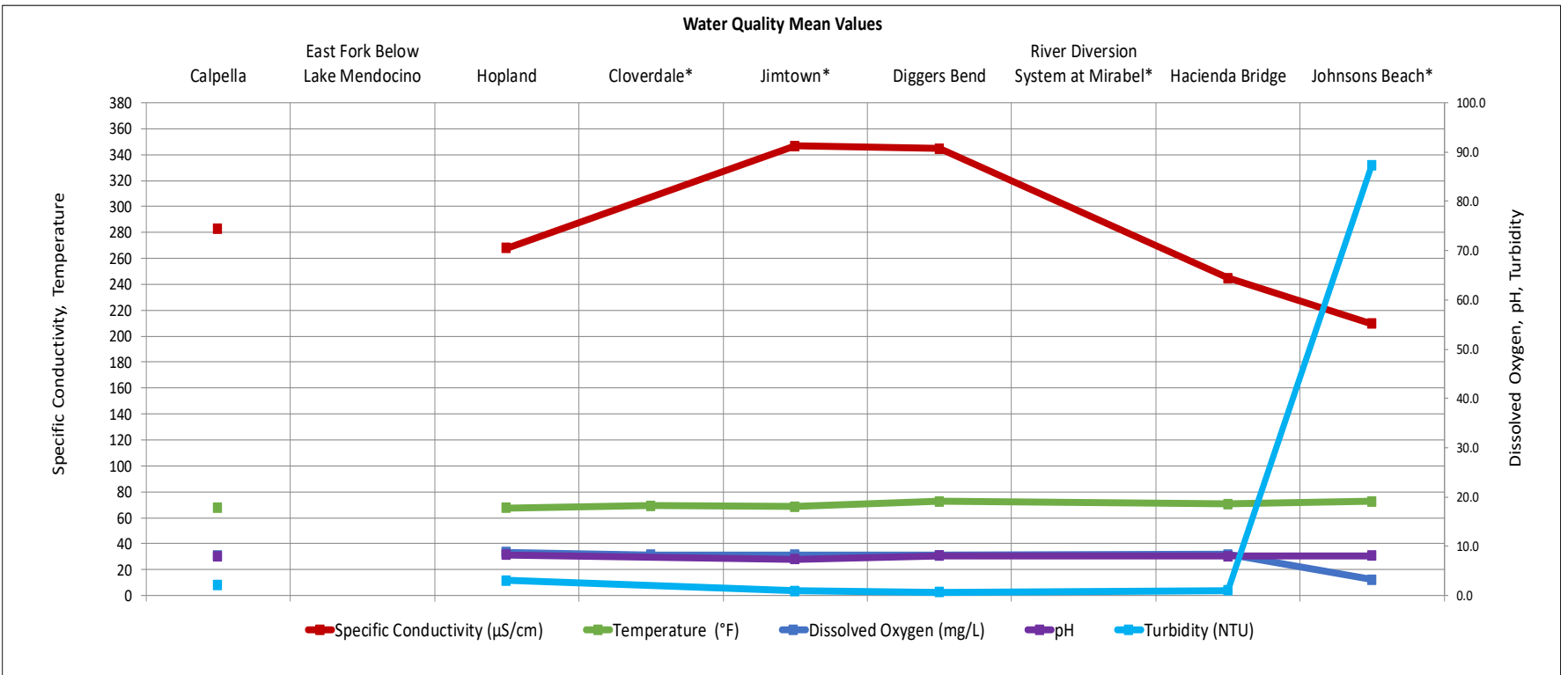
Lake Mendocino Water Quality Vertical Profiles (March 4 - September 2, 2021)
Provisional Data Subject to Revision



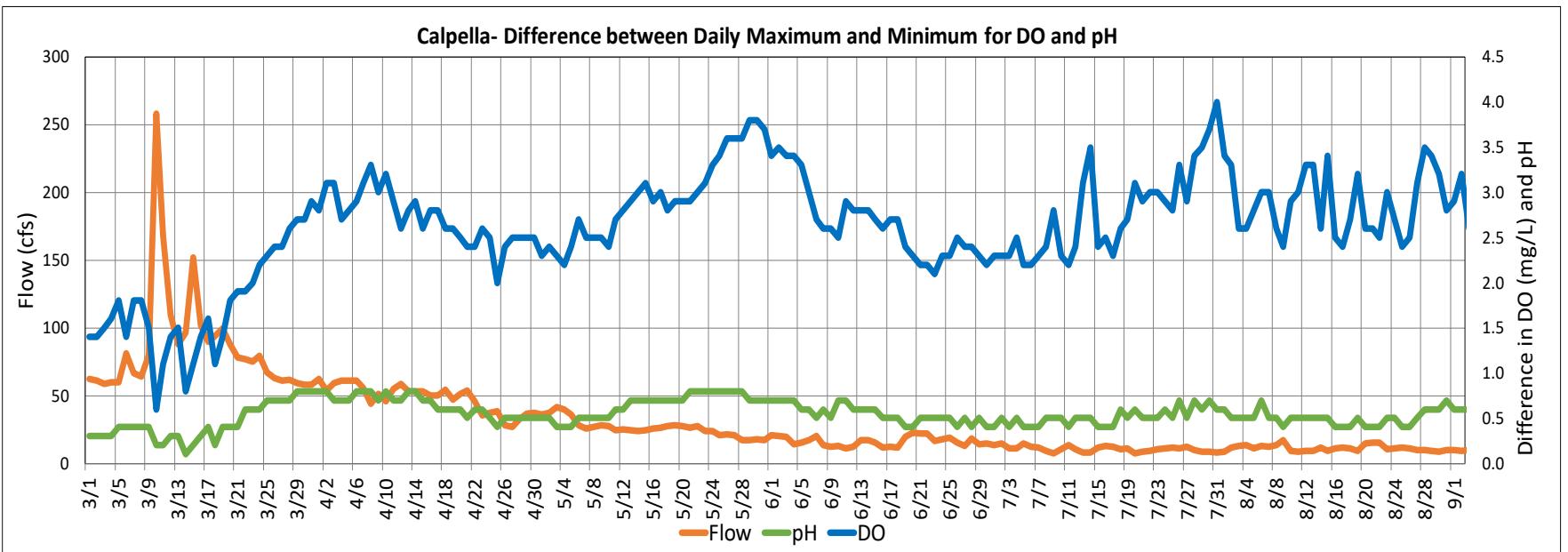
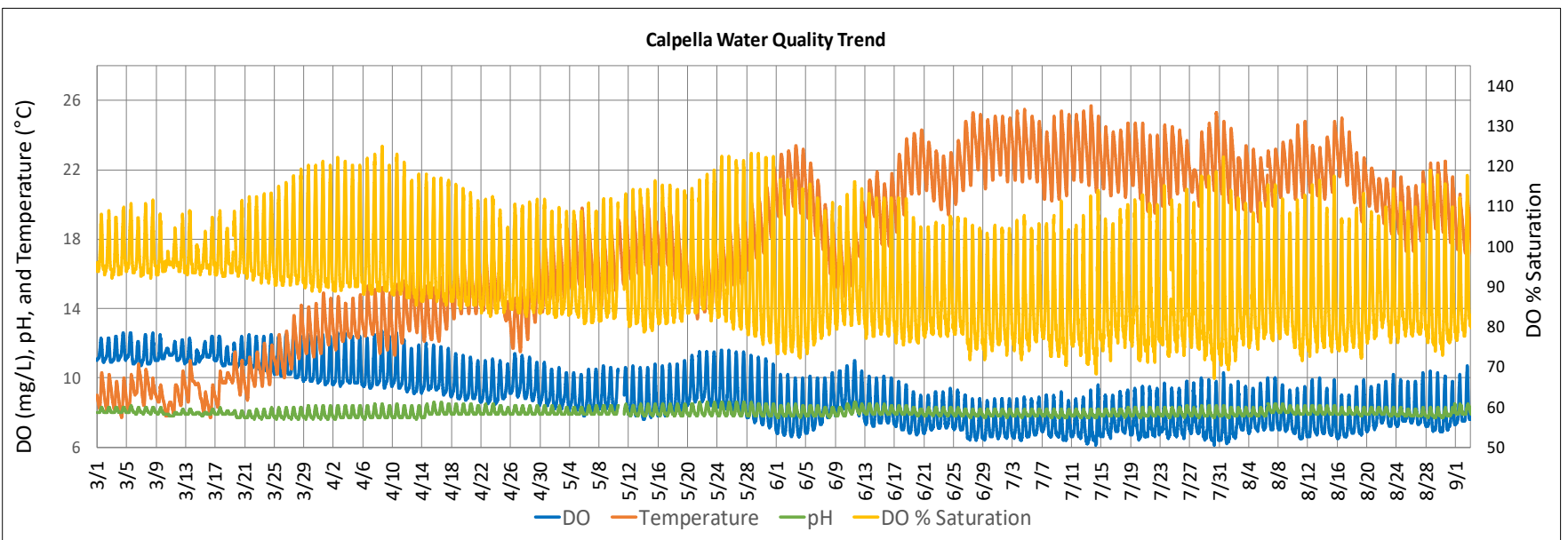
Russian River Water Quality Sondes (August 27 - September 2, 2021) Provisional Data Subject to Revision

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	63.0		63.3	64.9	64.2	67.3		66.9	69.6
	Max	72.5		70.7	73.8	73.0	77.5		74.5	74.9
	Mean	67.5		67.6	69.4	68.5	72.5		70.7	72.7
Specific Conductivity (µS/cm)	Min	275		262		340	338		239	143
	Max	294		273		350	349		252	243
	Mean	283		268		347	345		245	210
Dissolved Oxygen (mg/L)	Min	6.9		5.4	7.2	4.6	6.0		7.1	0.8
	Max	10.7		13.0	9.9	13.5	10.8		9.5	9.2
	Mean	8.1		8.8	8.3	8.2	8.1		8.3	3.3
Dissolved Oxygen (% Saturation)	Min	71		56	76	48	65		77	9
	Max	122		146	115	154	131		111	107
	Mean	87		95	91	91	93		93	37
pH	Min	7.7		7.6		7.2	7.8		7.7	7.8
	Max	8.5		9.0		7.8	8.5		8.2	8.5
	Mean	8.0		8.2		7.4	8.1		8.0	8.0
Turbidity (NTU)	Min	0.8		1.4		0.5	0.1		0.4	2.1
	Max	9.1		8.0		1.7	1.8		2.2	418.0
	Mean	2.1		3.1		0.9	0.6		1.0	87.3

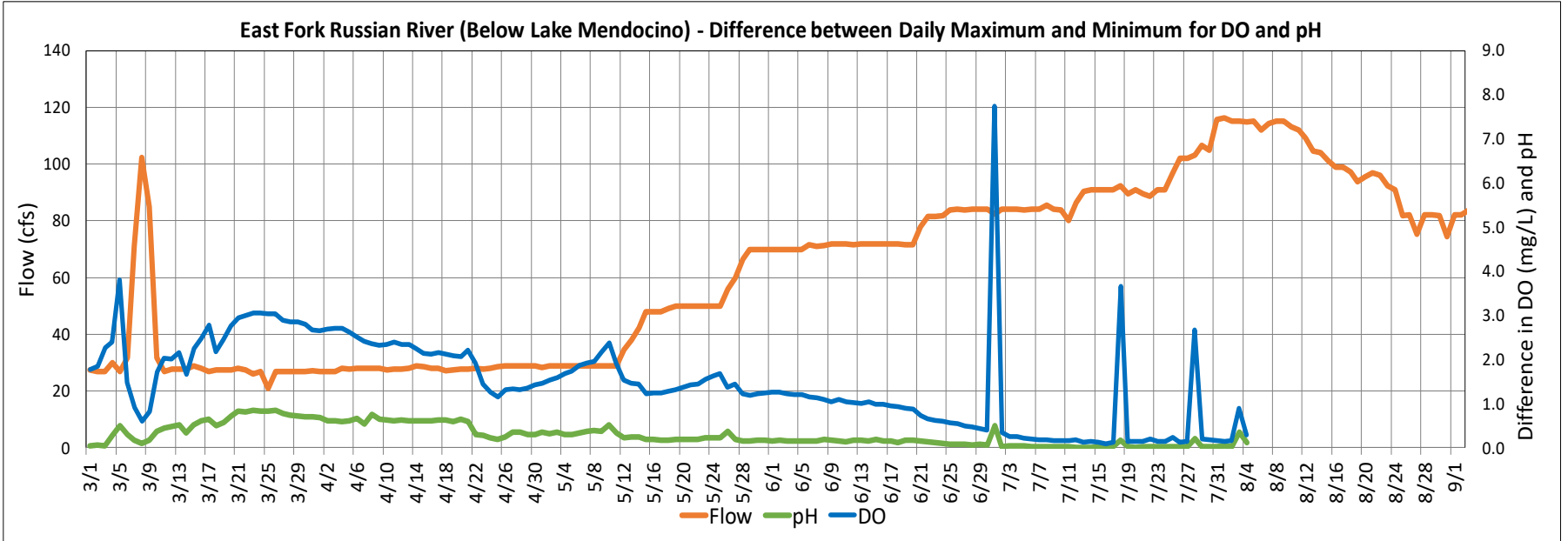
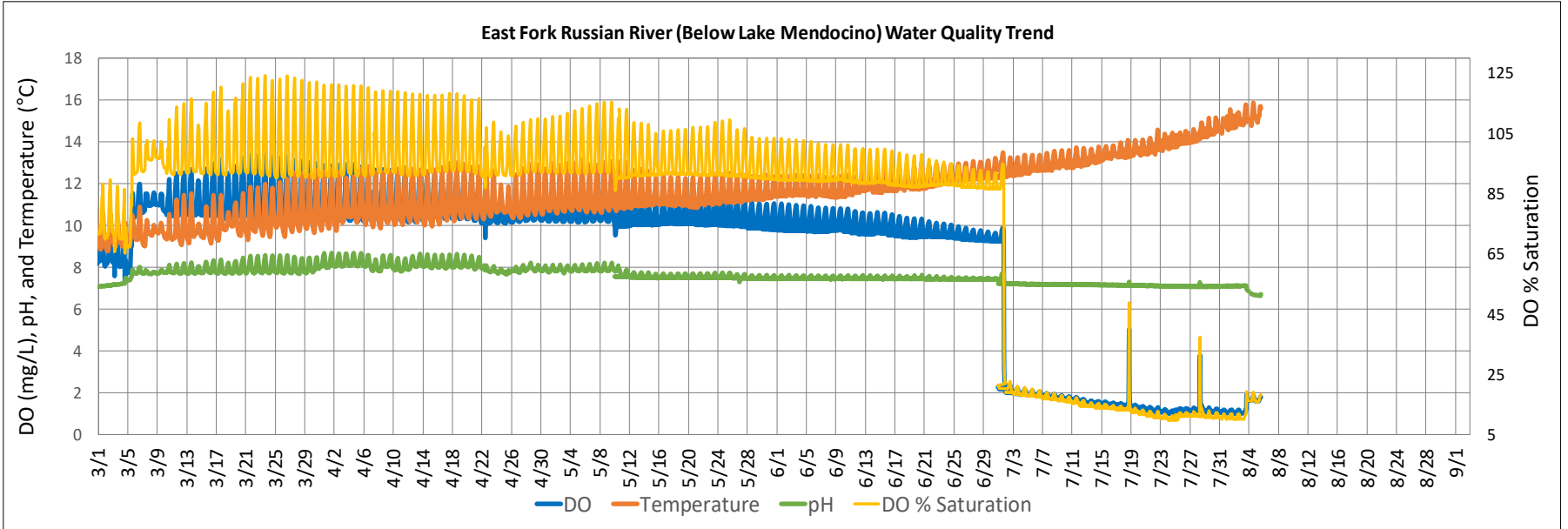
*Station operated seasonally



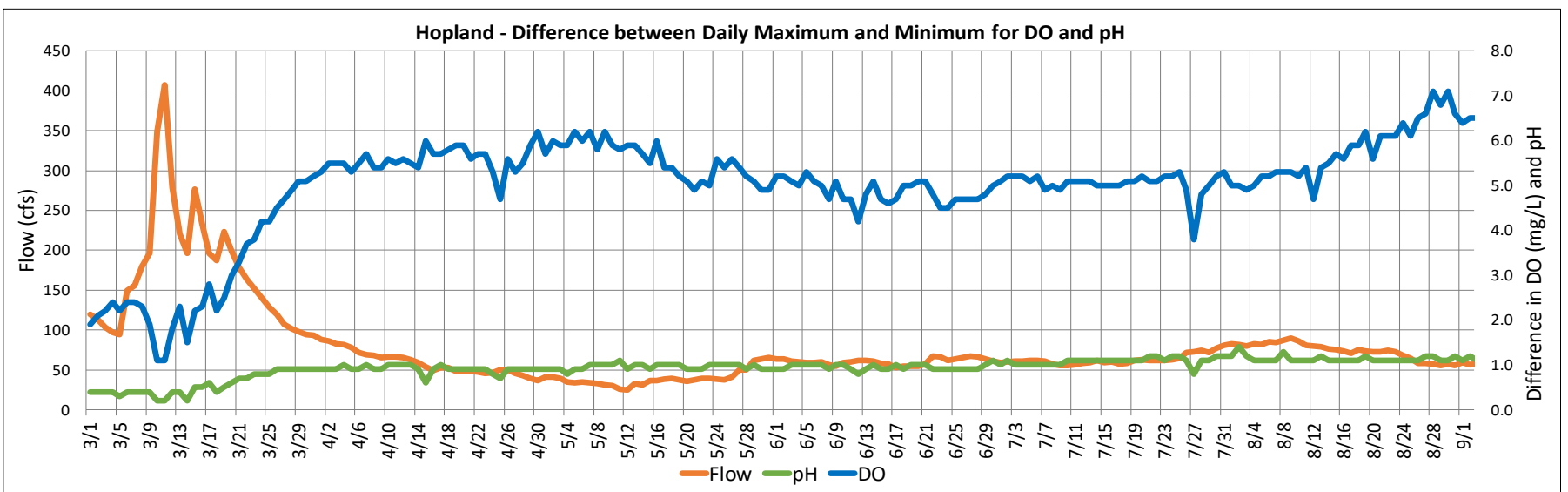
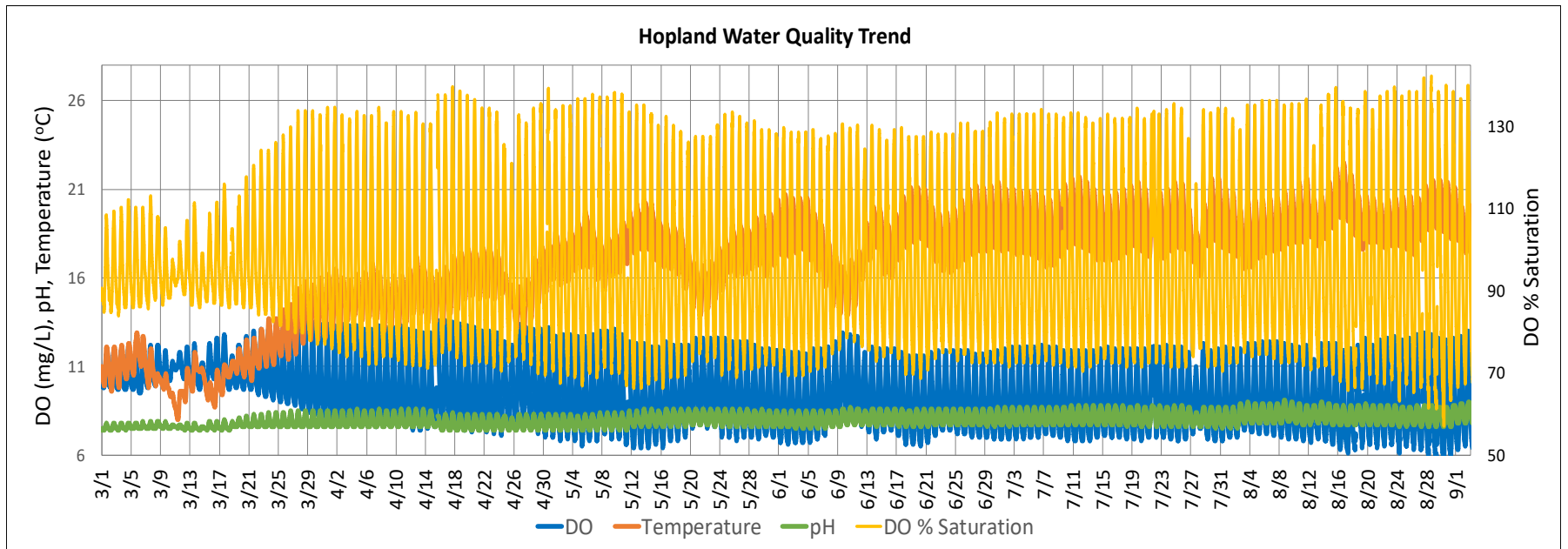
Russian River Water Quality Sonde Data (March 1 - September 2, 2021) Provisional Data Subject to Revision



