



Sonoma Water

State Water Resources Control Board Temporary Urgency Change Order (6/14/2021) Russian River Water Quality Report August 20, 2021 - August 26, 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).

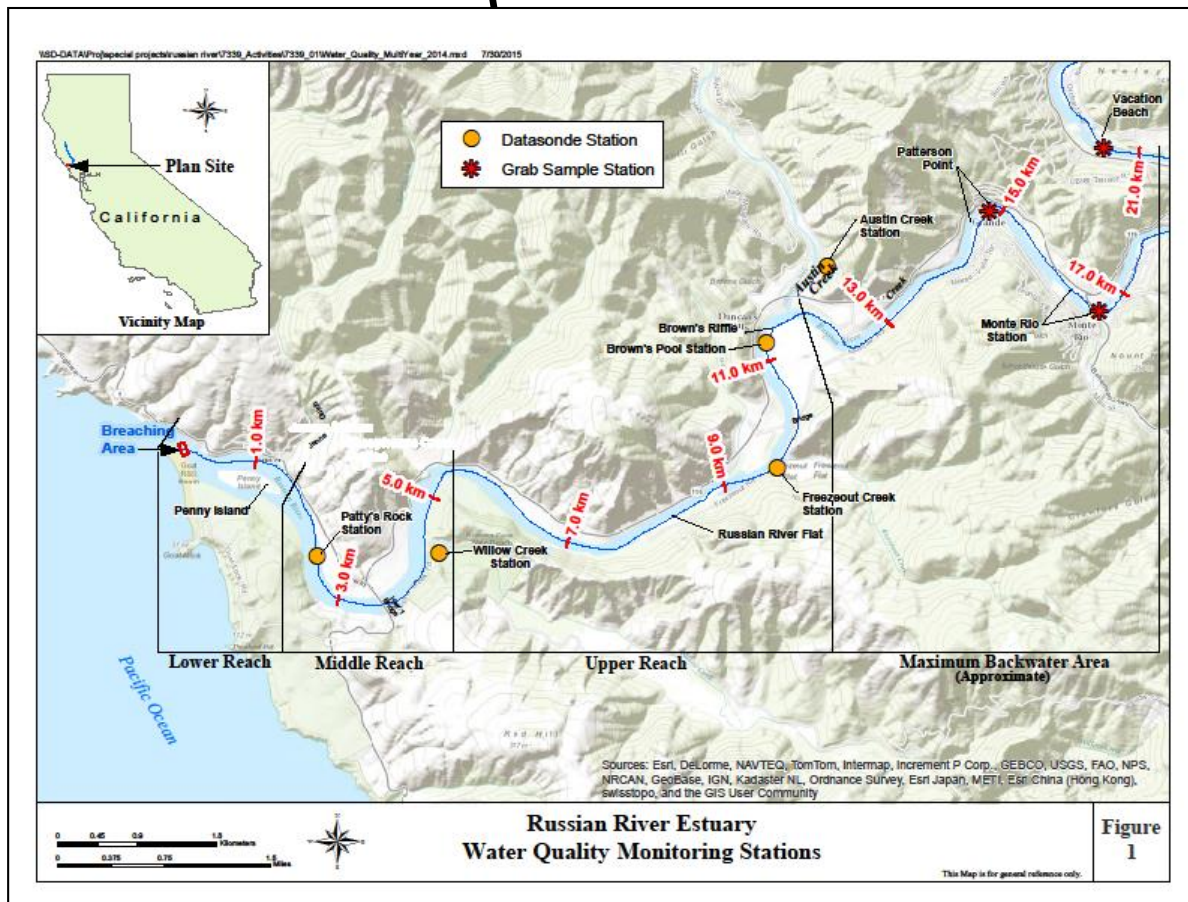
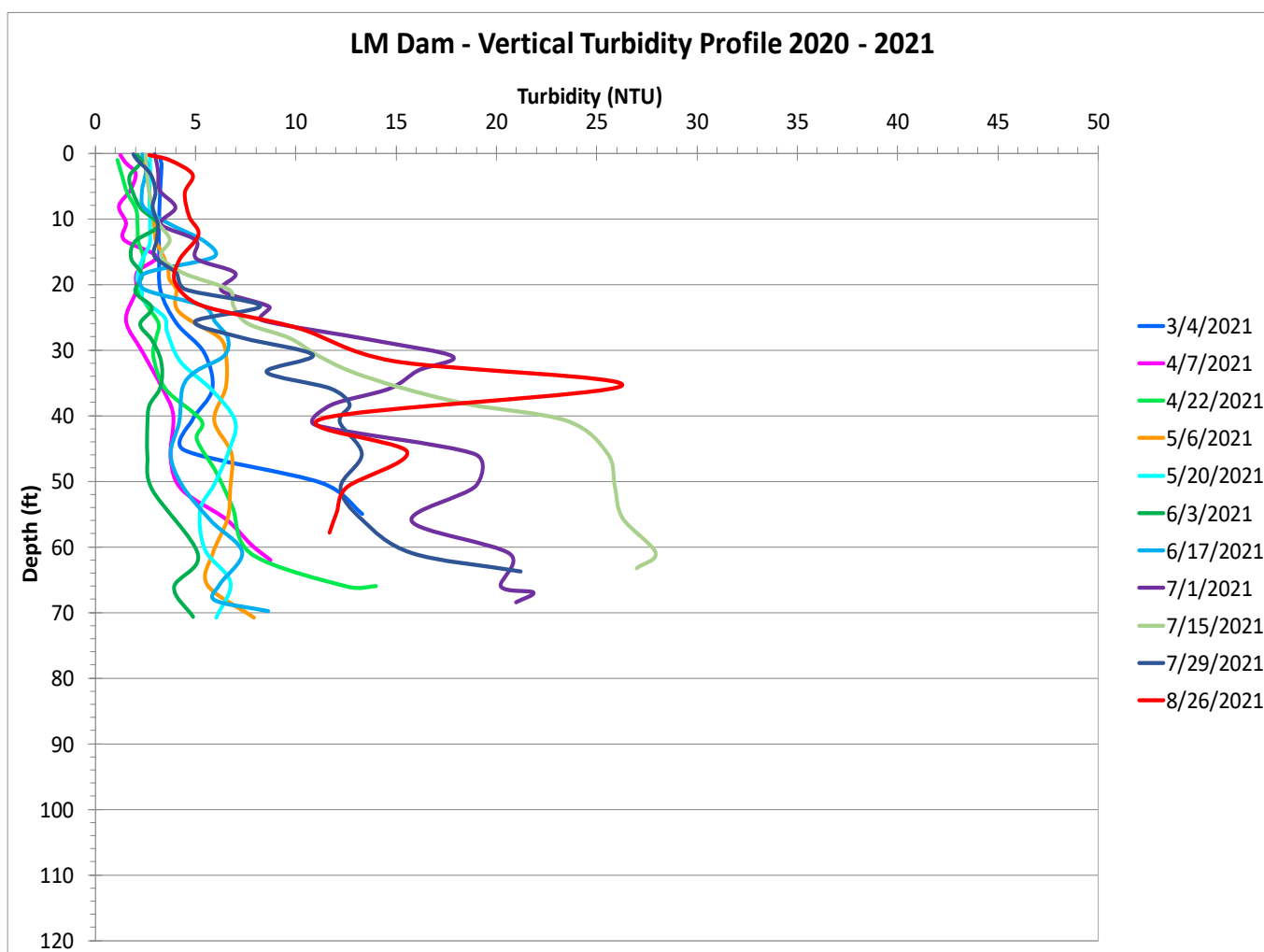
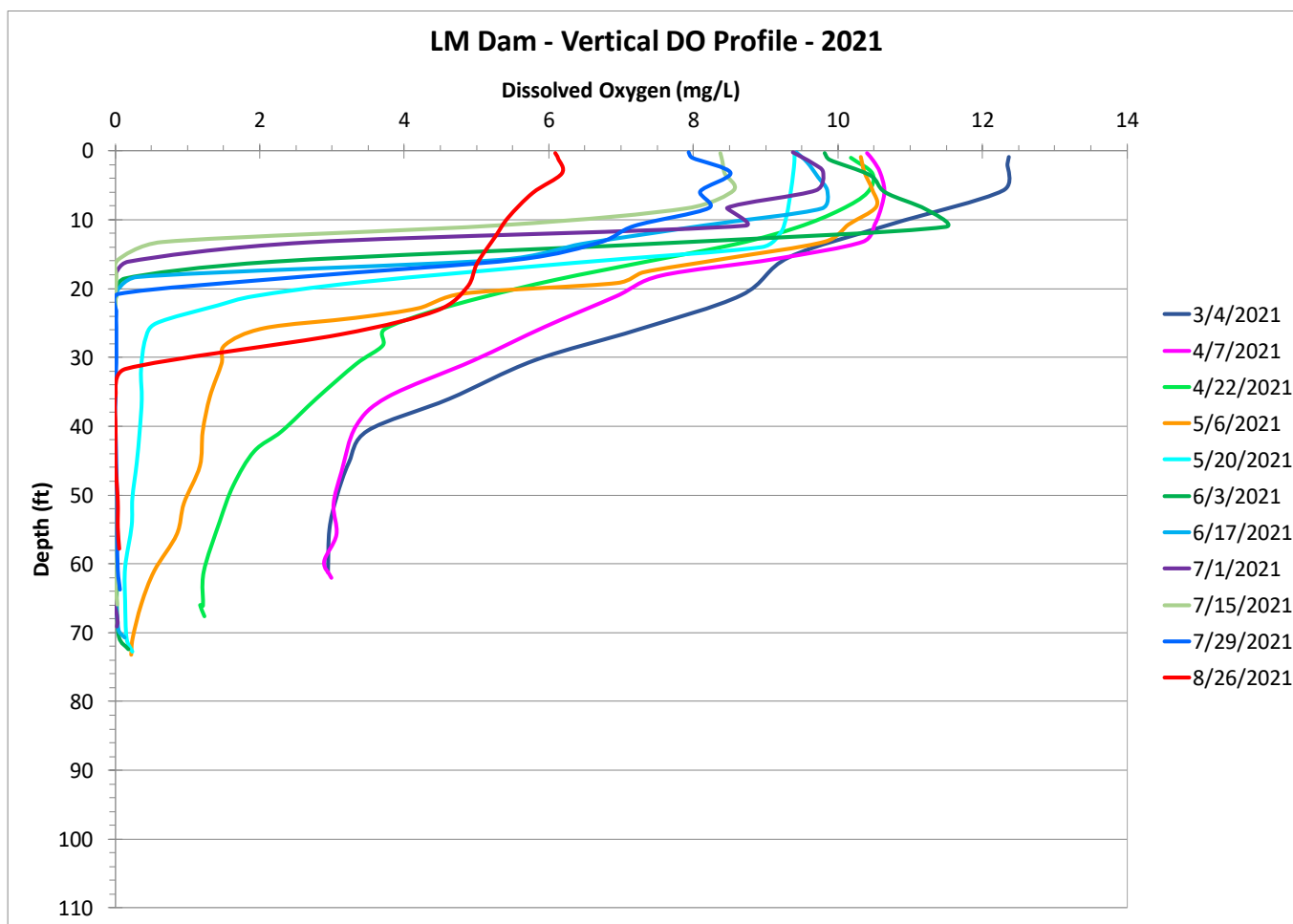
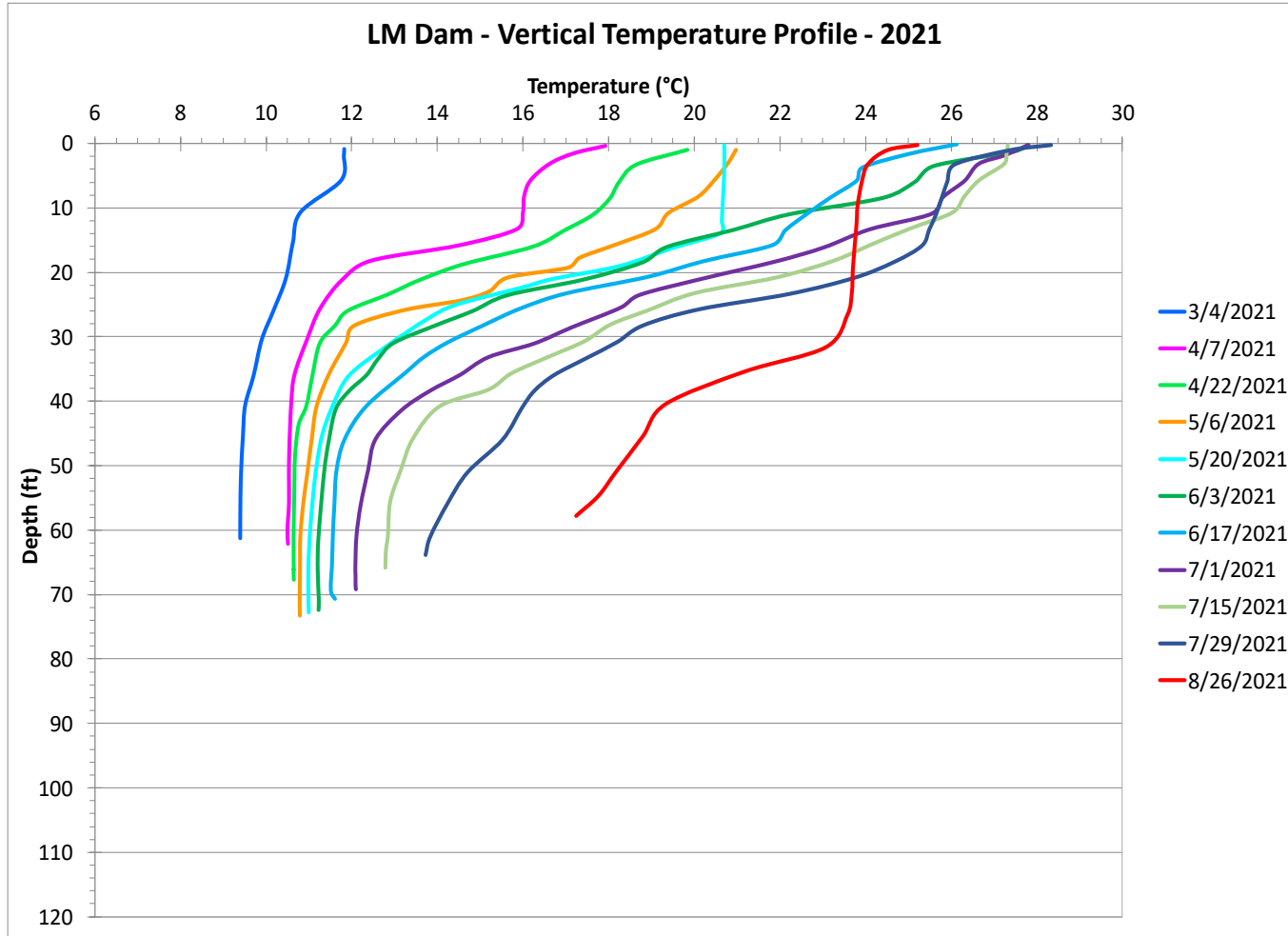


Figure 1

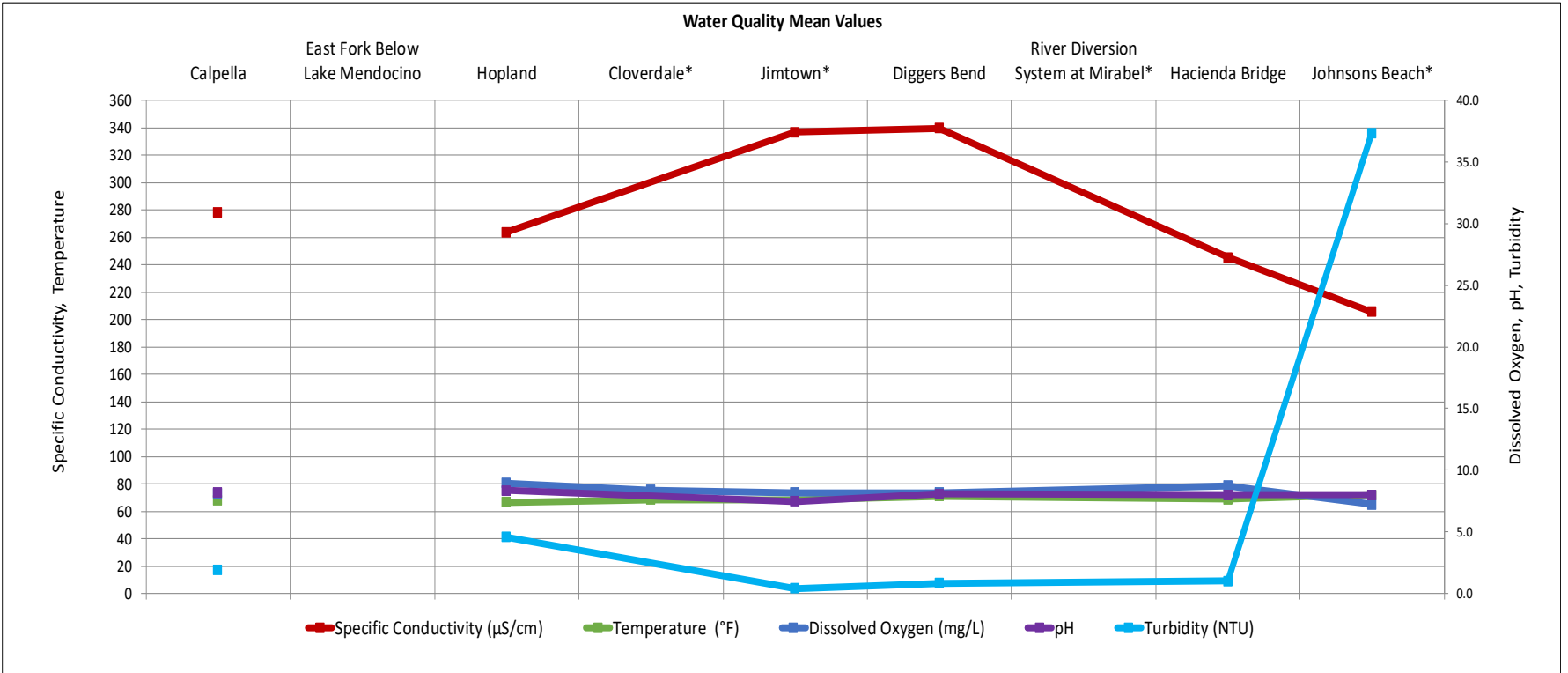
Lake Mendocino Water Quality Vertical Profiles (March 4 - August 26, 2021)
Provisional Data Subject to Revision



