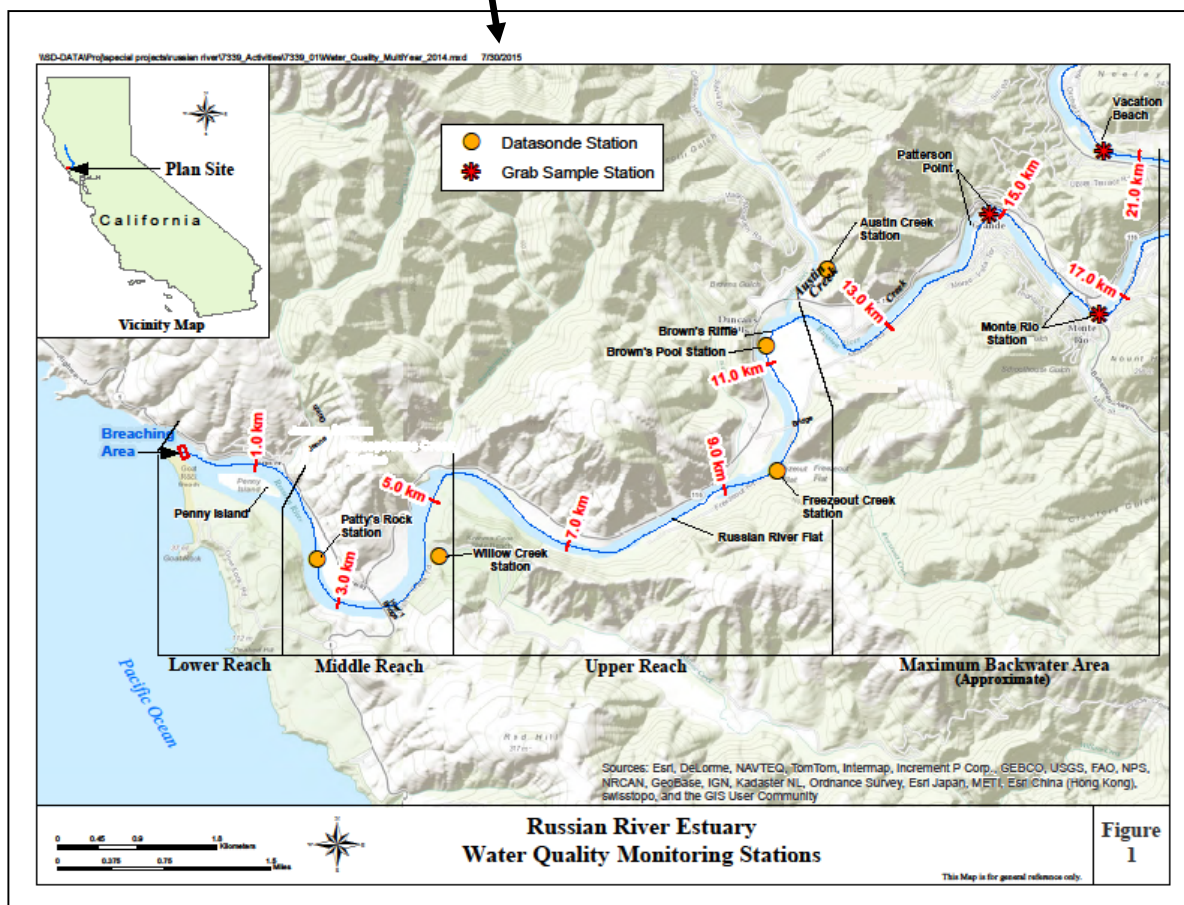




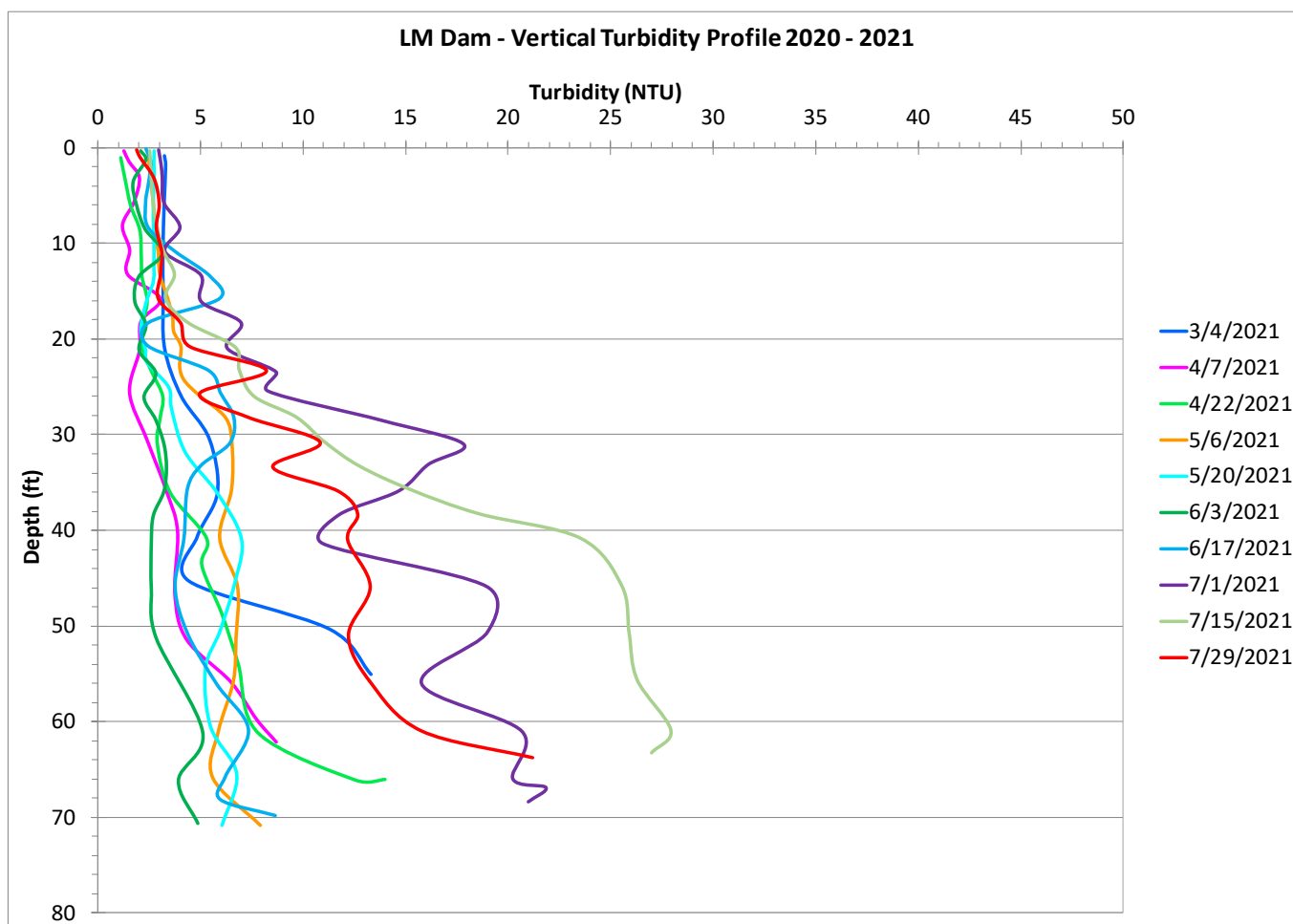
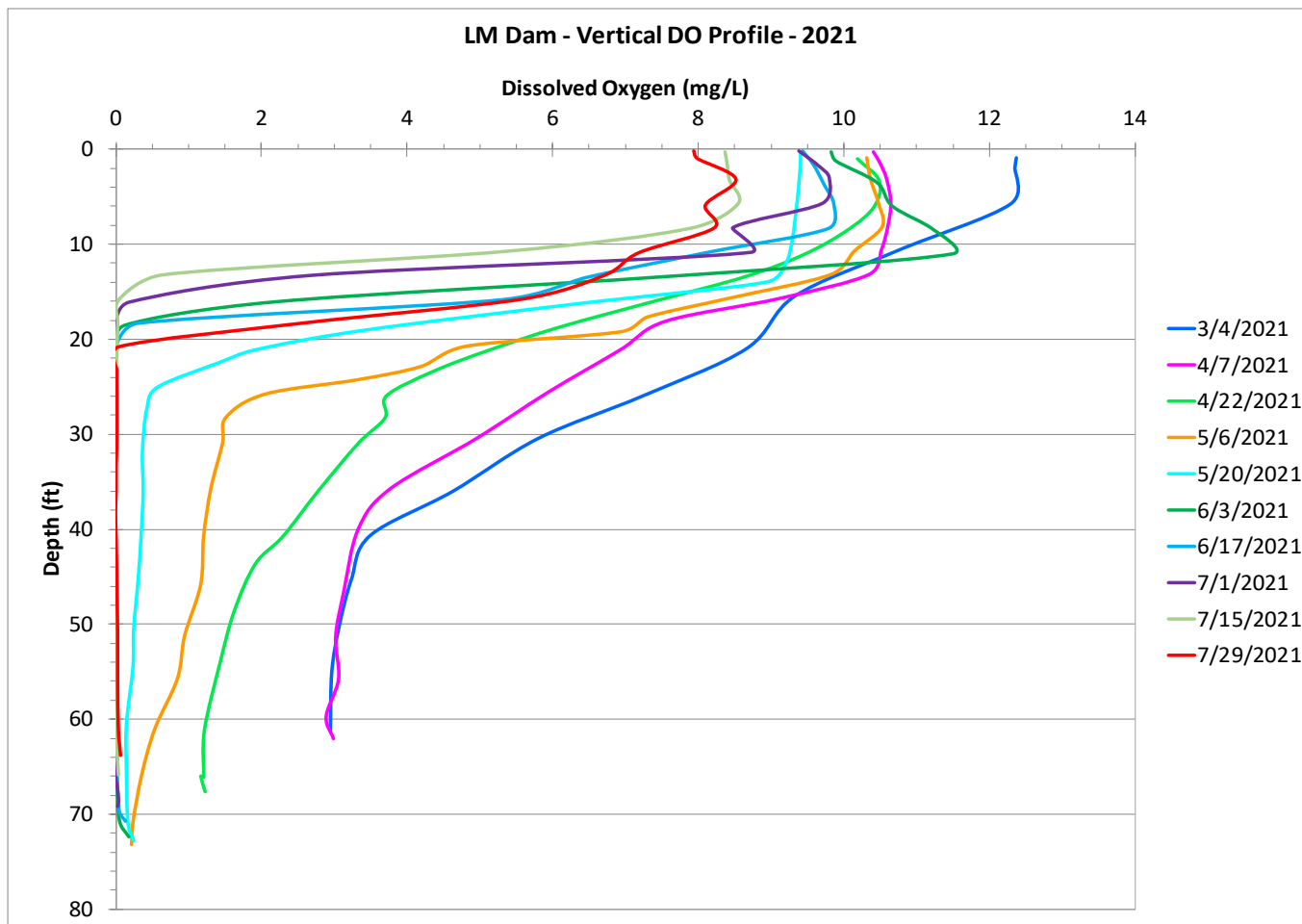
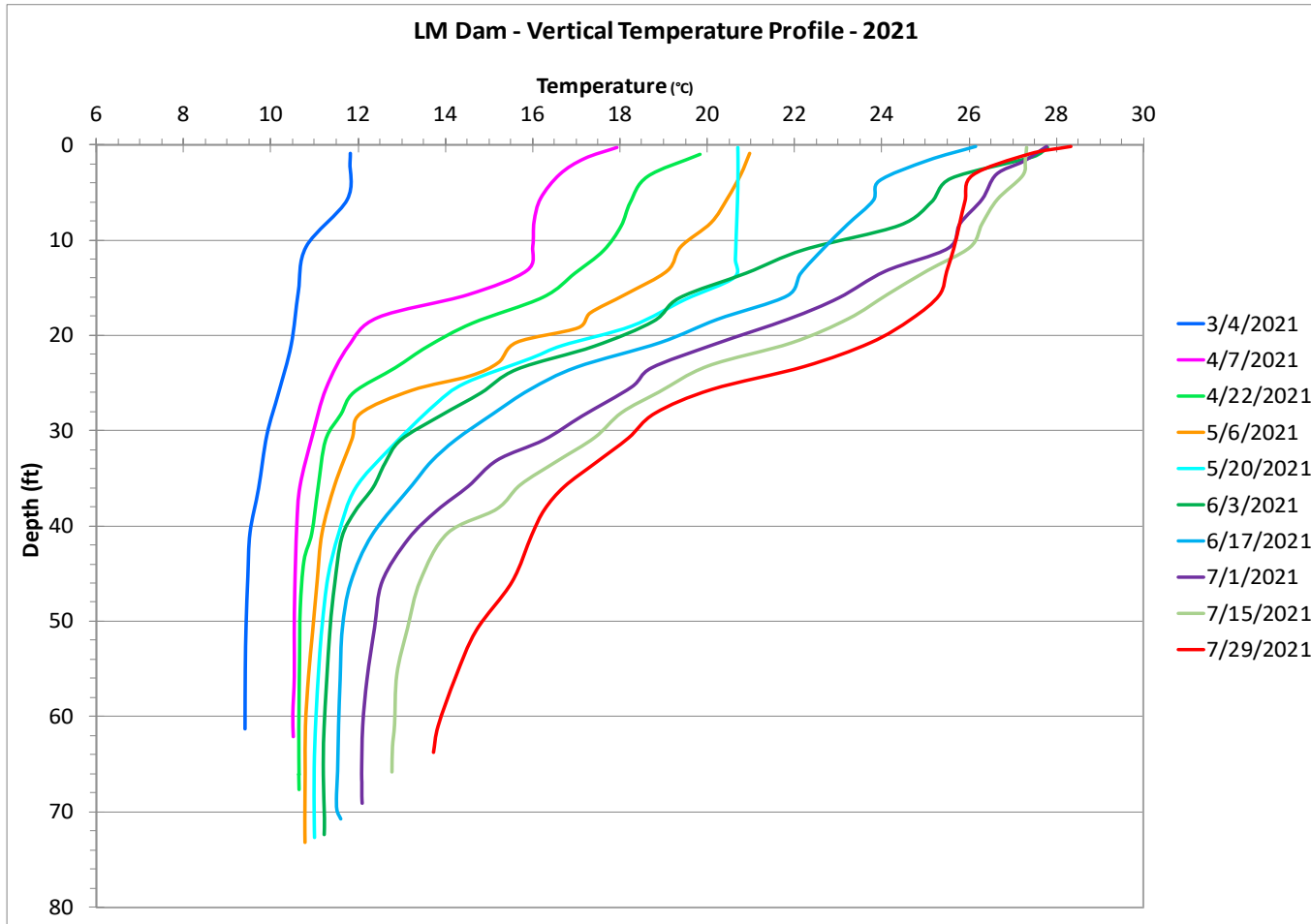
Sonoma Water

State Water Resources Control Board Temporary Urgency Change Order (6/14/2021) Russian River Water Quality Report August 13, 2021 - August 19, 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).



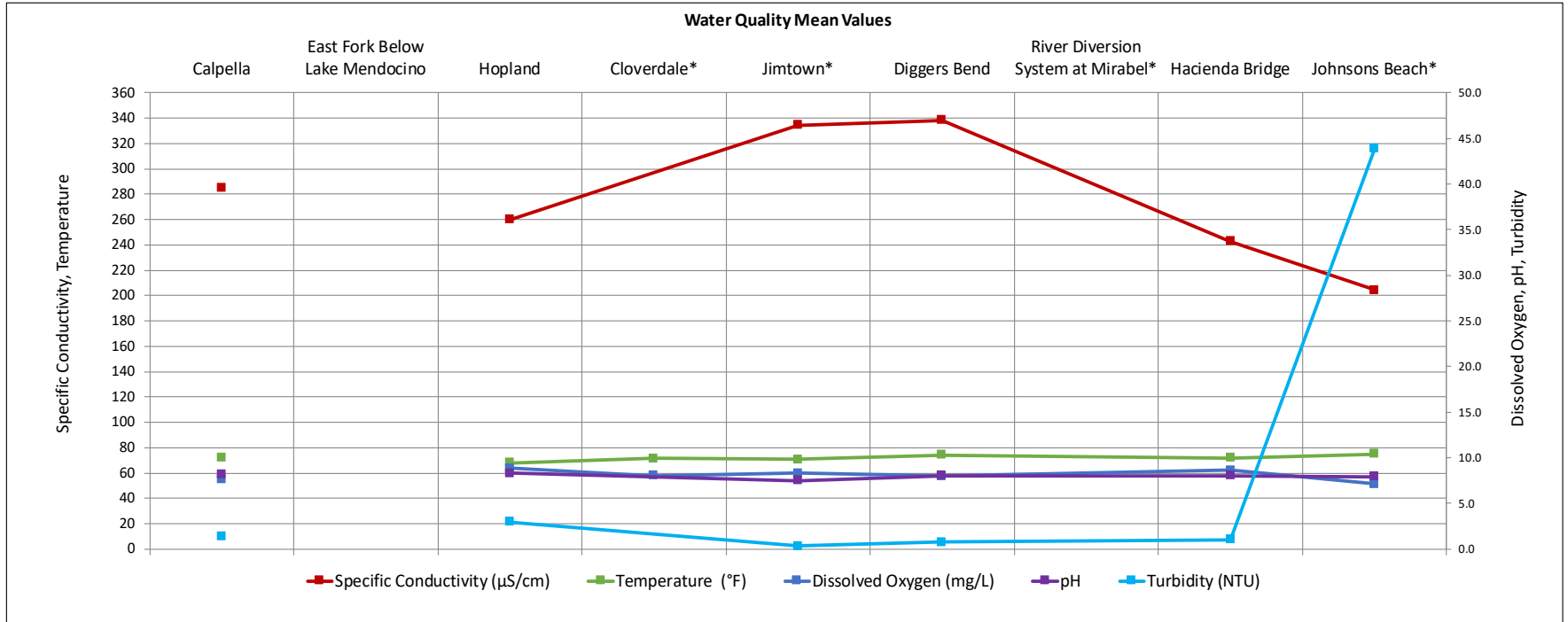
Lake Mendocino Water Quality Vertical Profiles (March 4 - August 19, 2021)
Provisional Data Subject to Revision



Russian River Water Quality Sondes (August 13 - August 19, 2021)
Provisional Data Subject to Revision