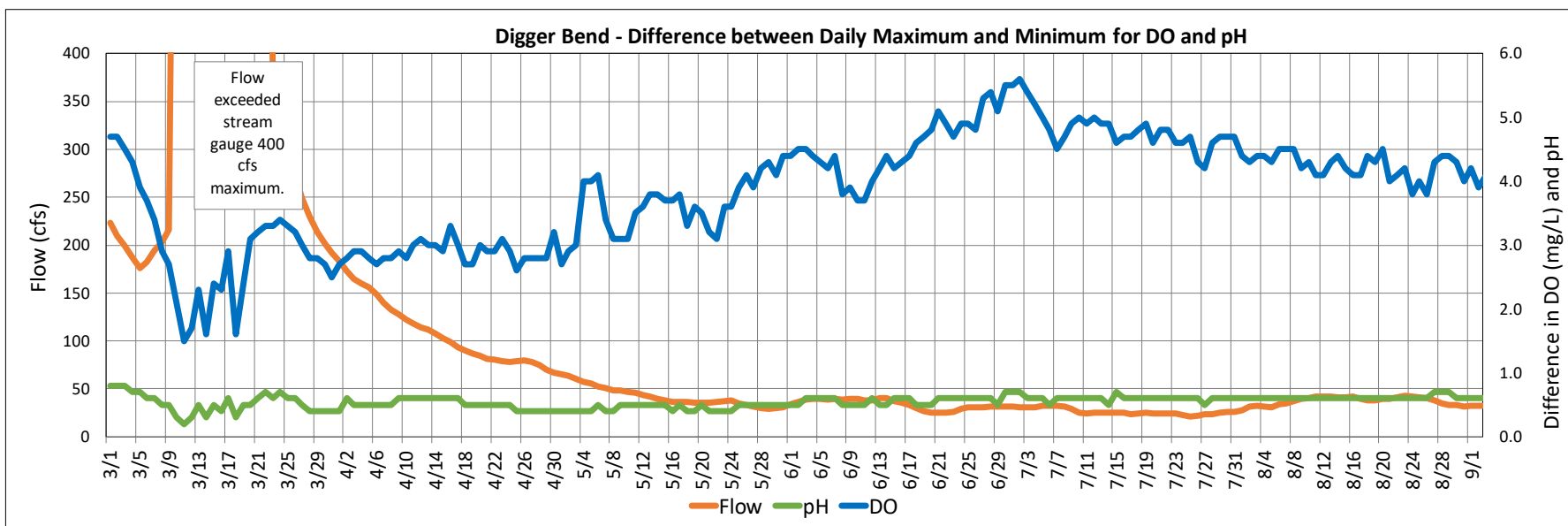
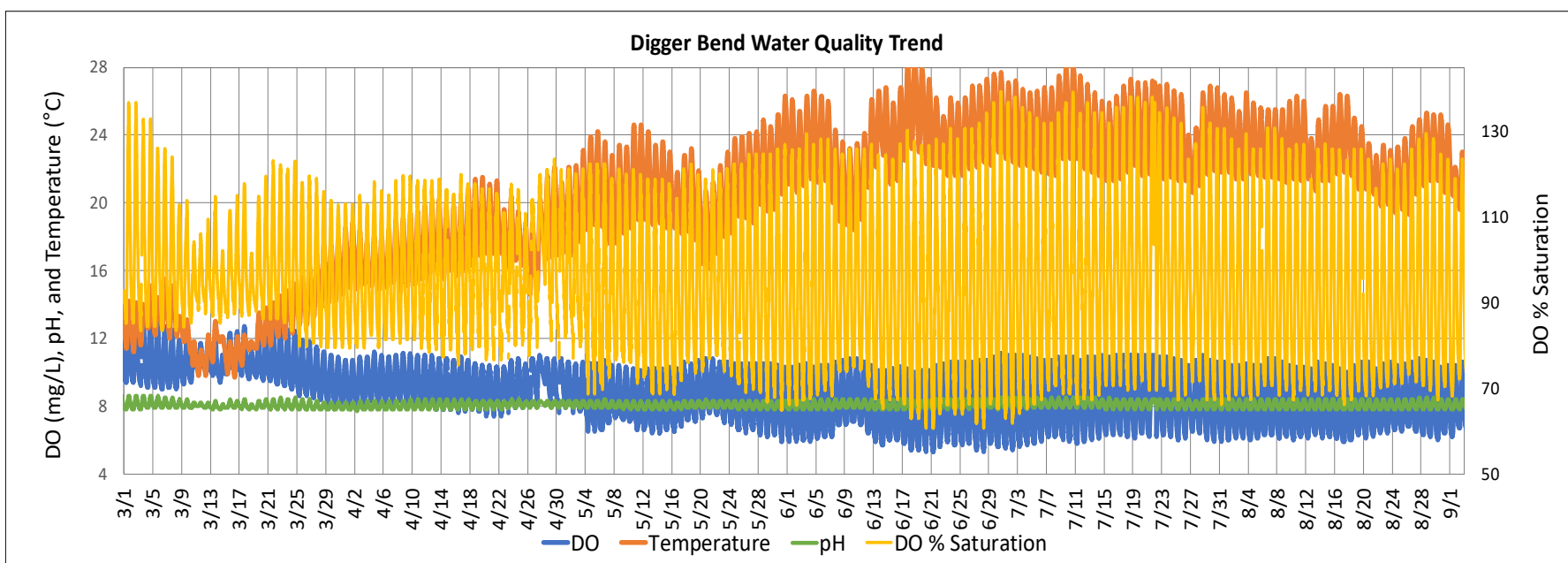
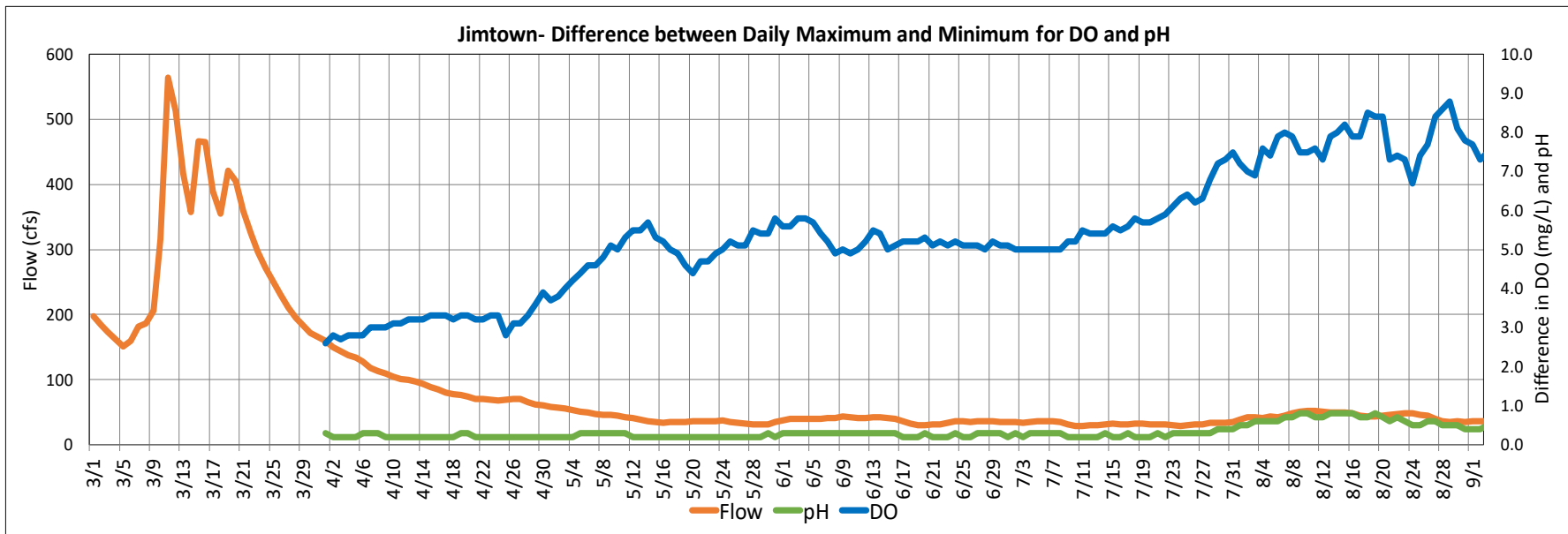
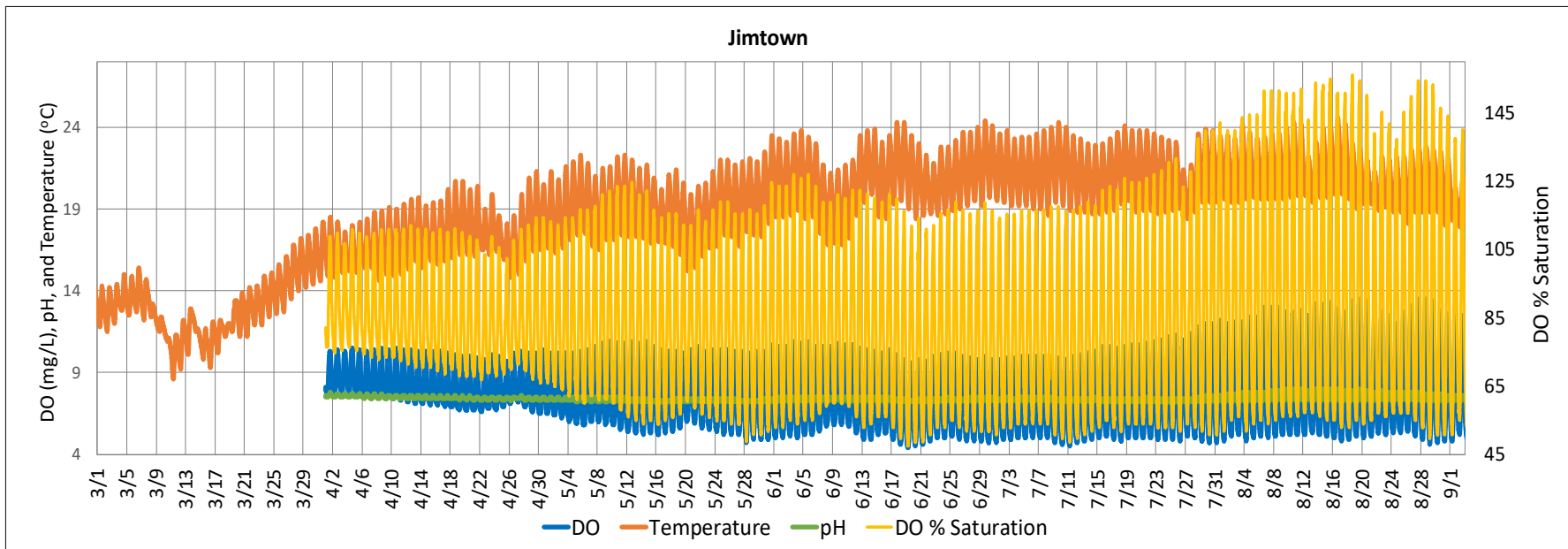
Russian River Water Quality Sonde Data (March 1 - September 2, 2021)
Provisional Data Subject to Revision