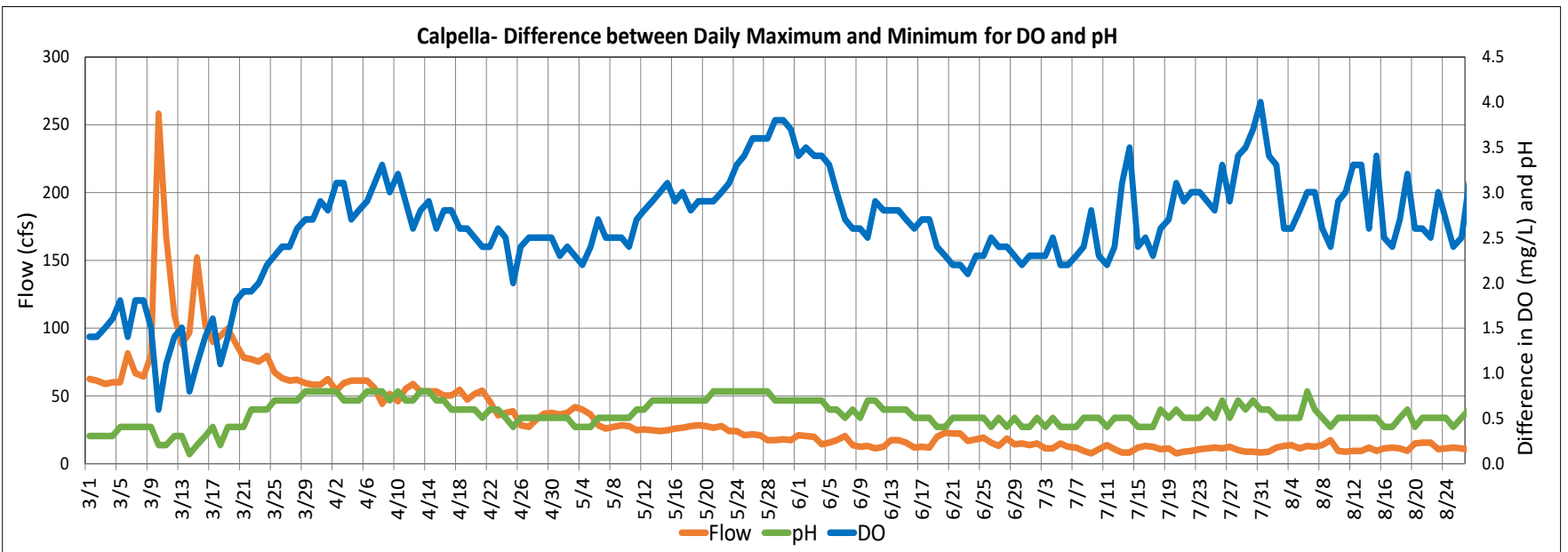
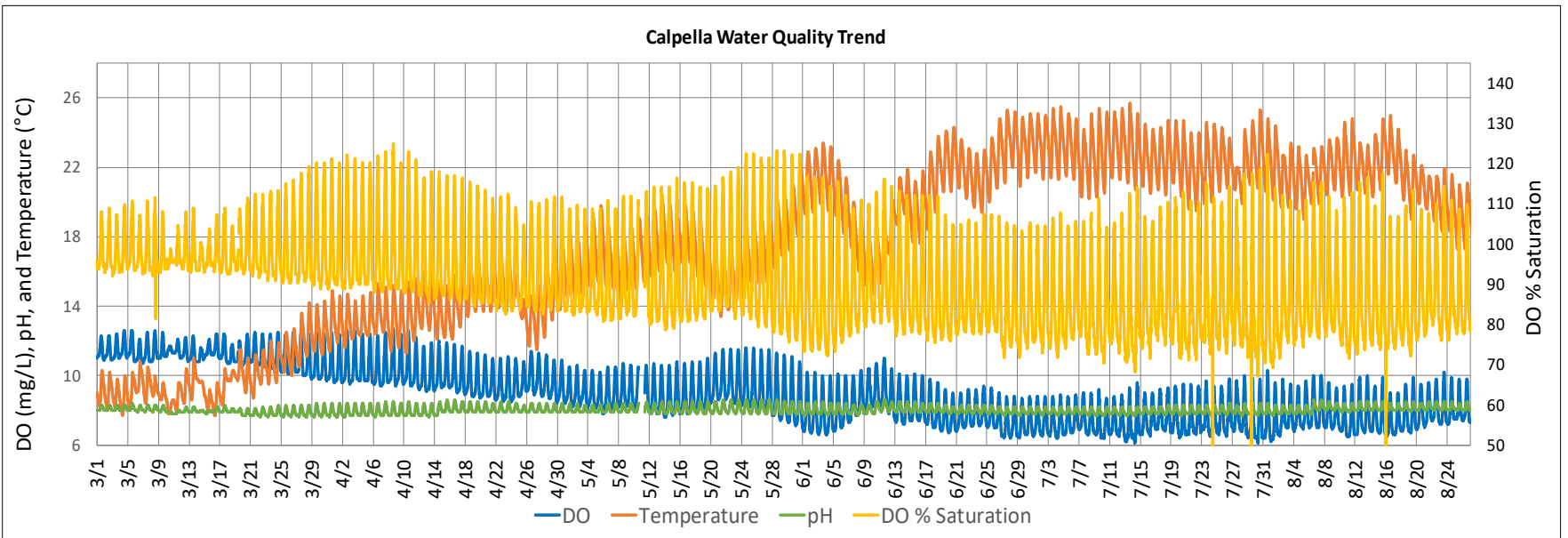
Russian River Water Quality Sondes (August 20 - August 26, 2021) Provisional Data Subject to Revision

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	63.1		63.1	65.5	64.6	66.7		66.9	69.5
	Max	71.8		69.1	72.1	72.7	76.1		72.0	74.3
	Mean	68.0		66.5	68.4	68.6	70.9		68.9	71.9
Specific Conductivity (µS/cm)	Min	268		257		335	336		241	143
	Max	291		270		341	343		256	216
	Mean	278		264		337	340		245	206
Dissolved Oxygen (mg/L)	Min	6.9		6.1	7.6	5.0	6.1		7.7	4.9
	Max	10.2		12.8	9.6	13.5	10.6		9.8	9.2
	Mean	8.1		8.9	8.4	8.2	8.2		8.7	7.2
Dissolved Oxygen (% Saturation)	Min	71		63	80	53	66		83	54
	Max	117		141	110	154	126		112	108
	Mean	87		96	92	90	92		96	82
pH	Min	8.0		7.8		7.2	7.8		7.8	7.7
	Max	8.5		9.0		8.0	8.4		8.2	8.2
	Mean	8.2		8.3		7.5	8.1		8.0	8.0
Turbidity (NTU)	Min	0.9		2.7		0.1	0.1		0.4	1.3
	Max	11.1		13.1		1.4	2.9		3.5	740.4
	Mean	1.9		4.6		0.4	0.8		1.0	37.3

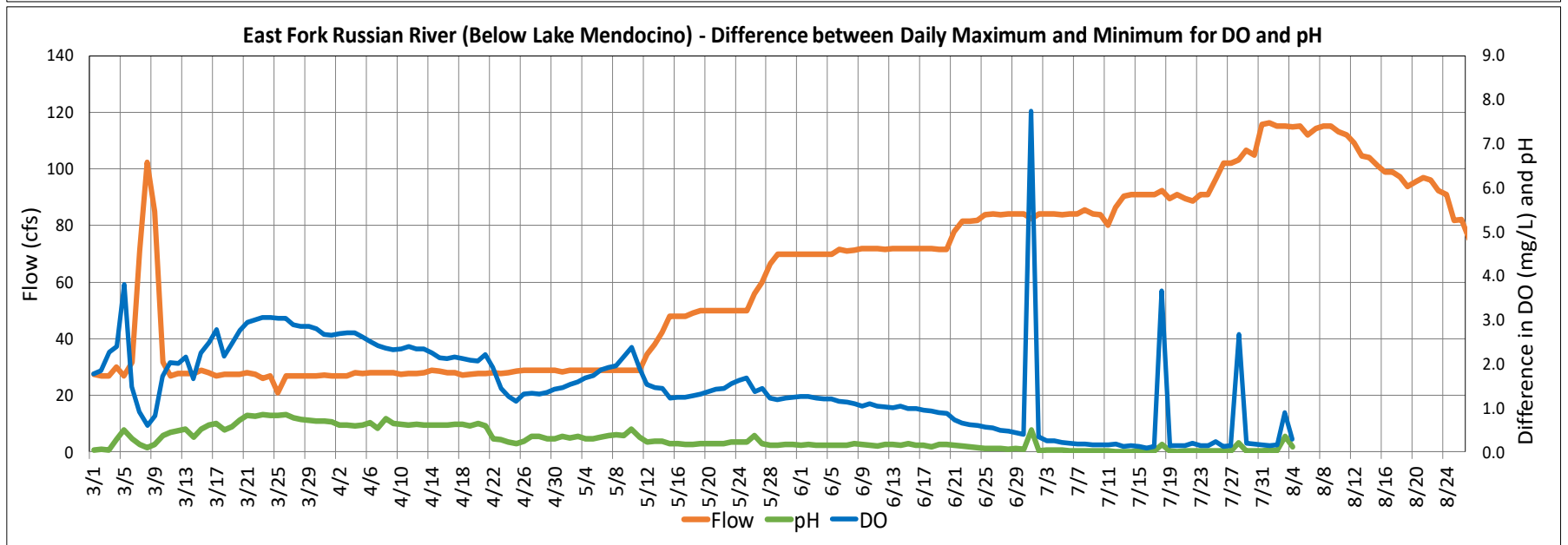
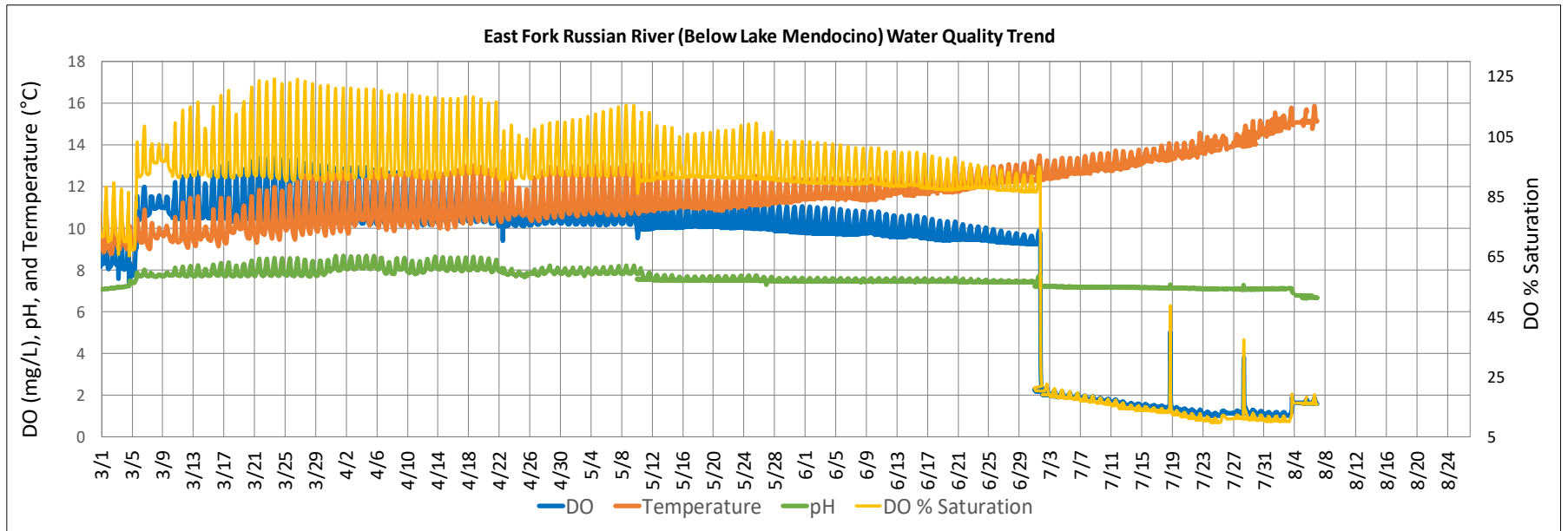
*Station operated seasonally



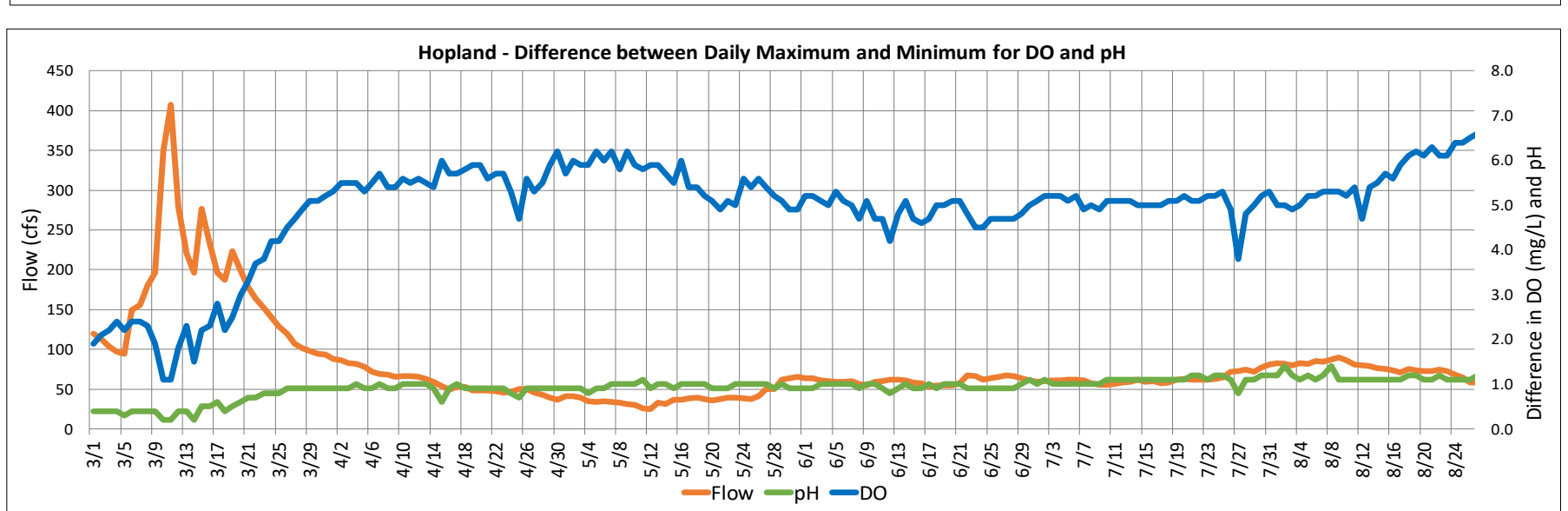
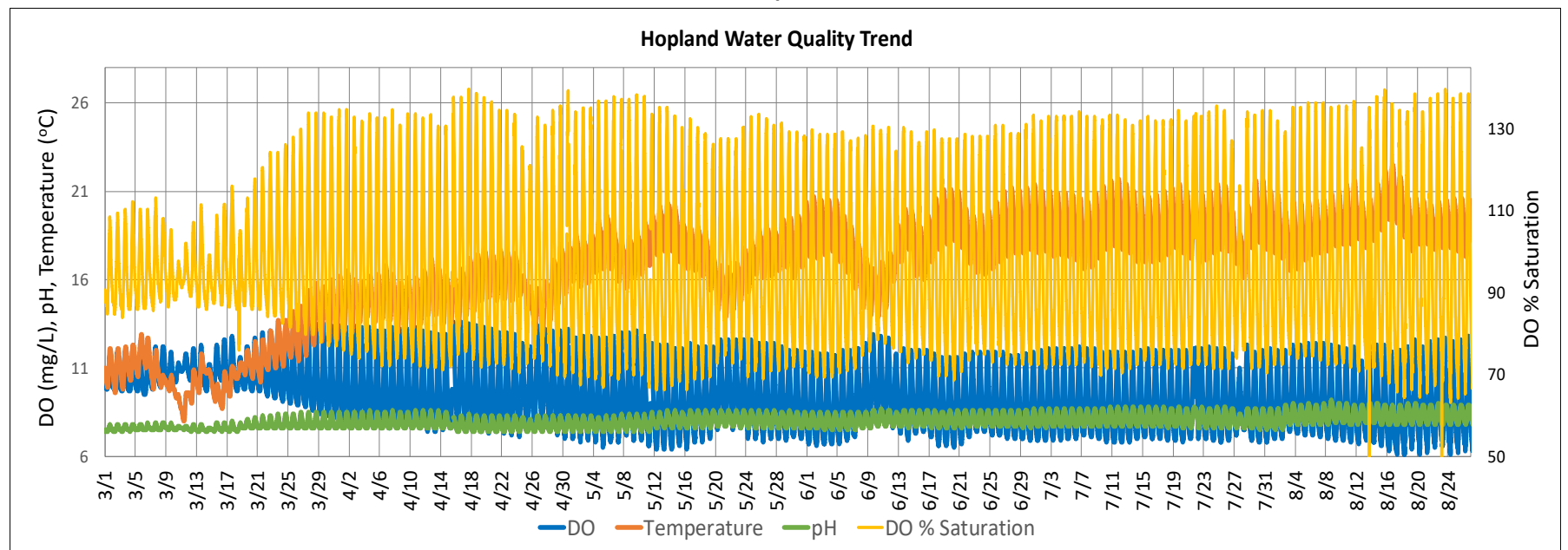
Russian River Water Quality Sonde Data (March 1 - August 26, 2021) Provisional Data Subject to Revision