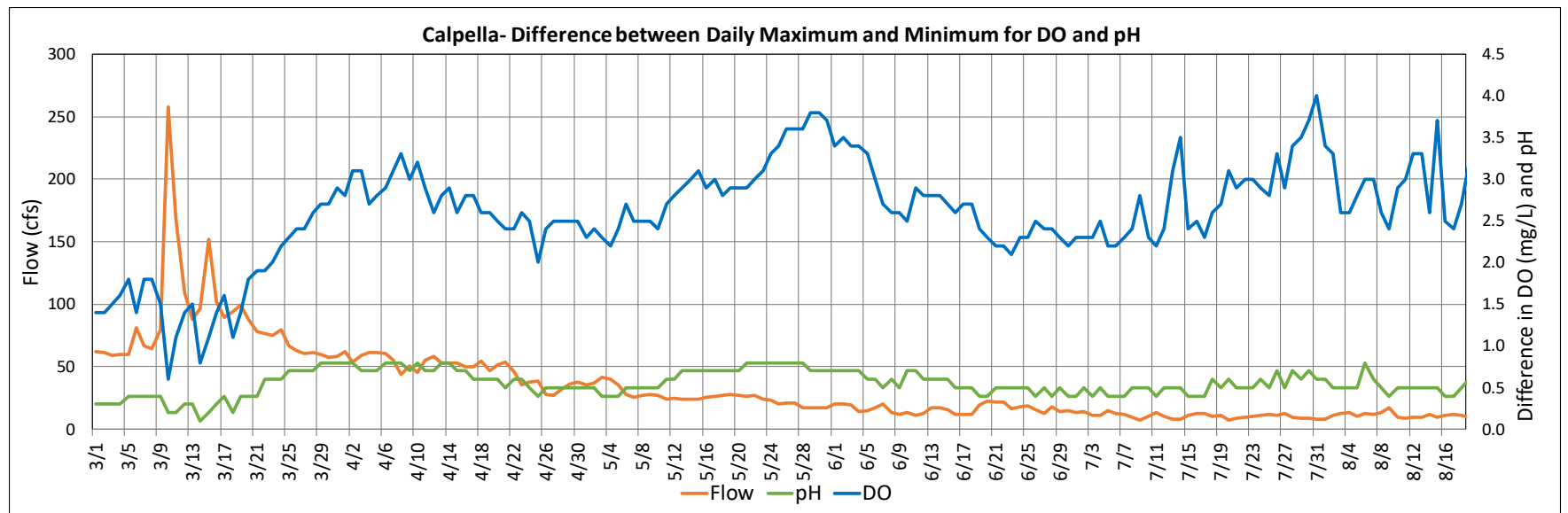
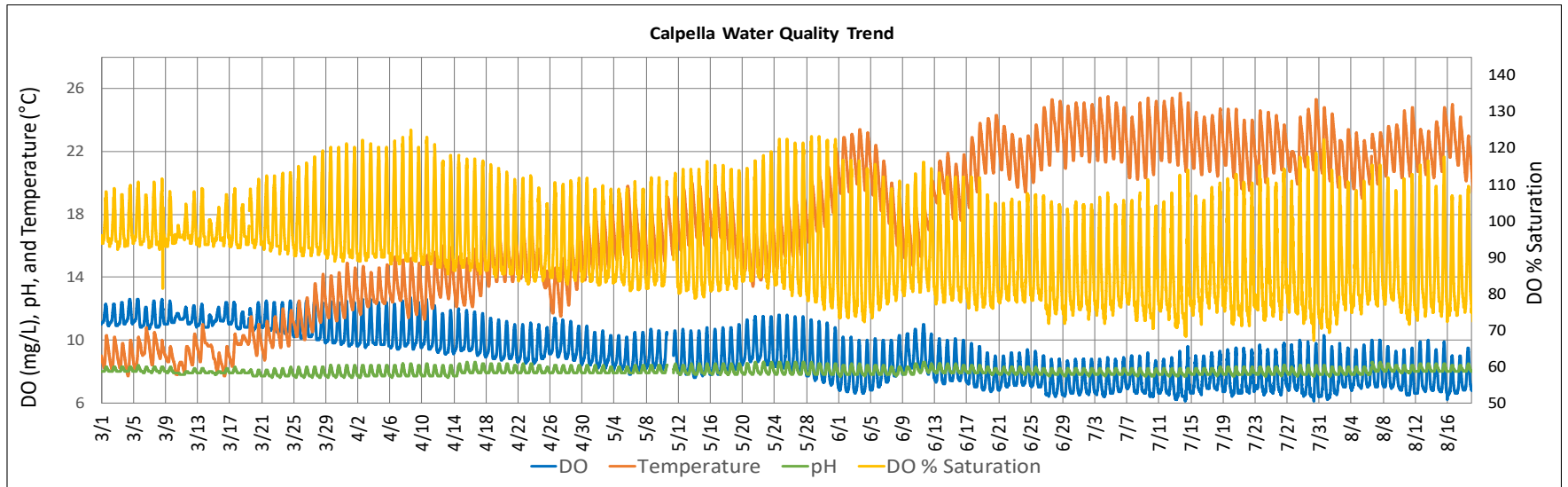
Parameter		Calpella	East Fork Below Lake Mendocino	Hopland	Cloverdale*	Jimtown*	Diggers Bend	River Diversion System at Mirabel*	Hacienda Bridge	Johnsons Beach*
		USGS 11461500	SCWA	USGS 11462500	USGS 11463200	USGS 11463682	USGS 11463980	SCWA	USGS 11467000	SCWA
Temperature (°F)	Min	66.2		63.7	67.8	66.2	69.3		69.3	72.6
	Max	77.0		72.5	76.8	76.3	79.5		74.5	76.7
	Mean	71.8		67.9	71.6	70.7	74.1		71.7	74.9
Specific Conductivity (µS/cm)	Min	280		253		331	334		240	141
	Max	292		264		338	342		251	214
	Mean	285		260		334	338		243	204
Dissolved Oxygen (mg/L)	Min	6.2		6.1	7.1	4.8	5.9		7.7	5.4
	Max	10.0		12.6	9.4	13.4	10.6		9.4	8.1
	Mean	7.6		8.8	8.0	8.3	8.0		8.6	7.1
Dissolved Oxygen (% Saturation)	Min	67		63	77	52	65		85	62
	Max	121		144	112	159	131		110	96
	Mean	87		95	90	93	93		99	83
pH	Min	7.9		7.8		7.2	7.8		7.9	7.5
	Max	8.5		9.0		8.0	8.4		8.2	8.1
	Mean	8.1		8.3		7.5	8.1		8.0	8.0
Turbidity (NTU)	Min	0.5		1.6		0.1	0.3		0.6	0.7
	Max	11.1		18.1		1.0	2.2		8.7	817.1
	Mean	1.3		2.9		0.3	0.7		1.0	43.9

*Station operated seasonally



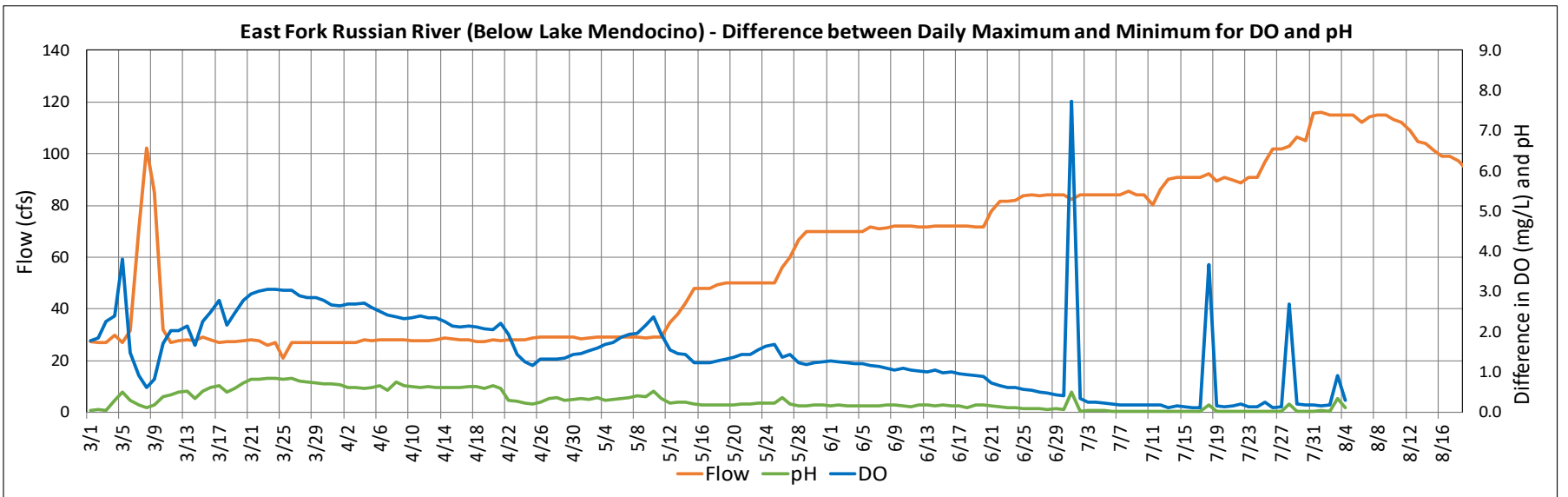
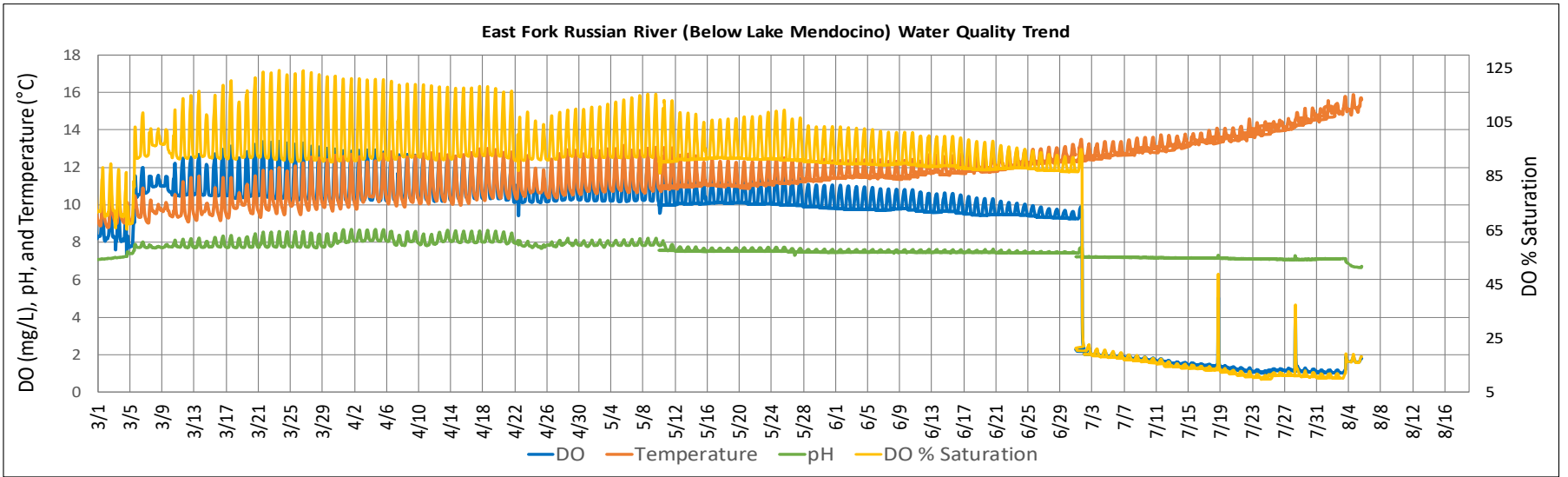
Russian River Water Quality Sonde Data (March 1 - August 19, 2021)
Provisional Data Subject to Revision

Calpella (East Fork Russian River)

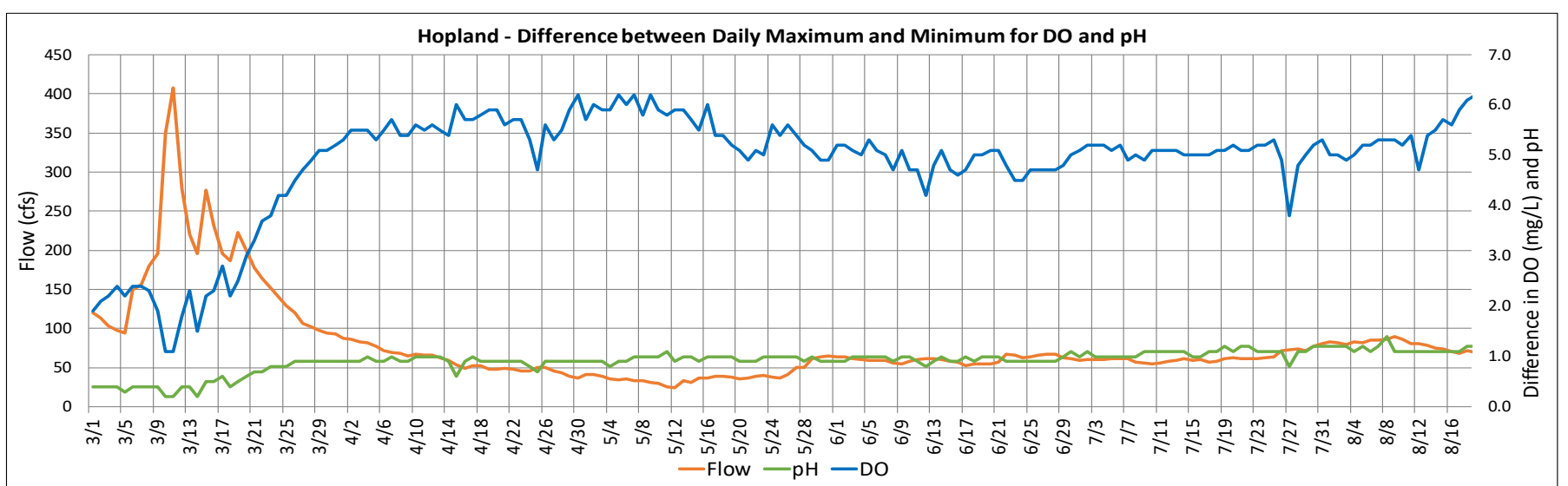
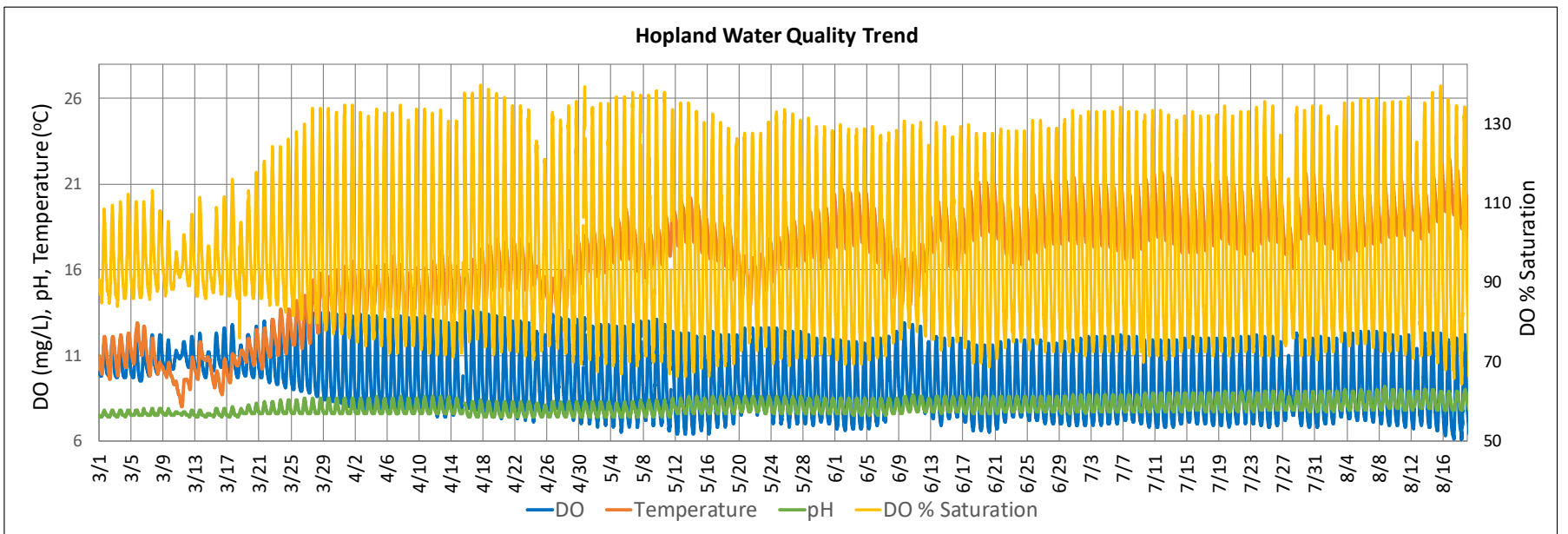


Russian River Water Quality Sonde Data (March 1 - August 19, 2021)
Provisional Data Subject to Revision

East Fork Russian River (Below Lake Mendocino)

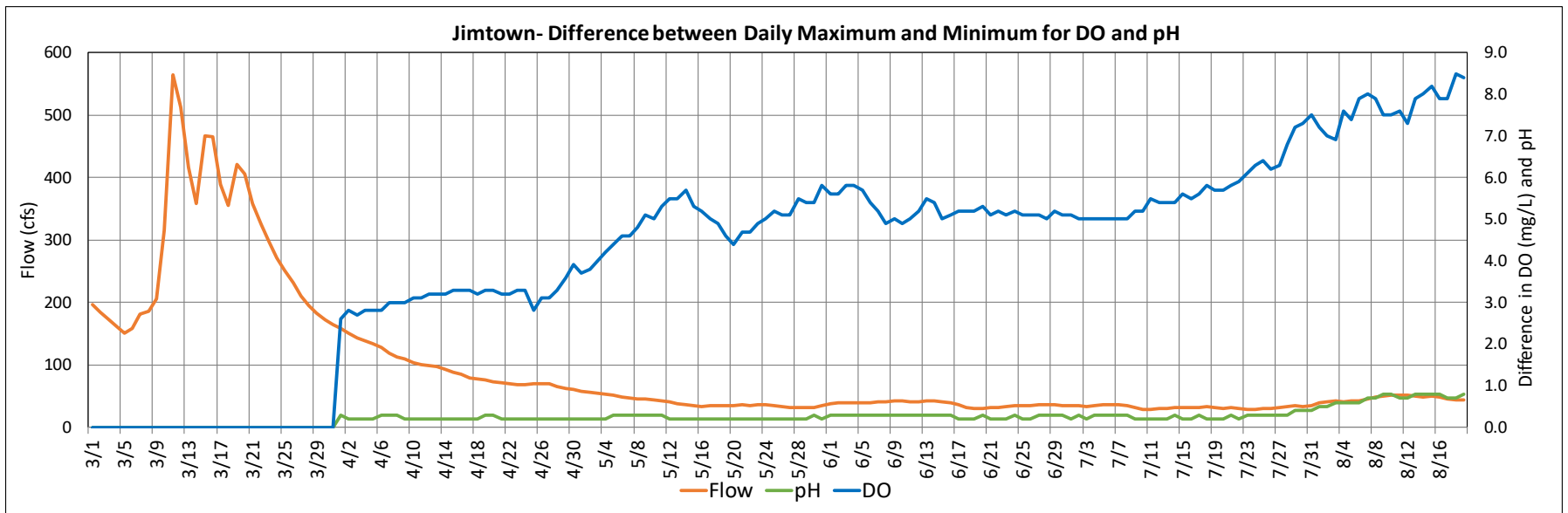
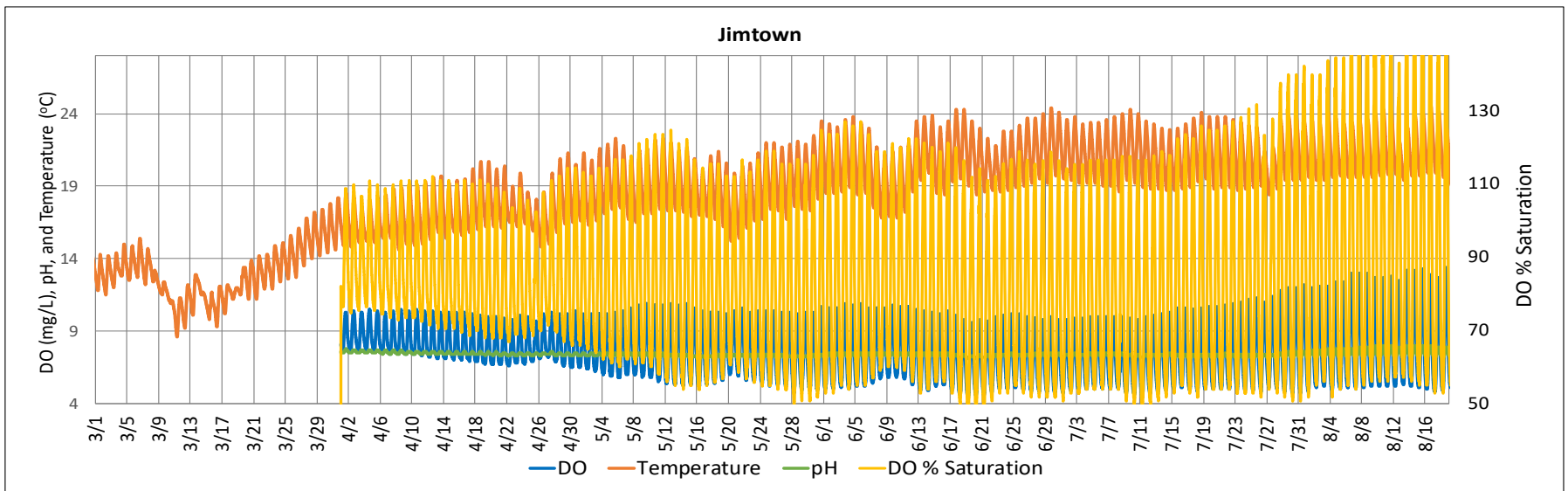