Hopland



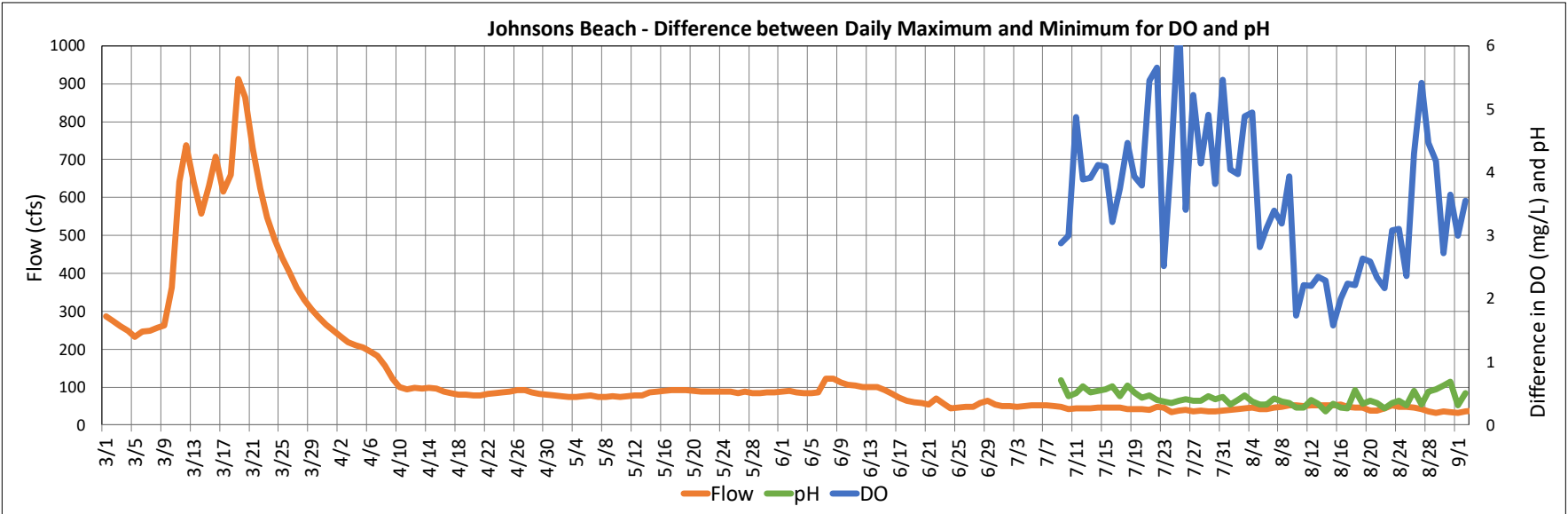
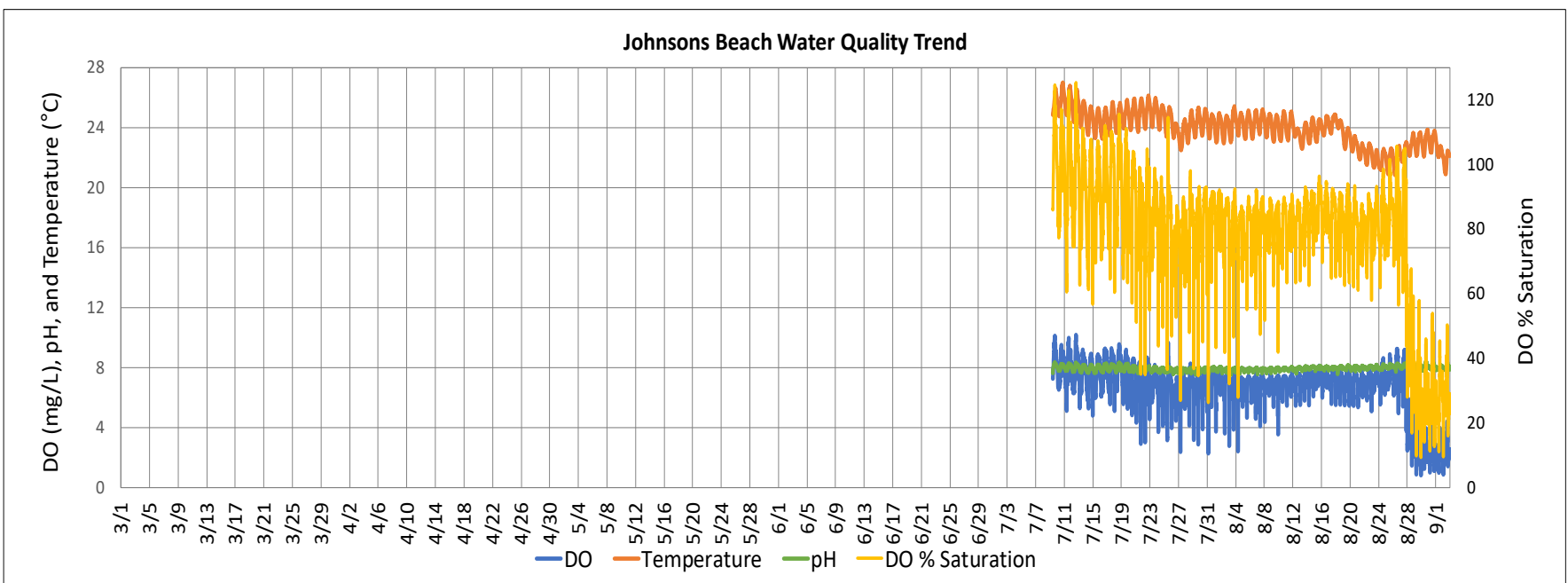
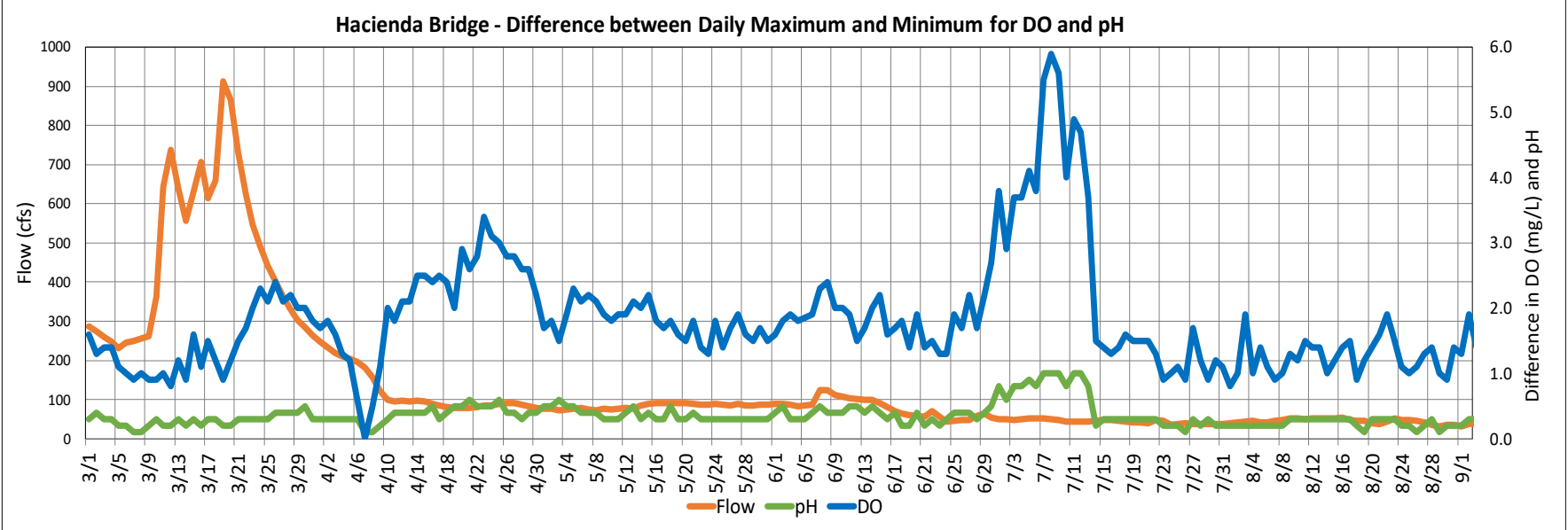
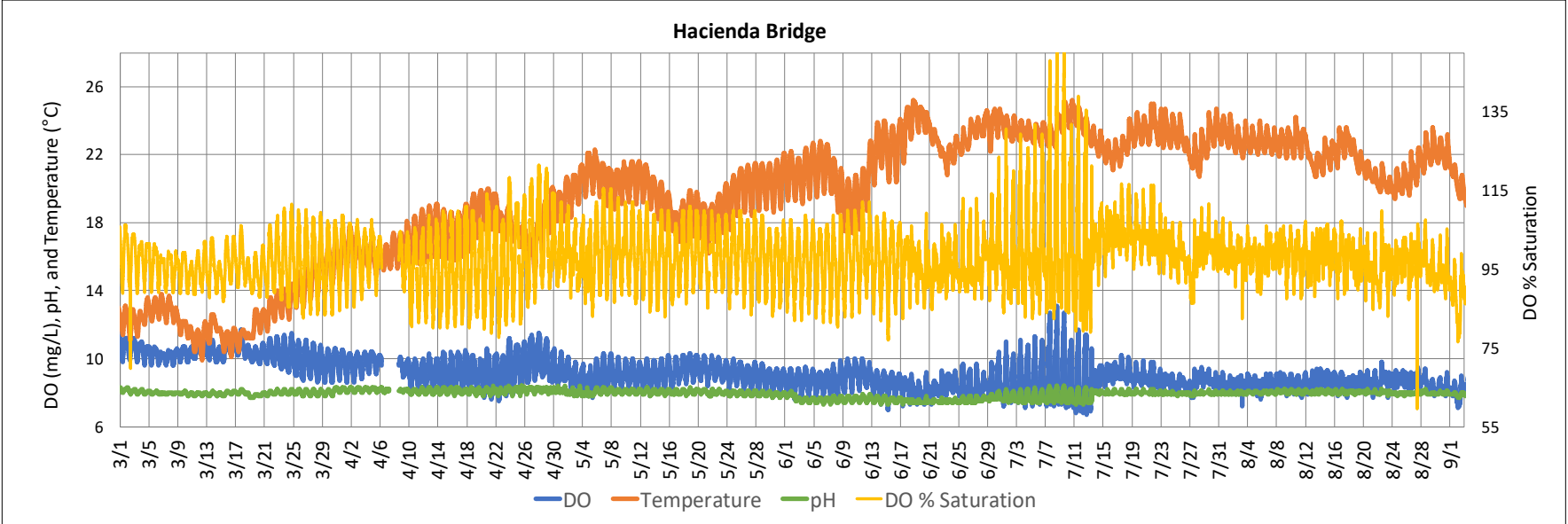
Russian River Water Quality Sonde Data (March 1 - September 2, 2021)
 Provisional Data Subject to Revision



Russian River Water Quality Sonde Data (March 1 - September 2, 2021)

Provisional Data Subject to Revision

Hacienda Bridge Water Quality

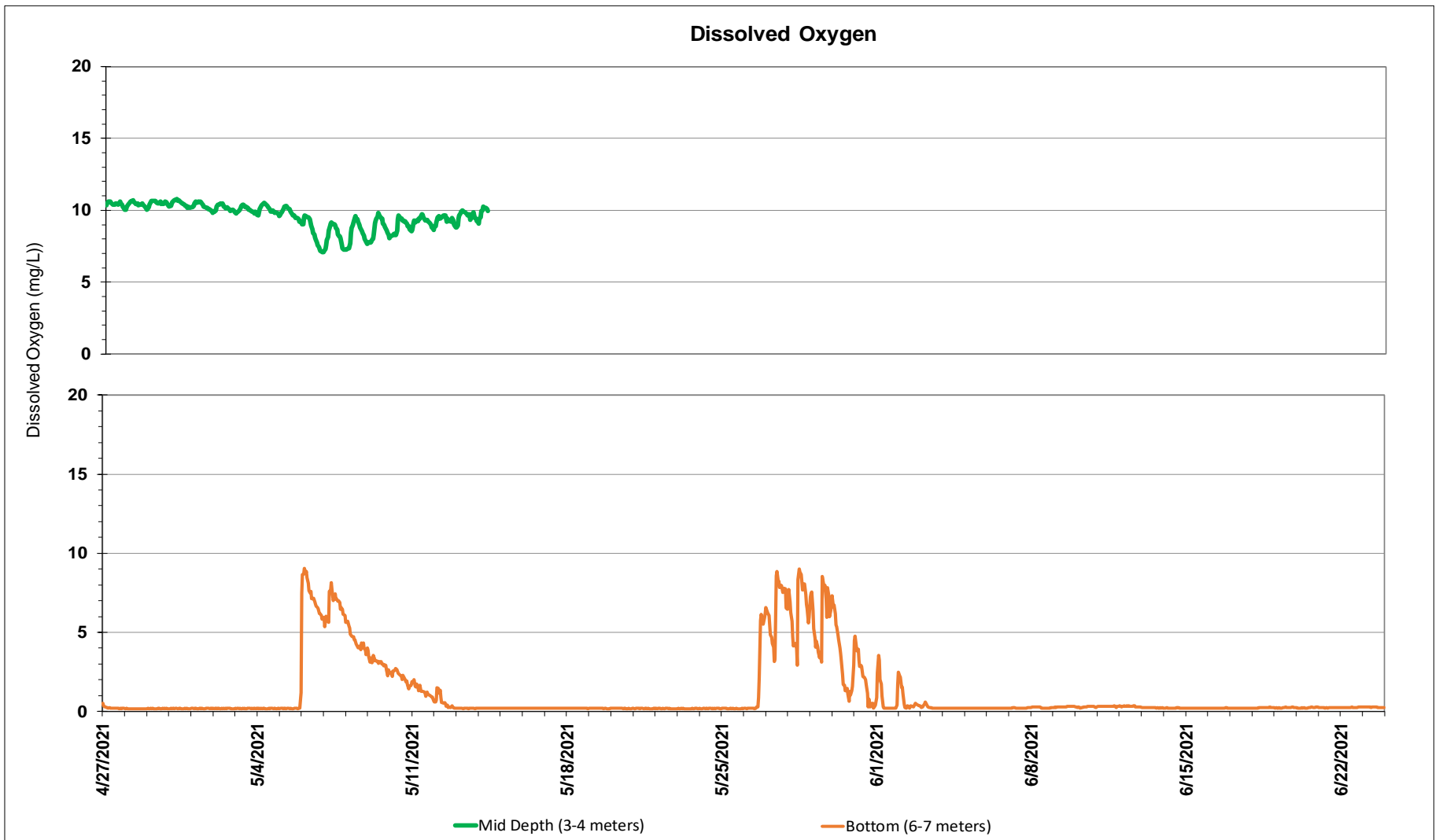
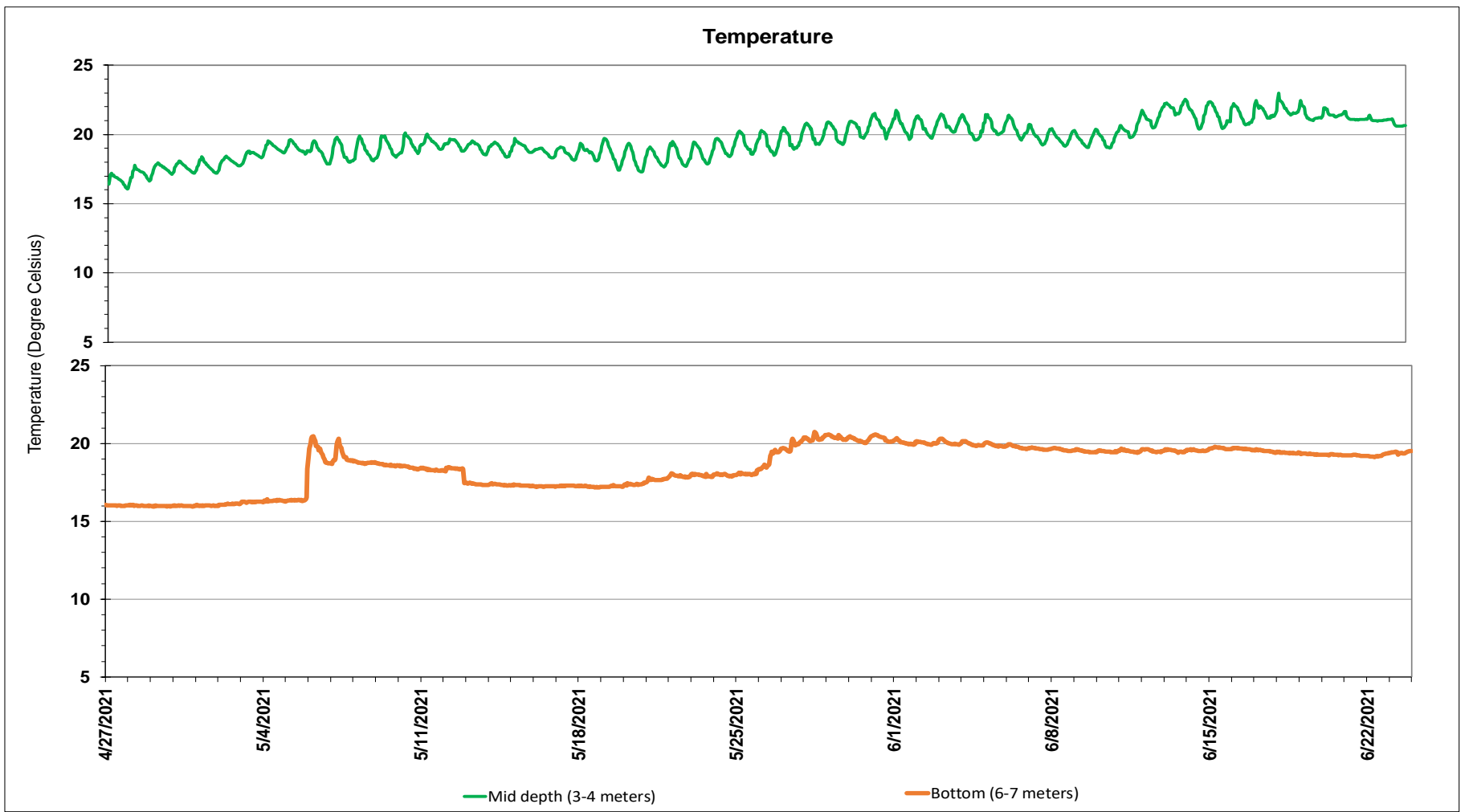


note: Flow at Johnsons Beach is plotted using data collected at Hacienda Bridge.

Russian River Water Quality Sonde Data - Estuary (April 27 - September 2, 2021)

Provisional Data Subject to Revision

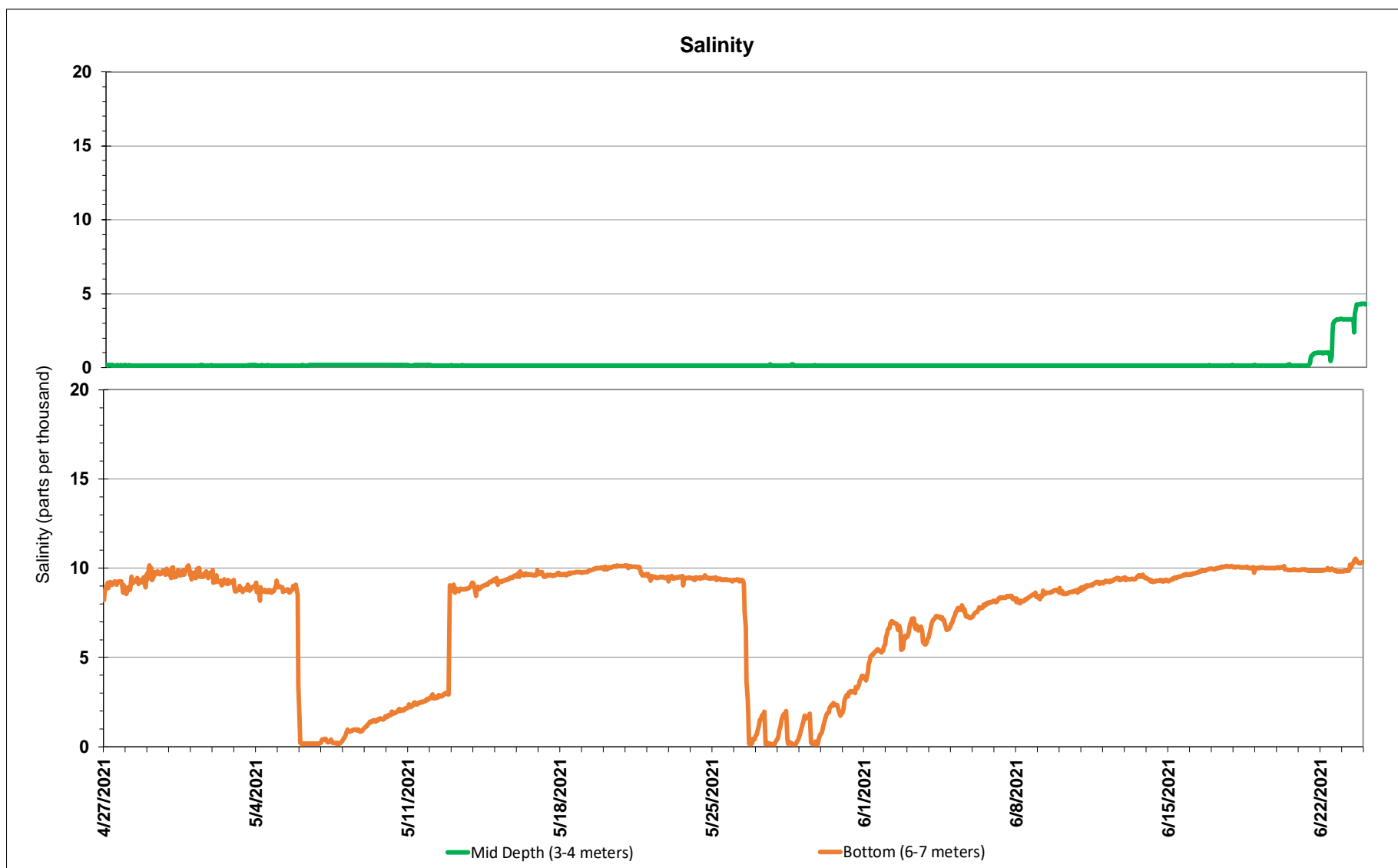
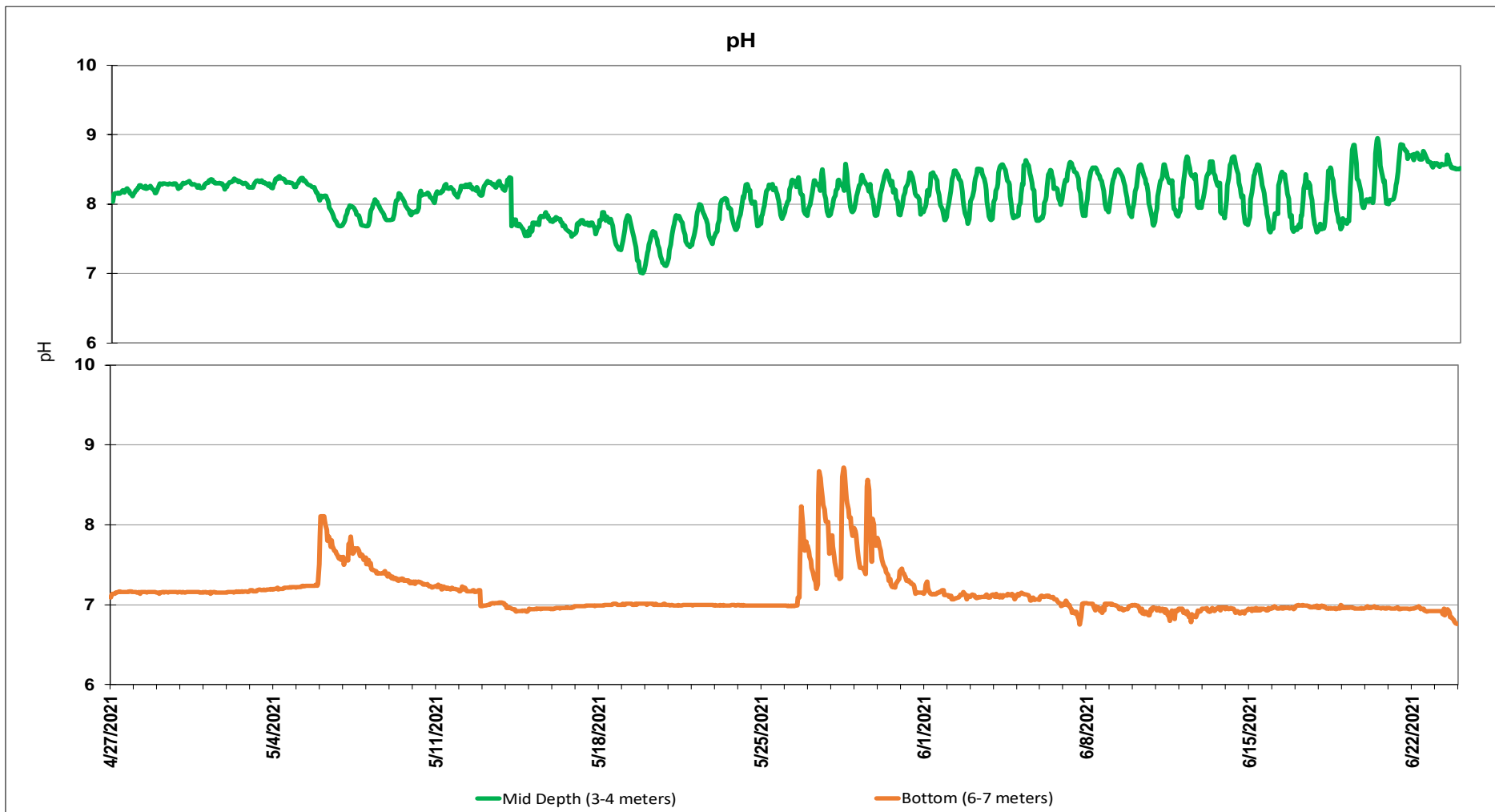
Russian River at Freezeout Creek Water Quality