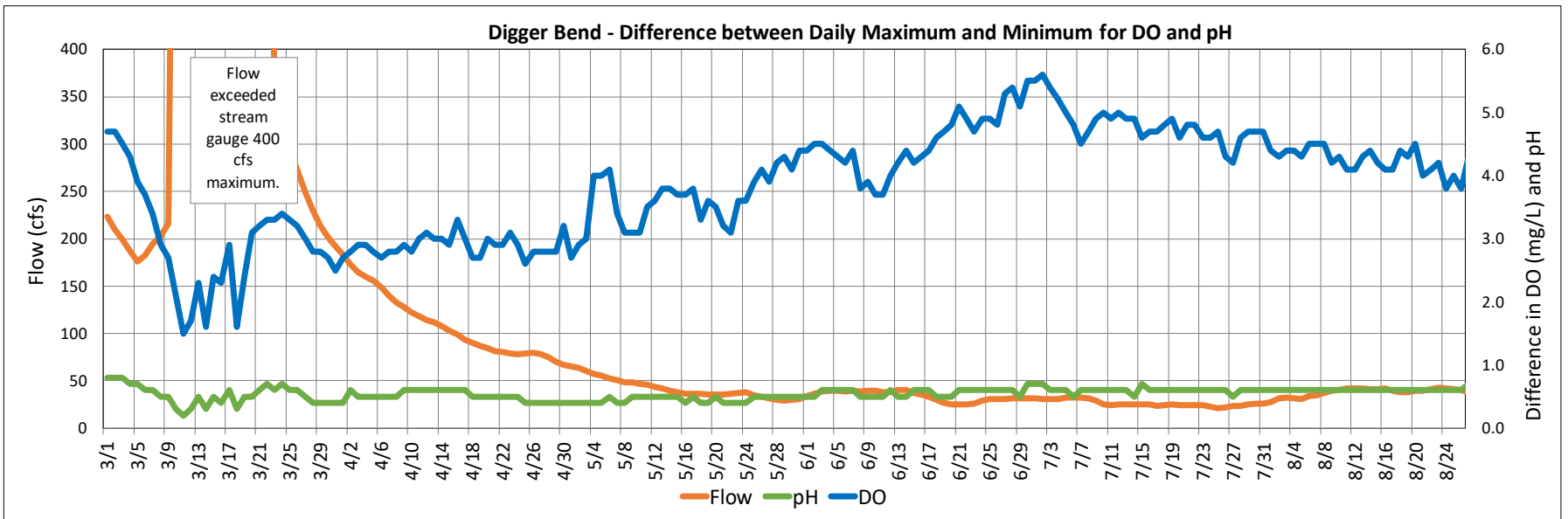
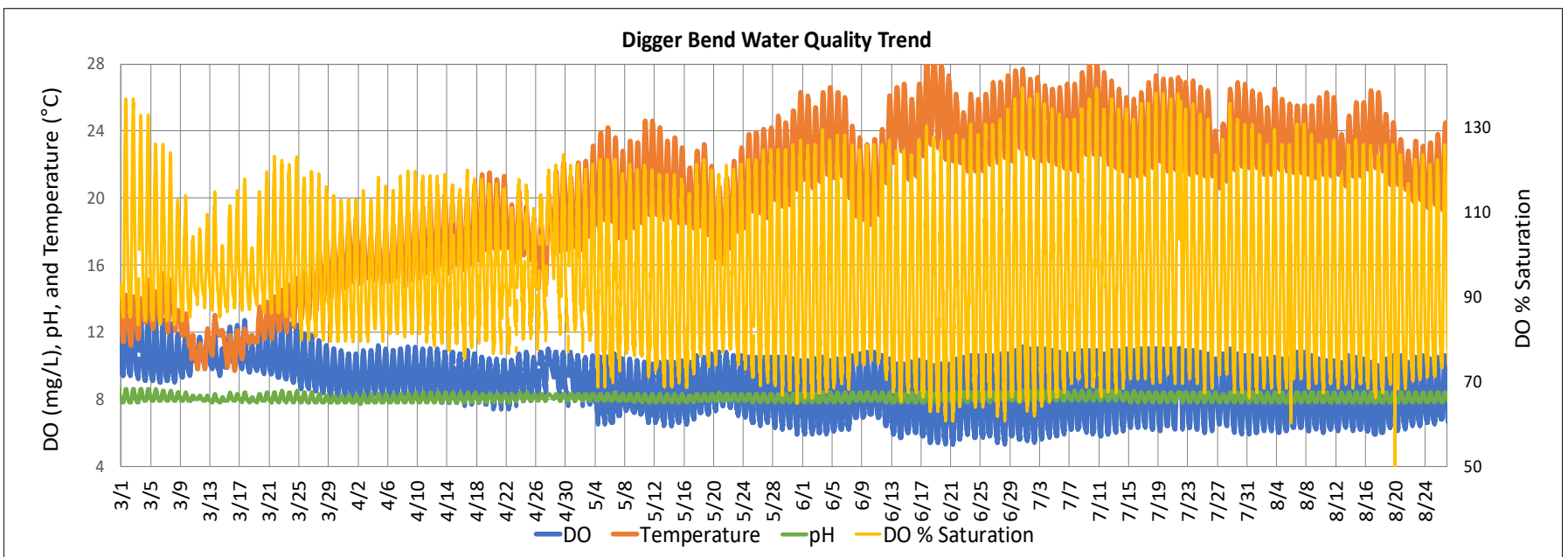
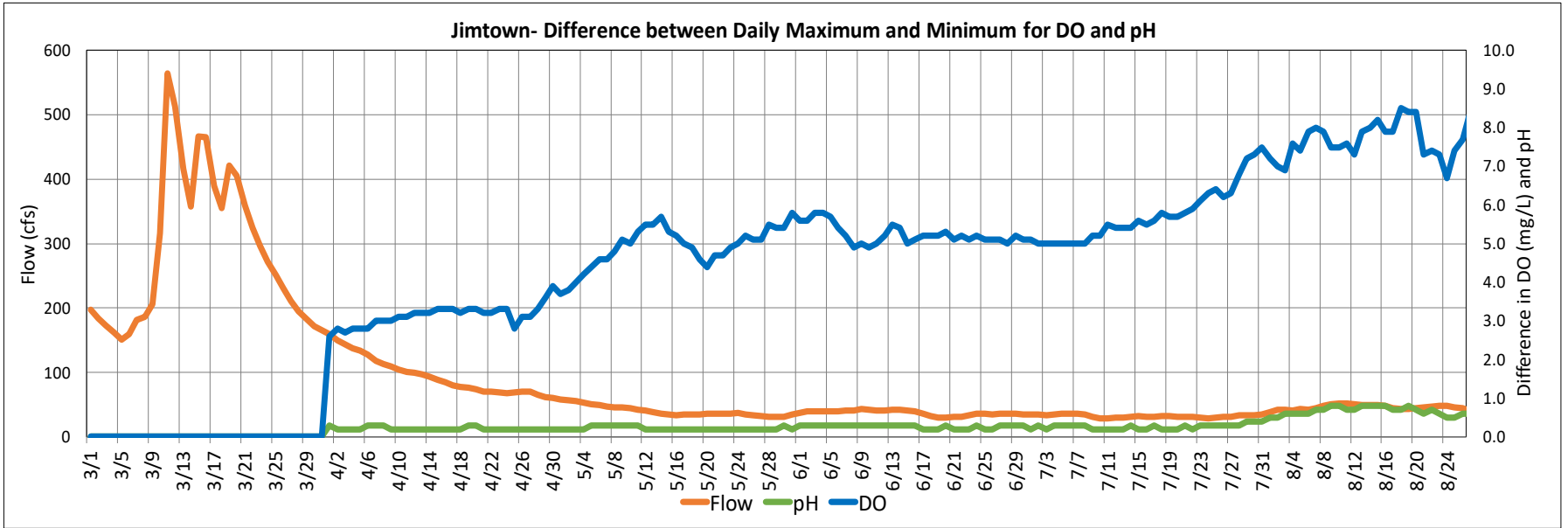
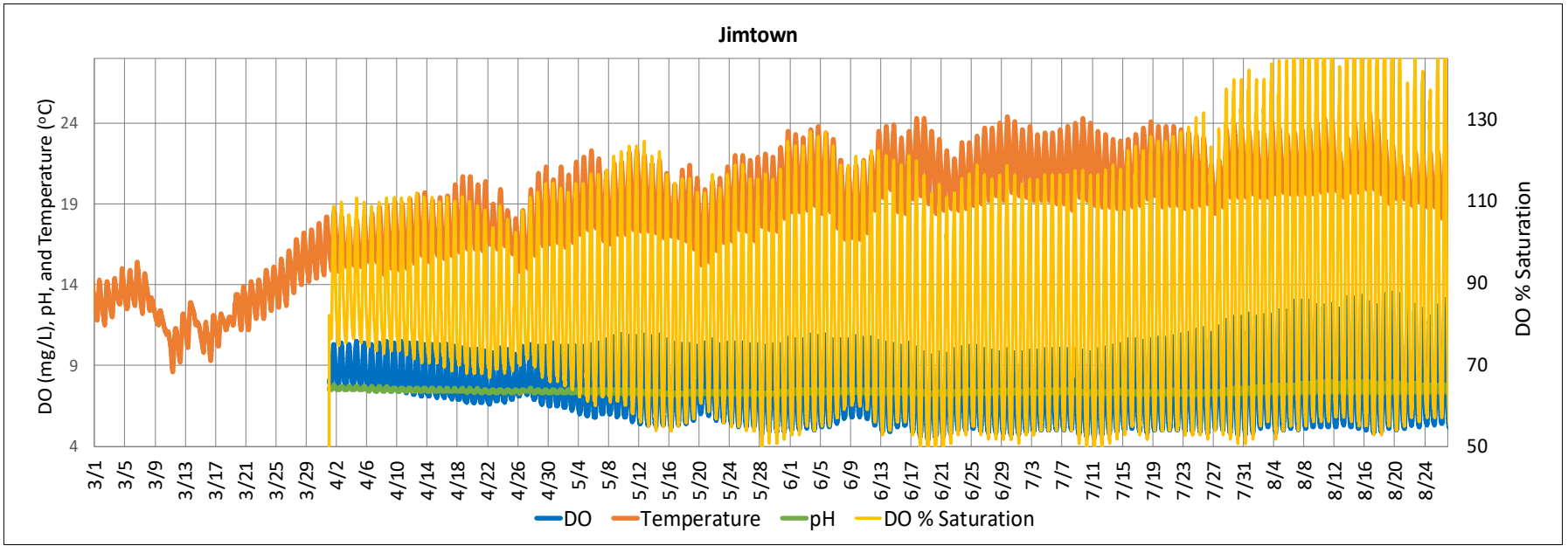
Russian River Water Quality Sonde Data (March 1 - August 26, 2021)
 Provisional Data Subject to Revision



Hopland

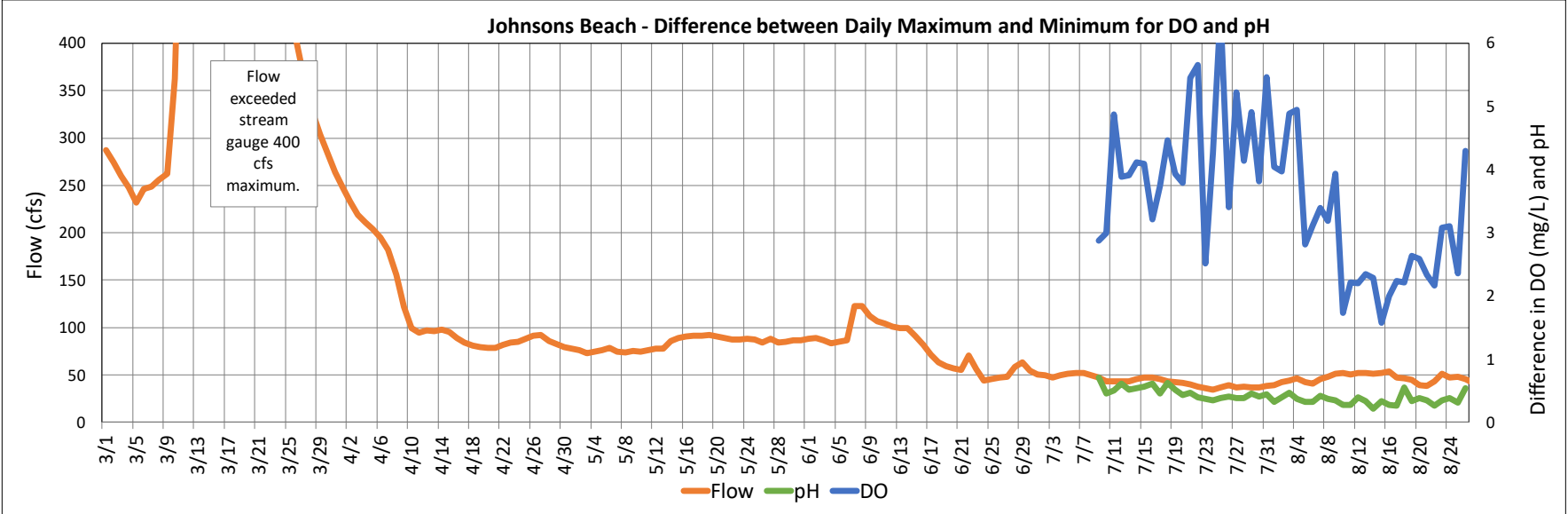
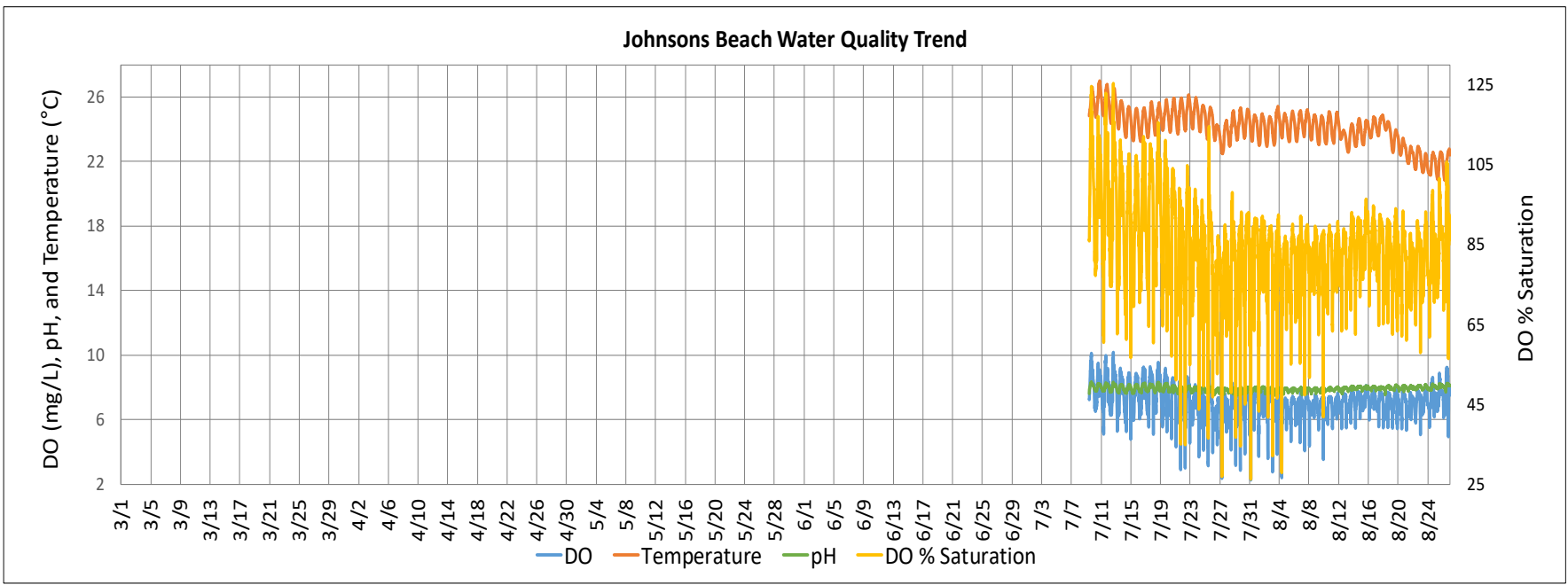
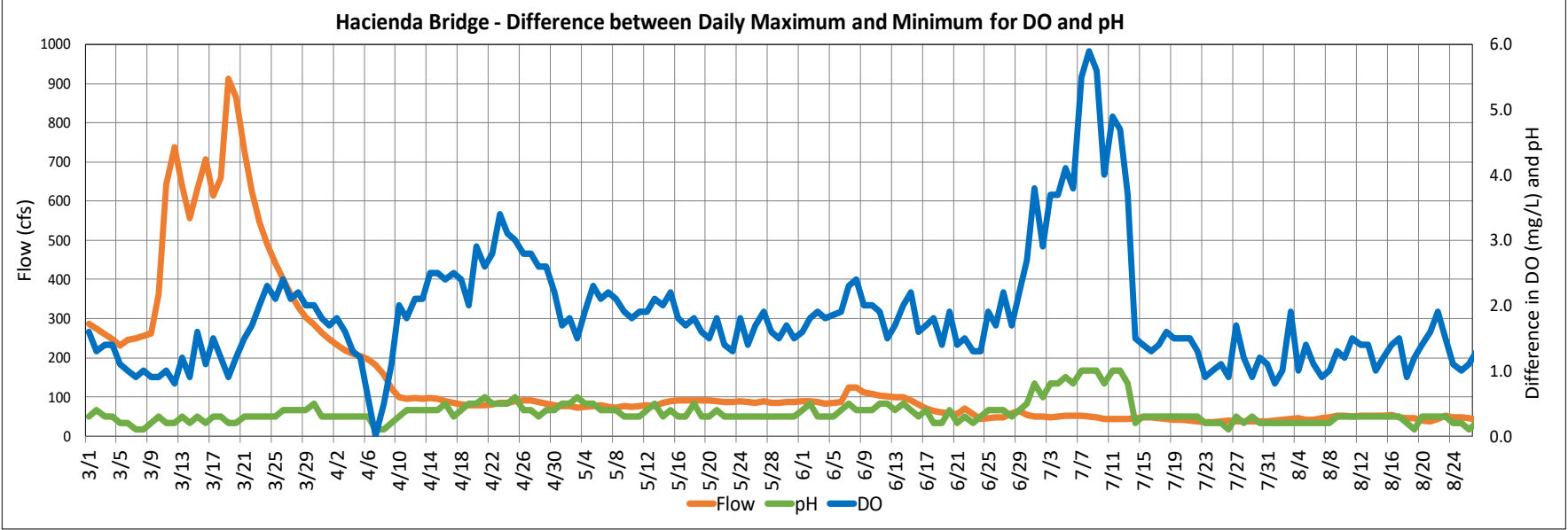
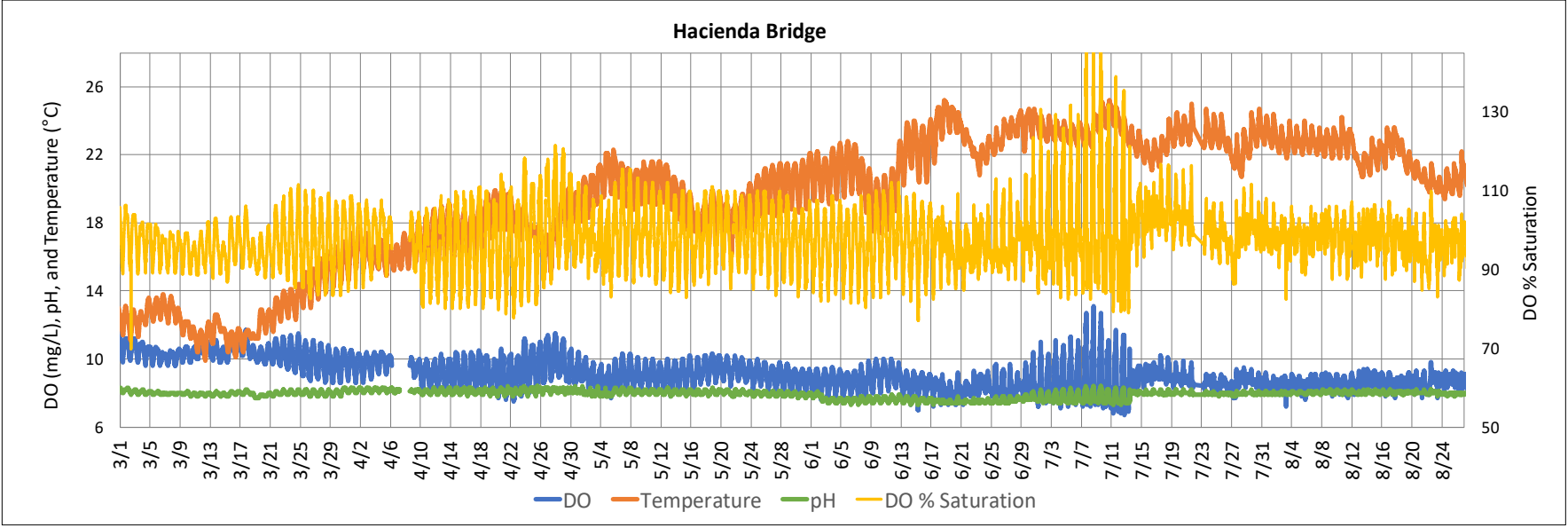


Russian River Water Quality Sonde Data (March 1 - August 26, 2021)
Provisional Data Subject to Revision