Hopland

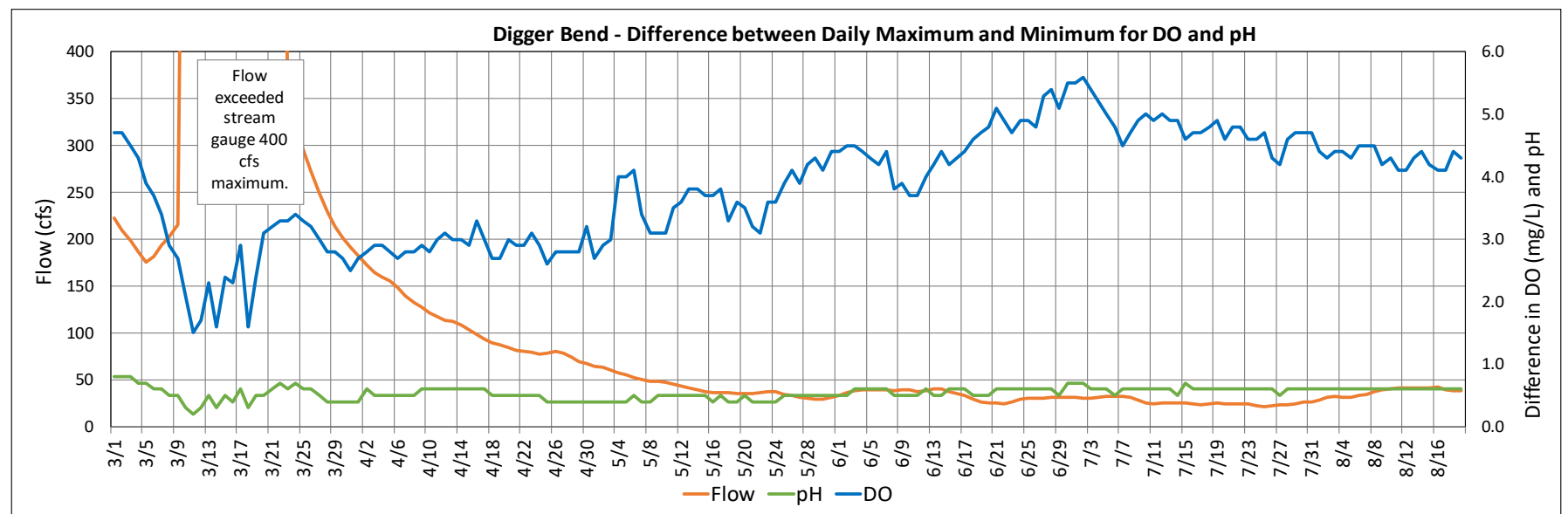
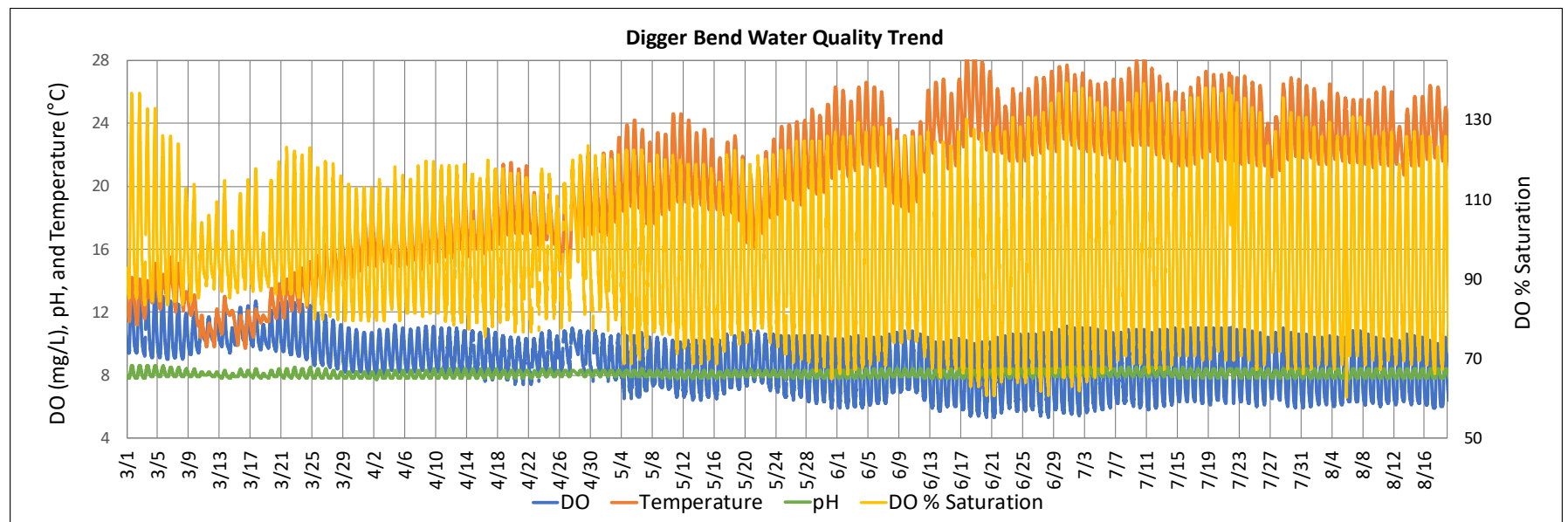


Russian River Water Quality Sonde Data (March 1 - August 19, 2021)
Provisional Data Subject to Revision

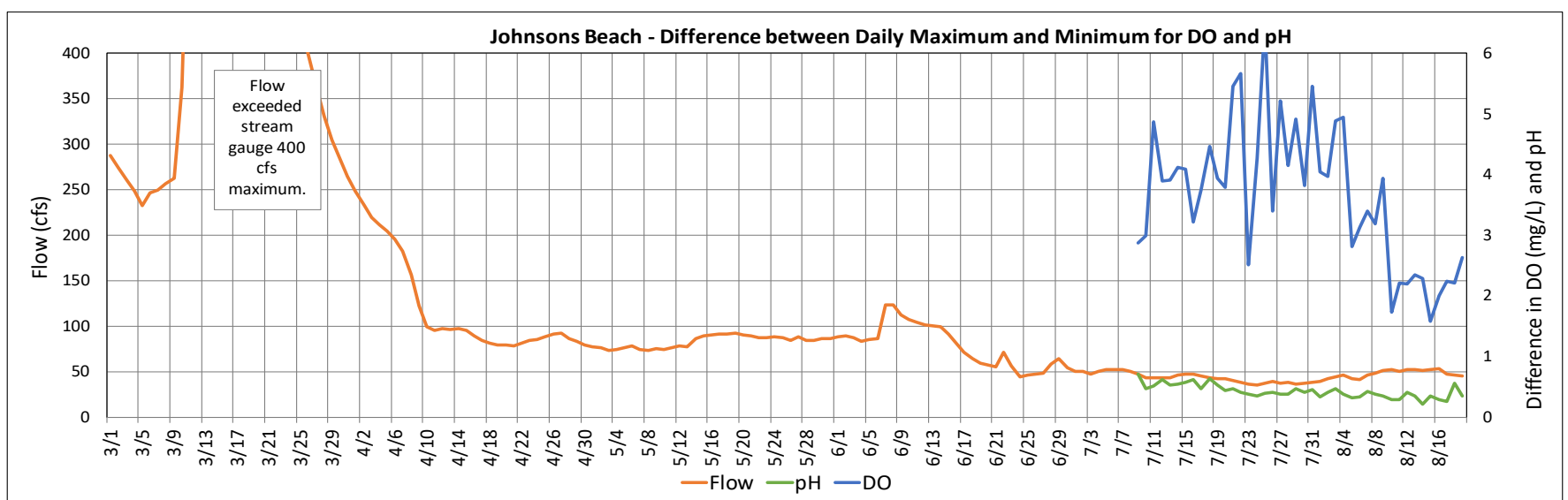
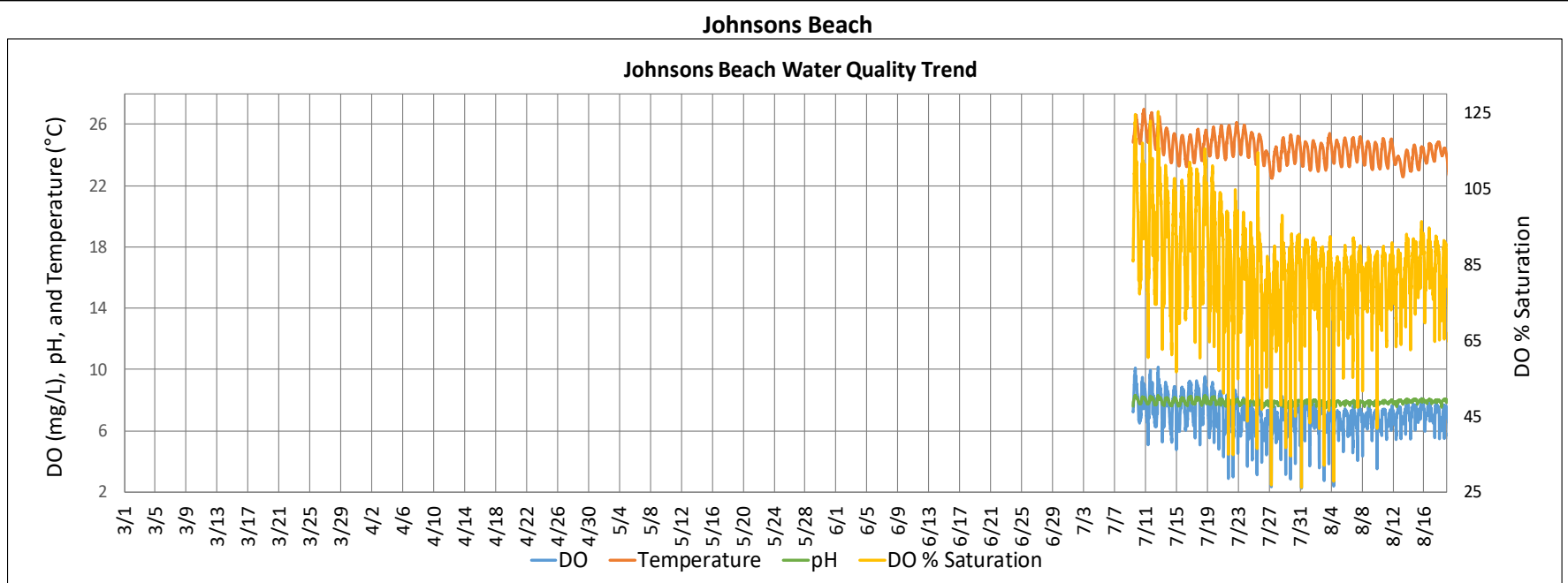
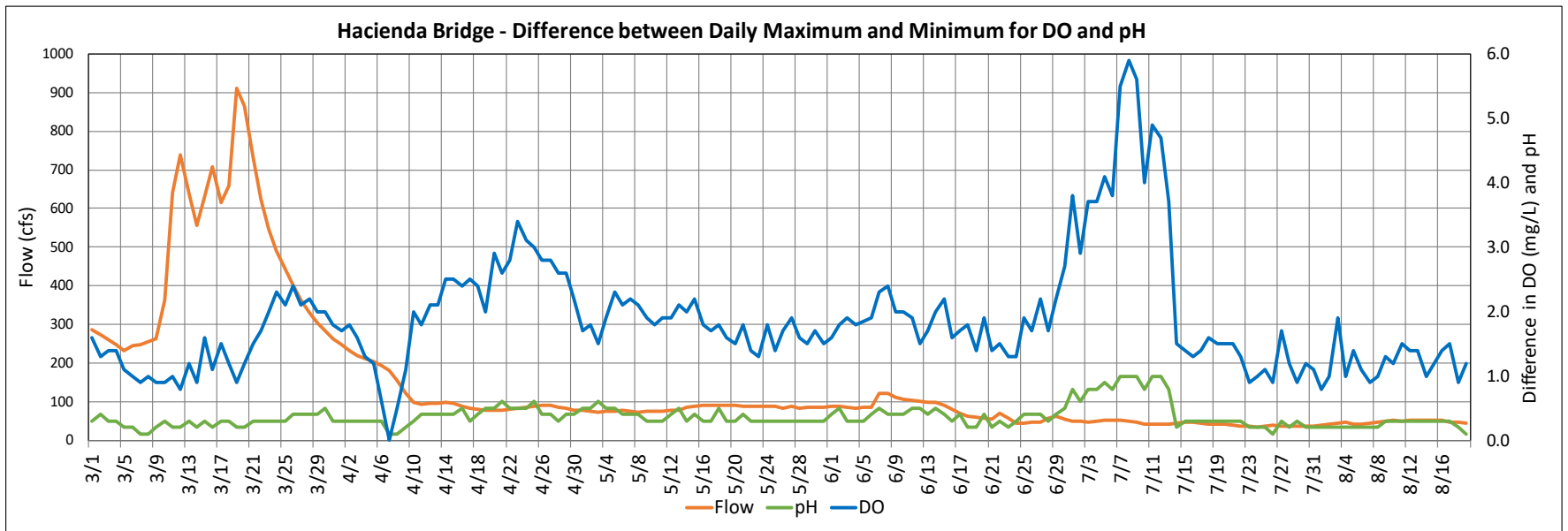
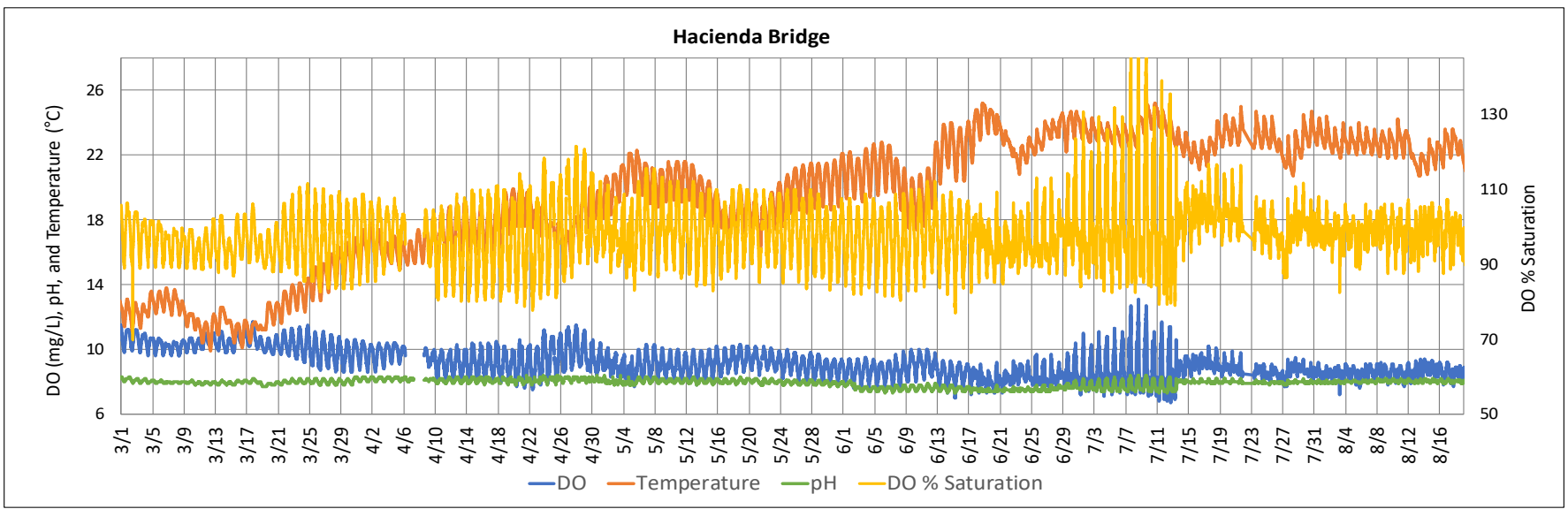
Jimtown Water Quality