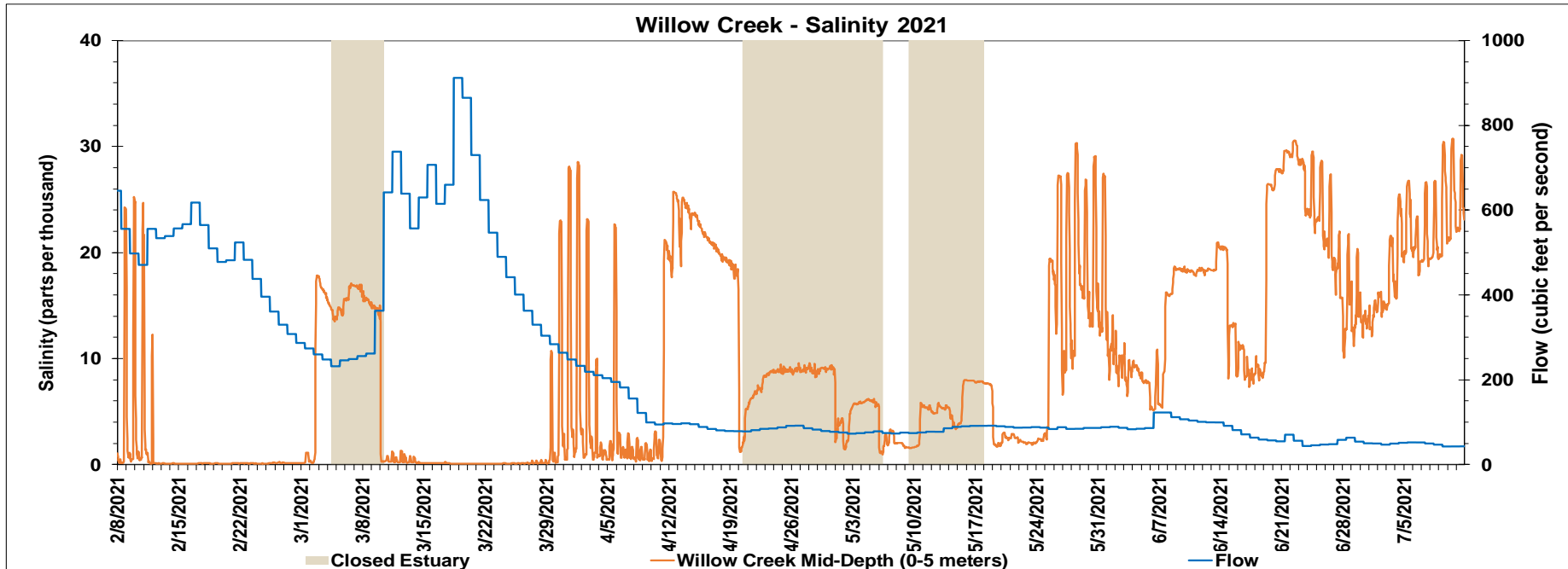
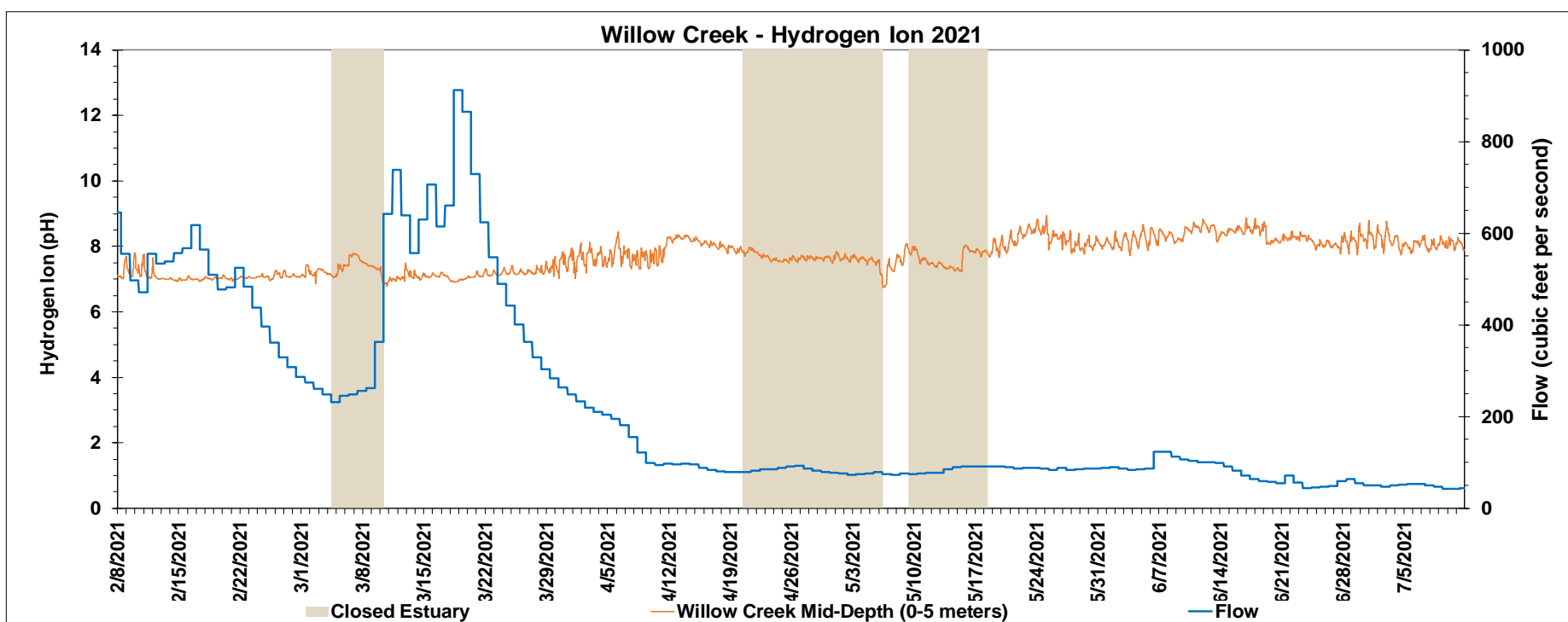
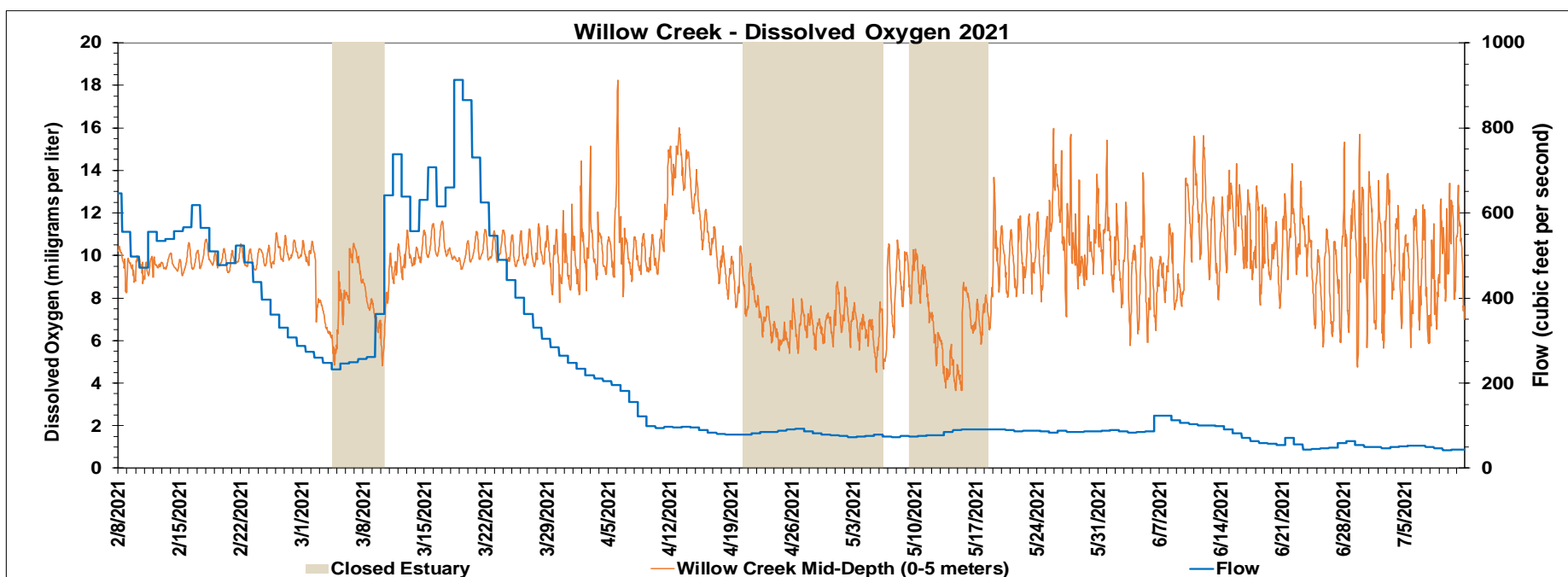
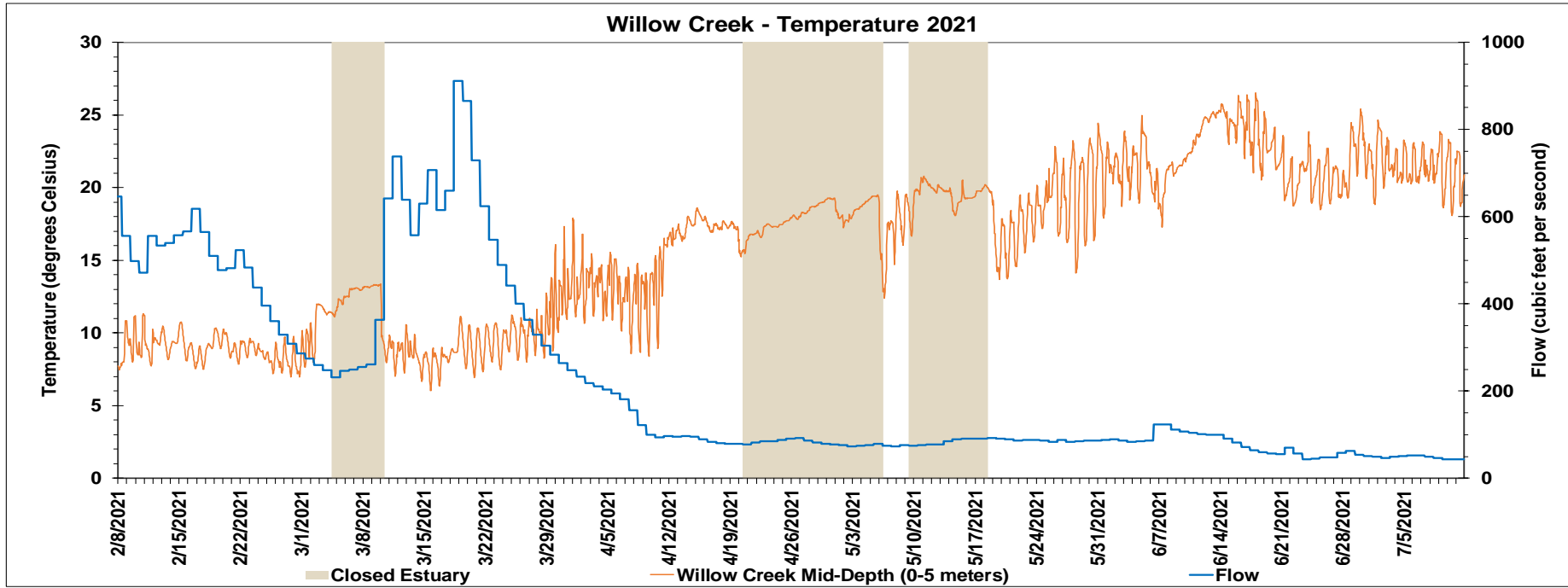
Russian River Water Quality Sonde Data - Estuary (April 27 - September 2, 2021)

Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality



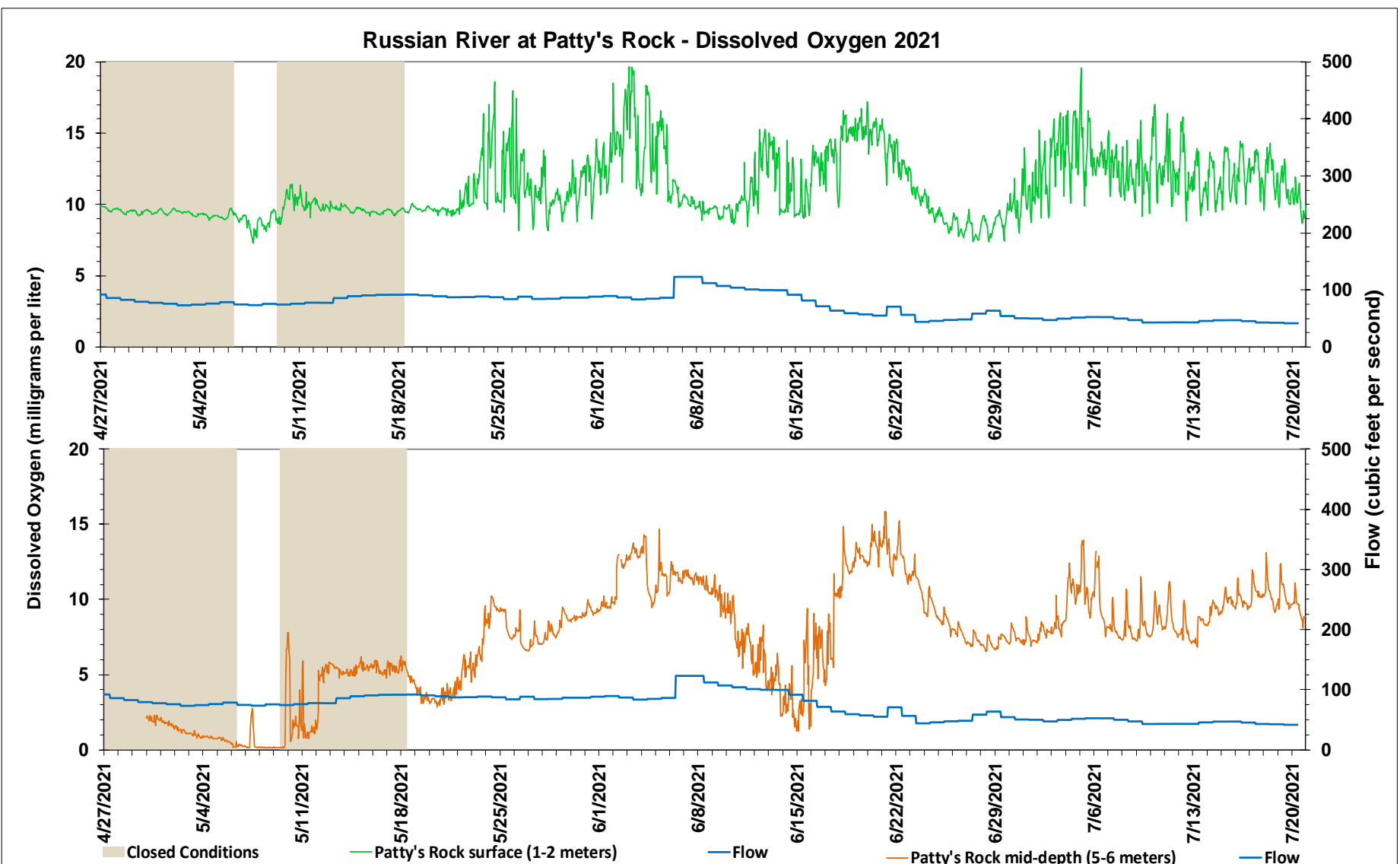
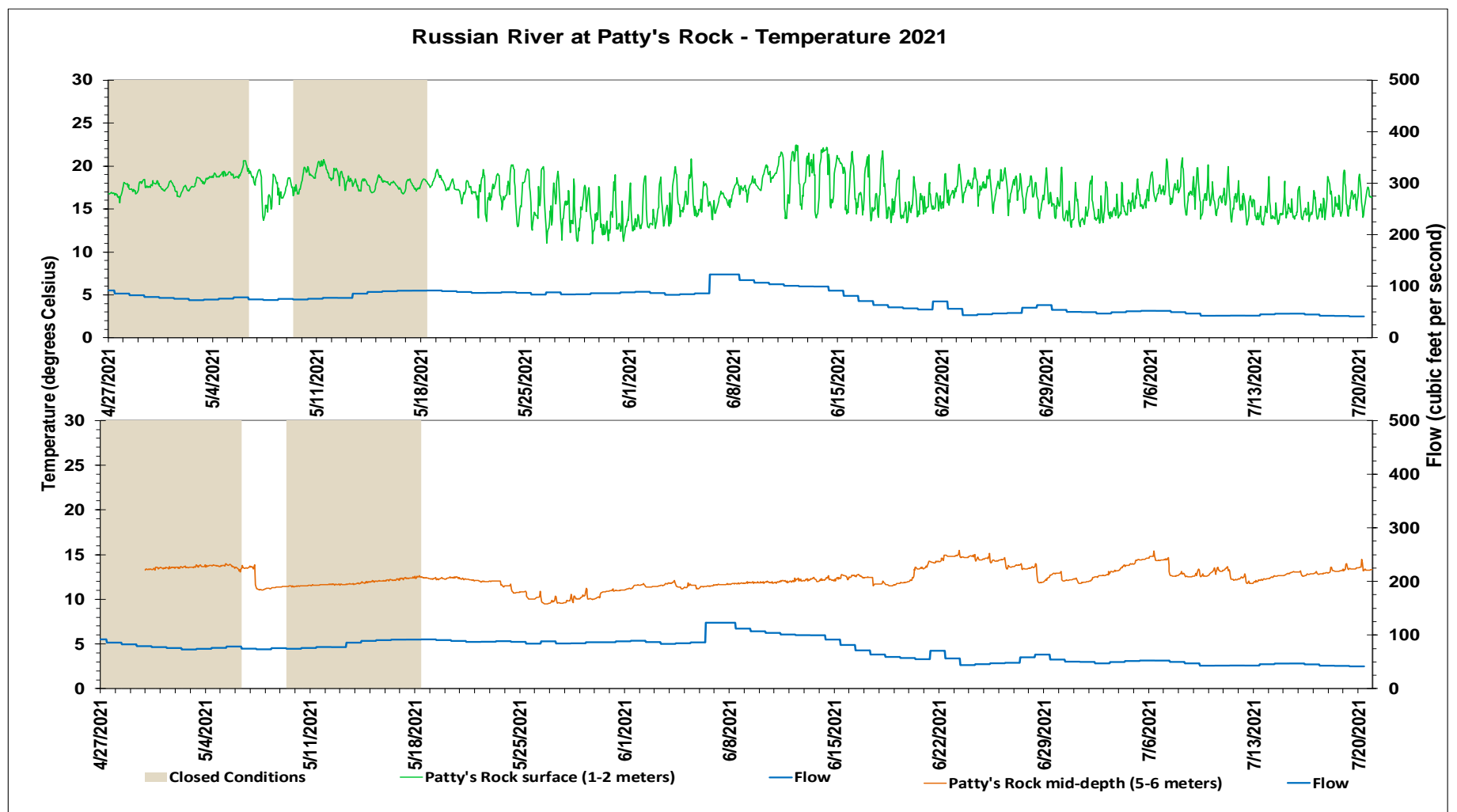
Russian River Water Quality Sonde Data - Estuary (February 28 - September 2, 2021)
Provisional Data Subject to Revision
Willow Creek Water Quality