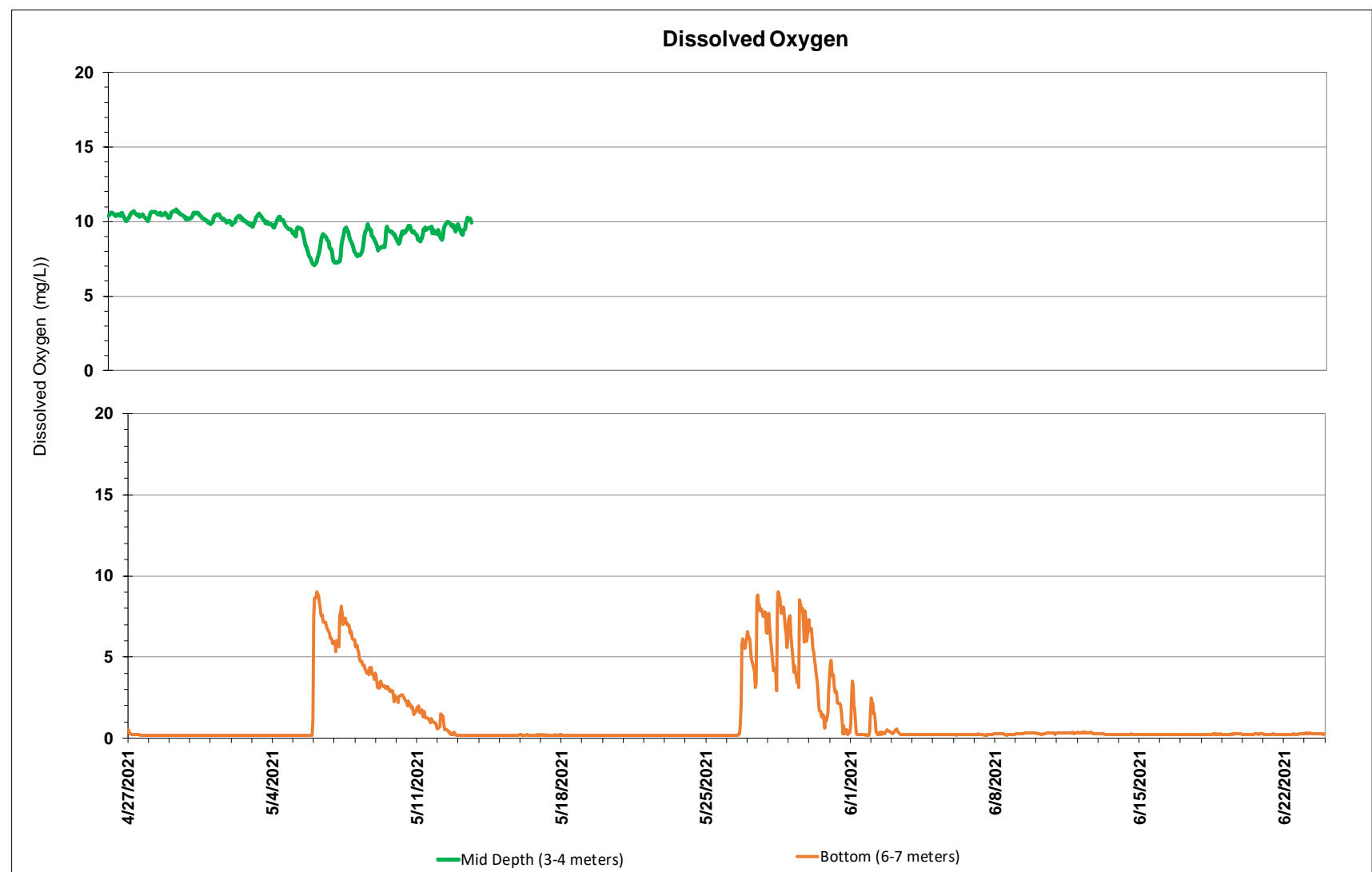
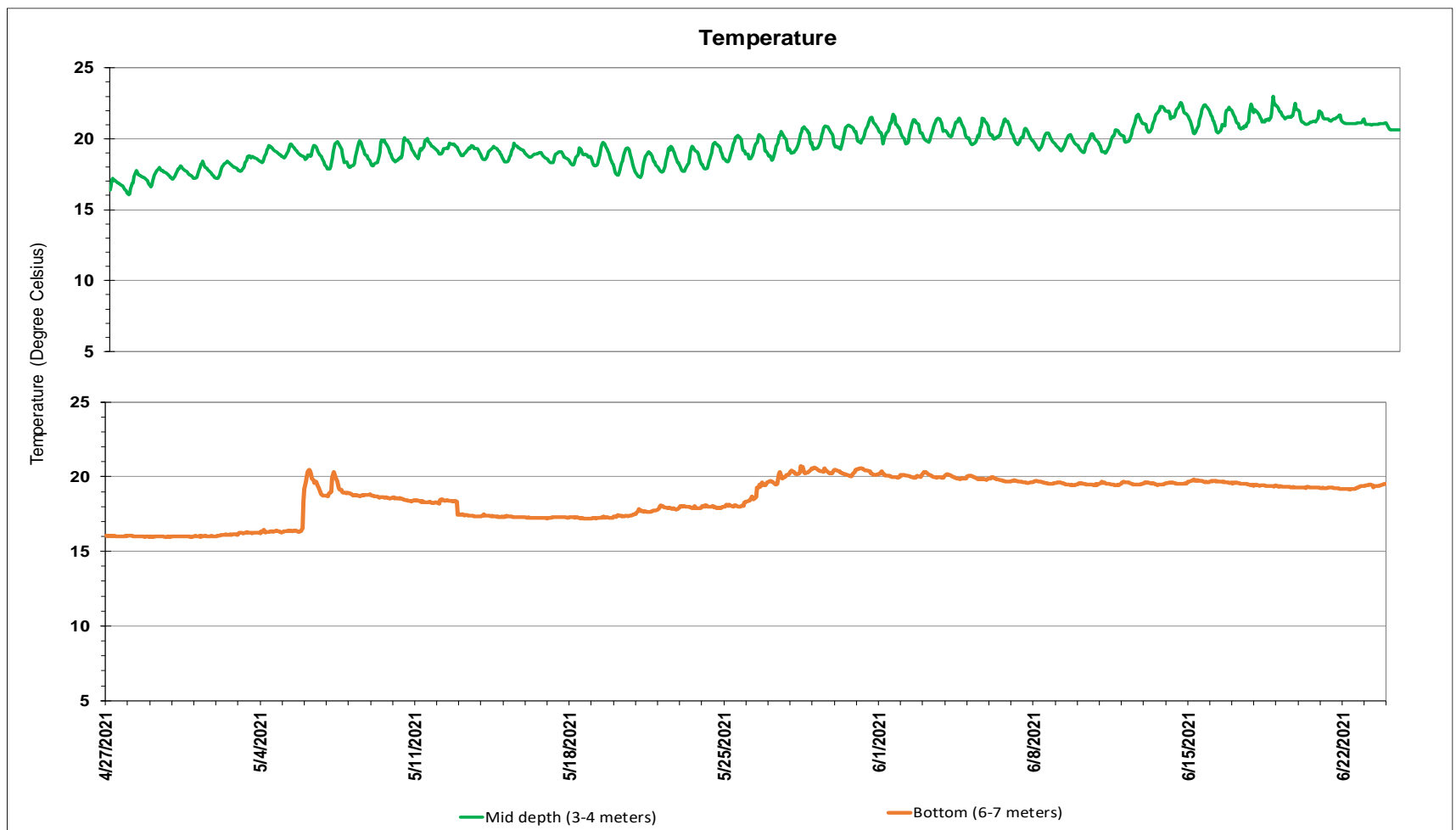


Russian River Water Quality Sonde Data (March 1 - August 26, 2021)
Provisional Data Subject to Revision

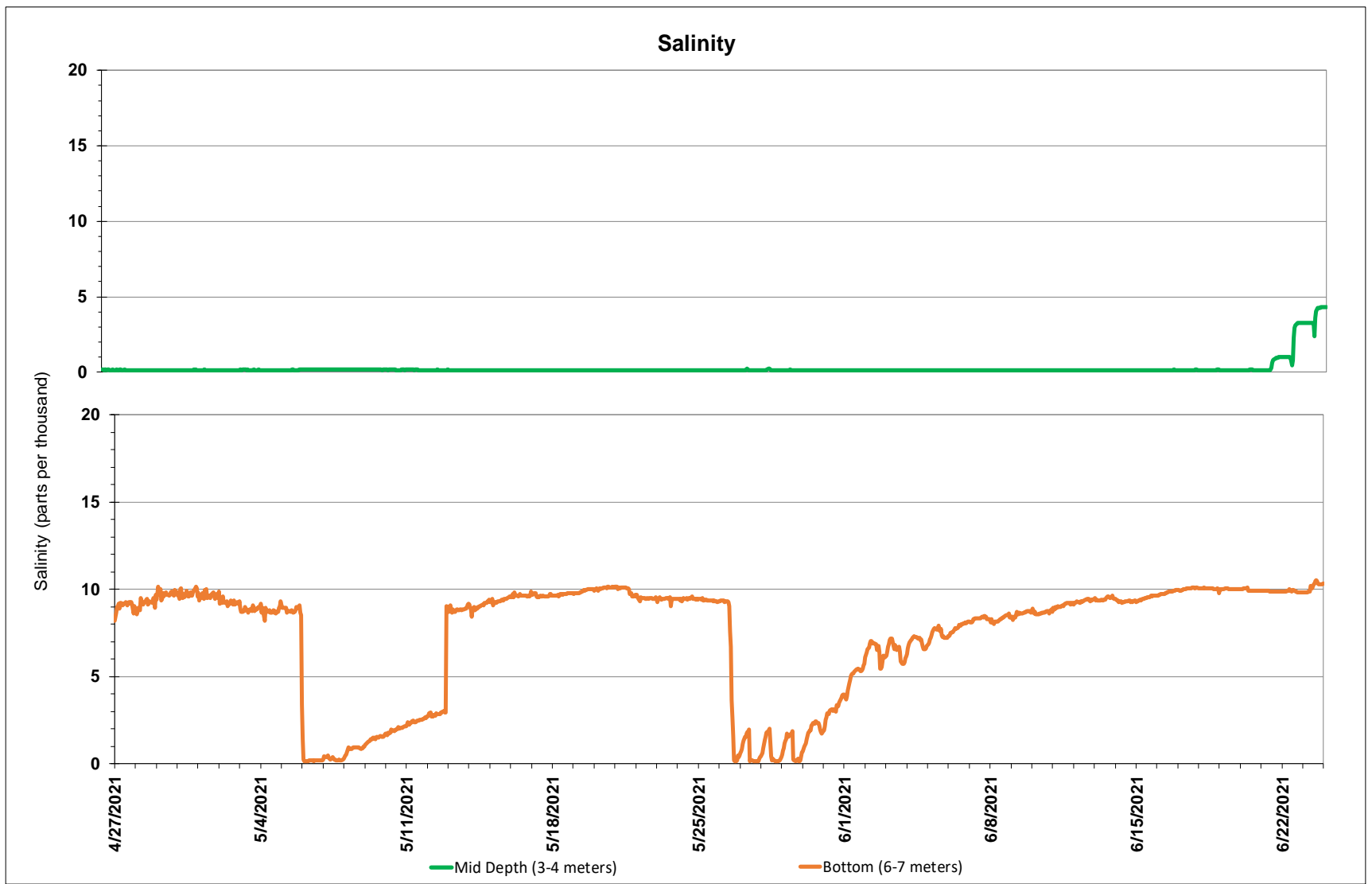
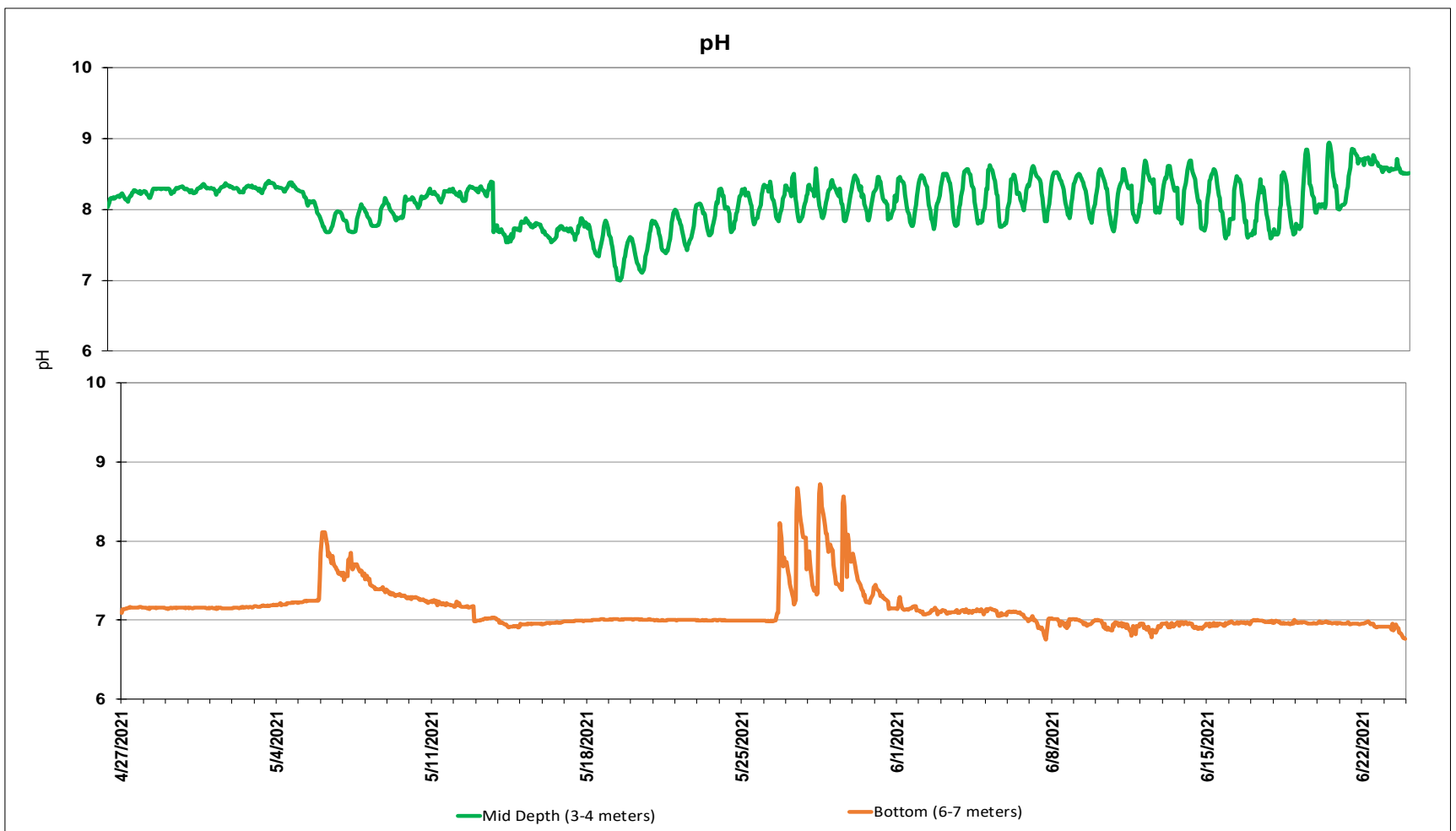
Hacienda Bridge Water Quality



Russian River Water Quality Sonde Data - Estuary (April 27 - August 26, 2021)
Provisional Data Subject to Revision
Russian River at Freezeout Creek Water Quality



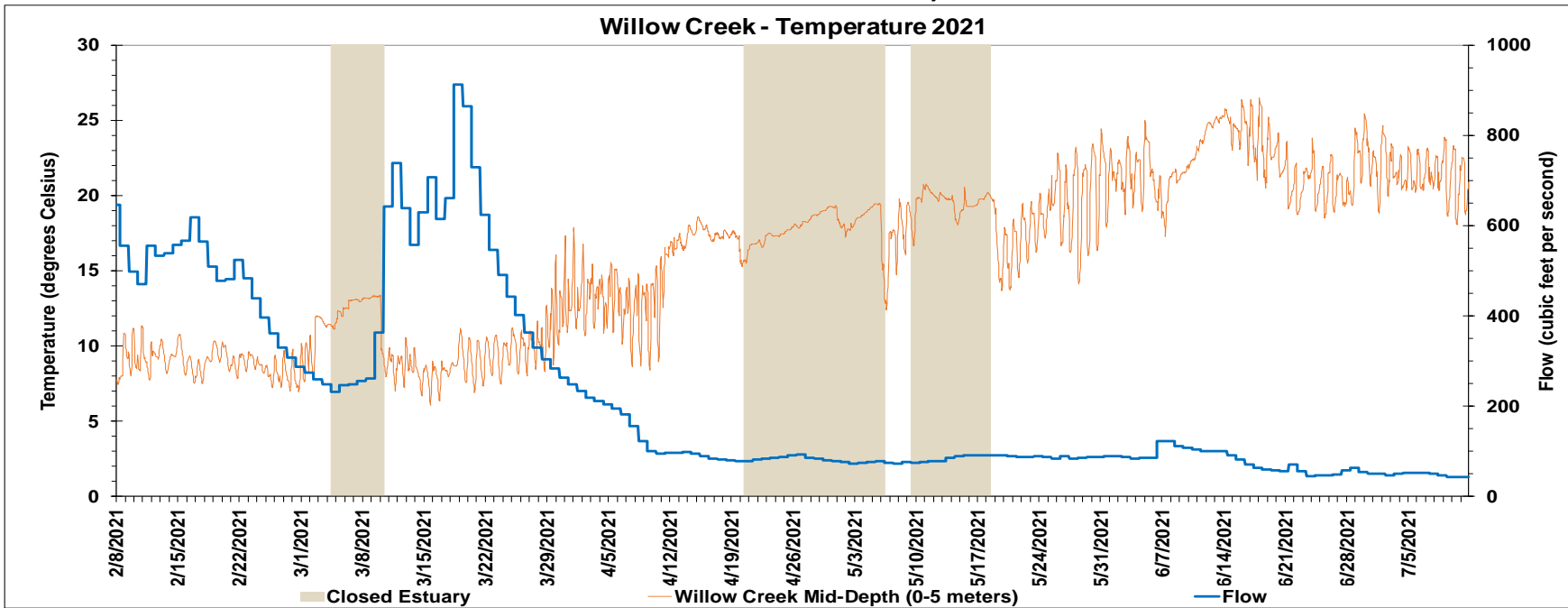
Russian River Water Quality Sonde Data - Estuary (April 27 - August 26, 2021)
Provisional Data Subject to Revision
Russian River at Freezeout Creek Water Quality