Digger Bend

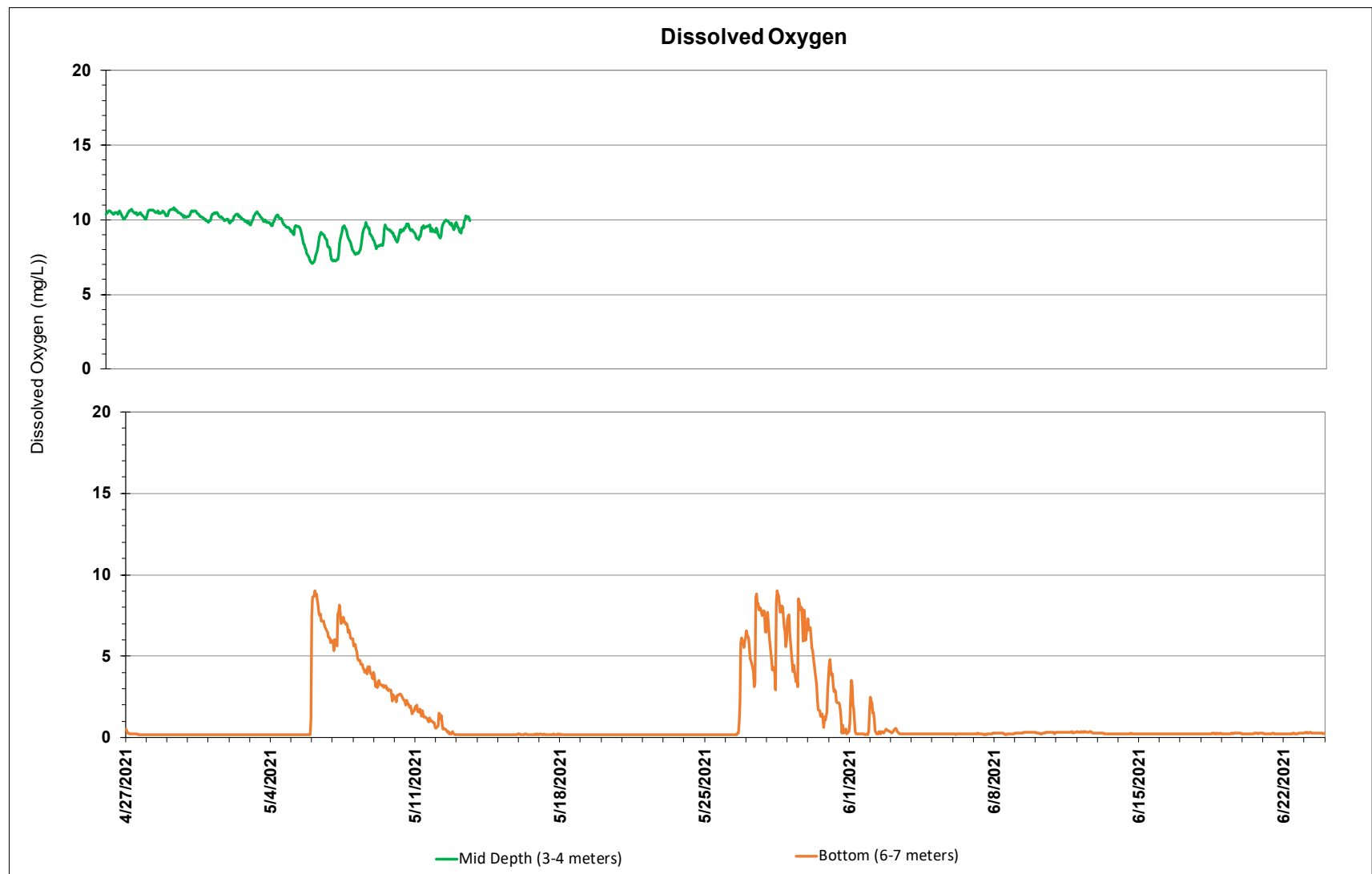
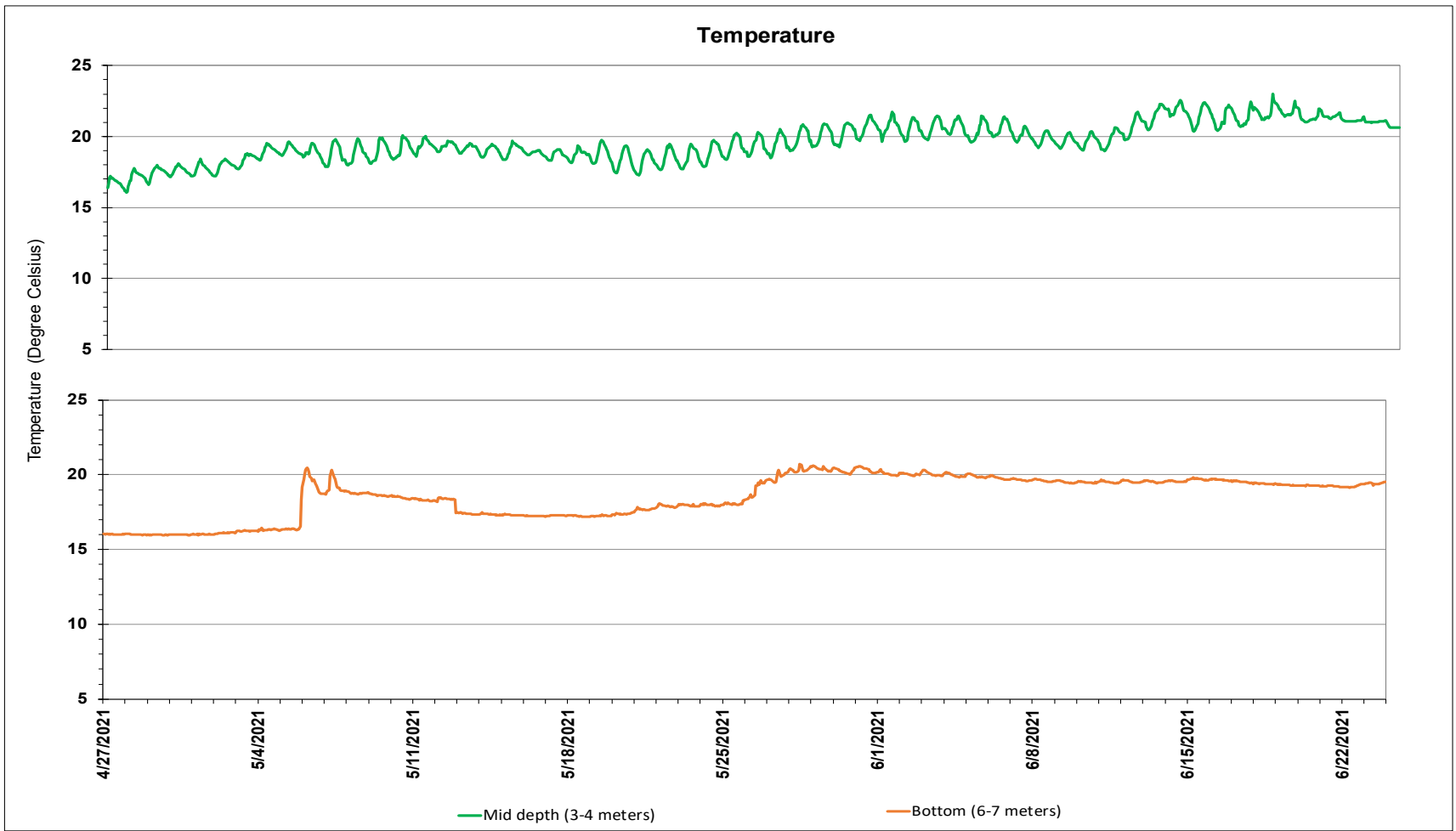


Russian River Water Quality Sonde Data (March 1 - August 19, 2021)
Provisional Data Subject to Revision
Hacienda Bridge Water Quality



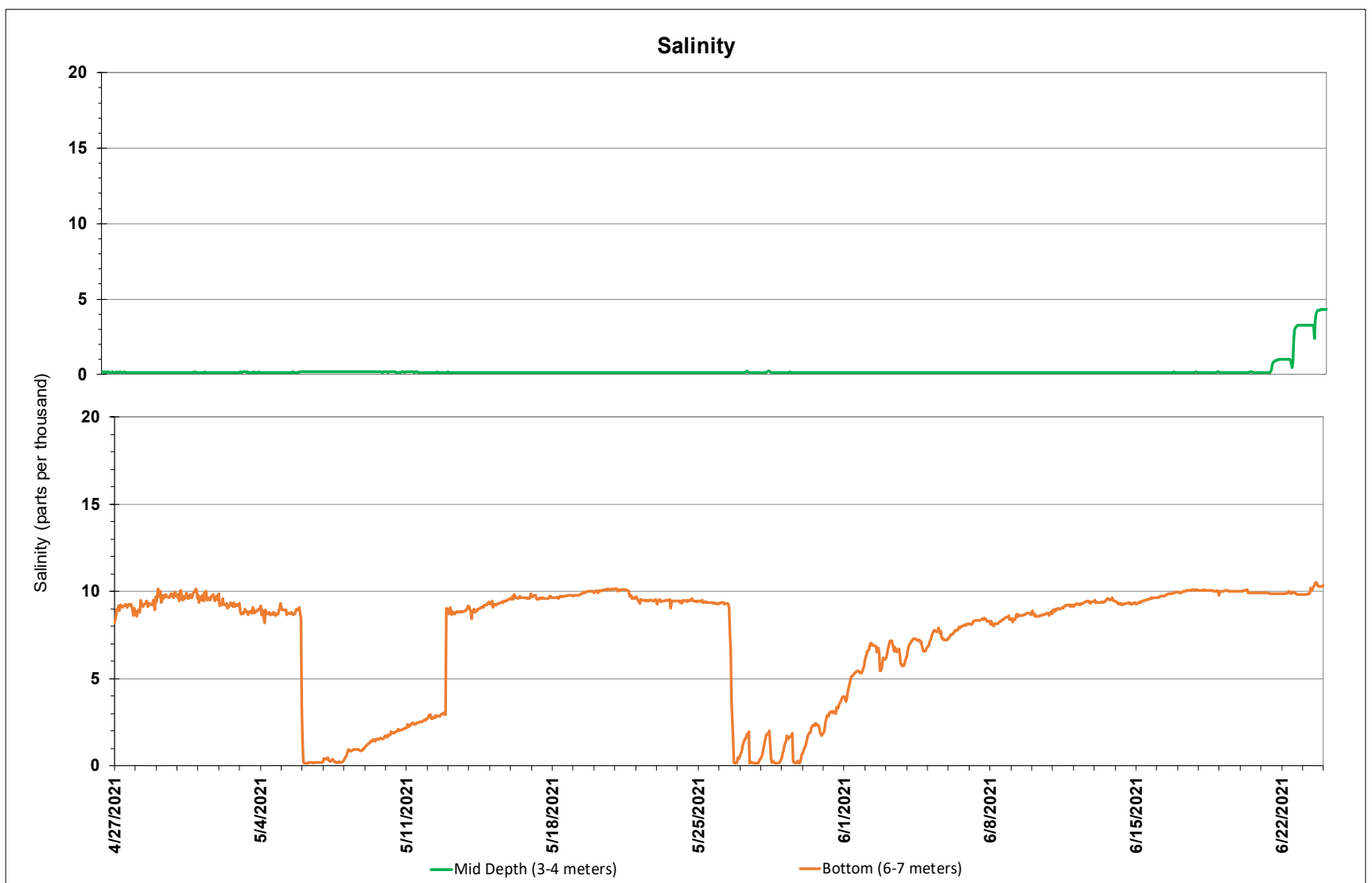
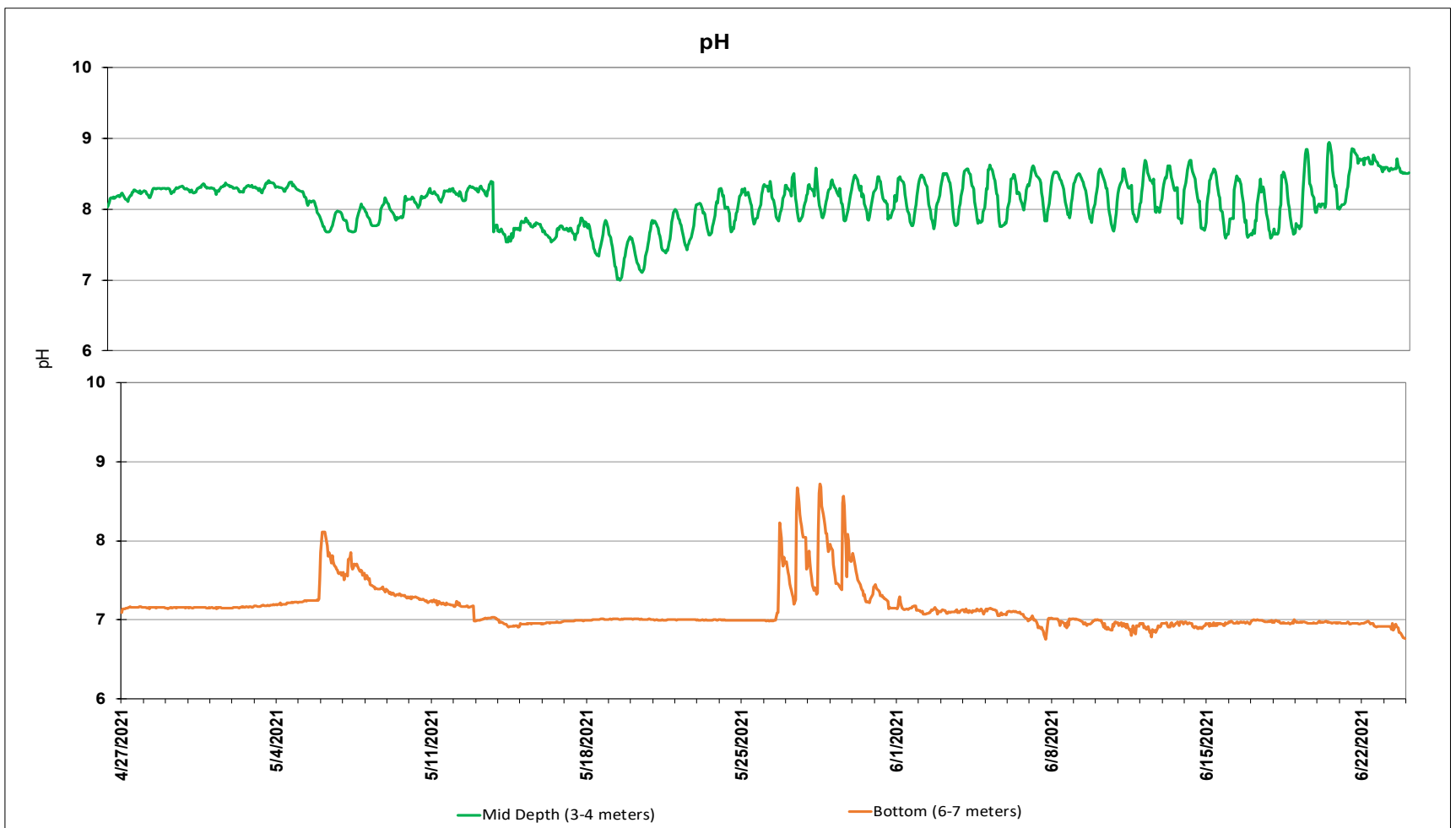
Russian River Water Quality Sonde Data - Estuary (April 27 - August 19, 2021)
Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality



Russian River Water Quality Sonde Data - Estuary (April 27 - August 19, 2021)
Provisional Data Subject to Revision

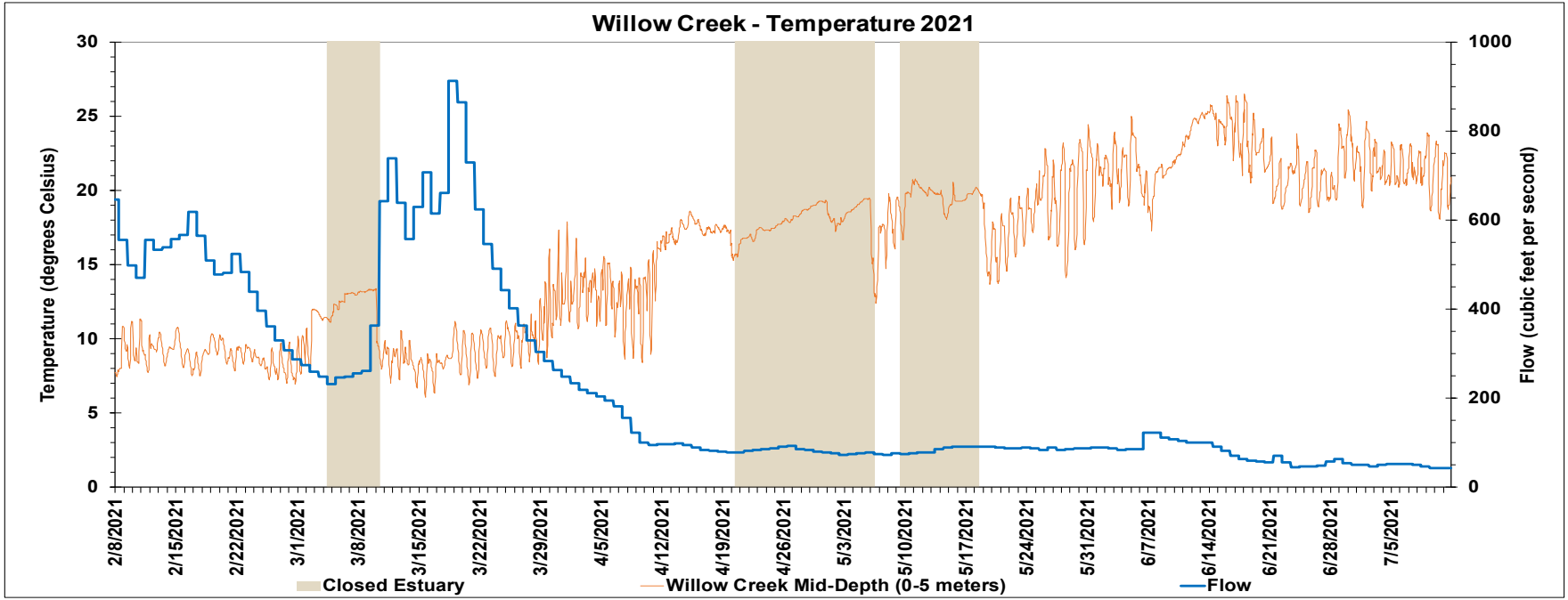
Russian River at Freezeout Creek Water Quality



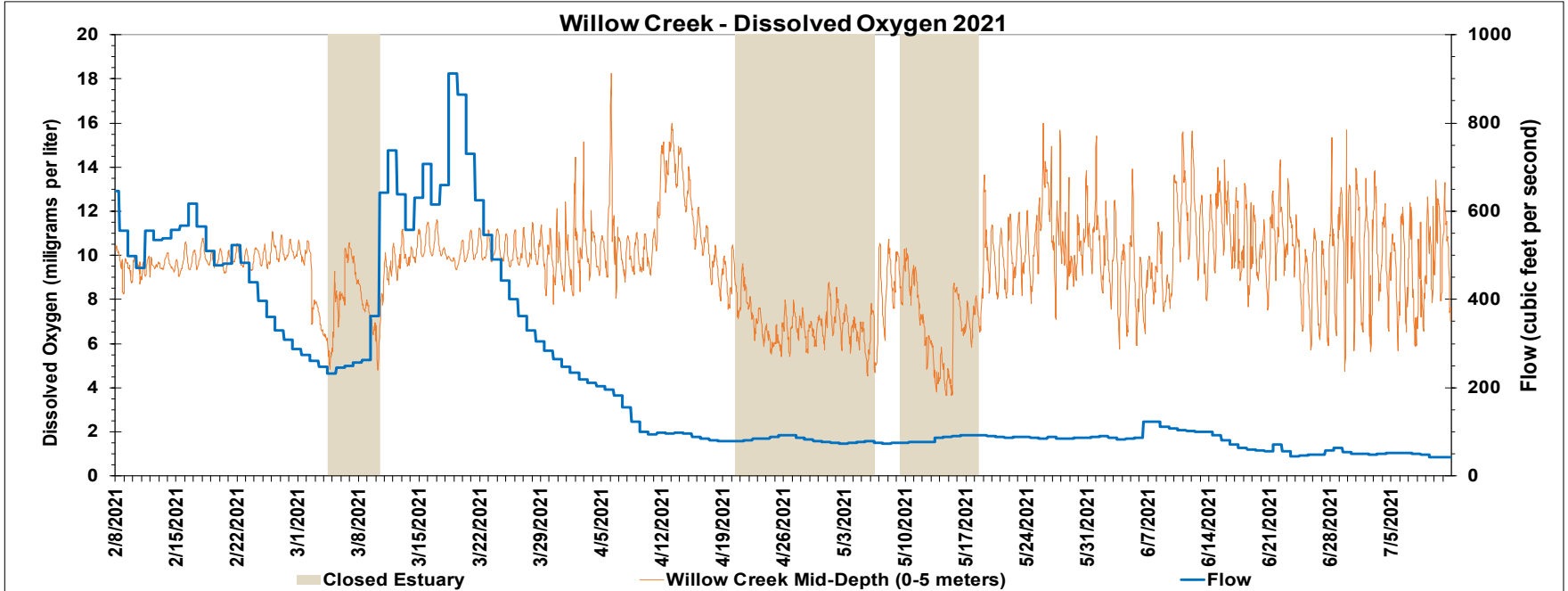
Russian River Water Quality Sonde Data - Estuary (February 28 - August 19, 2021)
Provisional Data Subject to Revision