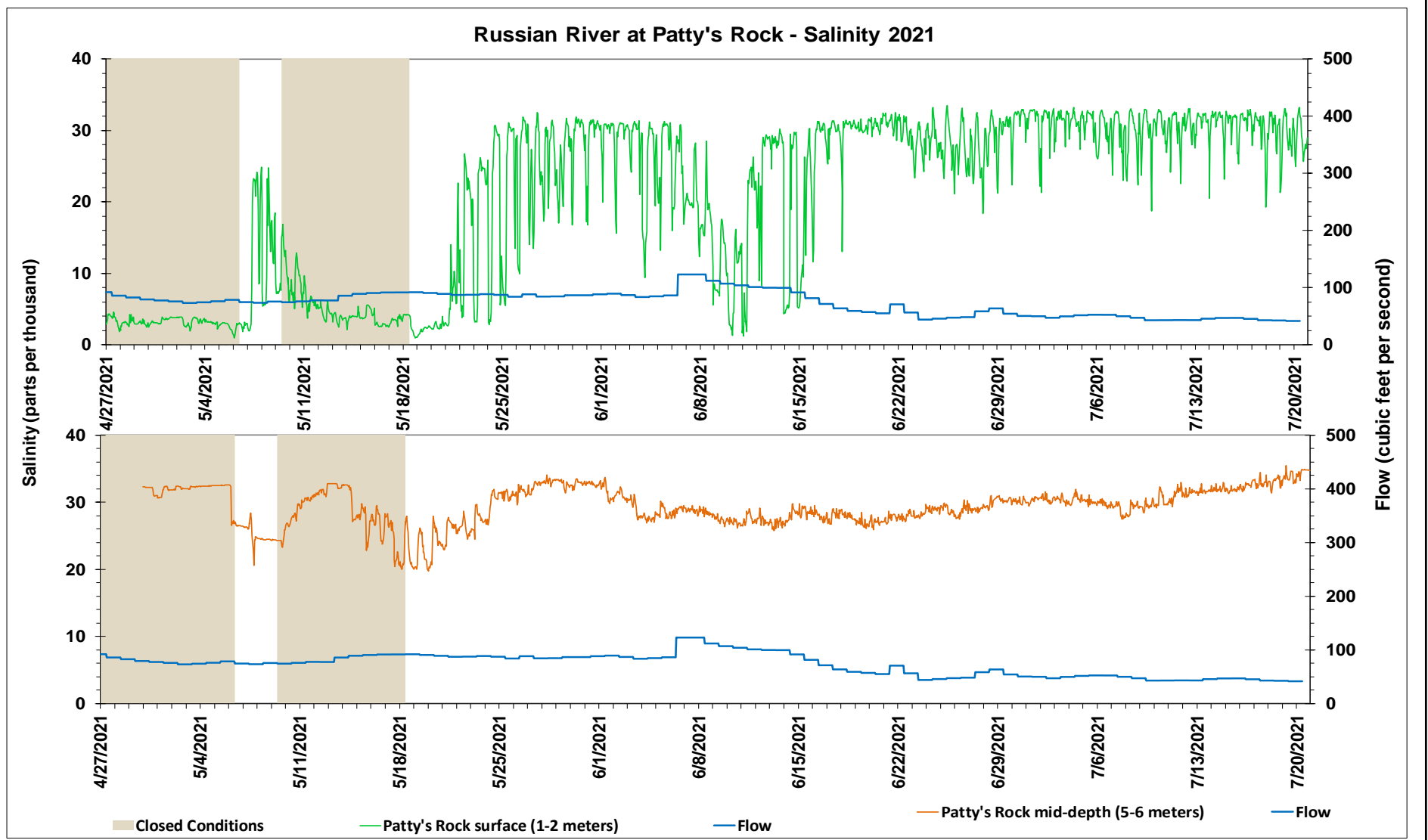
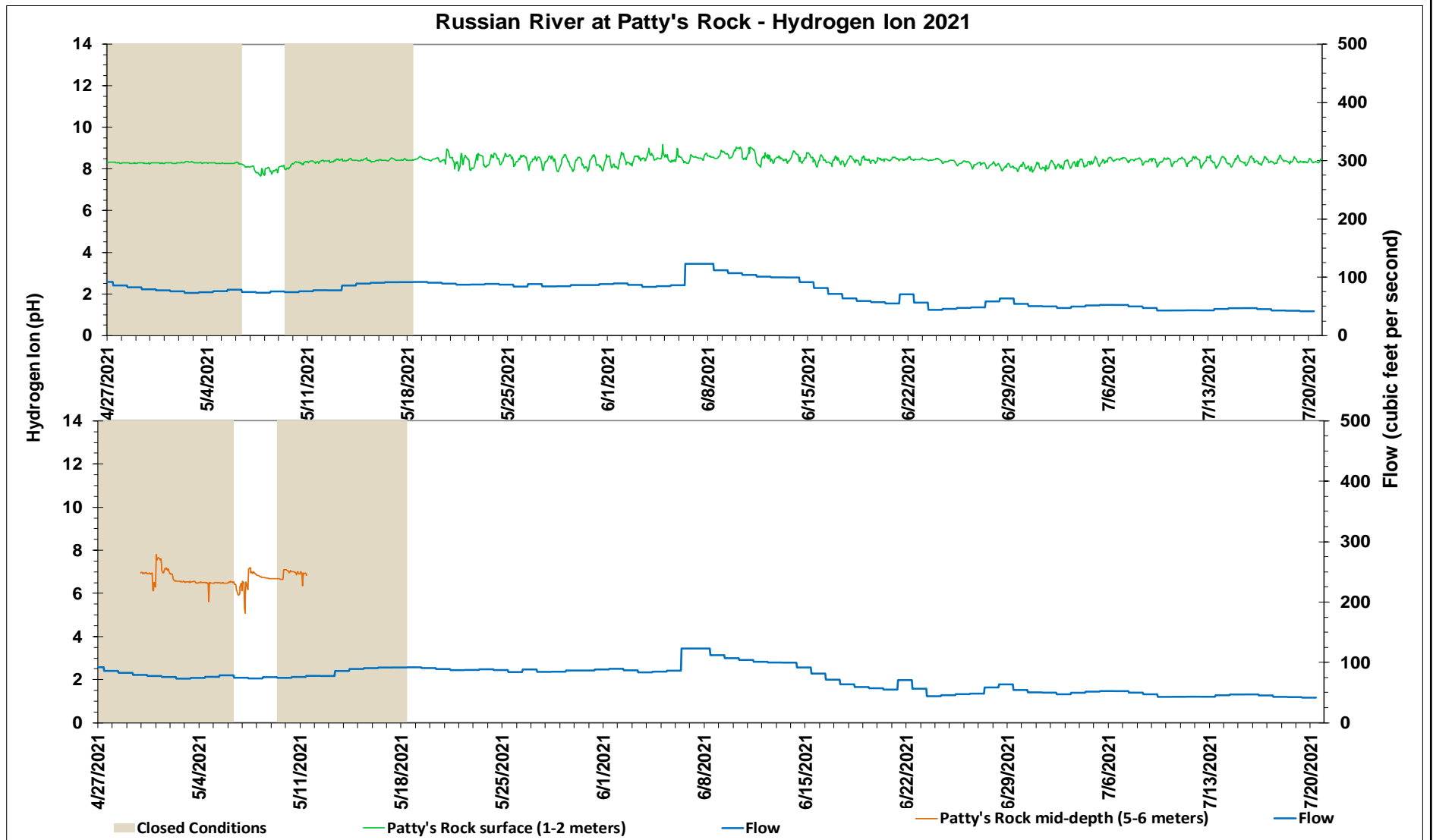
Russian River Water Quality Sonde Data - Estuary (April 27 - September 2, 2021)

Provisional Data Subject to Revision

Russian River at Patty's Rock Water Quality

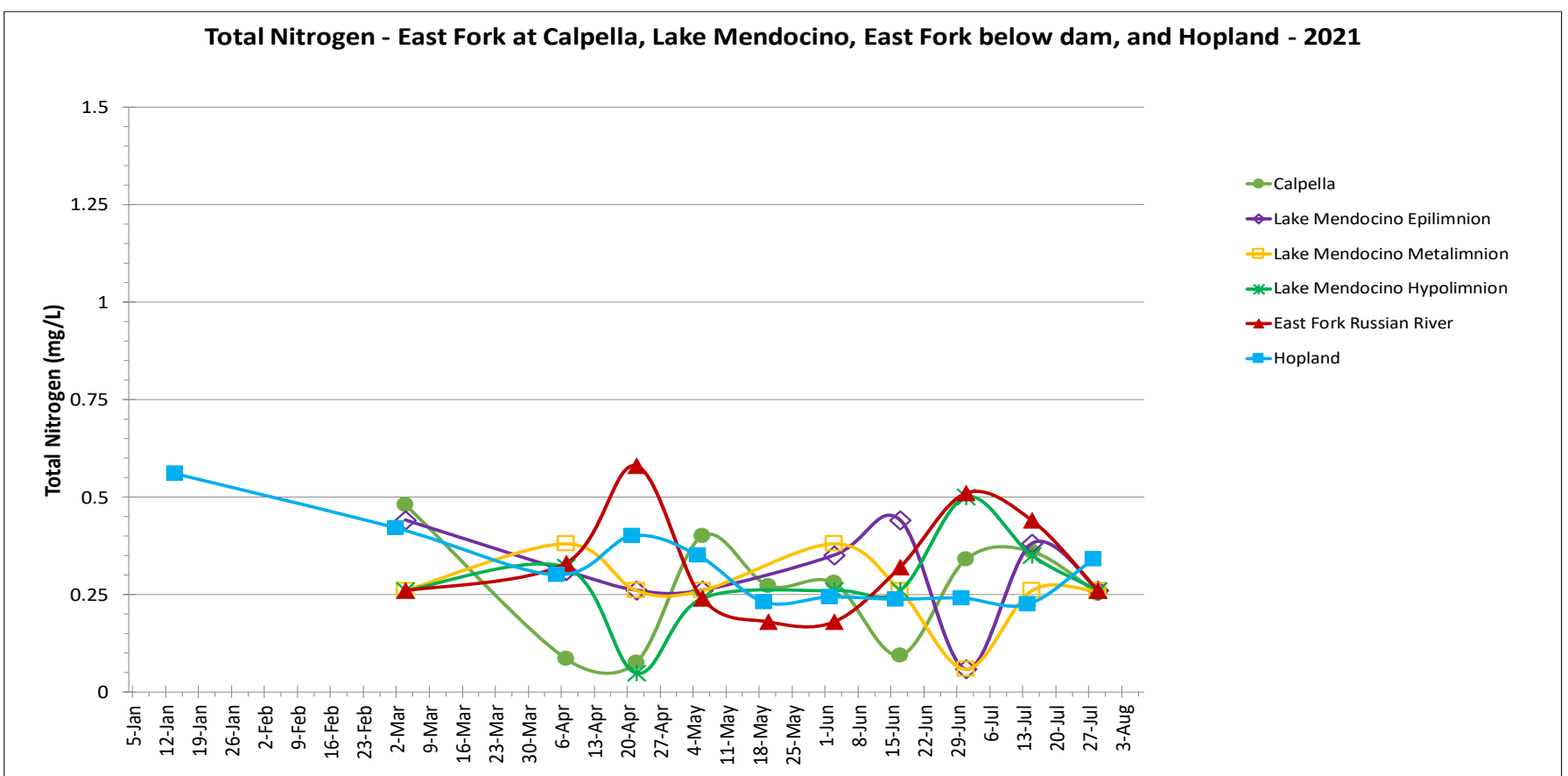
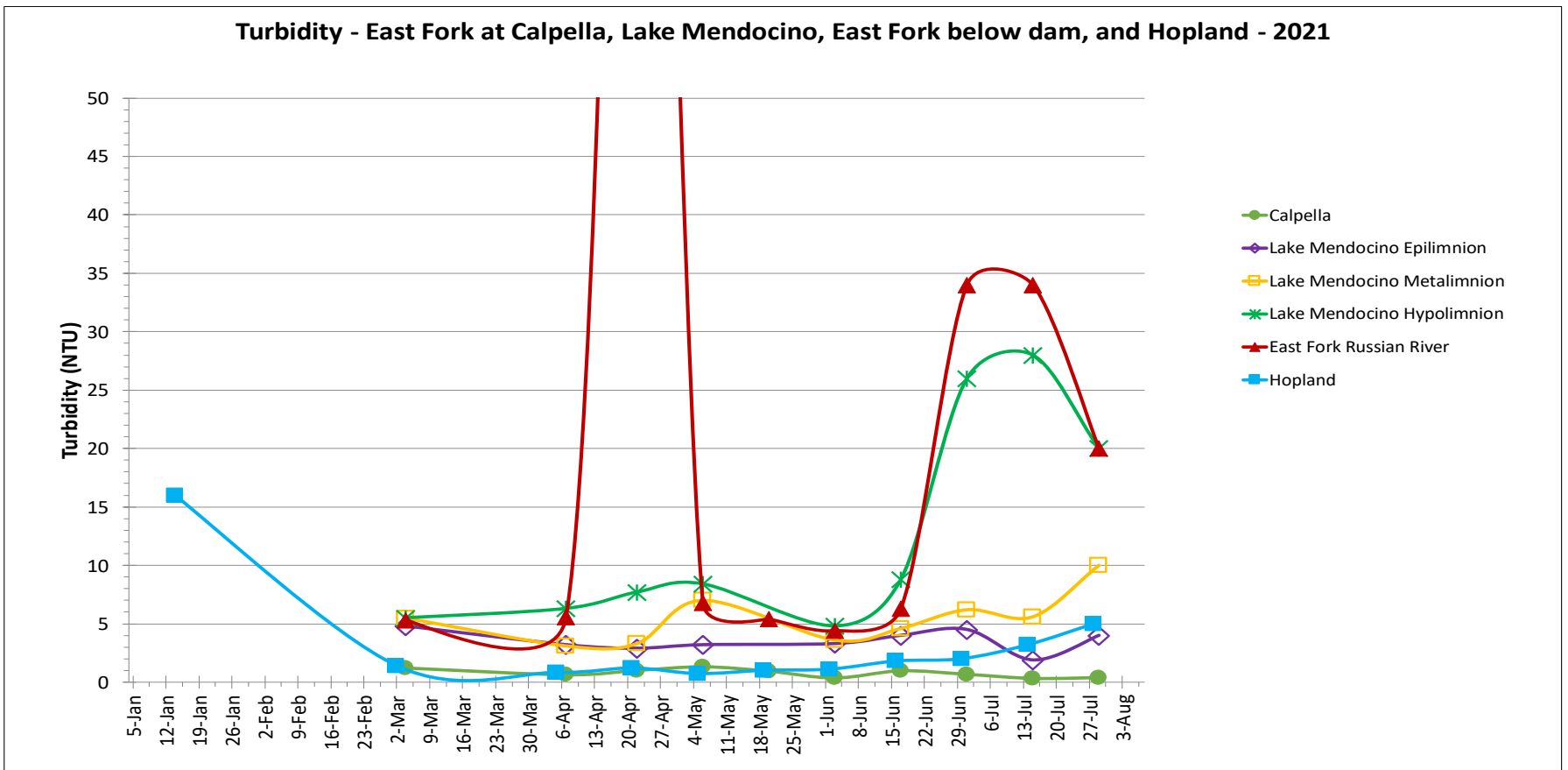
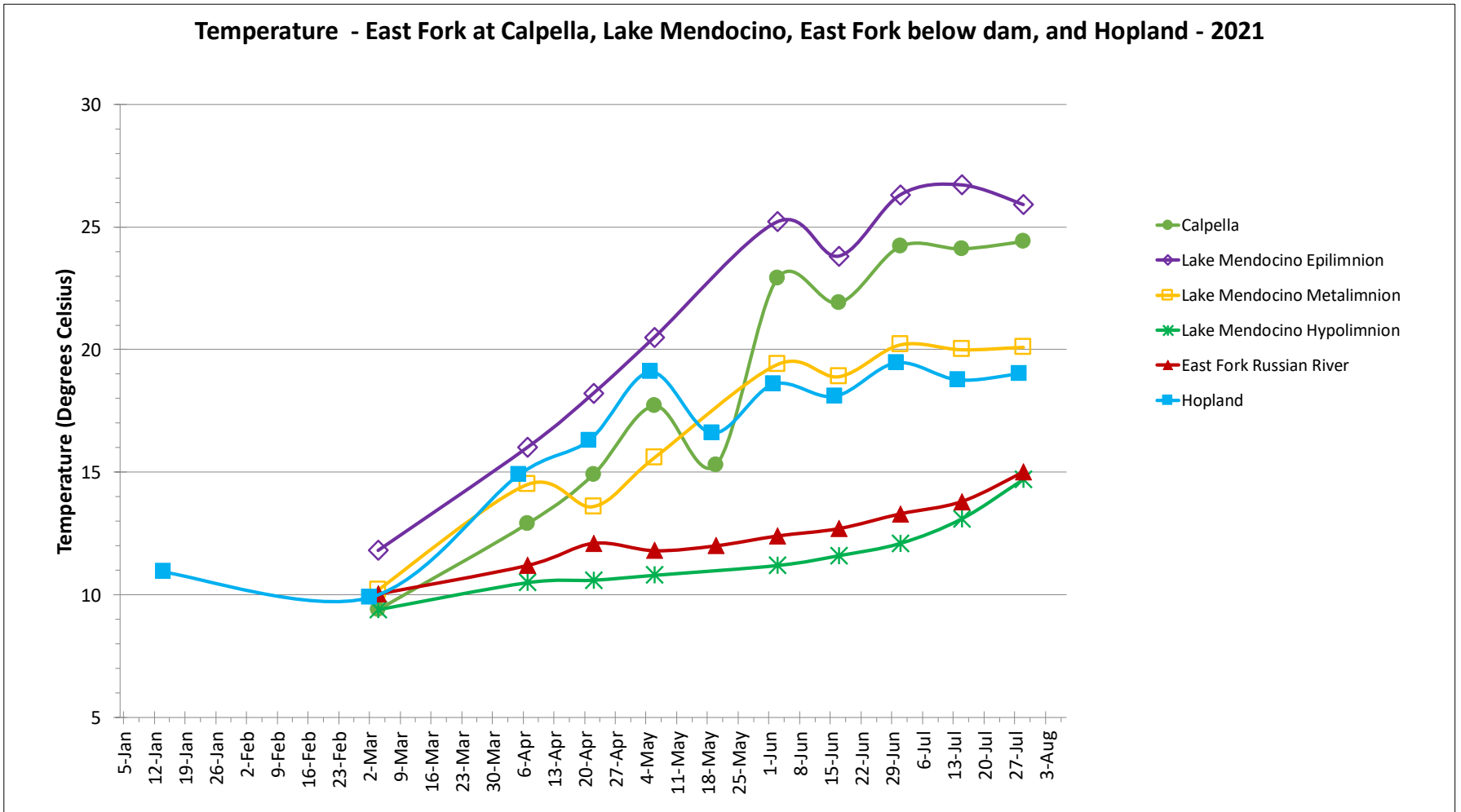