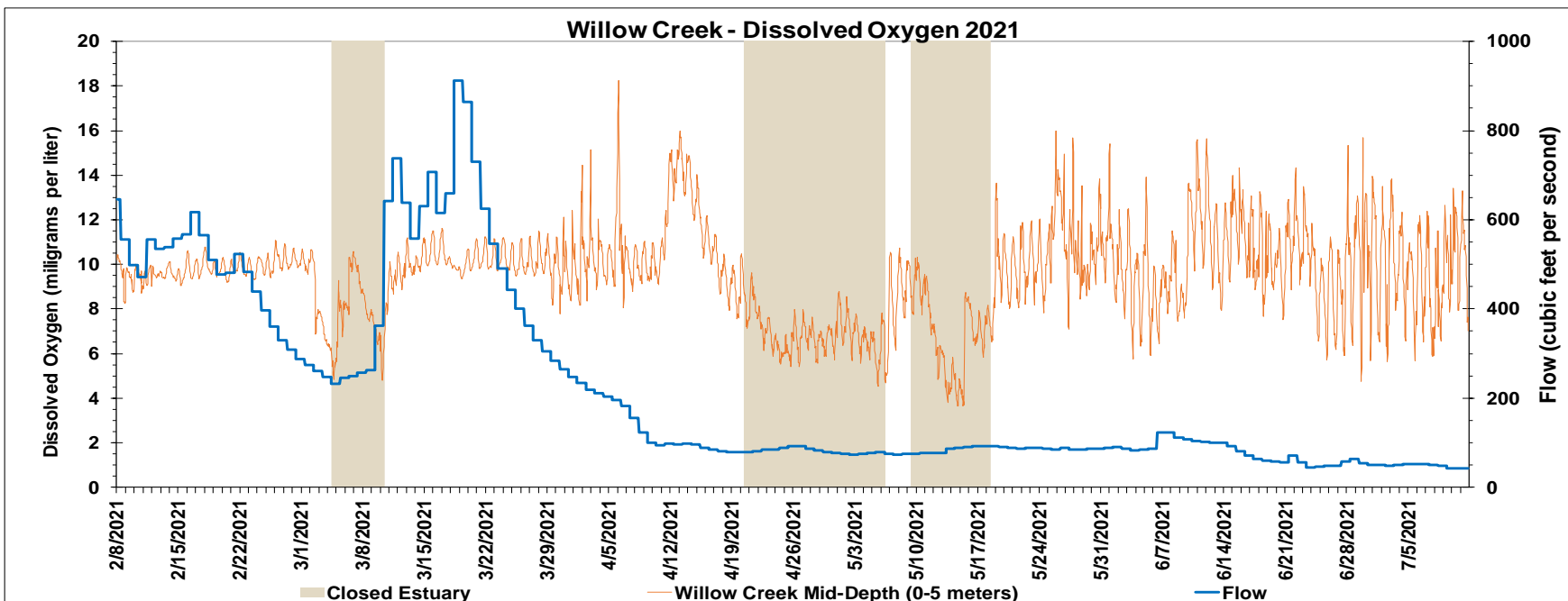
Russian River Water Quality Sonde Data - Estuary (February 28 - August 26, 2021)
Provisional Data Subject to Revision

Willow Creek Water Quality

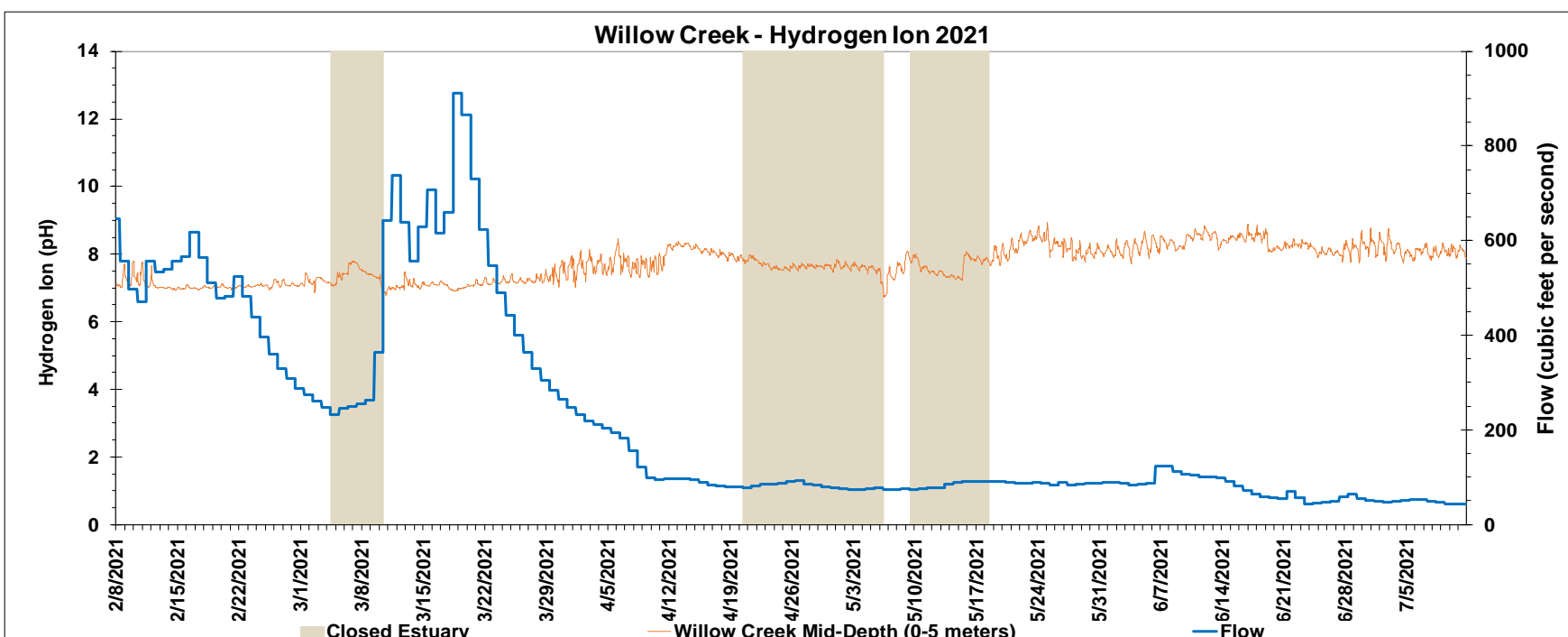
Willow Creek - Temperature 2021



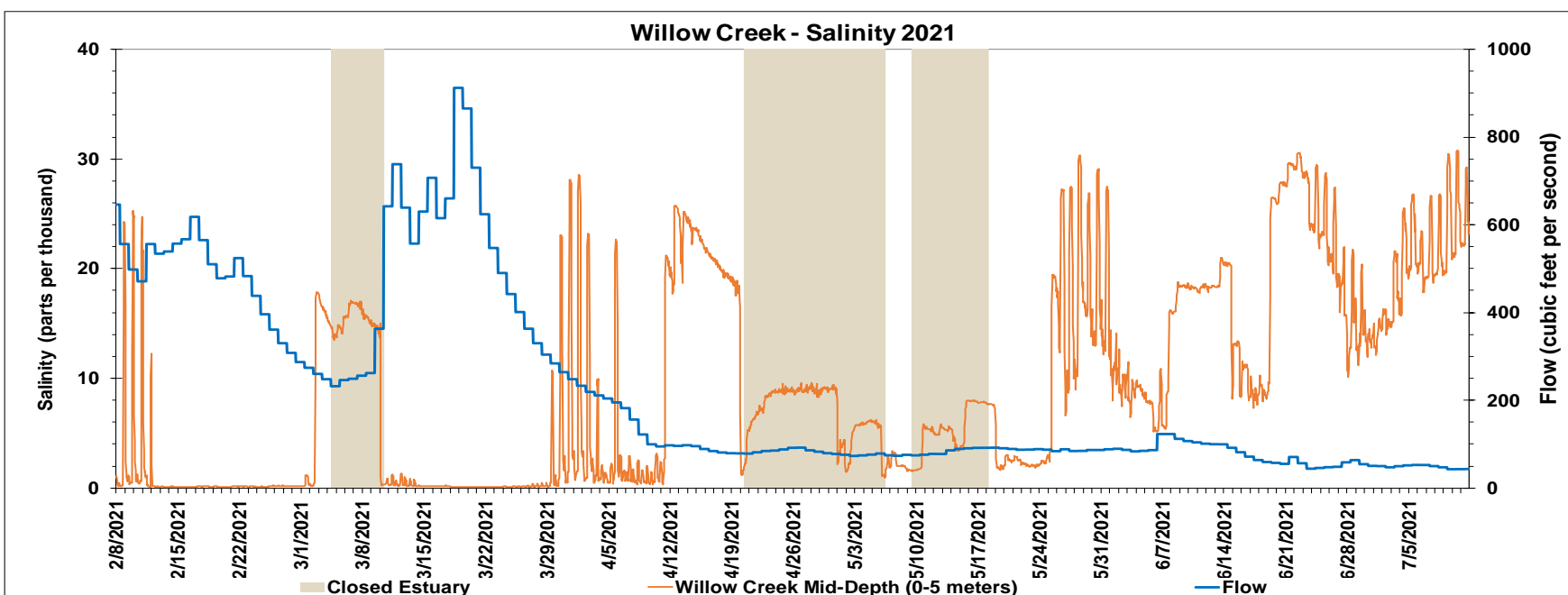
Willow Creek - Dissolved Oxygen 2021



Willow Creek - Hydrogen Ion 2021



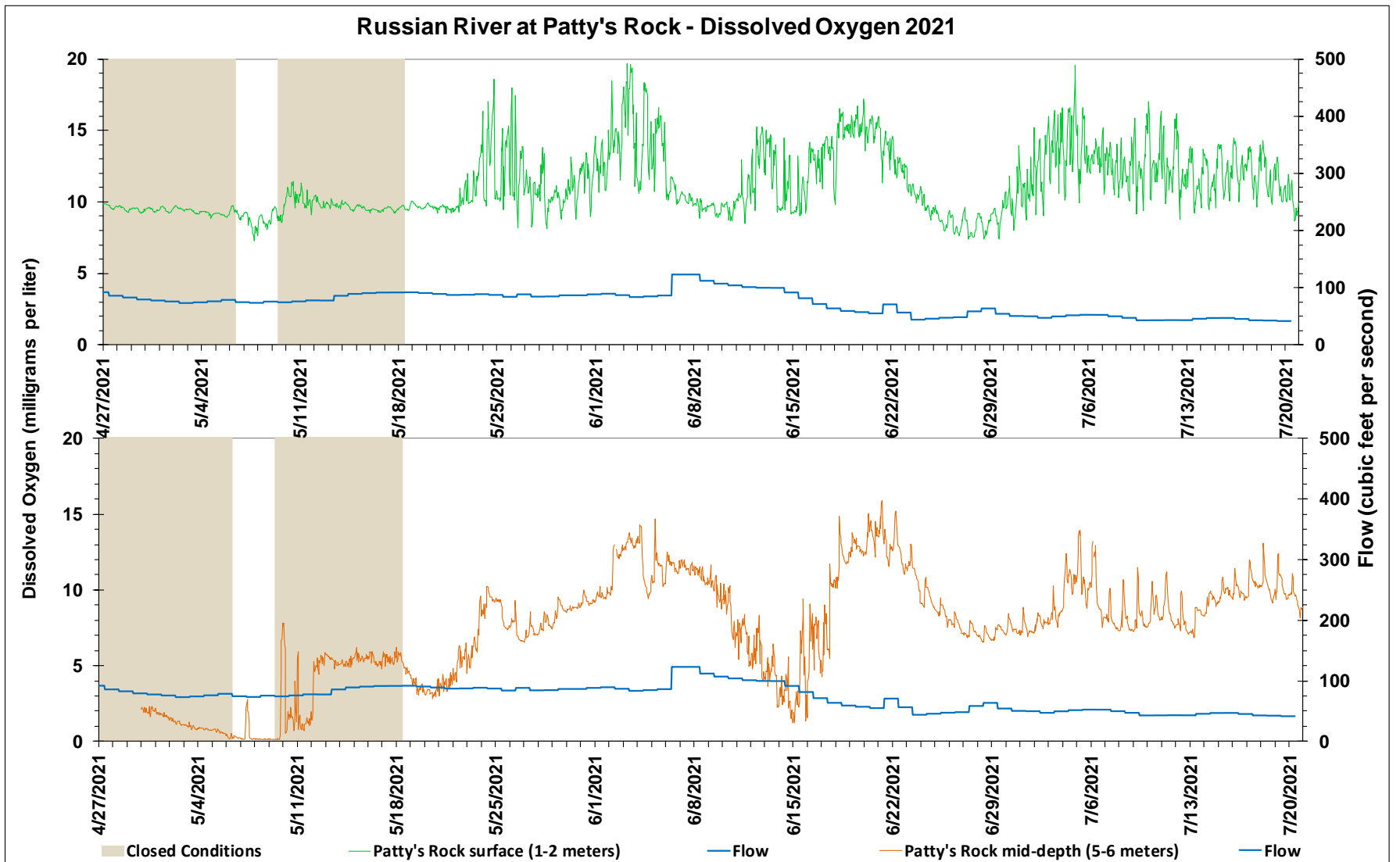
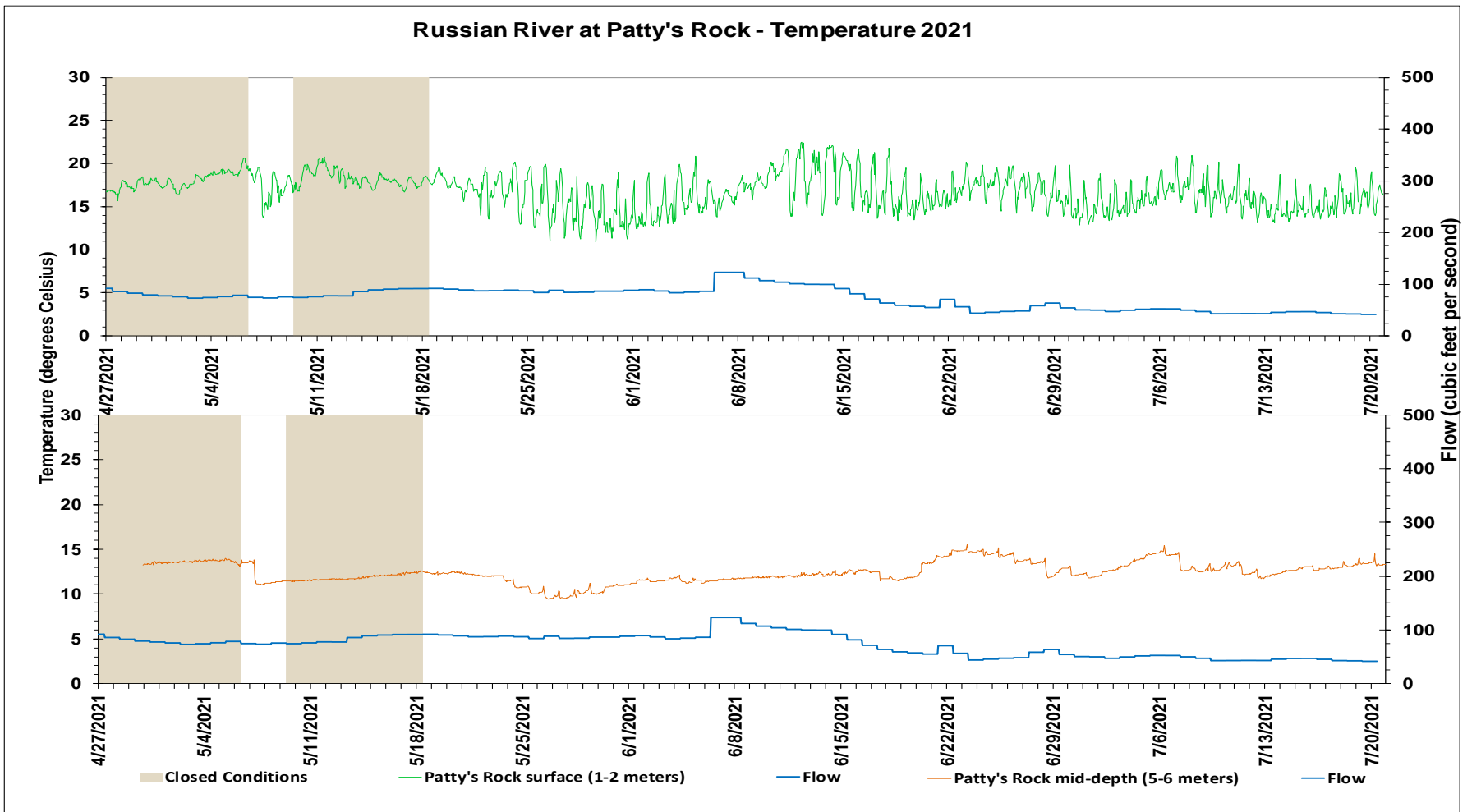
Willow Creek - Salinity 2021