Willow Creek Water Quality

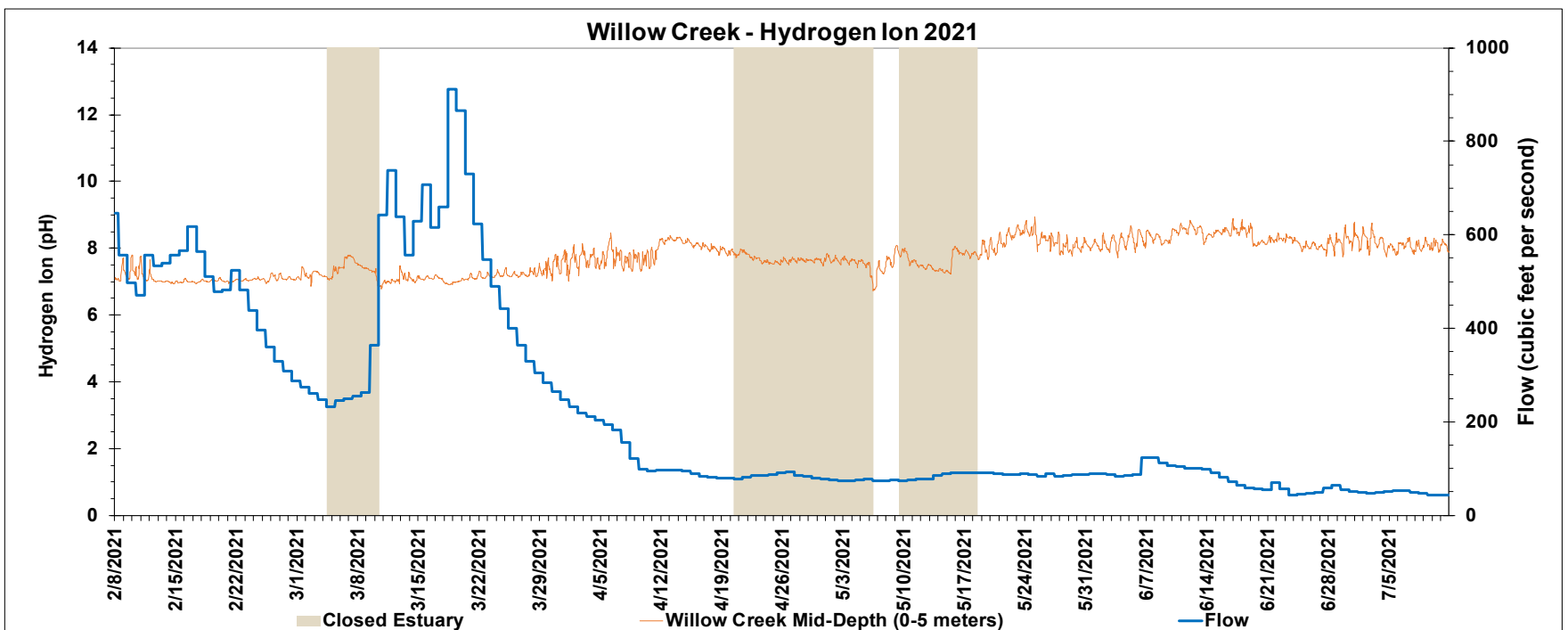
Willow Creek - Temperature 2021



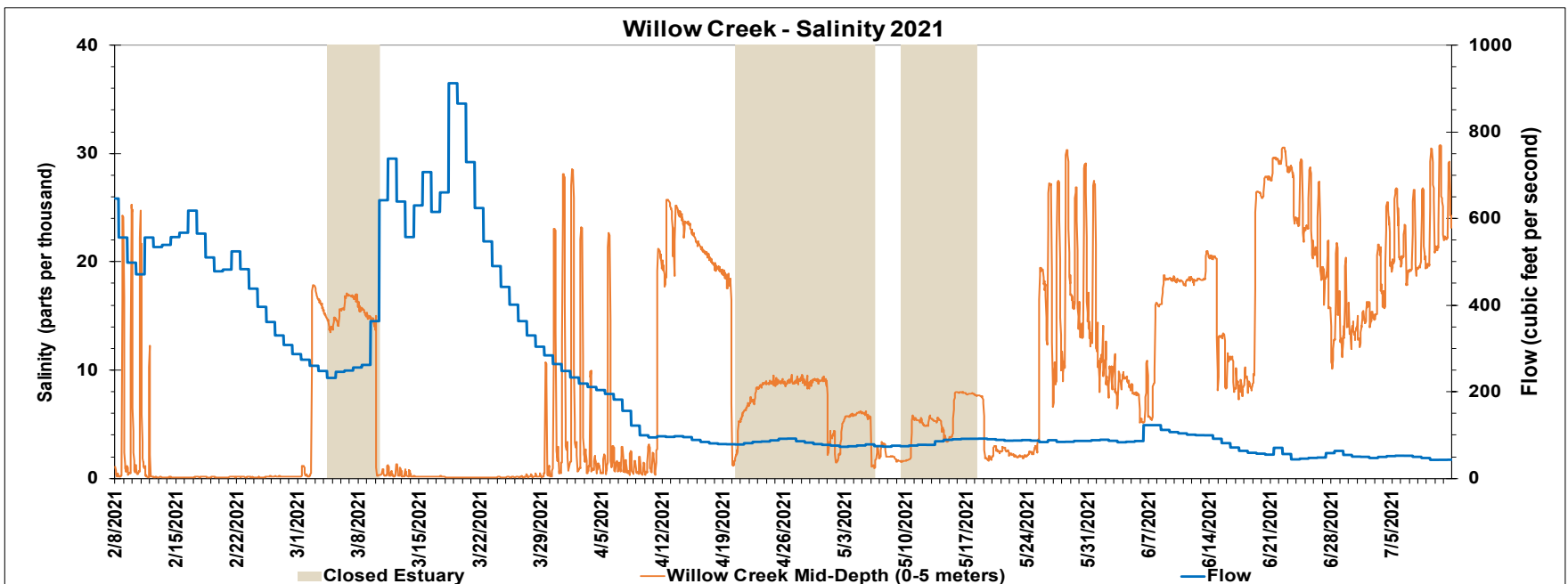
Willow Creek - Dissolved Oxygen 2021



Willow Creek - Hydrogen Ion 2021



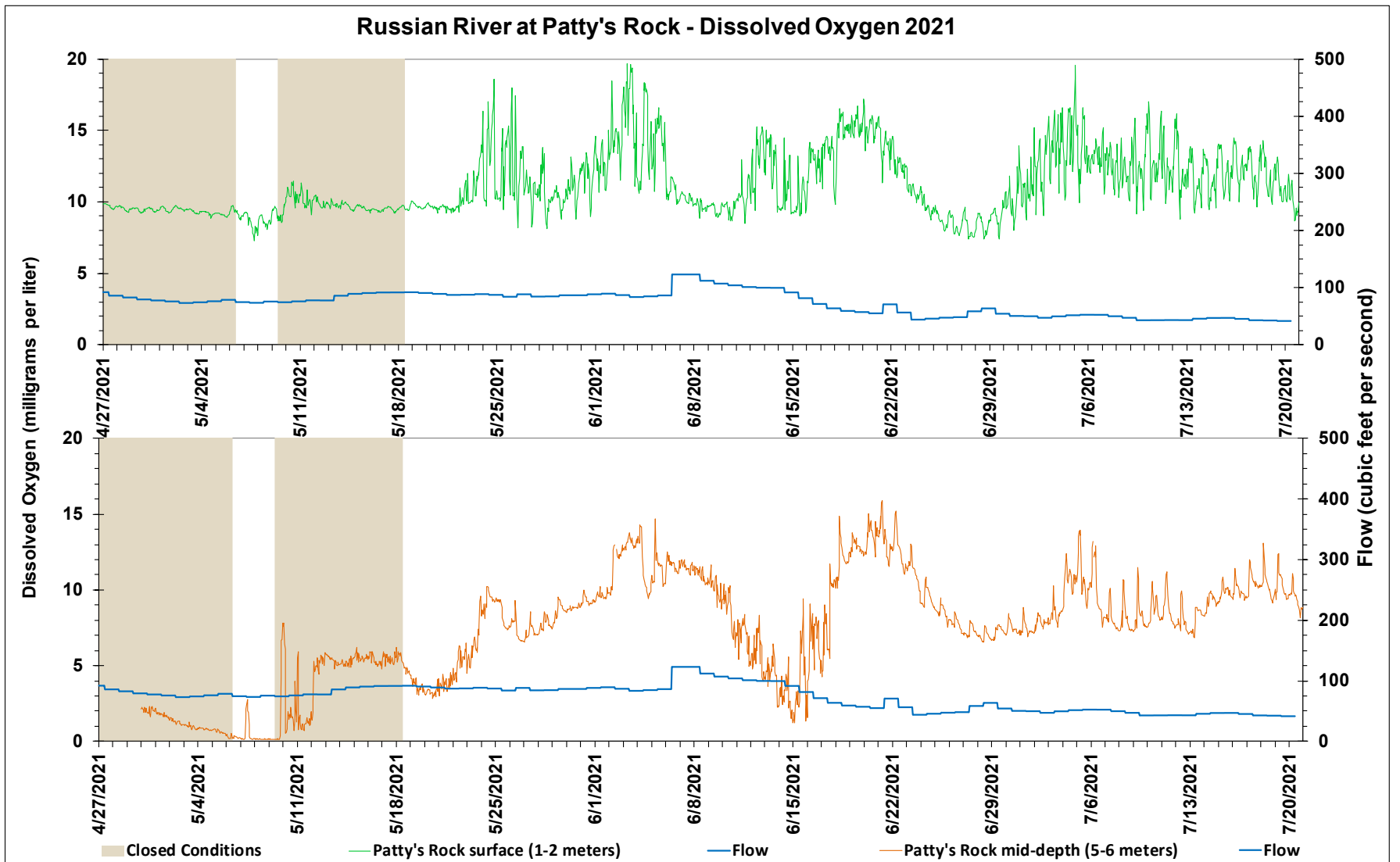
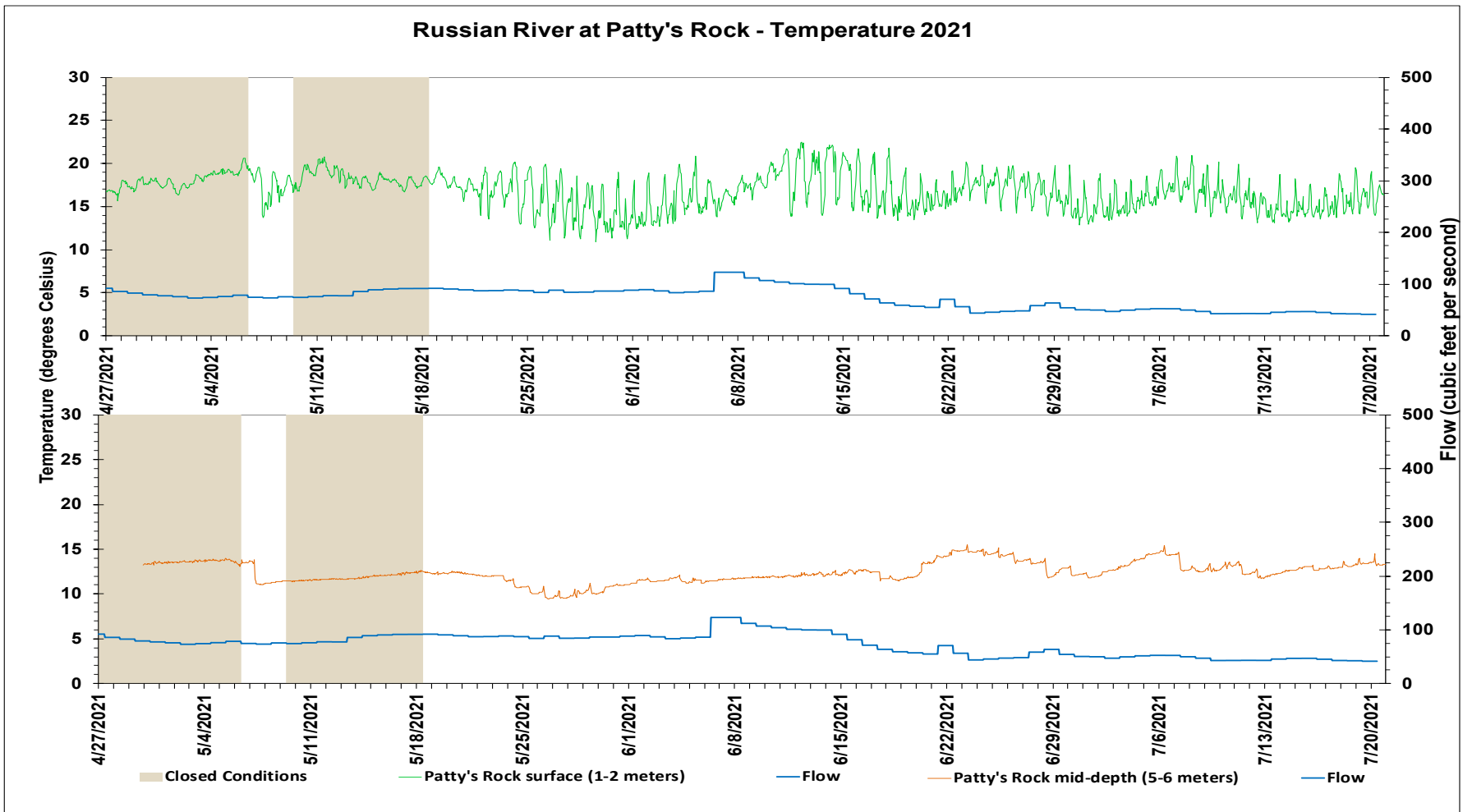
Willow Creek - Salinity 2021



Russian River Water Quality Sonde Data - Estuary (April 27 - August 19, 2021)

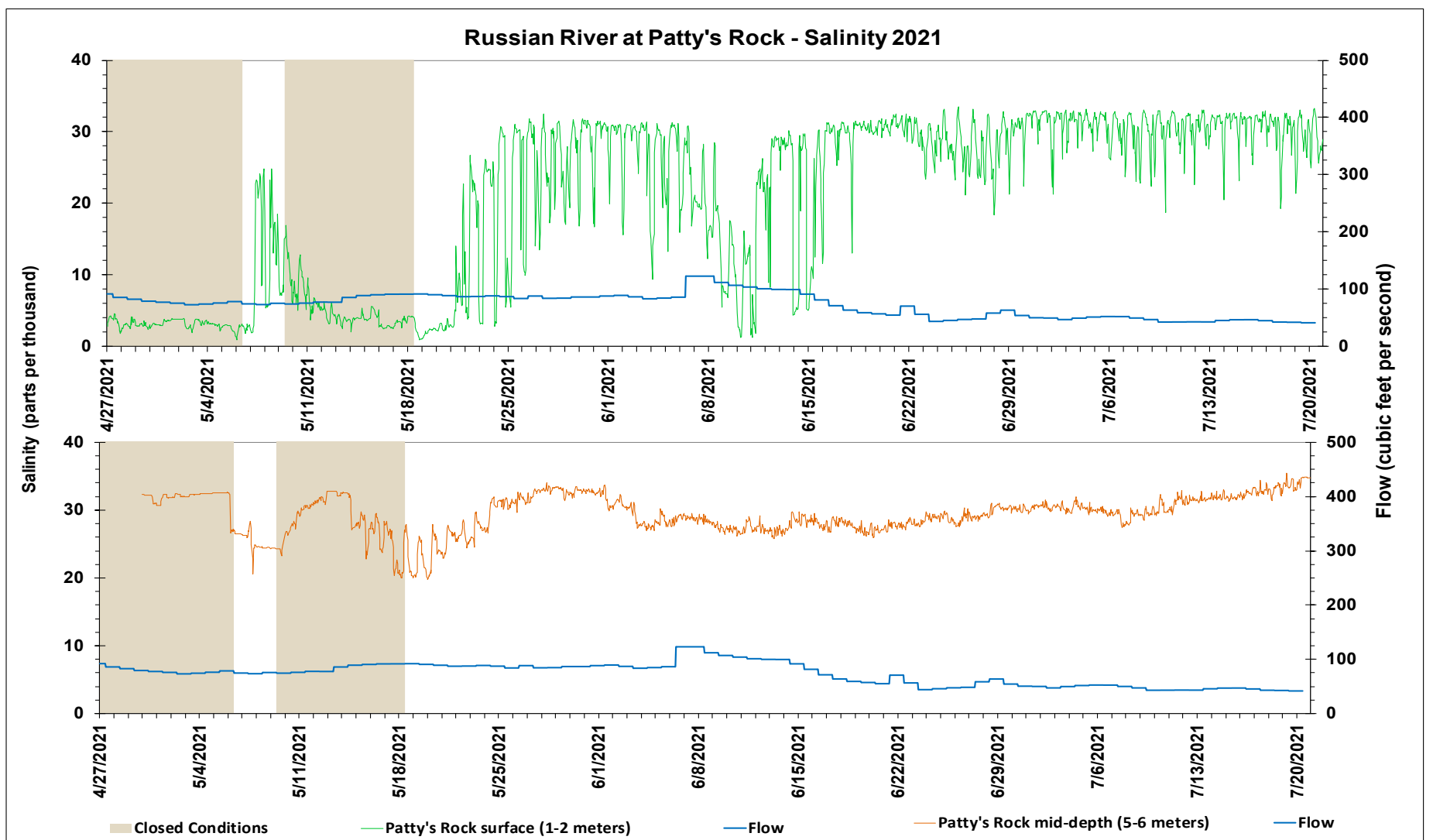
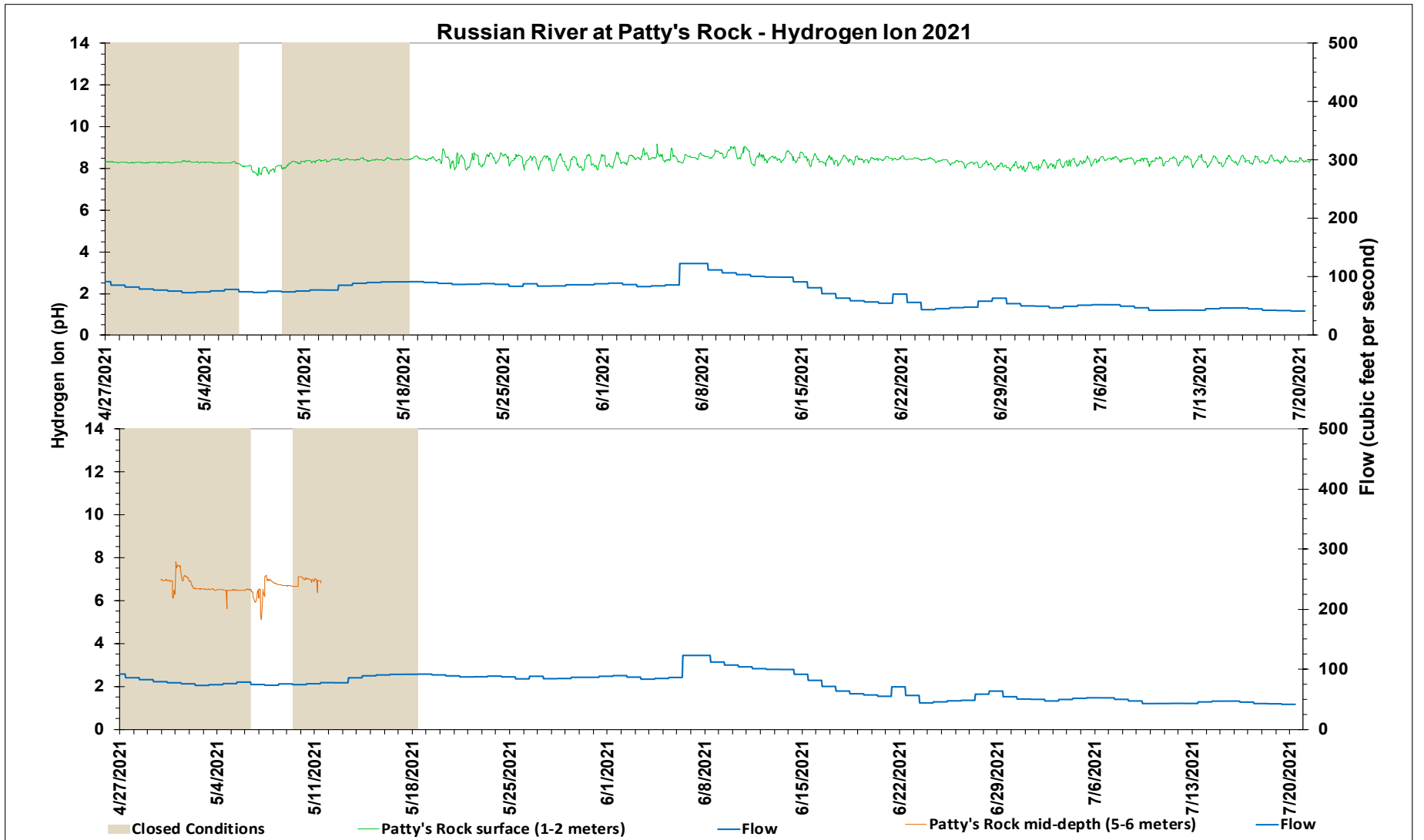
Provisional Data Subject to Revision