Russian River Water Quality Sonde Data - Estuary (April 27 - September 2, 2021)
 Provisional Data Subject to Revision
 Russian River at Patty's Rock Water Quality



Russian River Water Quality Grab Samples (January 14 - September 2, 2021)
Provisional Data Subject to Revision

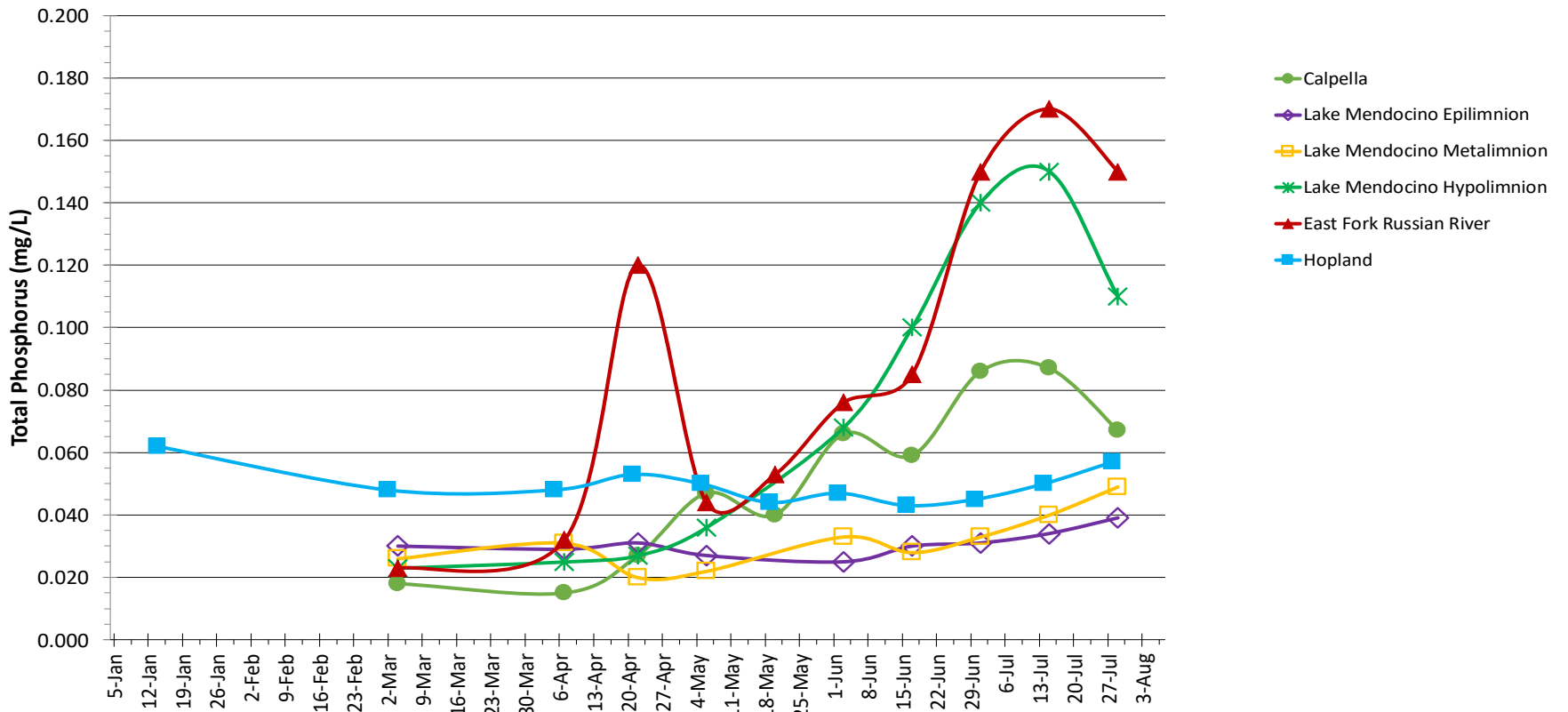
Lake Mendocino to Hopland Water Quality



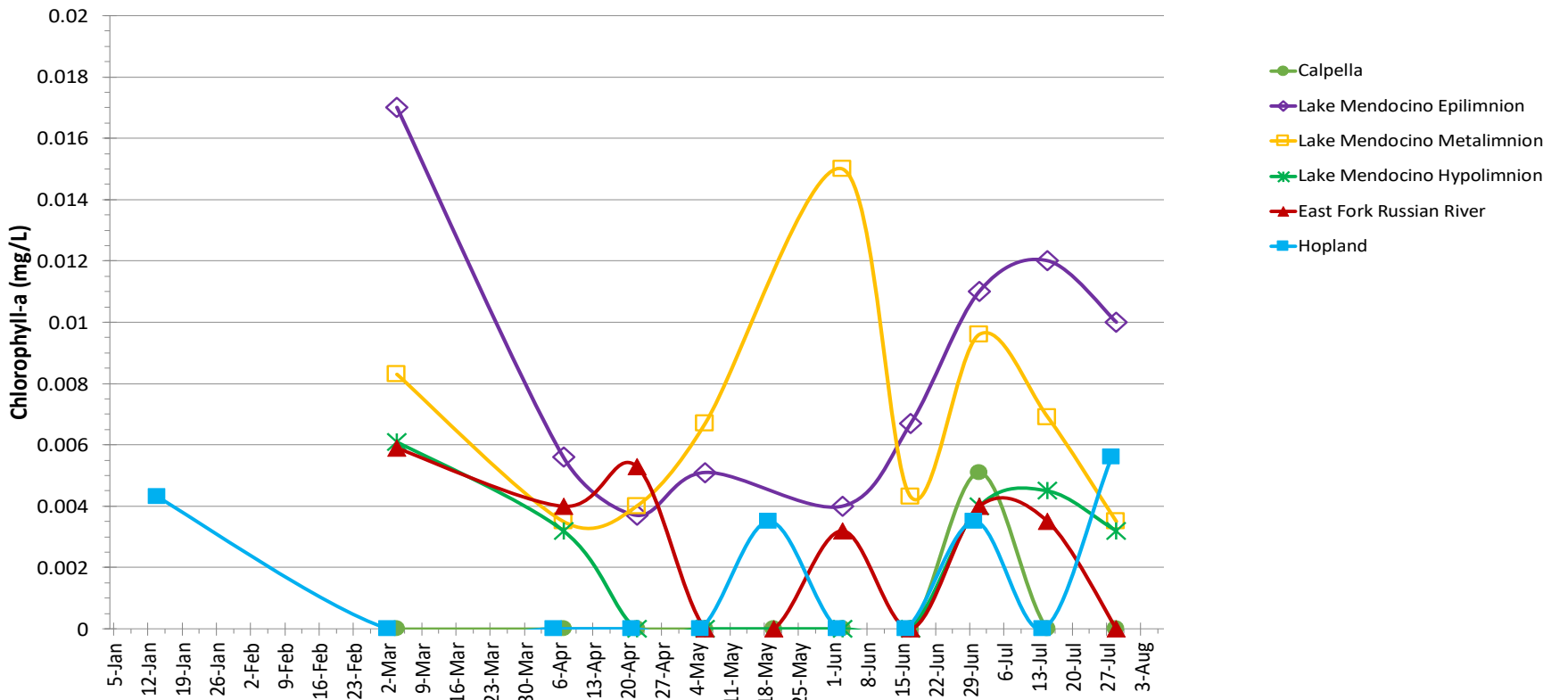
*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples (January 14 - September 2, 2021)
 Provisional Data Subject to Revision
 Lake Mendocino to Hopland Water Quality

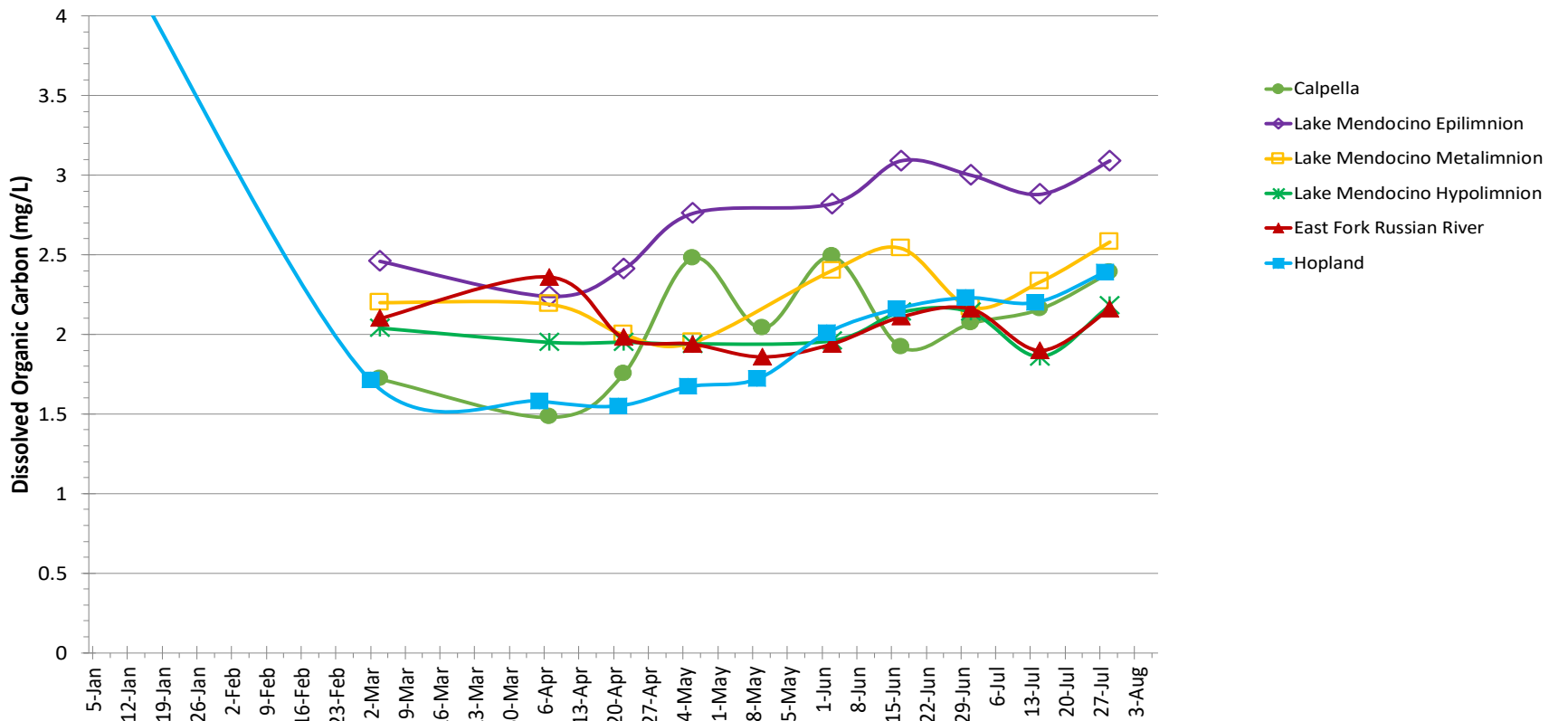
Total Phosphorus - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



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

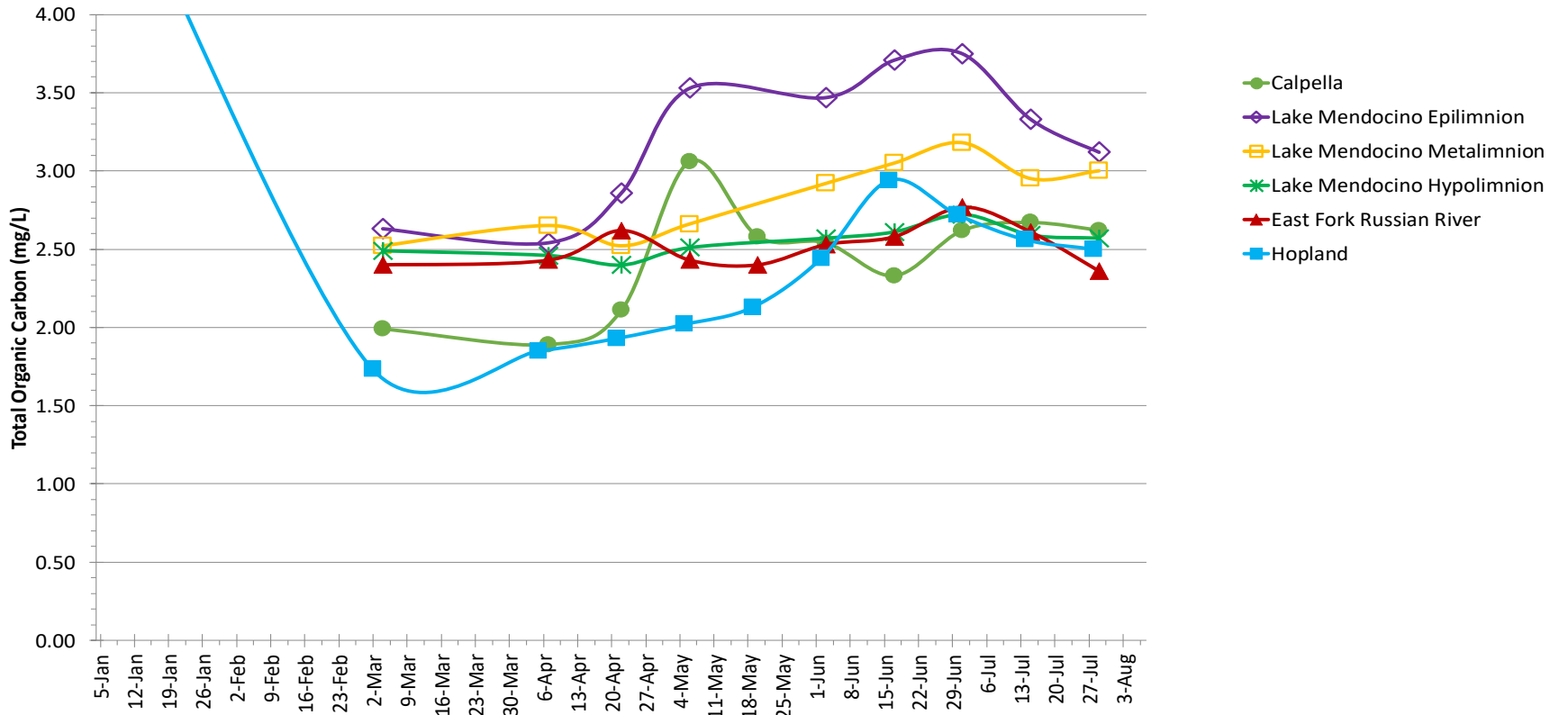


*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples (January 14 - September 2, 2021)
Provisional Data Subject to Revision