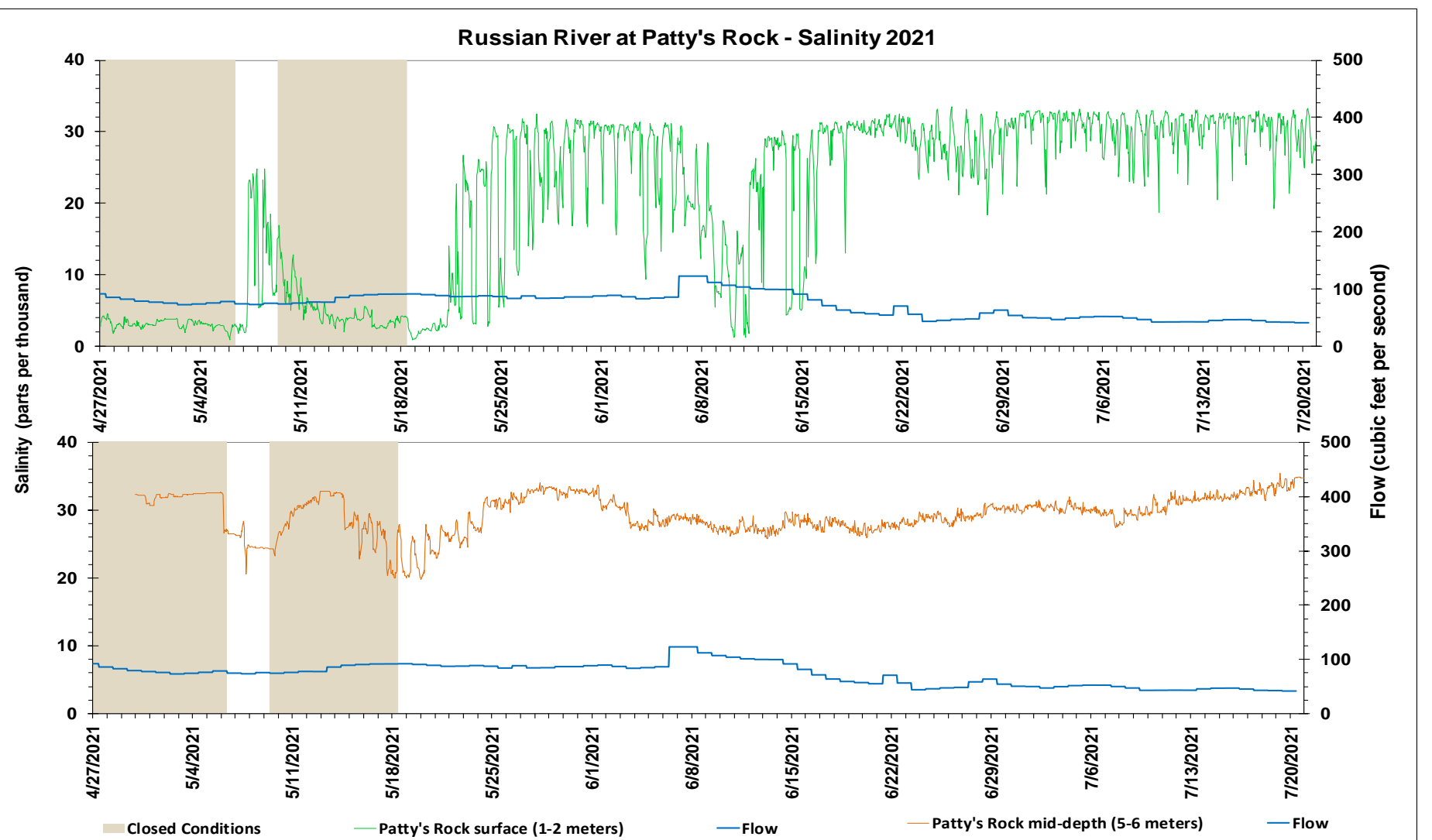
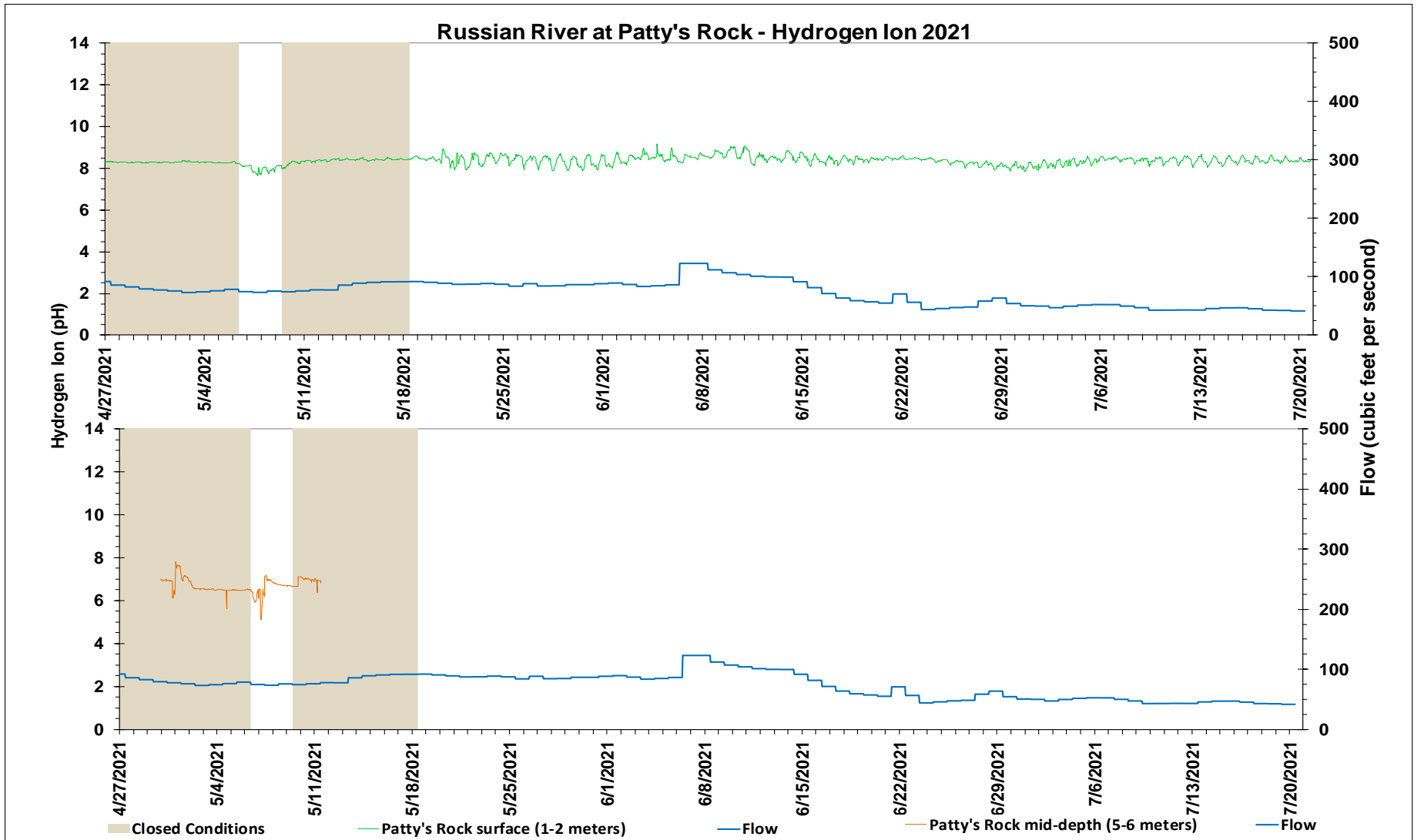
Russian River Water Quality Sonde Data - Estuary (April 27 - August 26, 2021)

Provisional Data Subject to Revision

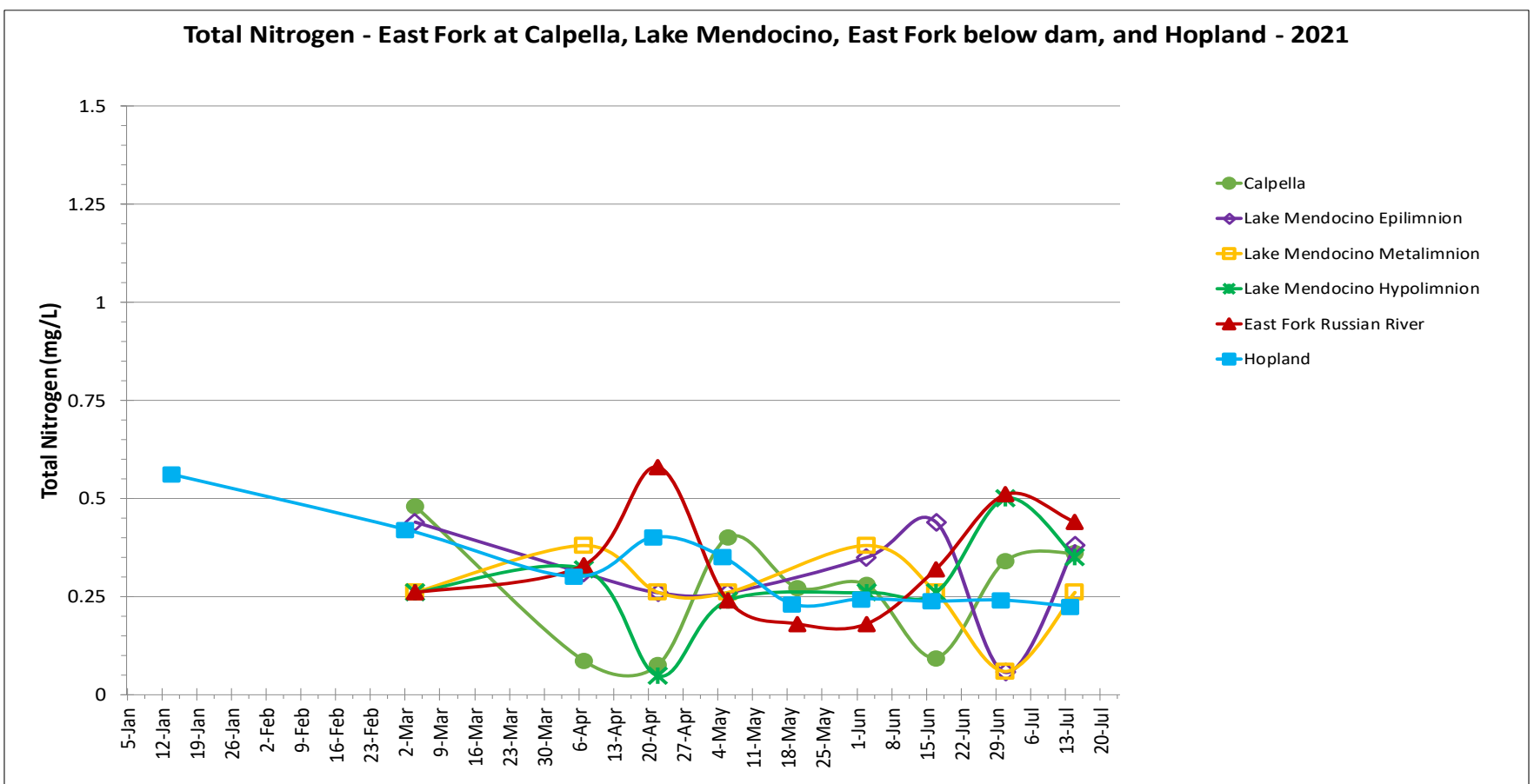
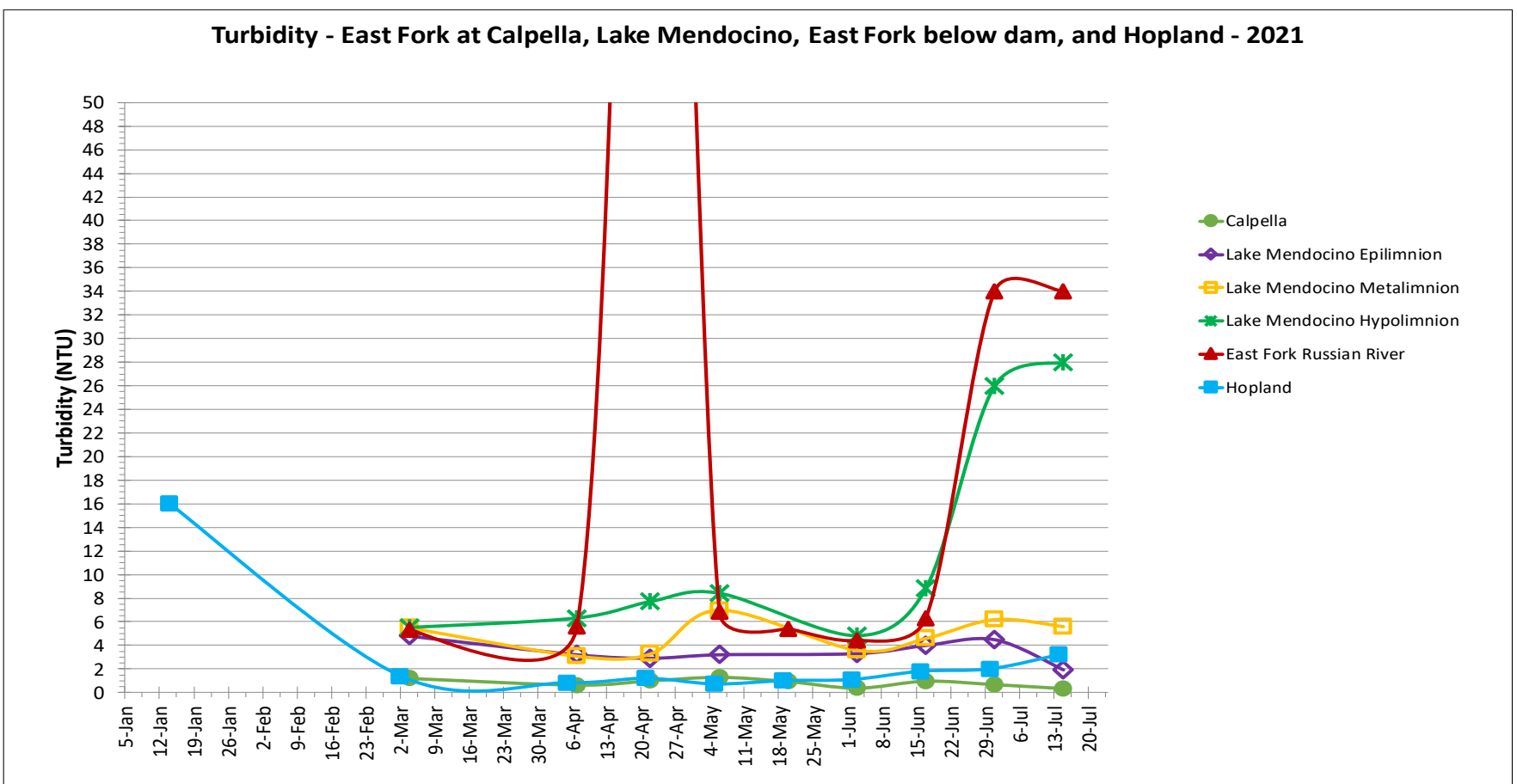
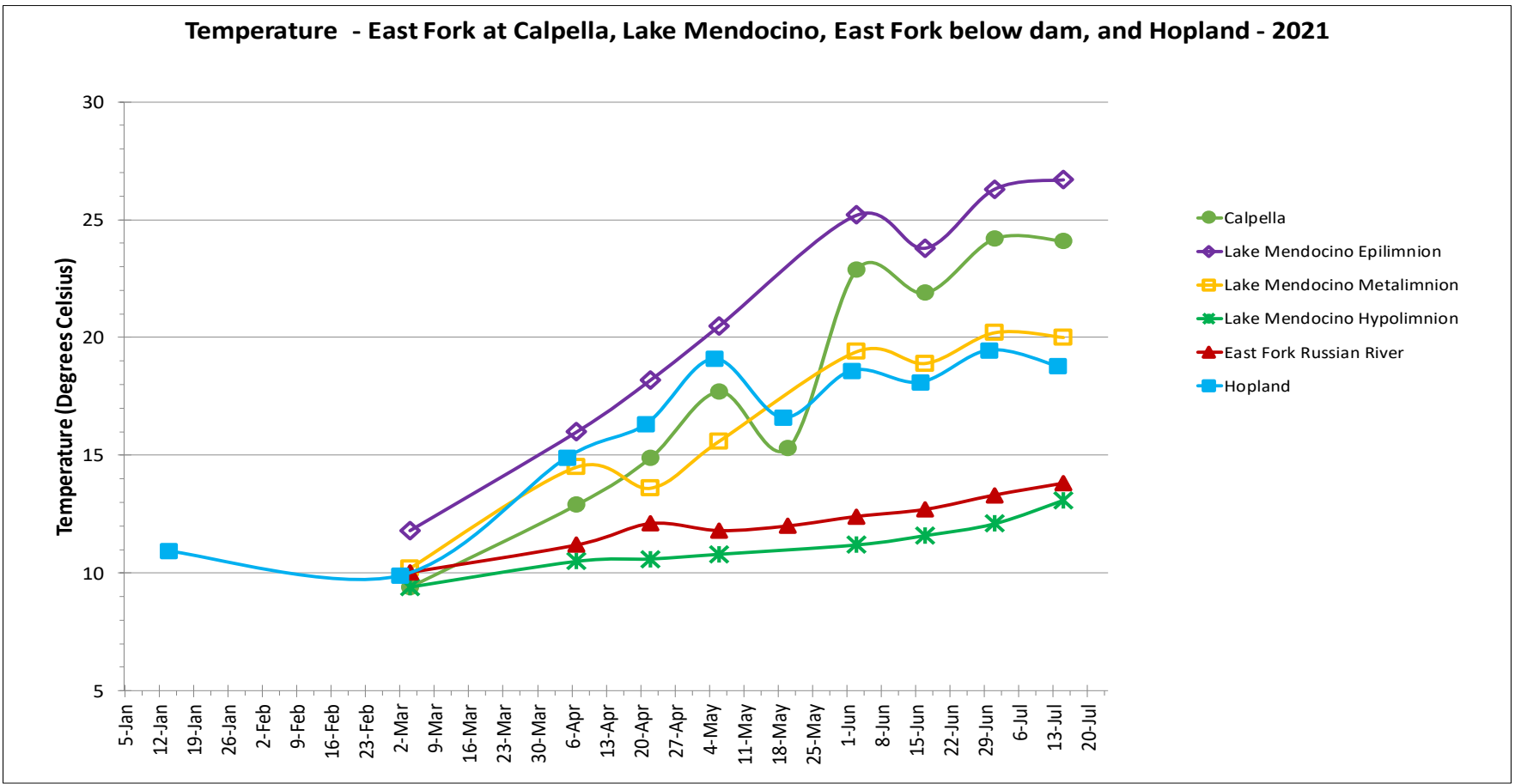
Russian River at Patty's Rock Water Quality



Russian River Water Quality Sonde Data - Estuary (April 27 - August 26, 2021)
Provisional Data Subject to Revision
Russian River at Patty's Rock Water Quality



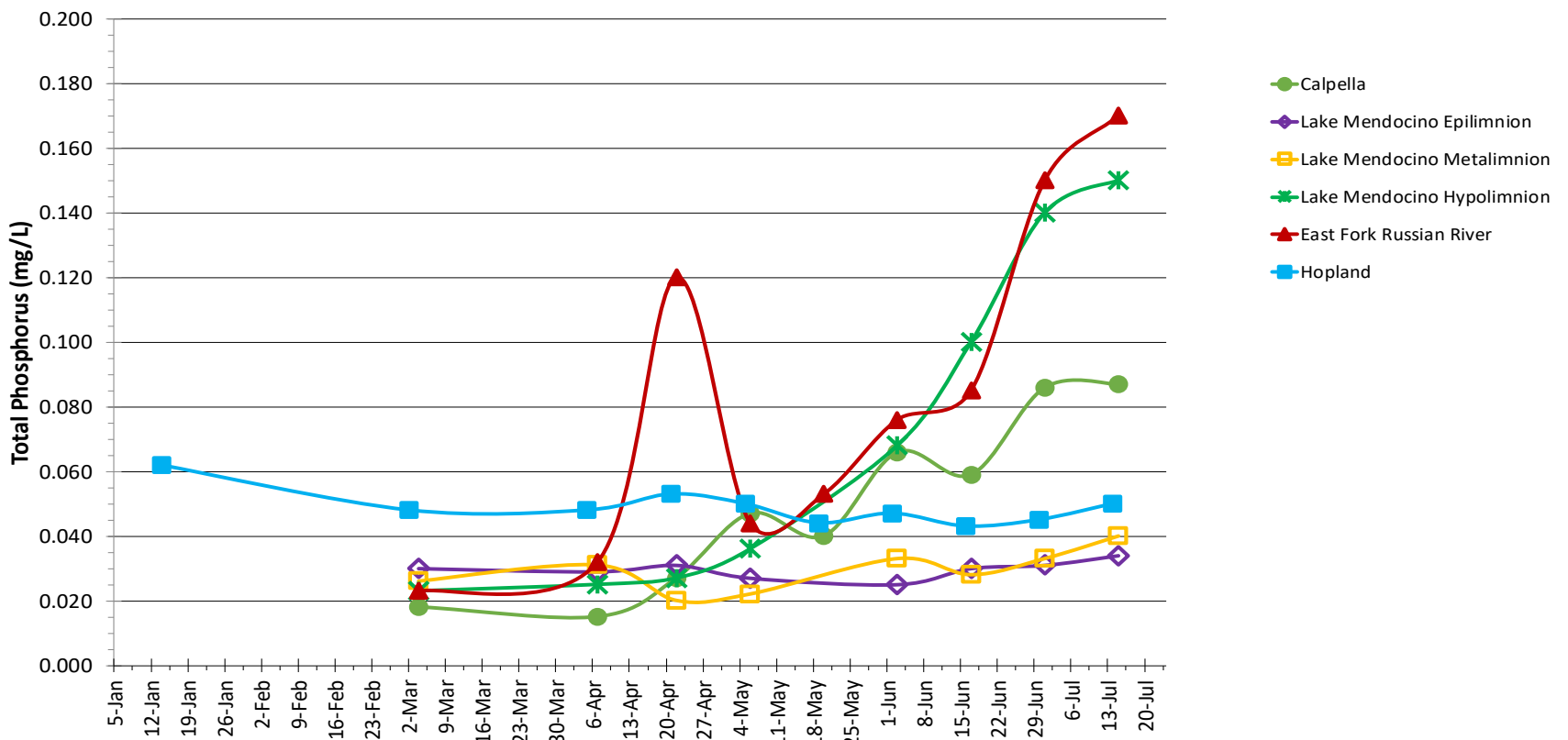
Russian River Water Quality Grab Samples (January 14 - August 26, 2021)
Provisional Data Subject to Revision
Lake Mendocino to Hopland Water Quality