Russian River at Patty's Rock Water Quality



Russian River Water Quality Sonde Data - Estuary (April 27 - August 19, 2021)
Provisional Data Subject to Revision

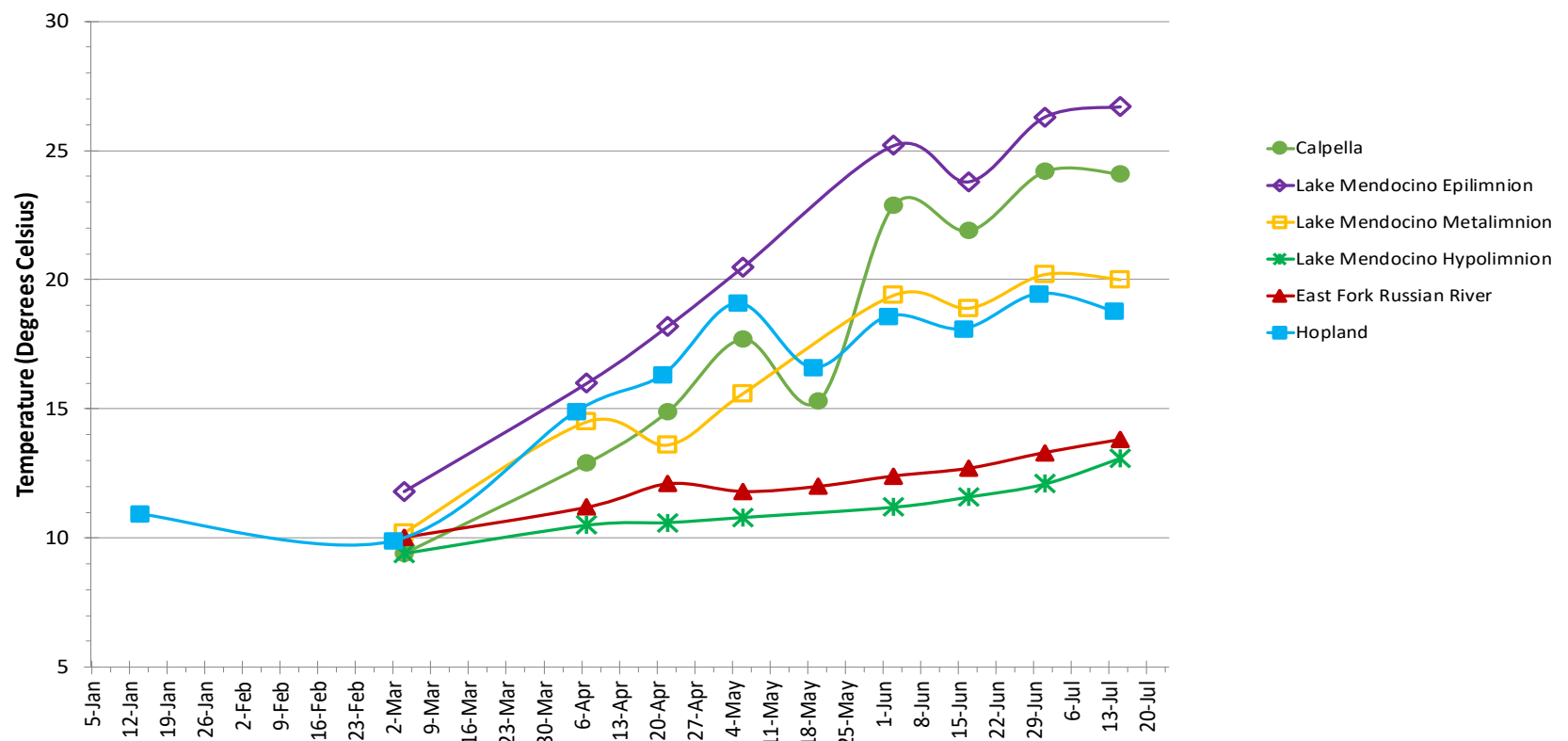
Russian River at Patty's Rock Water Quality



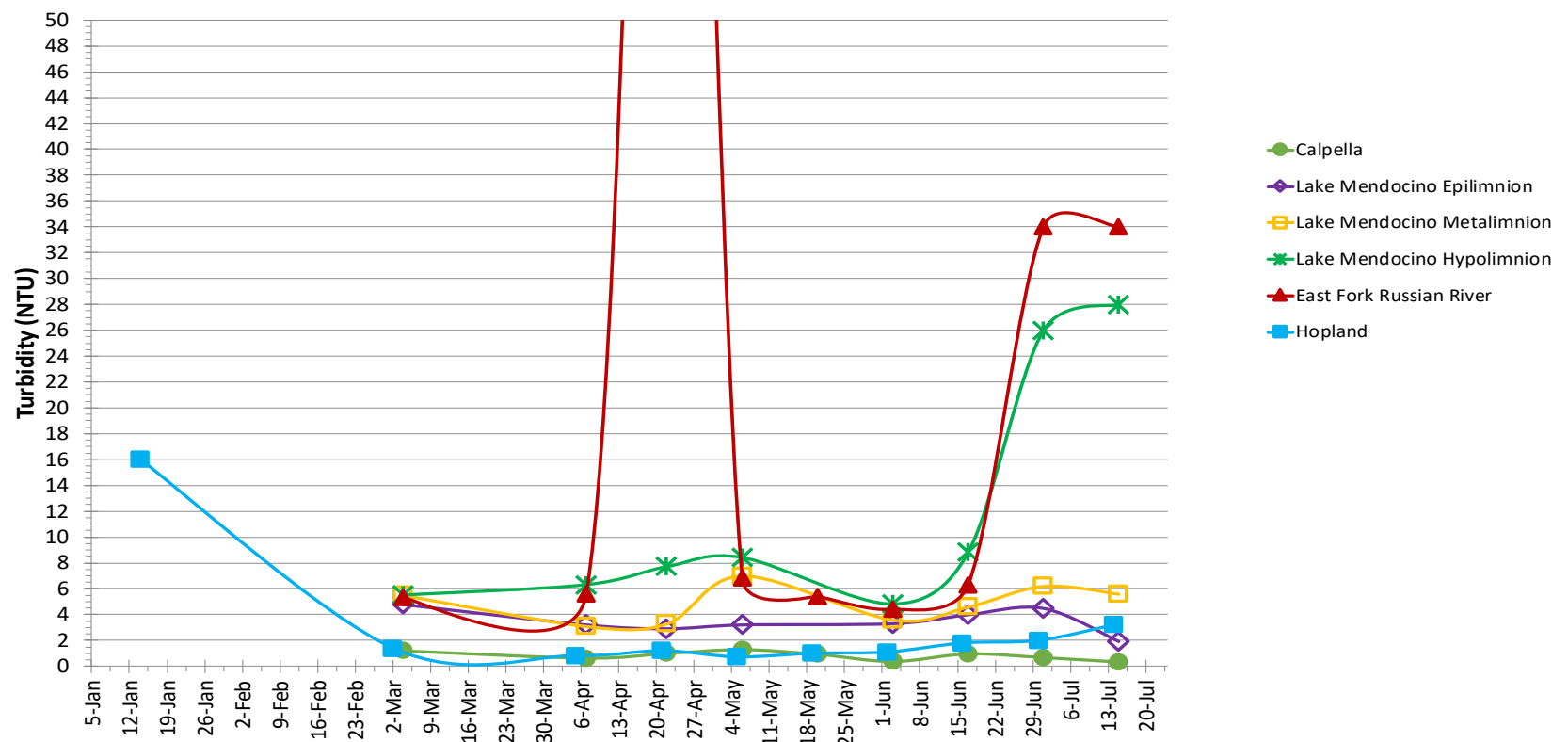
Russian River Water Quality Grab Samples (January 14 - August 19, 2021)
 Provisional Data Subject to Revision

Lake Mendocino to Hopland Water Quality

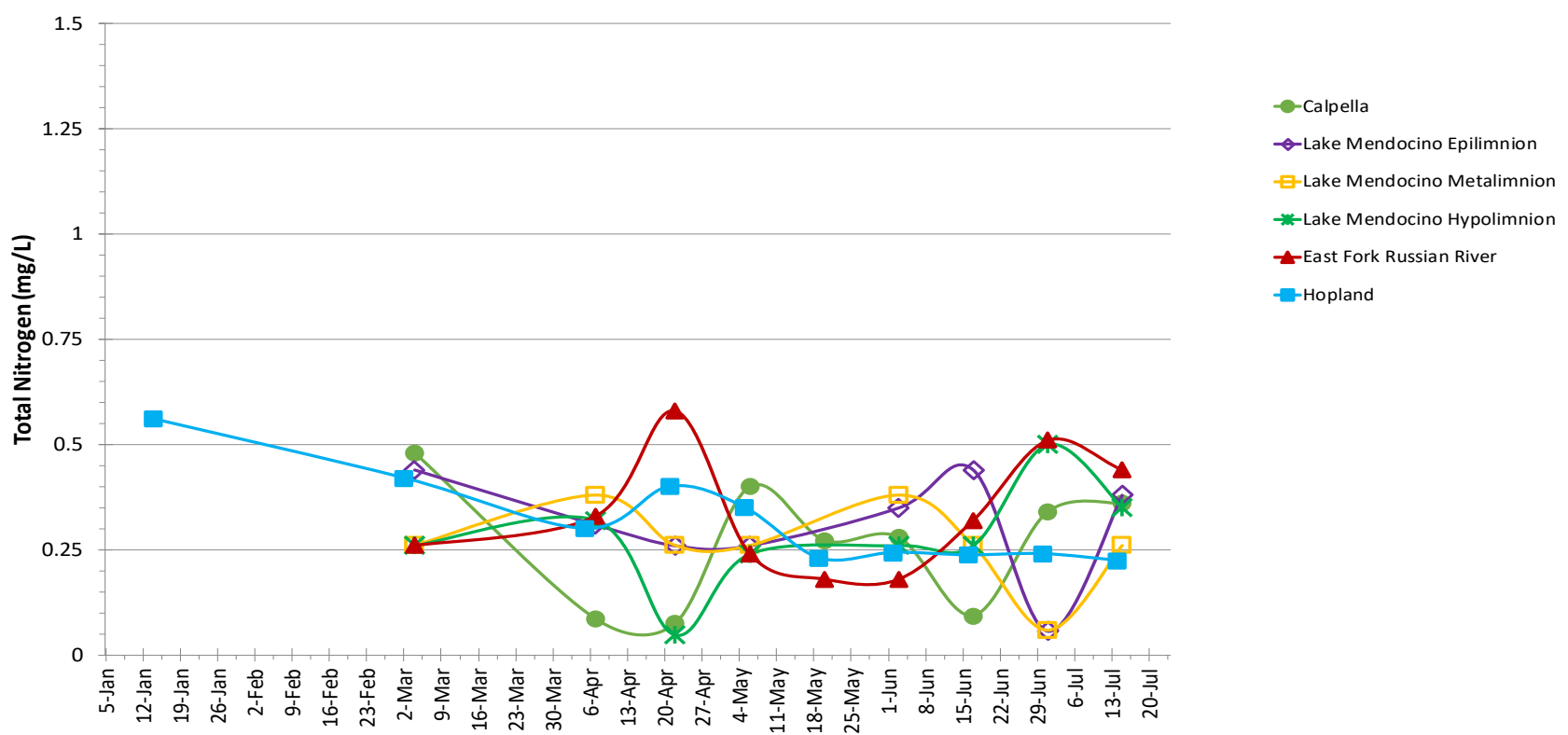
Temperature - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



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



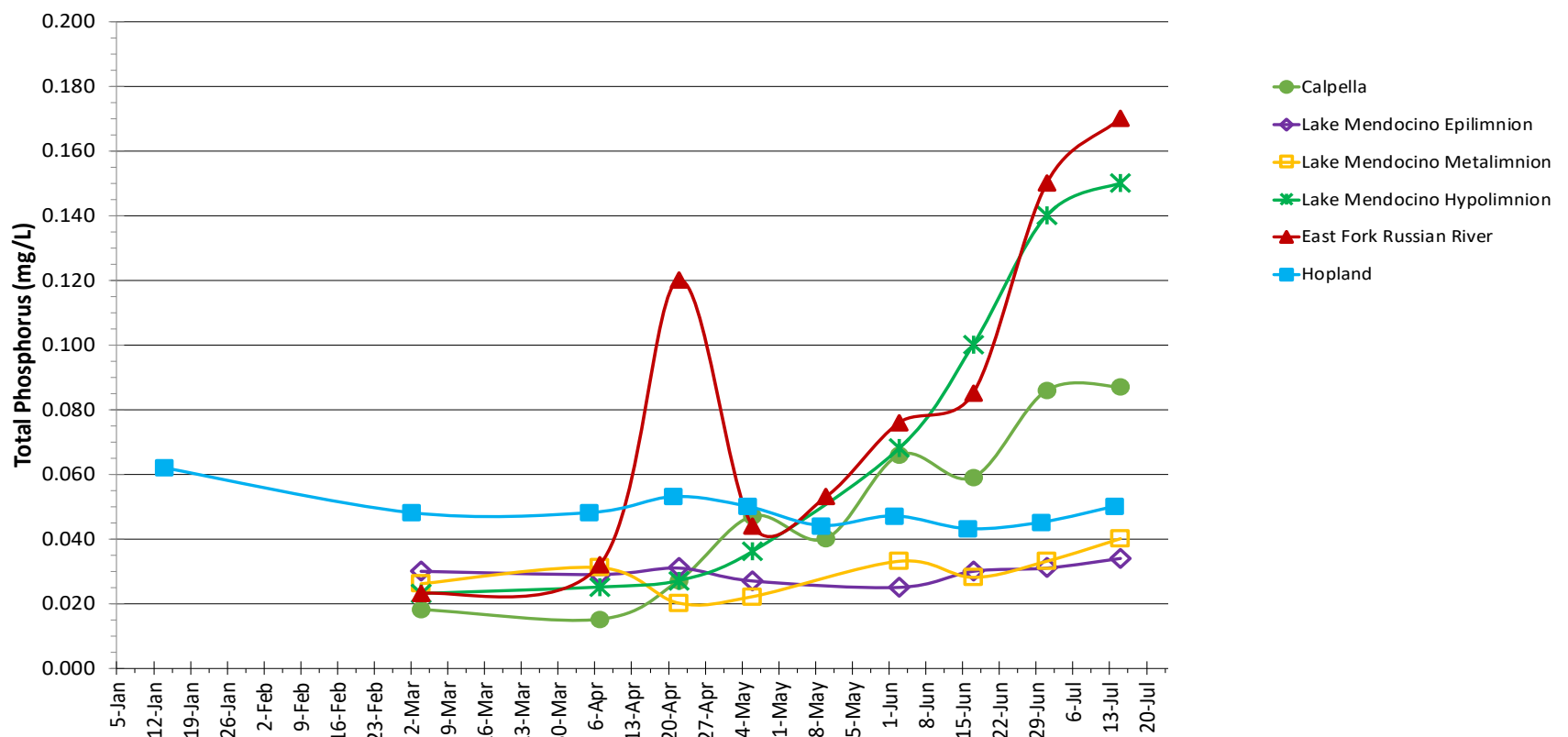
*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples (January 14 - August 19, 2021)