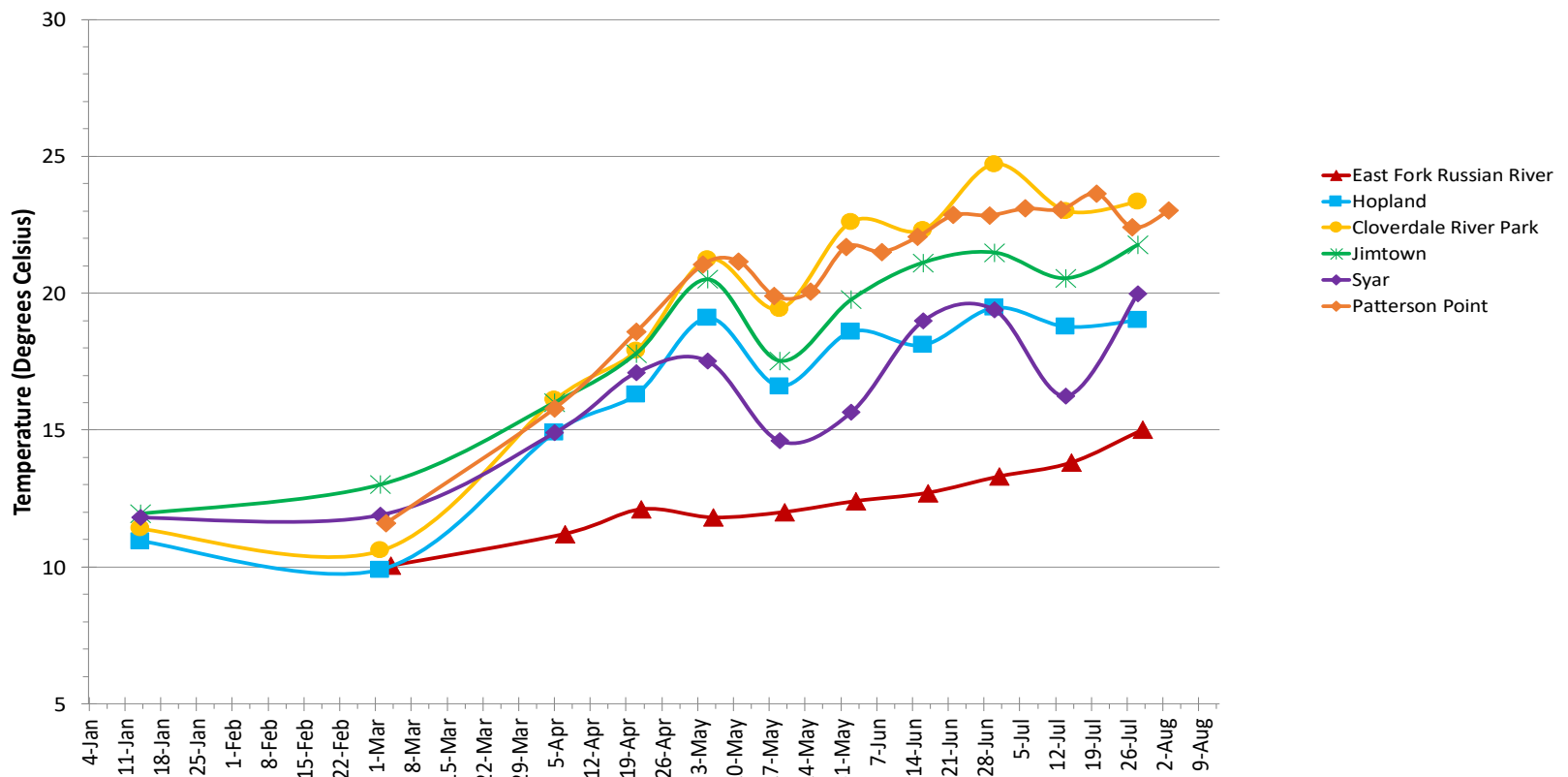
Lake Mendocino to Hopland Water Quality

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

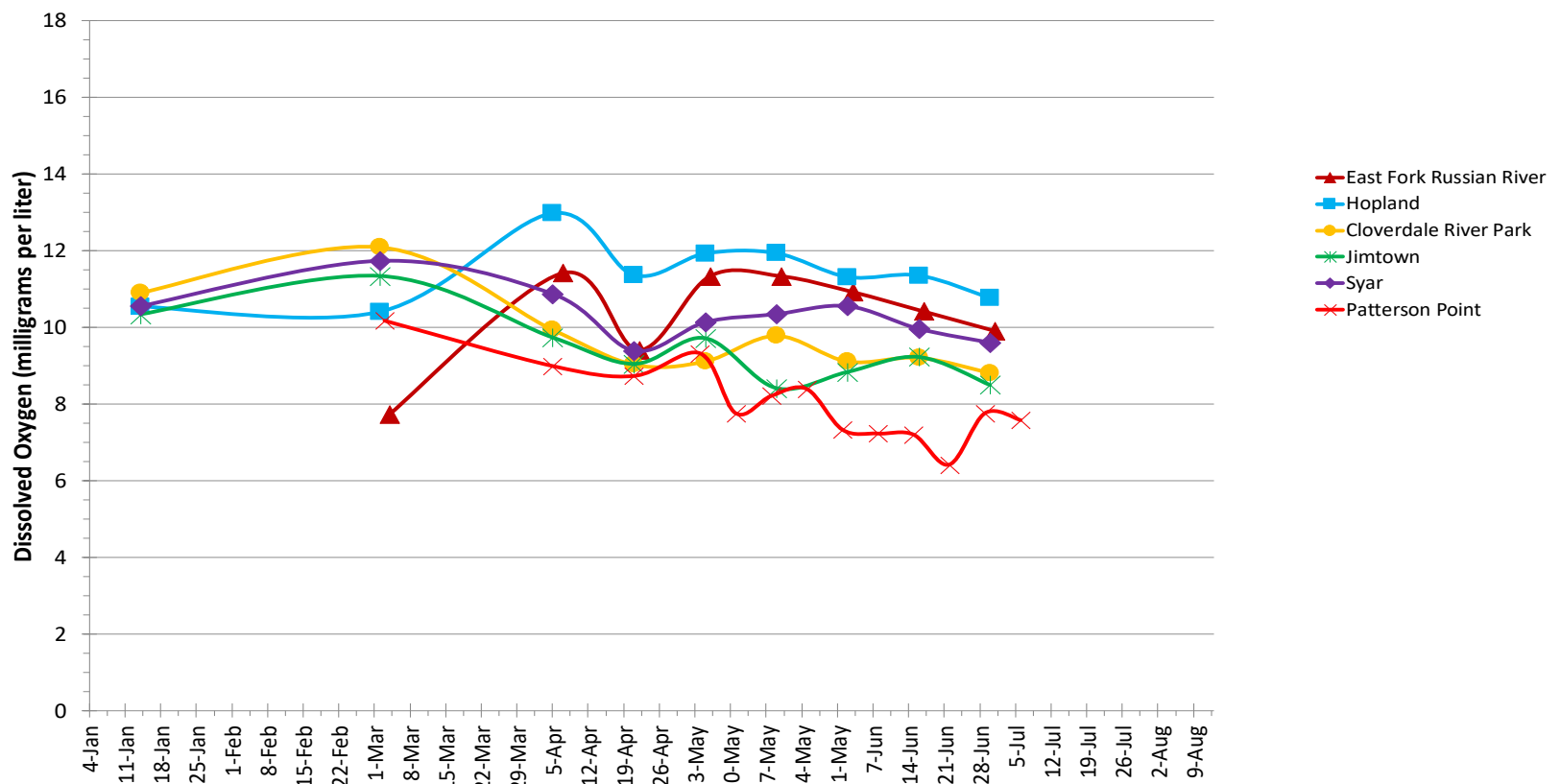


East Fork (below Lake Mendocino) to Patterson Point Water Quality

Temperature - East Fork to Patterson Point - 2021



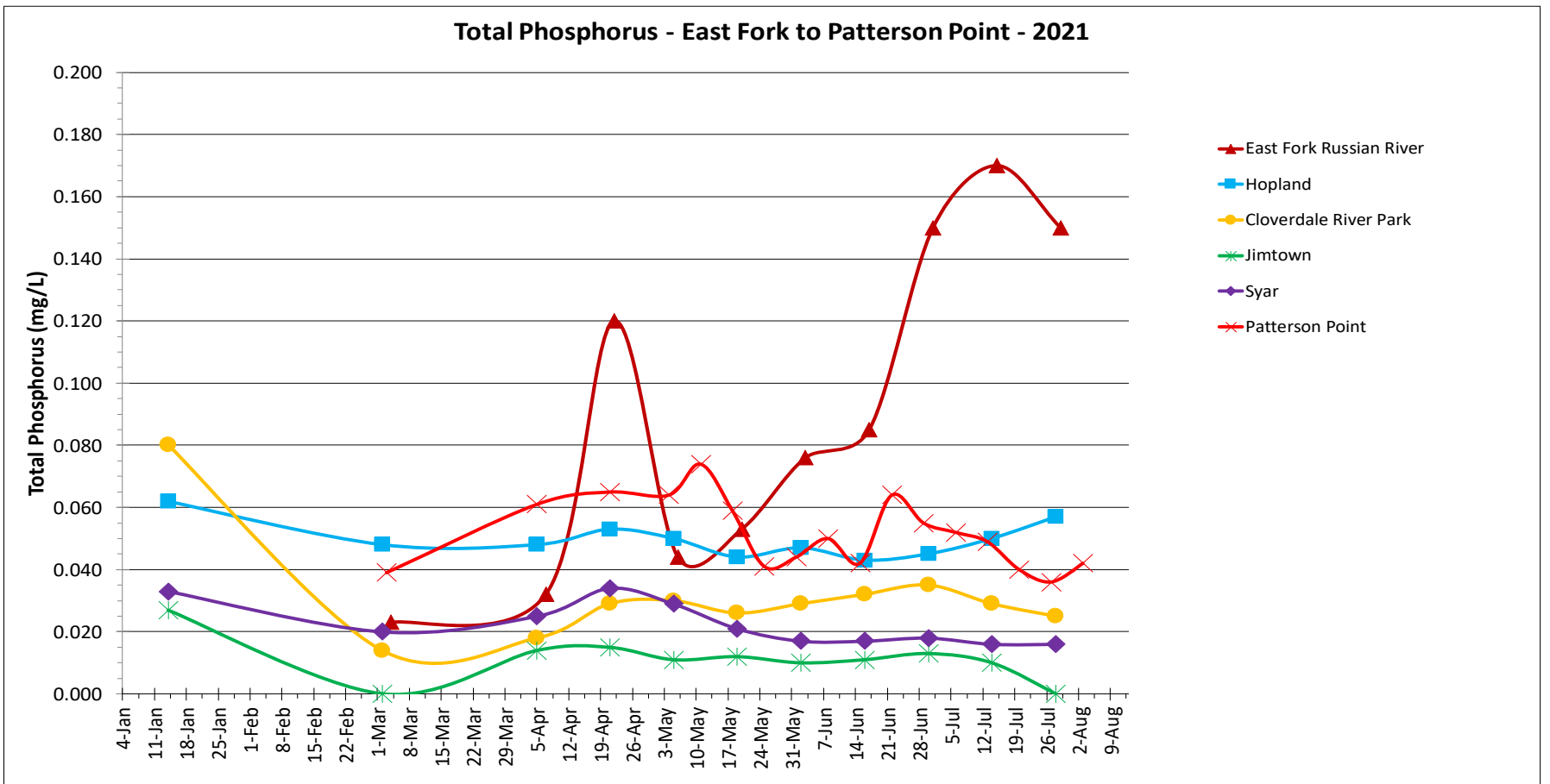
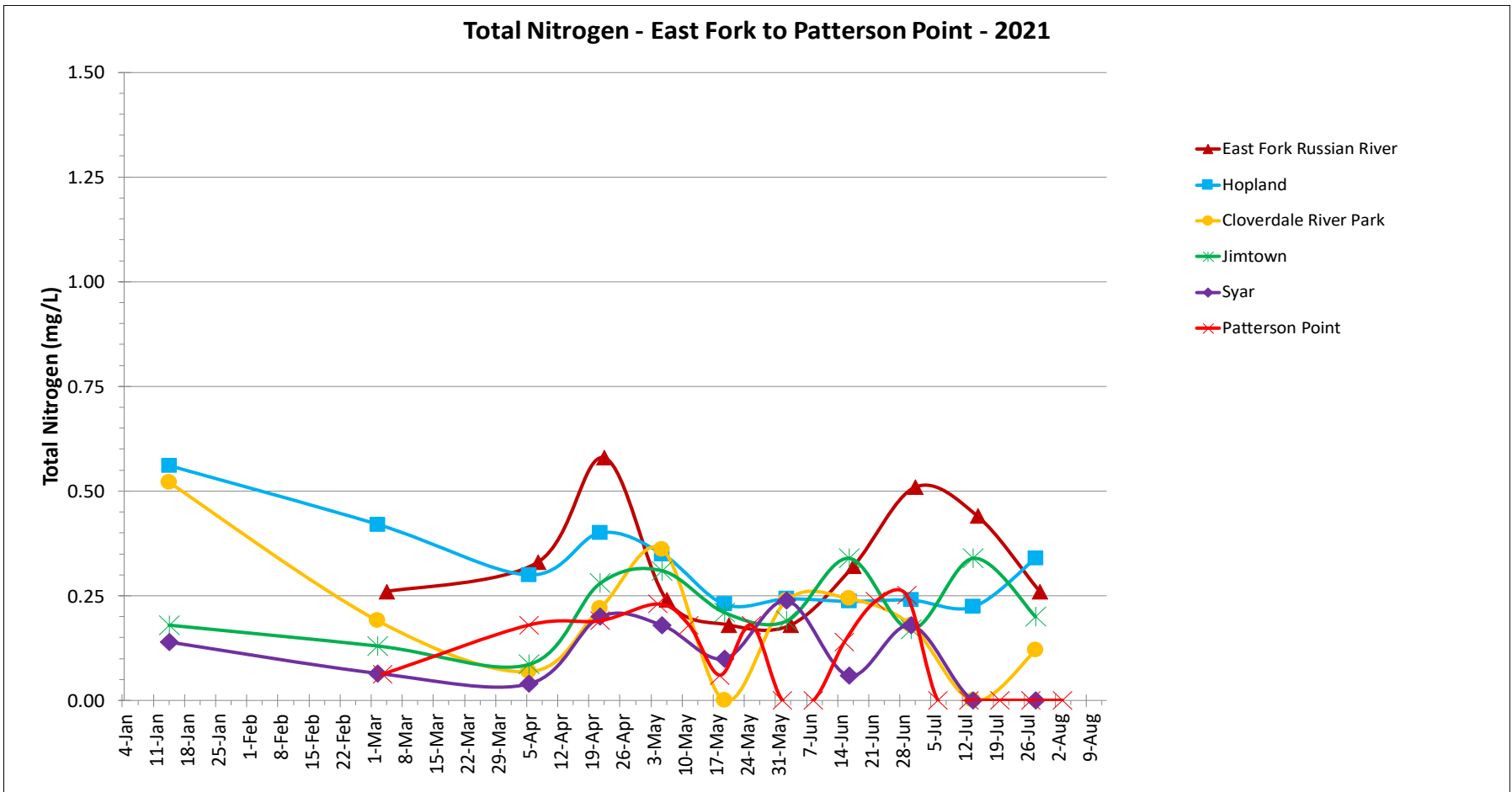
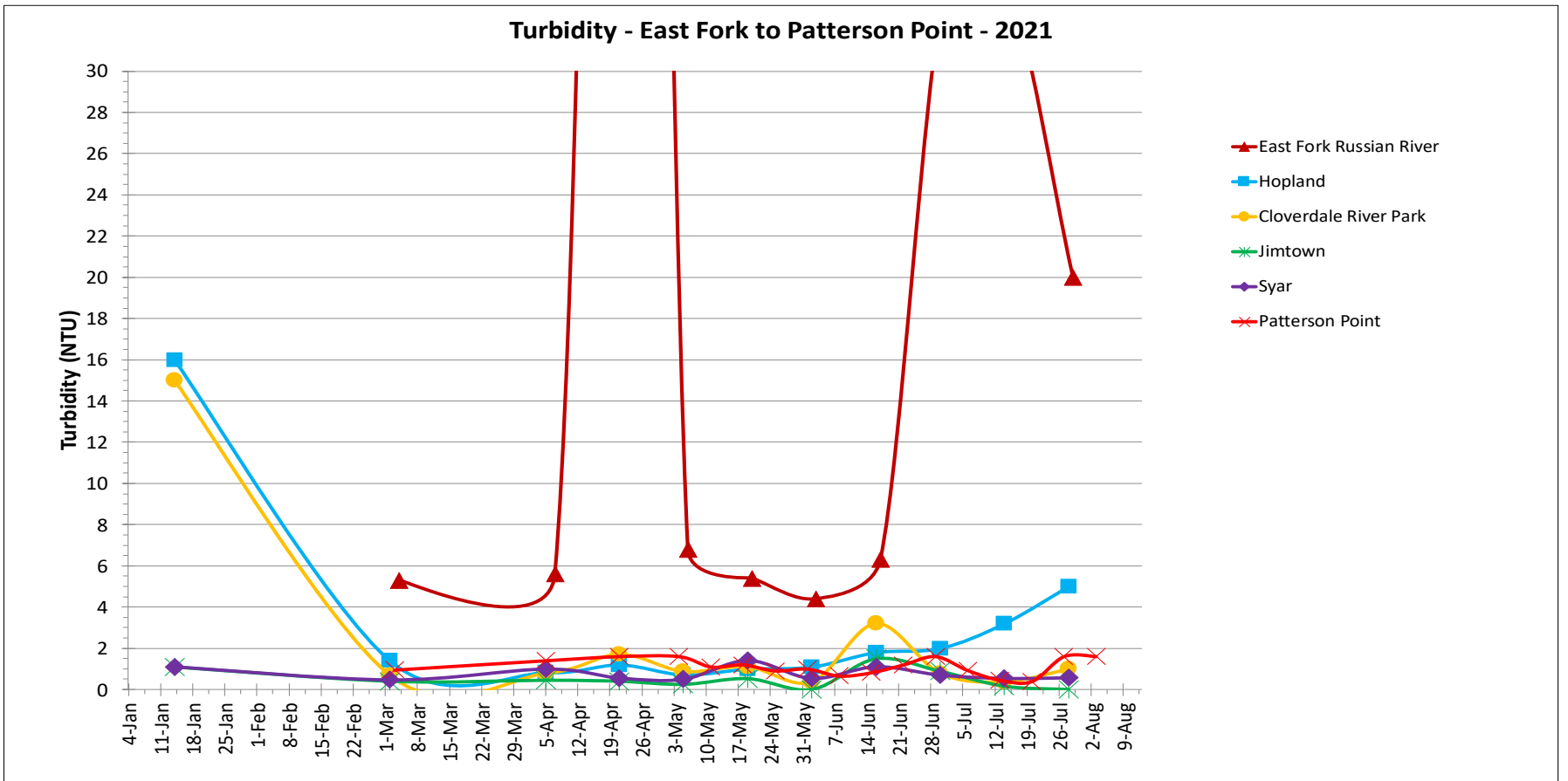
Dissolved Oxygen - East Fork to Patterson Point - 2021



*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 - September 2, 2021)
 Provisional Data Subject to Revision