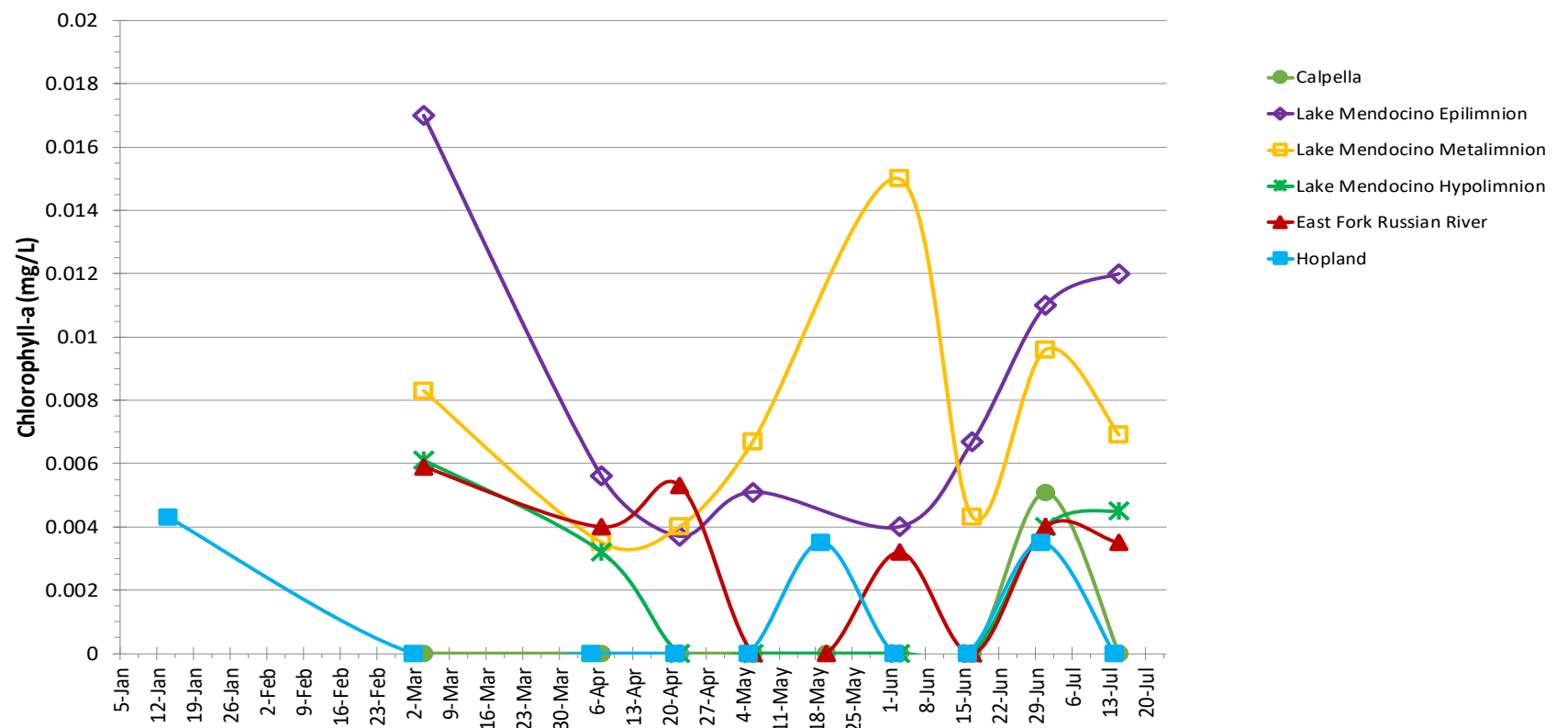
*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples (January 14 - August 26, 2021)
 Provisional Data Subject to Revision
 Lake Mendocino to Hopland Water Quality

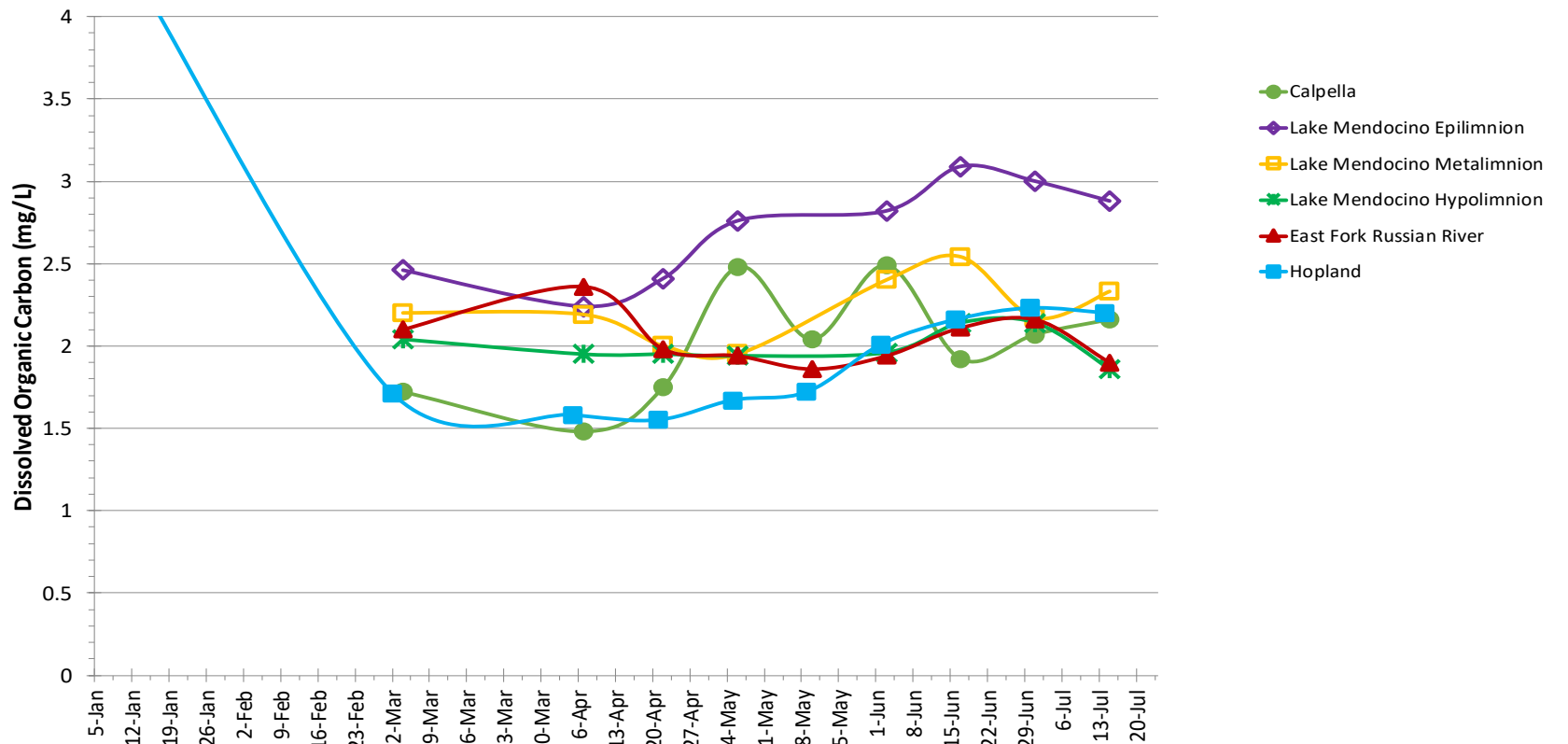
Total Phosphorus - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



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

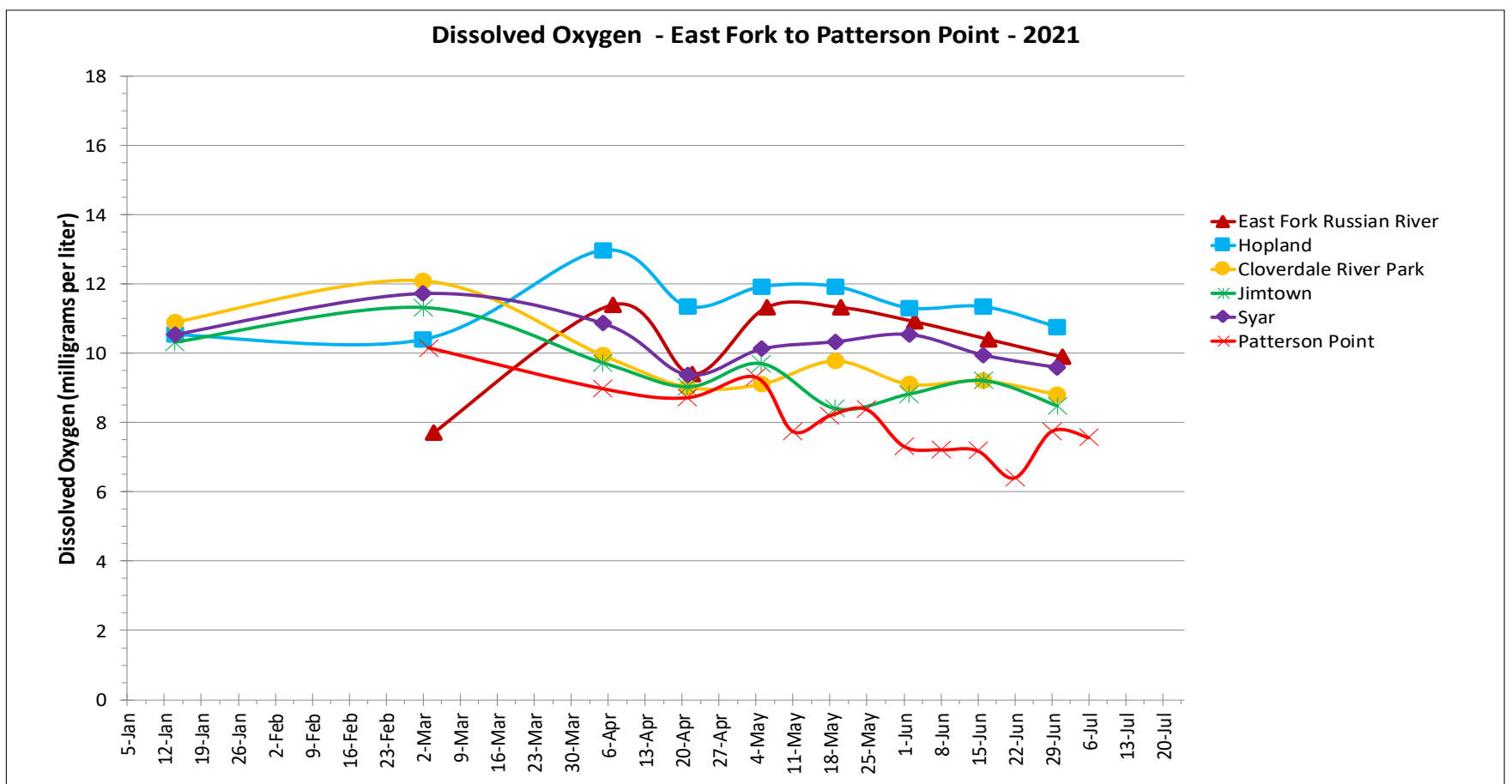
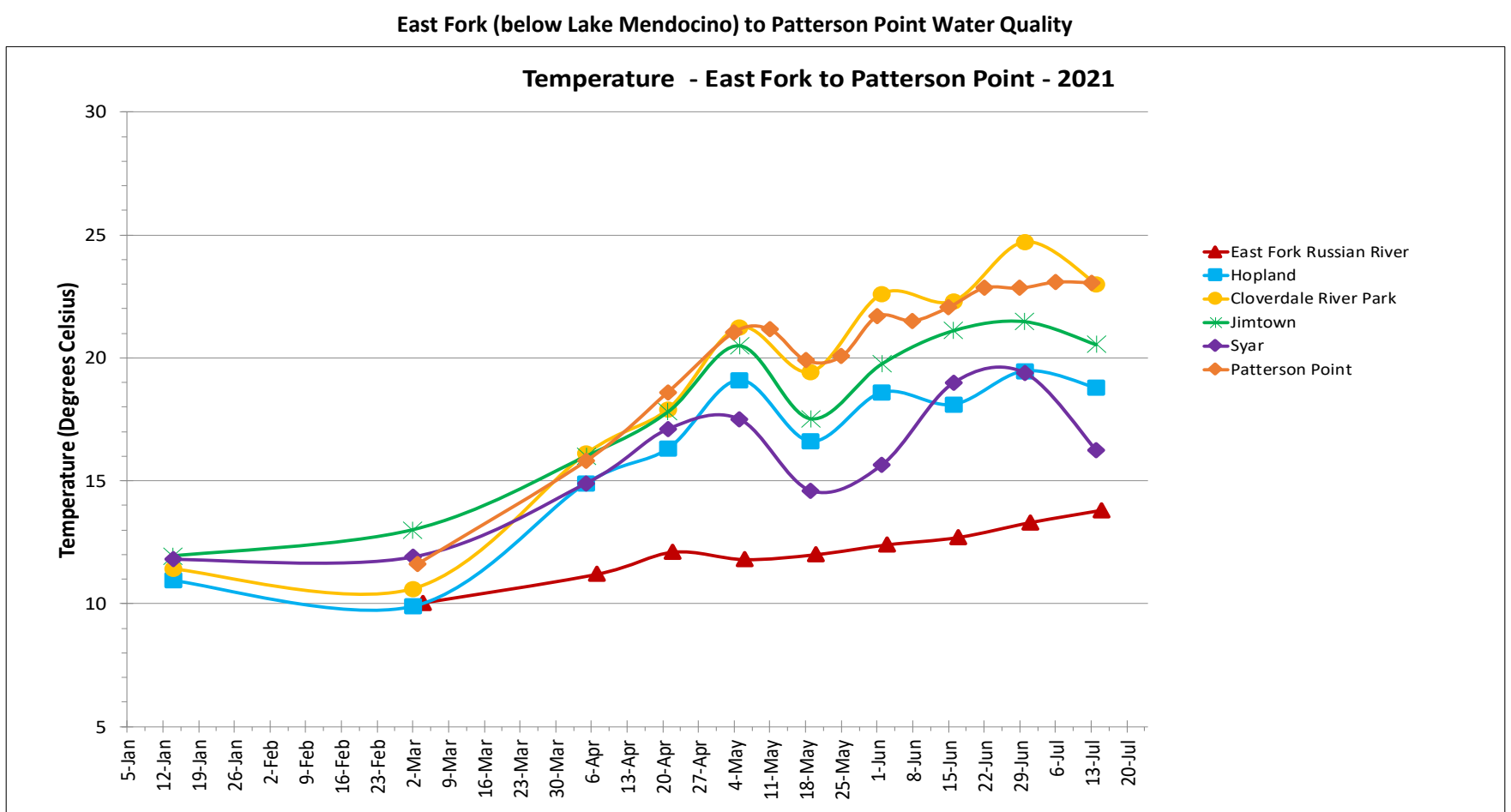
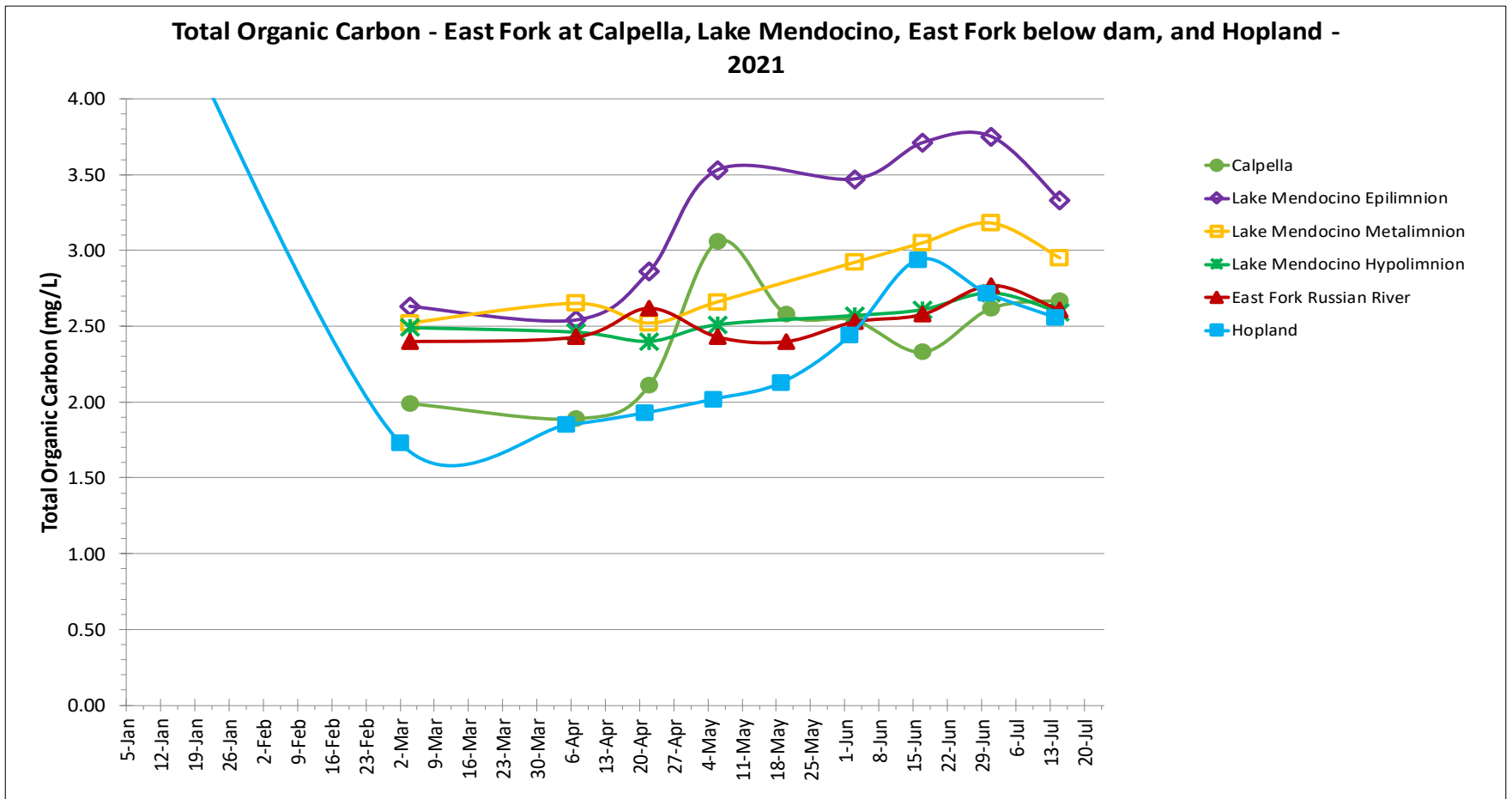