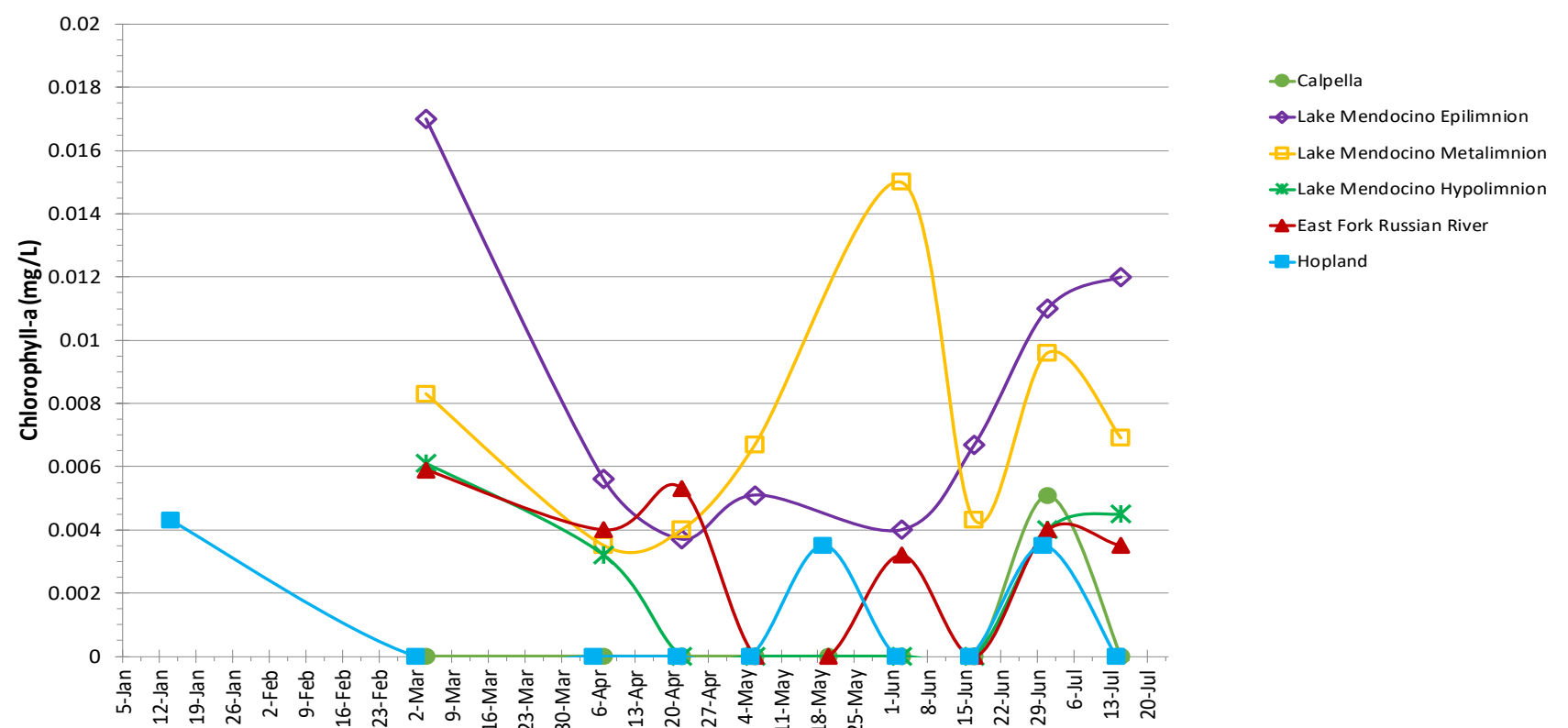
Provisional Data Subject to Revision

Lake Mendocino to Hopland Water Quality

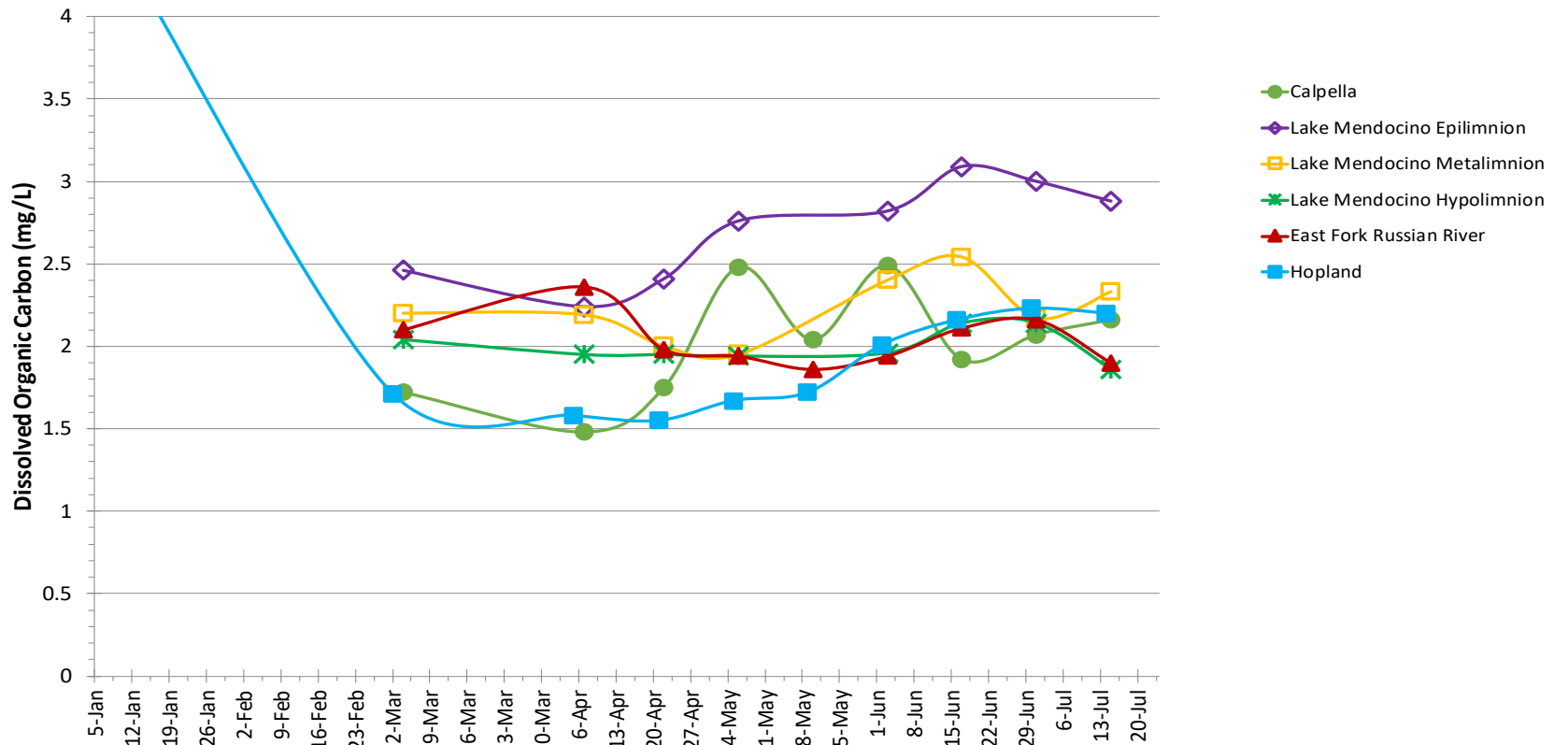
Total Phosphorus - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



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



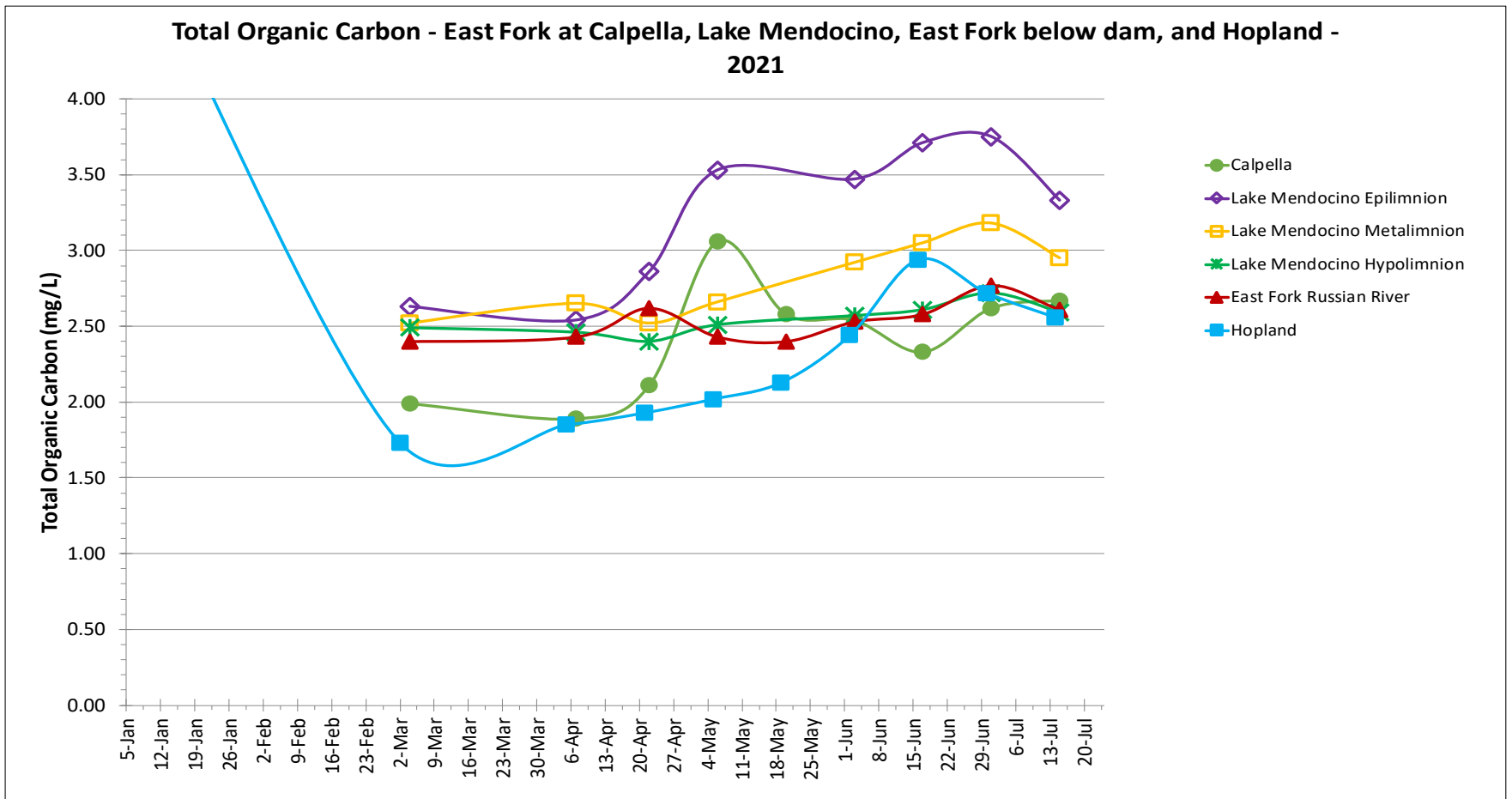
Dissolved Organic Carbon - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



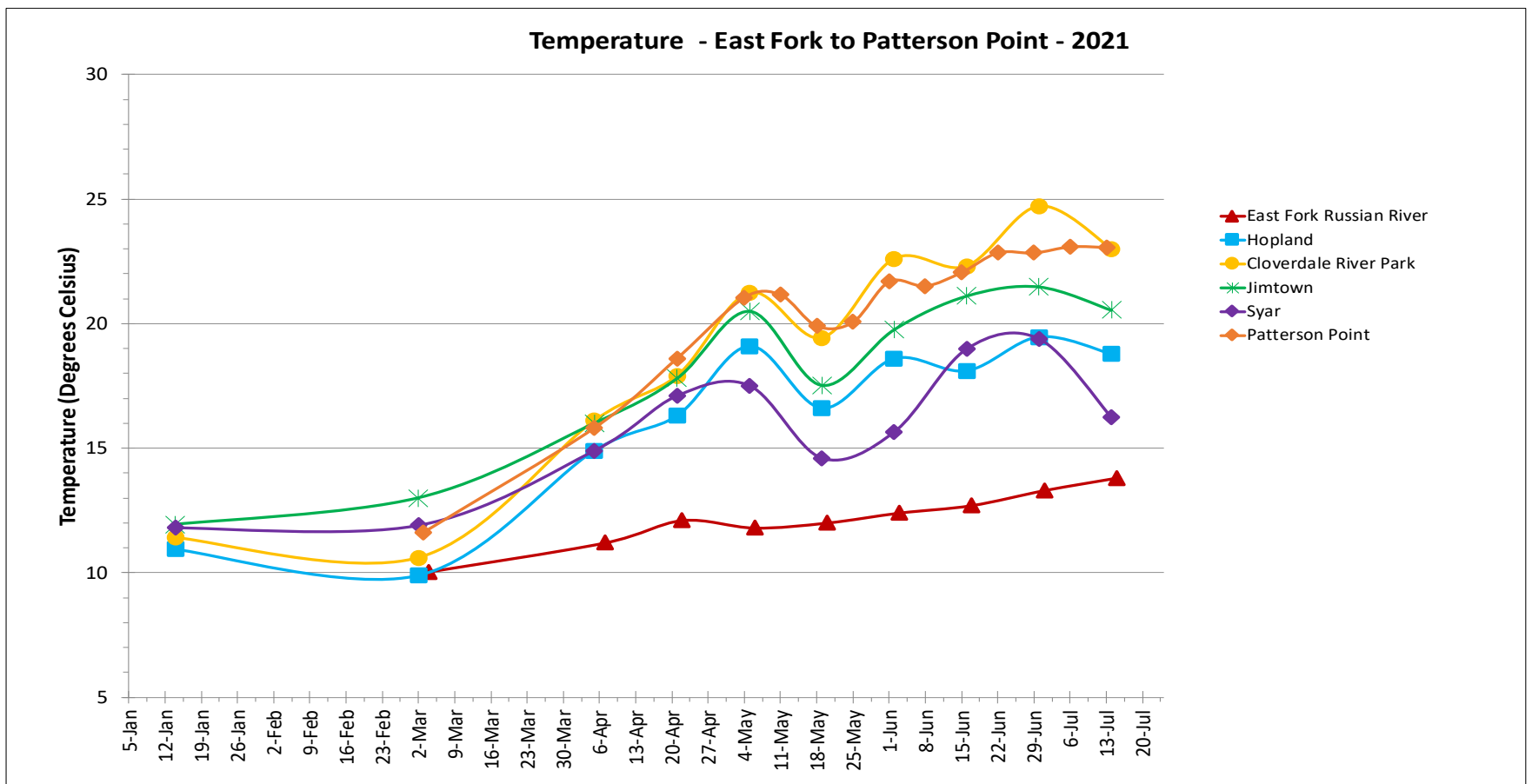
*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples (January 14 - August 19, 2021)
Provisional Data Subject to Revision

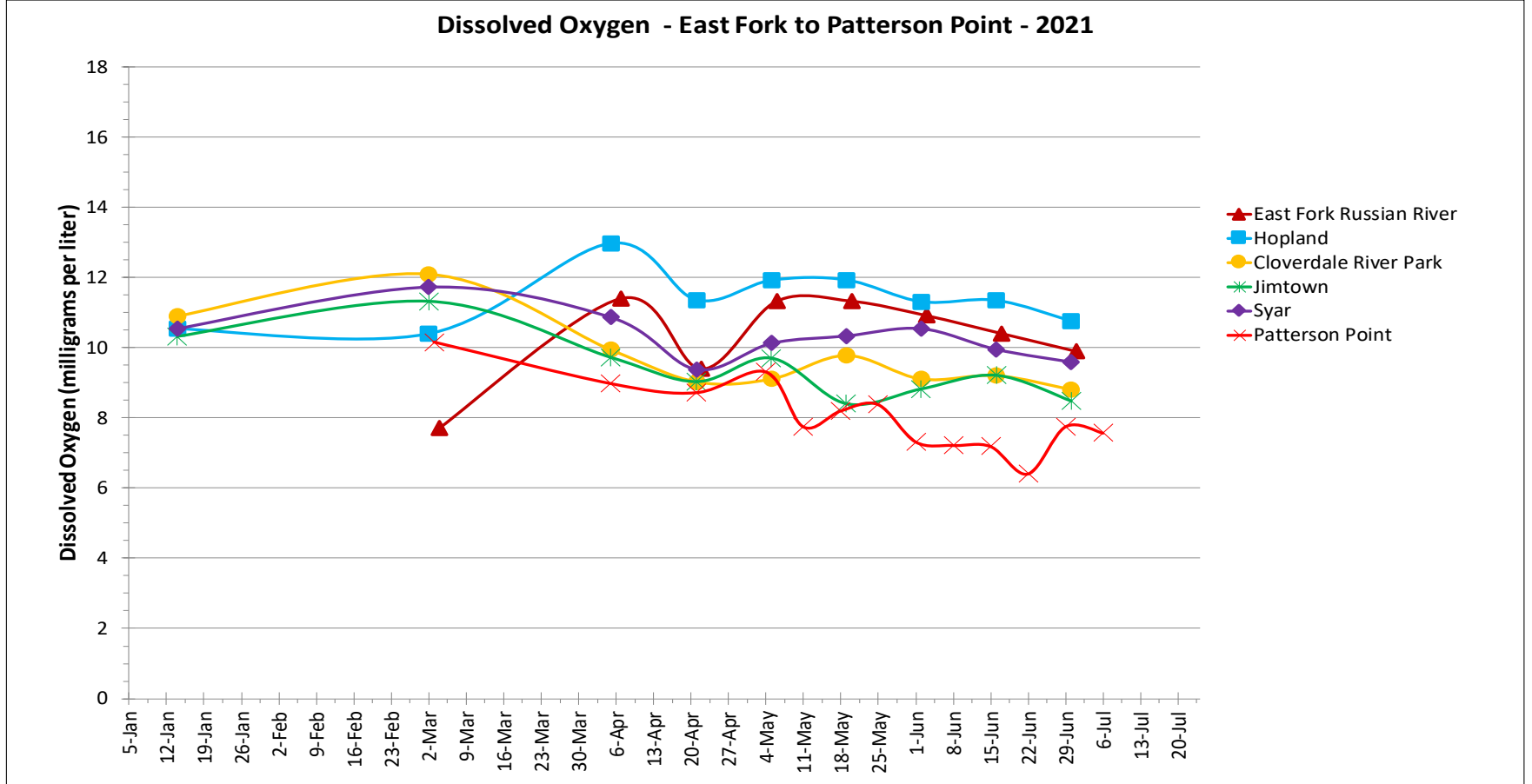
Lake Mendocino to Hopland Water Quality



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



Dissolved Oxygen - East Fork to Patterson Point - 2021

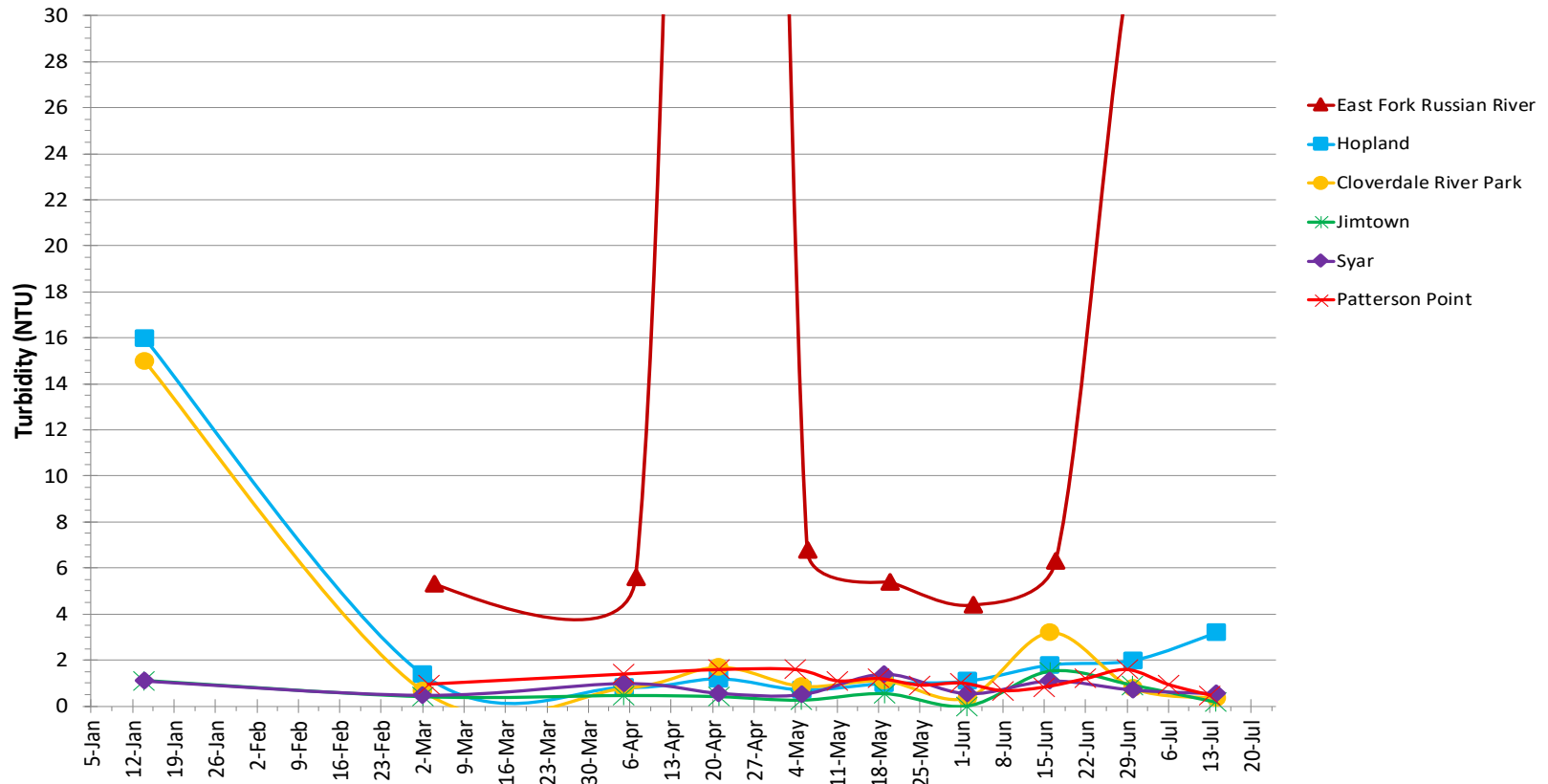


*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

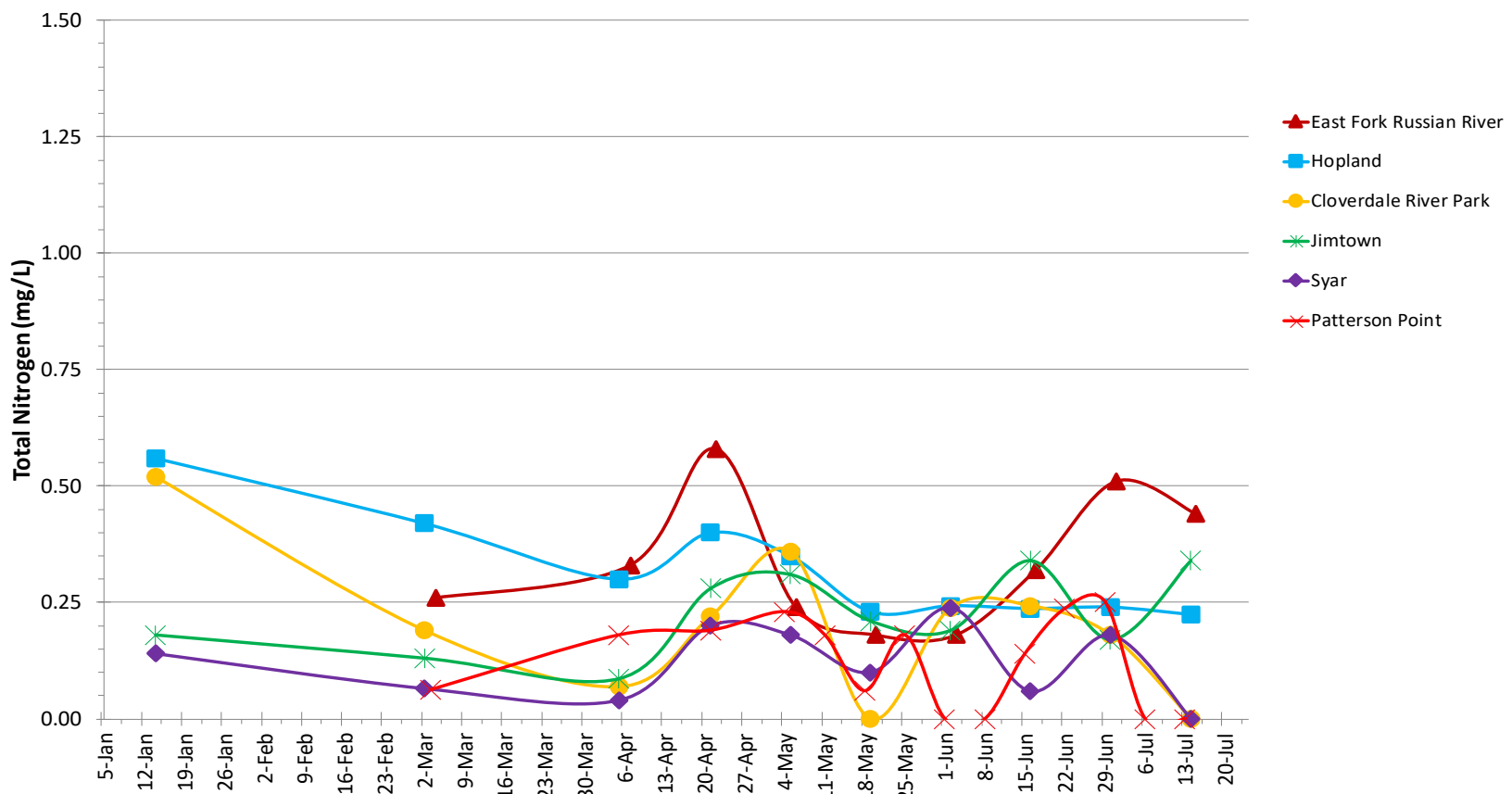
Russian River Water Quality Grab Samples (January 14 - August 19, 2021)
Provisional Data Subject to Revision