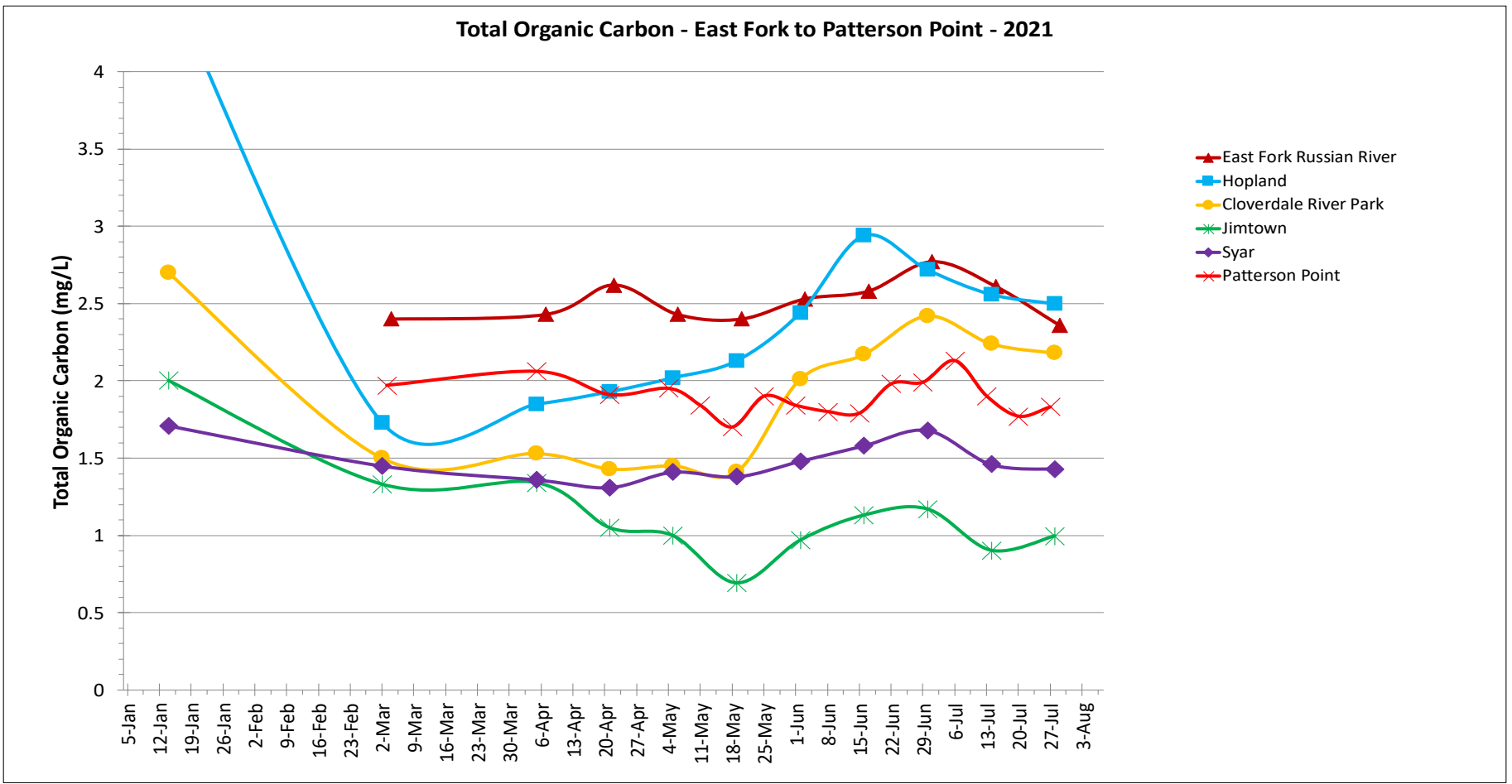
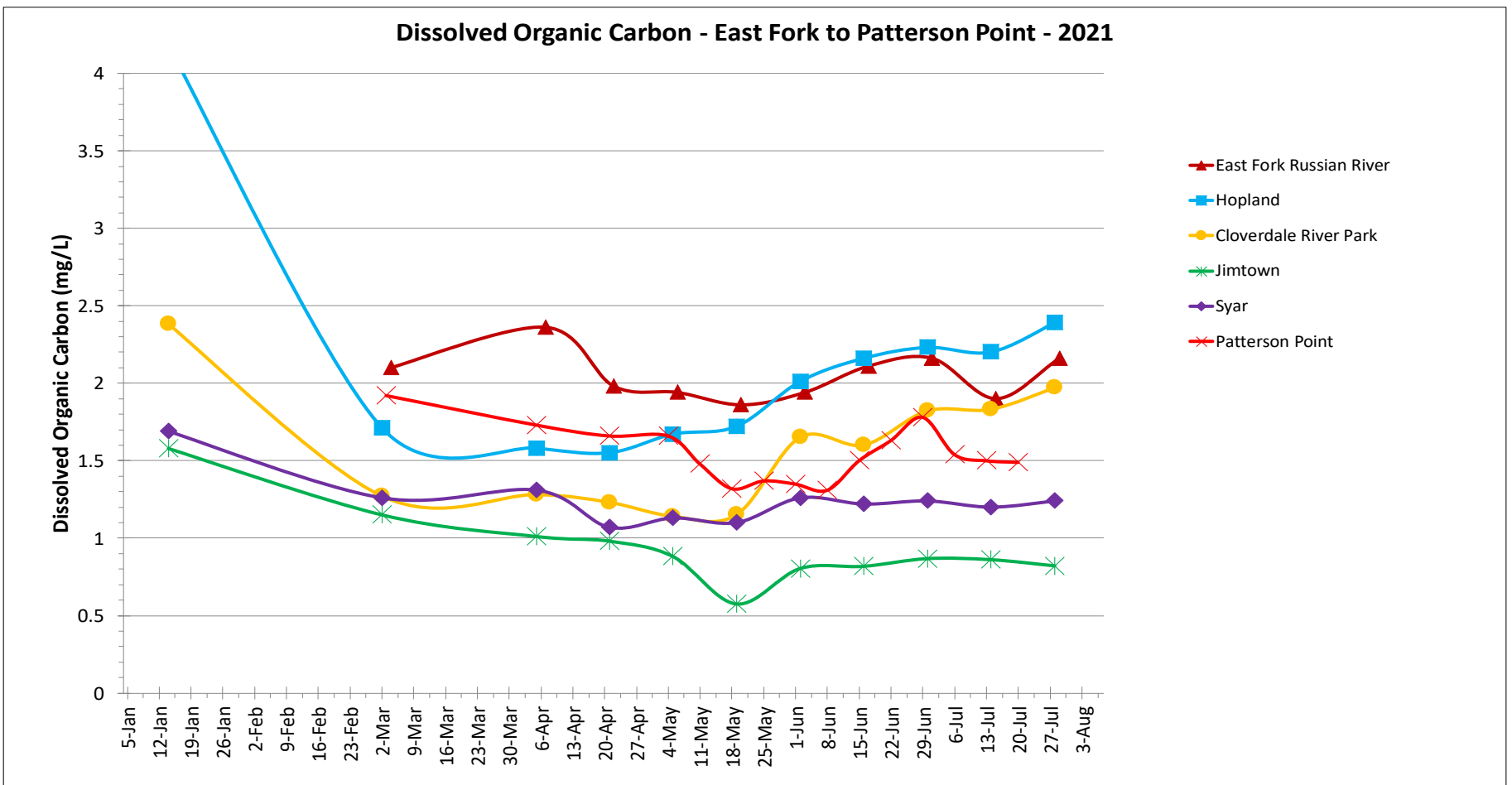
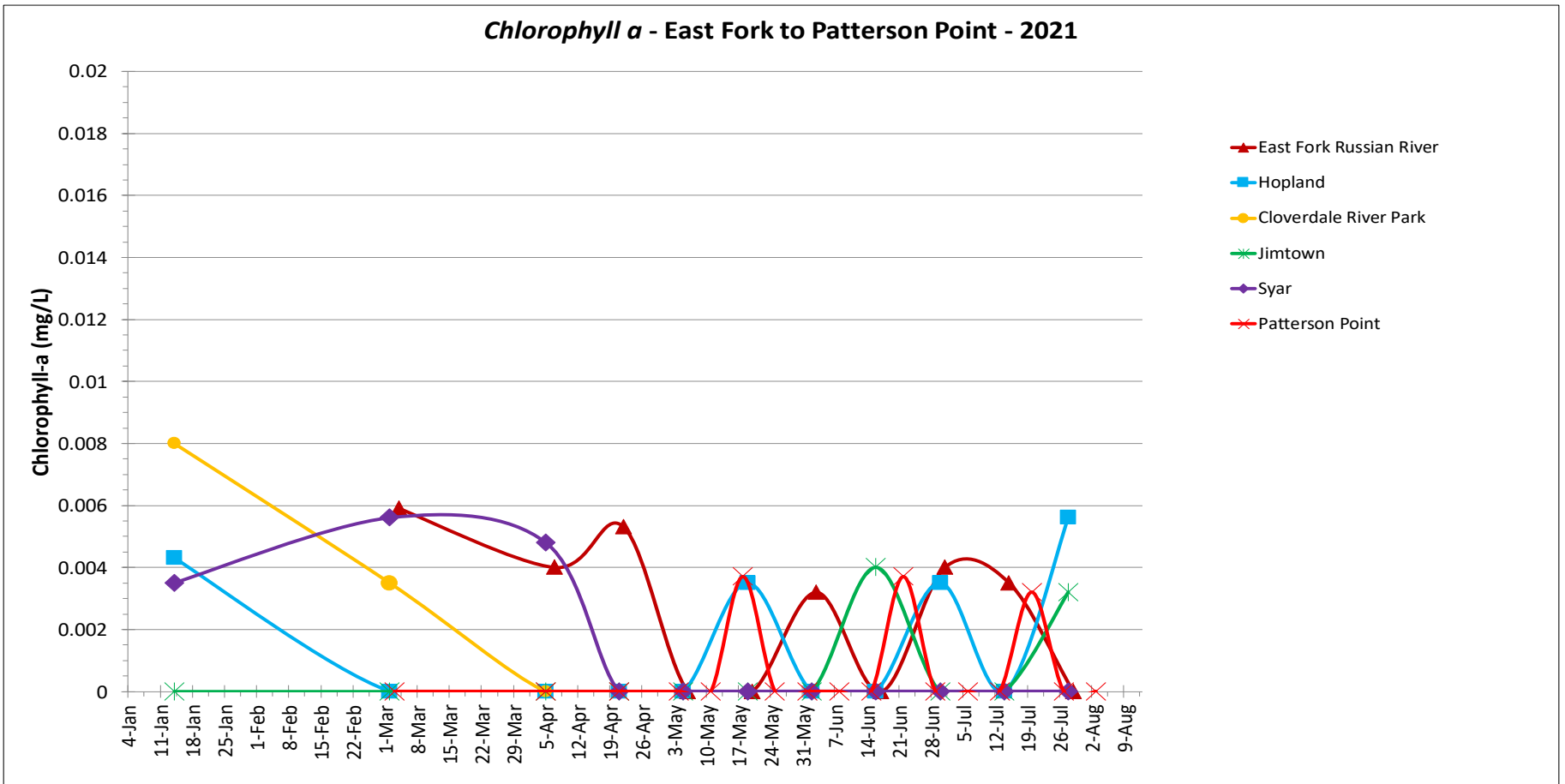
East Fork (below Lake Mendocino) to Patterson Point Water Quality



*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 - September 2, 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 (June 22 - August 10, 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	6/22/2021	1119**	4611**	>24196**
		6/29/2021	1250**	2143**	14136**
		7/6/2021	1553**	1860**	5172**
		7/13/2021	248**	2143**	4352**
		7/20/2021	1935**	2613**	1935**
		7/27/2021	2143**	2098**	2909**
		8/3/2021	1515**	1616**	2014**
		8/10/2021	1439**	1872**	1616**
E. Coli MPN/100 mL	235	6/22/2021	6.2	73.8	30.5
		6/29/2021	12.0	93.2	21.8
		7/6/2021	13.4	24.9	48.7
		7/13/2021	2.0	10.7	13.2
		7/20/2021	1.0	8.4	7.5
		7/27/2021	7.3	5.2	9.7
		8/3/2021	6.3	10.9	67.6
		8/10/2021	4.1	22.8	37.4
Enterococcus MPN/100 mL****	61	6/22/2021	8.5	128.1	190.4
		6/29/2021	29.6	29.5	31.3
		7/6/2021	3.0	7.5	39.9
		7/13/2021	2.0	13.4	31.8
		7/20/2021	5.2	11.0	11.0
		7/27/2021	2.0	13.4	13.2
		8/3/2021	8.5	14.5	22.6
		8/10/2021	10.7	26.2	35.9

**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 (June 1 - August 3, 2021)
Provisional Data Subject to Revision

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
	Temperature	-	°C	6/1/2021	21.7	22.5	22.6
				6/8/2021	21.5	21.6	20.6
				6/15/2021	22.1	22.7	22.7
				6/22/2021	22.9	23.2	23.4
				6/29/2021	22.8	23.0	23.3
				7/6/2021	23.1	23.2	23.1
				7/13/2021	23.1	23.9	23.2
				7/20/2021	22.8	23.1	23.6
				7/27/2021	22.1	21.9	22.4
				8/3/2021	22.5	22.5	23.0
Nutrients	Ammonia as N	0.01	mg/L	6/1/2021	ND	ND	ND
				6/8/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
				6/22/2021	ND	ND	ND
				6/29/2021	ND	ND	ND
				7/6/2021	ND	ND	ND
				7/13/2021	ND	ND	ND
				7/20/2021	ND	ND	ND
				7/27/2021	ND	ND	ND
	8/3/2021	ND	ND	ND			
	Nitrate as N	0.03	mg/L	6/1/2021	ND	ND	ND
				6/8/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
				6/22/2021	0.1	ND	ND
				6/29/2021	0.1	ND	ND
				7/6/2021	ND	ND	0.1
				7/13/2021	ND	ND	ND
				7/20/2021	ND	ND	ND
7/27/2021				ND	ND	ND	
8/3/2021	0.1	ND	ND				
Nutrients	Nitrite as N	0.03	mg/L	6/1/2021	ND	ND	ND
				6/8/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
				6/22/2021	ND	ND	ND
				6/29/2021	ND	ND	ND
				7/6/2021	ND	ND	ND
				7/13/2021	ND	ND	ND
				7/20/2021	ND	ND	ND
				7/27/2021	ND	ND	ND
	8/3/2021	ND	ND	ND			
	Total Organic Nitrogen as N	0.2	mg/L	6/1/2021	ND	0.180	0.180
				6/8/2021	ND	ND	ND
				6/15/2021	0.140	0.140	ND
				6/22/2021	0.180	0.180	0.180
				6/29/2021	0.180	0.180	0.180
				7/6/2021	0.100	0.100	ND
				7/13/2021	ND	ND	ND
				7/20/2021	0.260	0.350	0.180
				7/27/2021	ND	ND	ND
	8/3/2021	0.180	0.180	0.180			
	Total Kjeldahl Nitrogen	0.1	mg/L	6/1/2021	ND	ND	ND
				6/8/2021	ND	ND	ND
				6/15/2021	ND	ND	ND
				6/22/2021	ND	ND	ND
				6/29/2021	ND	ND	ND
				7/6/2021	ND	ND	ND
				7/13/2021	ND	ND	ND
				7/20/2021	0.260	0.350	ND
				7/27/2021	ND	ND	ND
	8/3/2021	ND	ND	ND			
	Total Phosphorus	0.02	mg/L	6/1/2021	0.044	0.044	0.037
				6/8/2021	0.050	0.045	0.037
				6/15/2021	0.042	0.042	0.035
				6/22/2021	0.064	0.059	0.041
				6/29/2021	0.055	0.072	0.057
				7/6/2021	0.052	0.051	0.040
7/13/2021				0.049	0.050	0.039	
7/20/2021				0.046	0.046	0.040	
7/27/2021				0.046	0.044	0.036	
8/3/2021	0.045	0.042	0.042				
Total Orthophosphate	0.02	mg/L	6/1/2021	0.100	0.088	0.071	
			6/8/2021	0.097	0.089	0.052	
			6/15/2021	0.078	0.078	0.053	
			6/22/2021	0.140	0.120	0.073	
			6/29/2021	0.110	0.077	0.100	
			7/6/2021	0.100	0.090	0.074	
			7/13/2021	0.095	0.083	0.066	
			7/20/2021	0.083	0.083	0.063	
			7/27/2021	0.082	0.070	0.054	
8/3/2021	0.097	0.064	0.056				

Russian River Water Quality Grab Samples (June 1 - August 3, 2021)
Provisional Data Subject to Revision

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
Chlorophyll	Chlorophyll A	0.00005	mg/L	6/1/2021	ND	ND	ND
				6/8/2021	ND	ND	ND
				6/15/2021	ND	ND	0.004
				6/22/2021	0.004	ND	0.004
				6/29/2021	ND	ND	0.005
				7/6/2021	ND	ND	ND
				7/13/2021	ND	ND	ND
				7/20/2021	0.004	ND	0.003
				7/27/2021	ND	ND	ND
				8/3/2021	0.004	ND	ND
Carbon	Total Organic Carbon	0.04	mg/L	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
				6/22/2021	1.98	2.11	2.16
				6/29/2021	1.99	2.40	2.14
				7/6/2021	2.13	2.03	1.96
				7/13/2021	1.90	1.90	1.94
				7/20/2021	1.85	1.85	1.77
				7/27/2021	1.87	1.90	1.83
	8/3/2021	2.08	2.03	1.84			
	Dissolved Organic Carbon	0.04	mg/L	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
				6/22/2021	1.63	1.59	1.72
				6/29/2021	1.78	1.58	1.57
				7/6/2021	1.54	1.58	1.59
				7/13/2021	1.50	1.59	1.54
				7/20/2021	1.48	1.45	1.49
7/27/2021				1.62	1.58	1.73	
8/3/2021	1.40	1.36	1.33				
Solids	Turbidity	0.02	NTU	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
				6/22/2021	1.20	1.10	1.10
				6/29/2021	1.60	1.60	2.60
				7/6/2021	0.93	0.99	0.66
				7/13/2021	0.46	0.71	0.44
				7/20/2021	0.52	0.85	0.40
				7/27/2021	1.20	2.80	1.60
	8/3/2021	1.10	2.10	1.60			
	TDS	4.2	mg/L	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
				6/22/2021	130.00	130.00	150.00
				6/29/2021	130.00	130.00	130.00
				7/6/2021	140.00	160.00	140.00
				7/13/2021	150.00	140.00	130.00
				7/20/2021	160.00	150.00	140.00
7/27/2021				140.00	140.00	130.00	
8/3/2021	160.00	150.00	140.00				