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

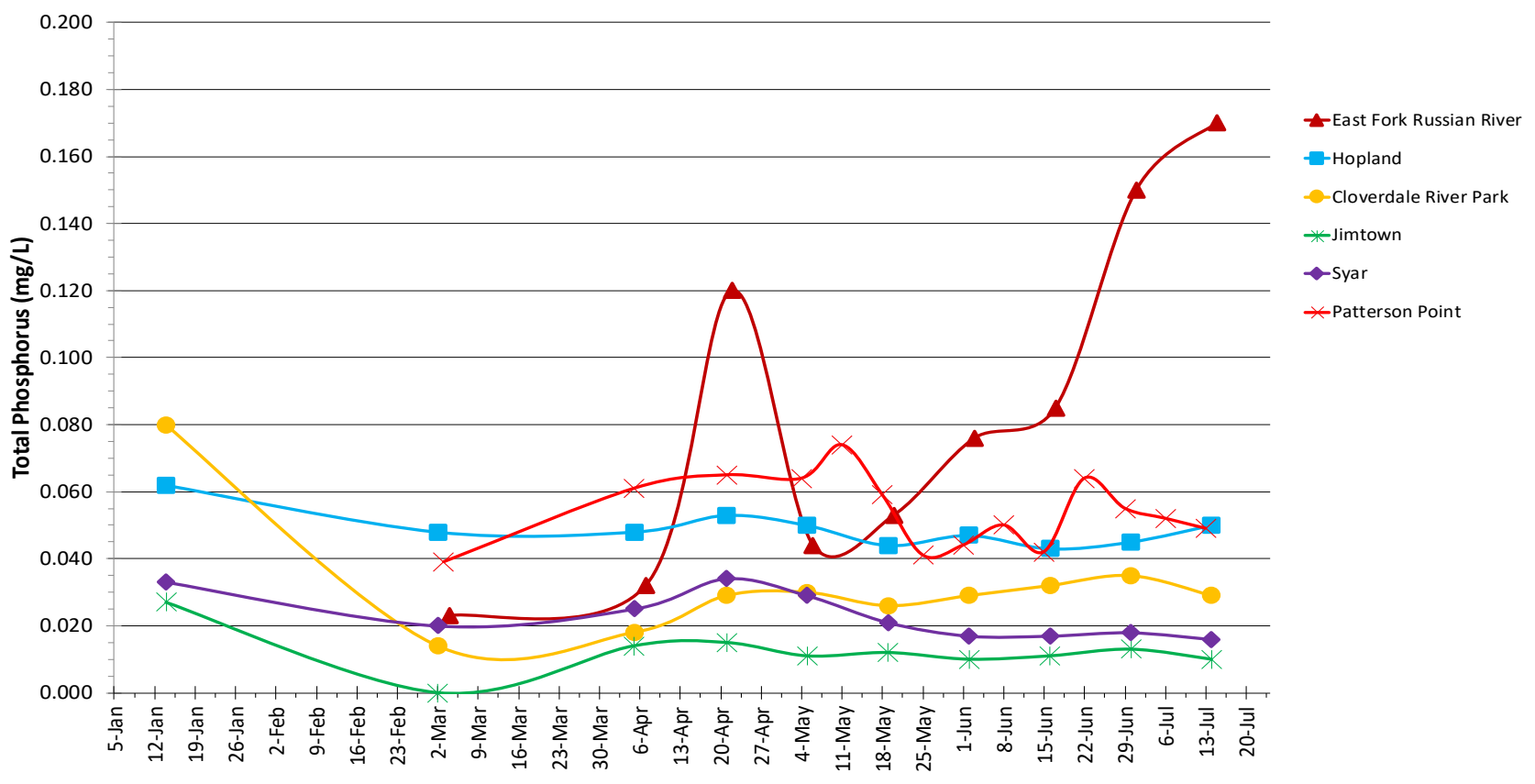
Turbidity - East Fork to Patterson Point- 2021



Total Nitrogen - East Fork to Patterson Point - 2021



Total Phosphorus - East Fork to Patterson Point - 2021

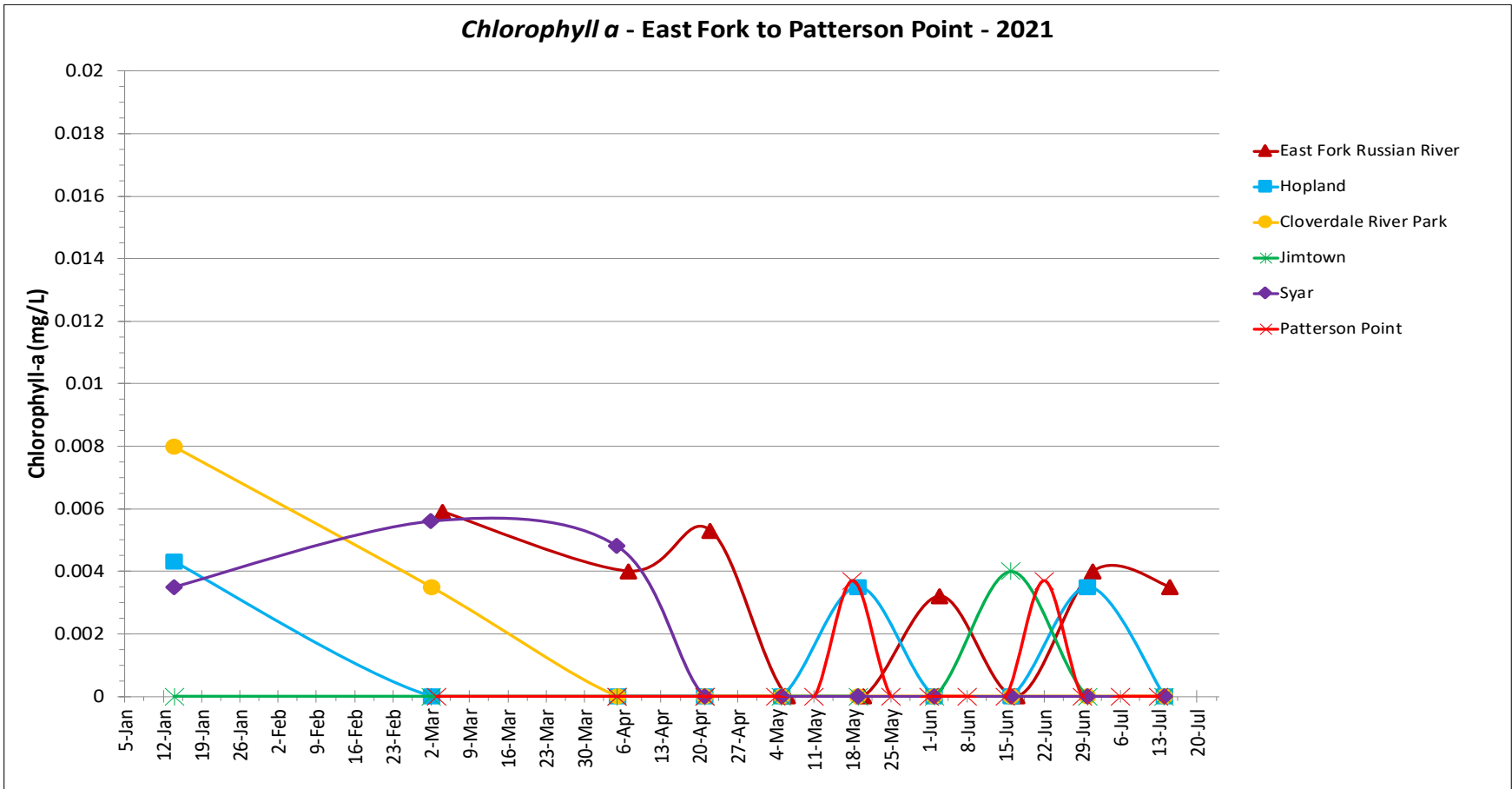


*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

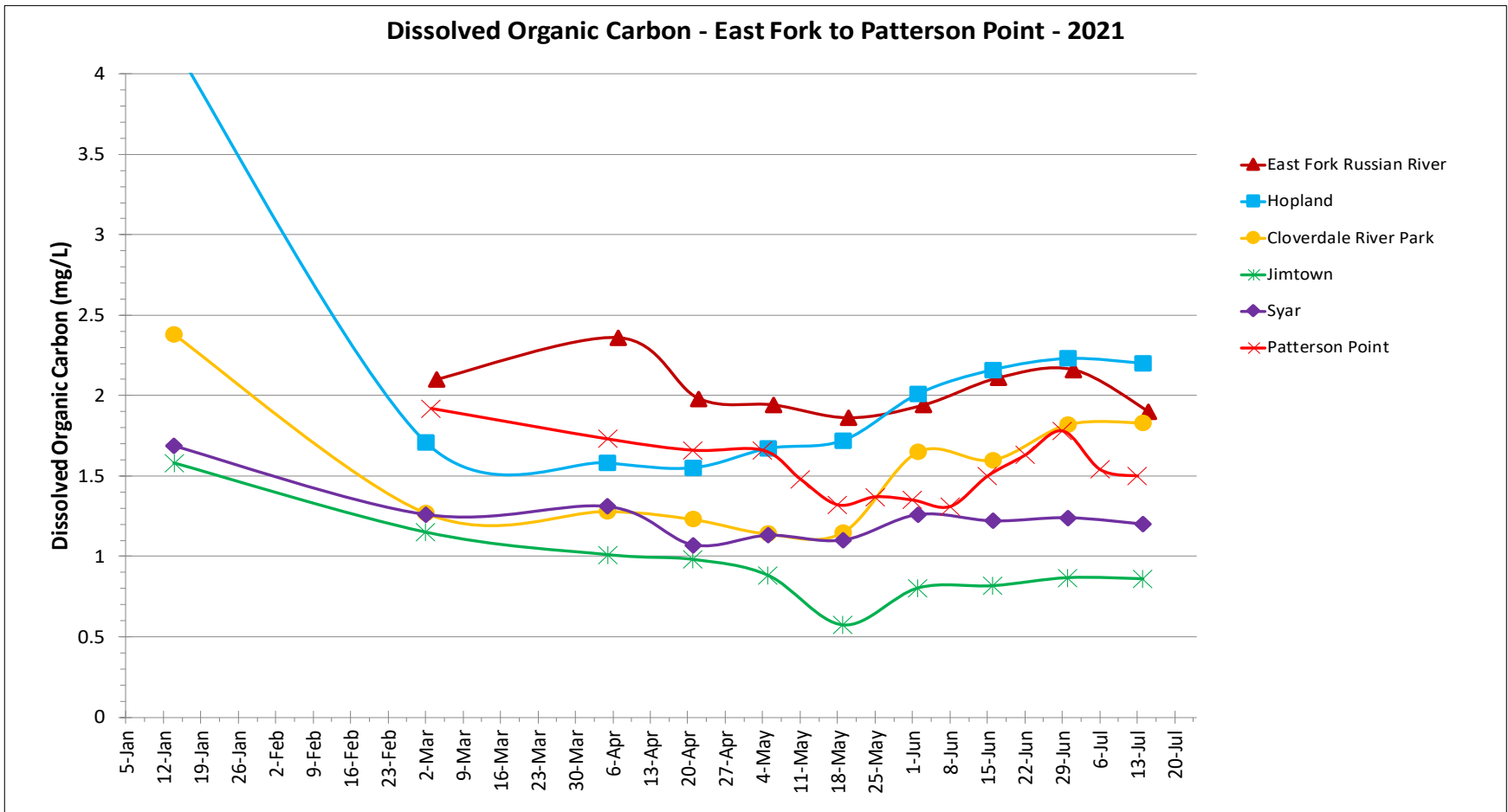
Russian River Water Quality Grab Samples (January 14 - August 19, 2021)
 Provisional Data Subject to Revision

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

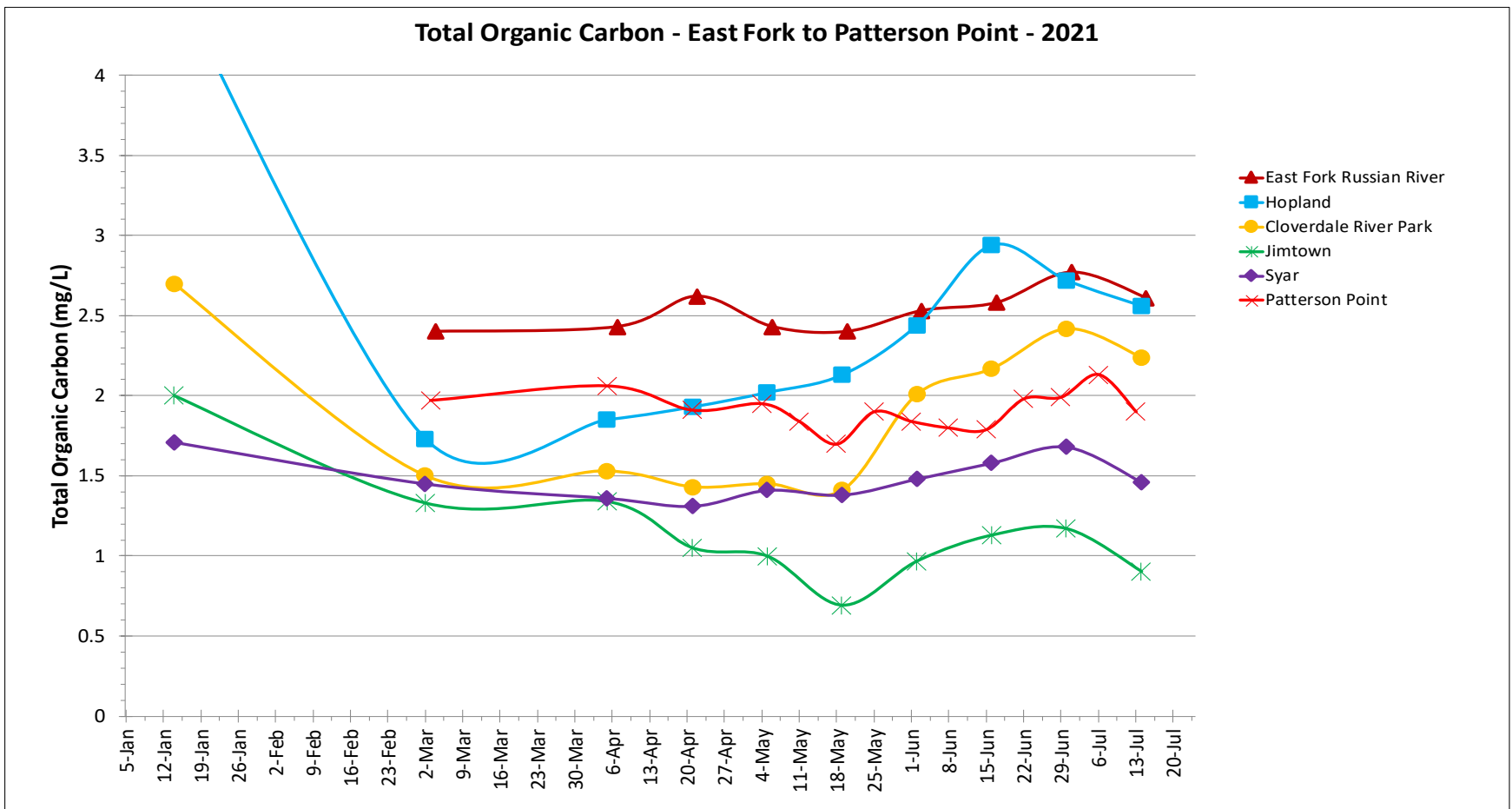
Chlorophyll a - East Fork to Patterson Point - 2021



Dissolved Organic Carbon - East Fork to Patterson Point - 2021



Total Organic Carbon - 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 (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

*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 (May 11 - July 13, 2021)
Provisional Data Subject to Revision

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
	Temperature	-	°C	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
				6/8/2021	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
Nutrients	Ammonia as N	0.01	mg/L	5/11/2021	ND	ND	ND
				5/18/2021	ND	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/8/2021	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			
	Nitrate as N	0.03	mg/L	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
				6/8/2021	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				
Nutrients	Nitrite as N	0.03	mg/L	5/11/2021	ND	ND	ND
				5/18/2021	ND	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/8/2021	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			
	Total Organic Nitrogen as N	0.2	mg/L	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
				6/8/2021	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			
	Total Kjeldahl Nitrogen	0.1	mg/L	5/11/2021	ND	ND	ND
				5/18/2021	ND	ND	ND
				5/25/2021	ND	ND	ND
				6/1/2021	ND	ND	ND
				6/8/2021	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			
	Total Phosphorus	0.02	mg/L	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
				6/8/2021	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				
Total Orthophosphate	0.02	mg/L	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	
			6/8/2021	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				

Russian River Water Quality Grab Samples (May 11 - July 13, 2021)
Provisional Data Subject to Revision

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
Chlorophyll	Chlorophyll A	0.00005	mg/L	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
				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
Carbon	Total Organic Carbon	0.04	mg/L	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
				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			
	Dissolved Organic Carbon	0.04	mg/L	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
				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				
Solids	Turbidity	0.02	NTU	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
				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			
	TDS	4.2	mg/L	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
				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				