Dissolved Organic Carbon - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021



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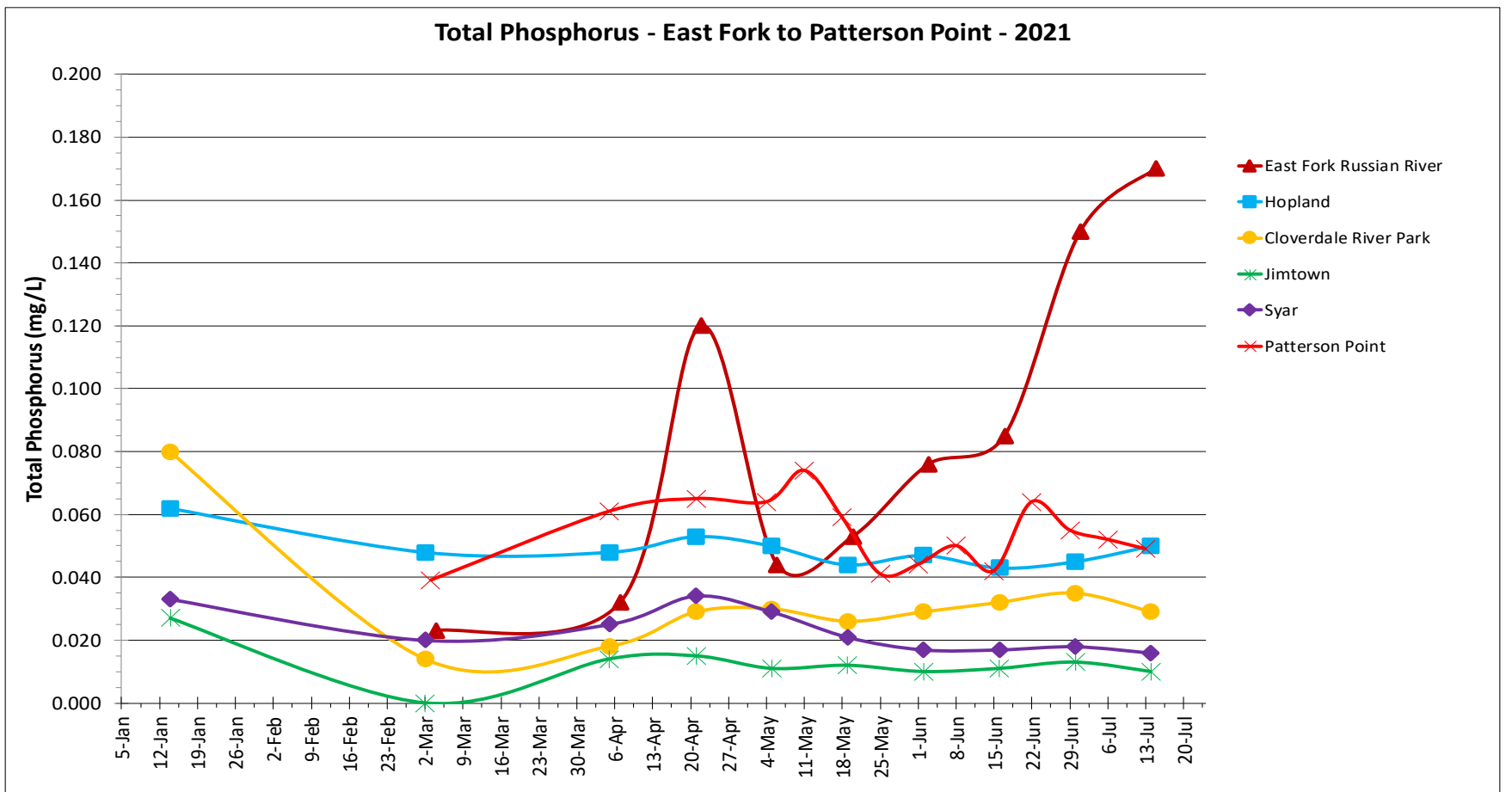
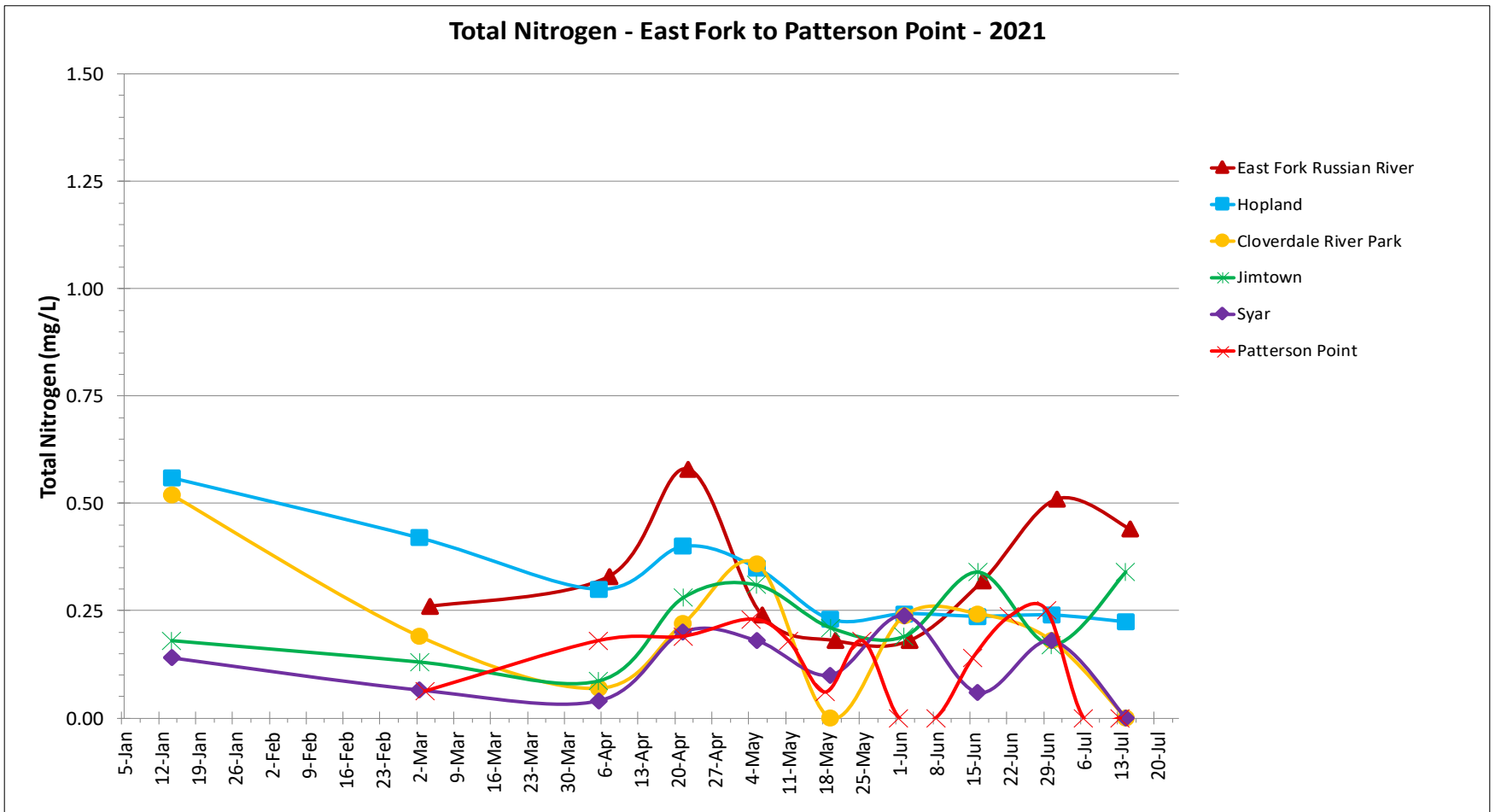
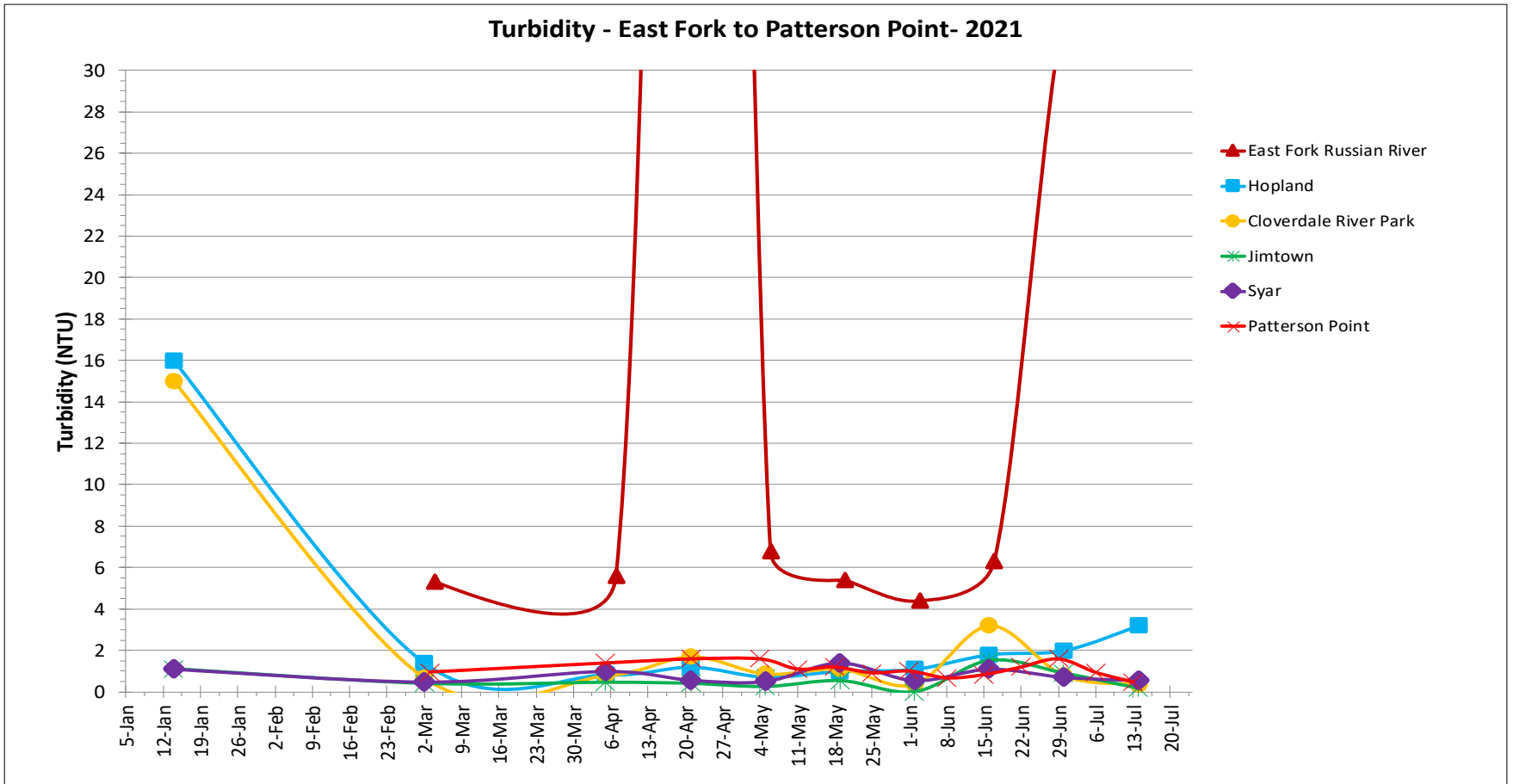
Russian River Water Quality Grab Samples (January 14 - August 26, 2021)
Provisional Data Subject to Revision
Lake Mendocino to Hopland Water Quality



*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 - August 26, 2021)
 Provisional Data Subject to Revision

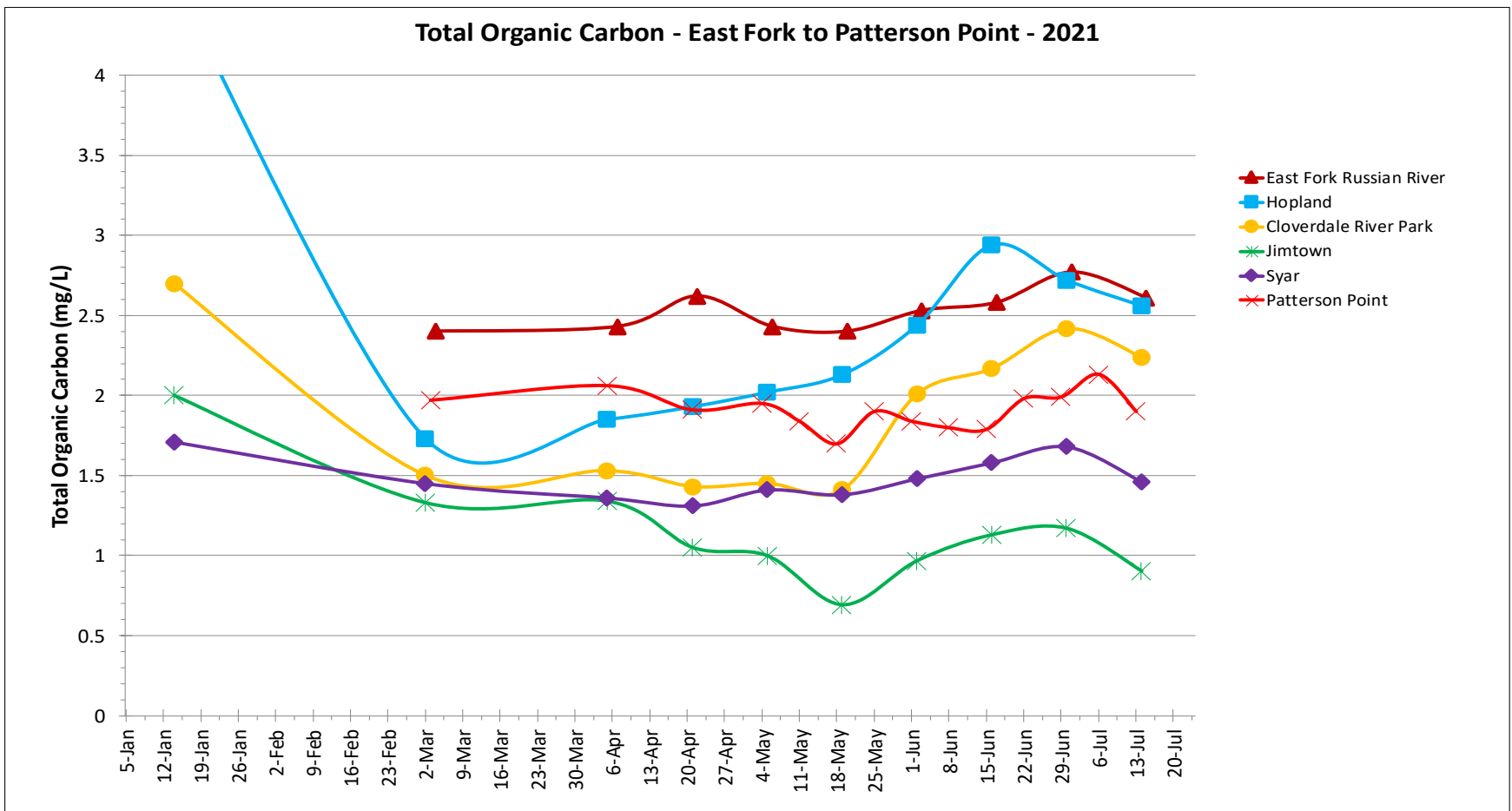
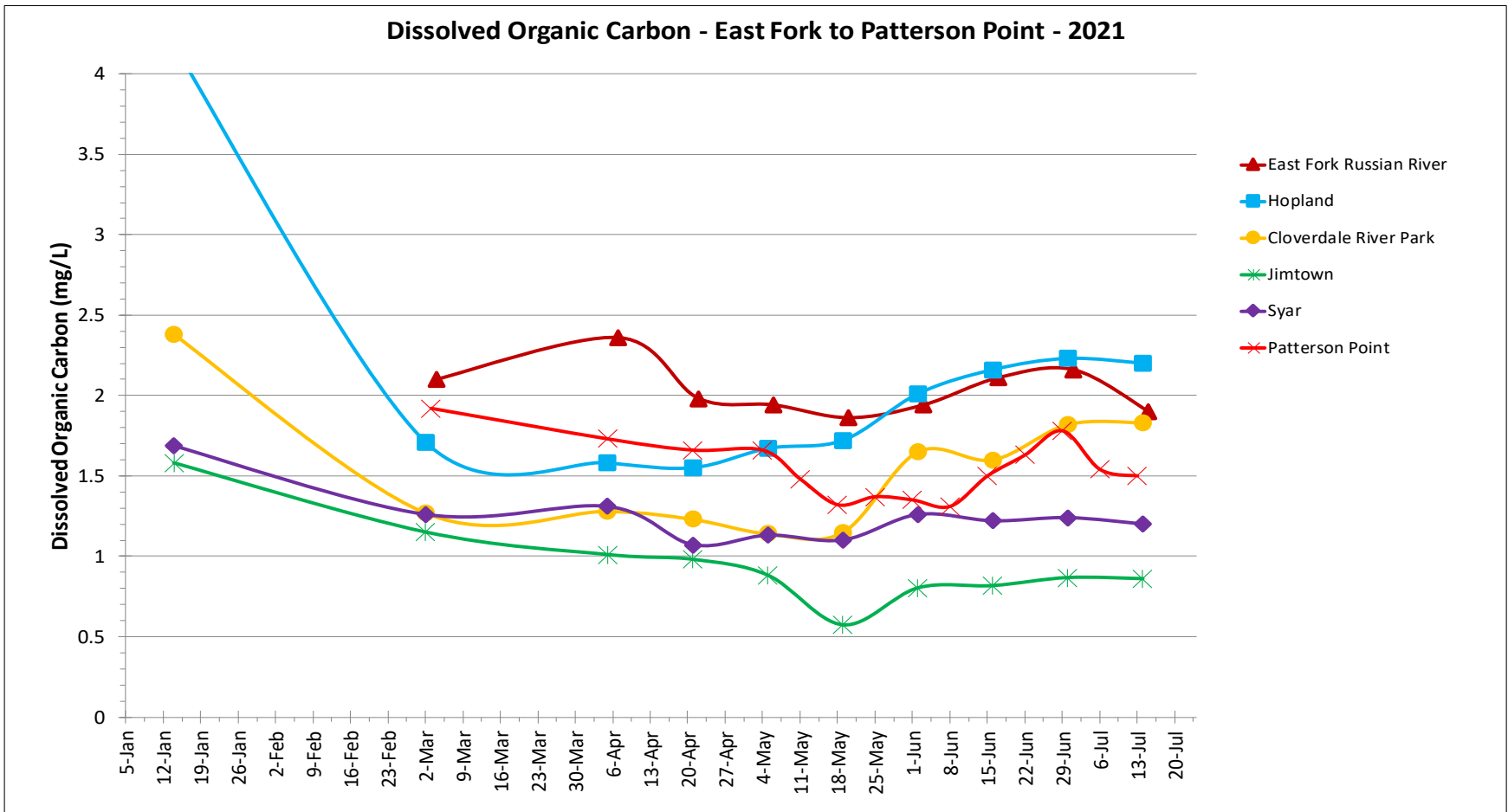
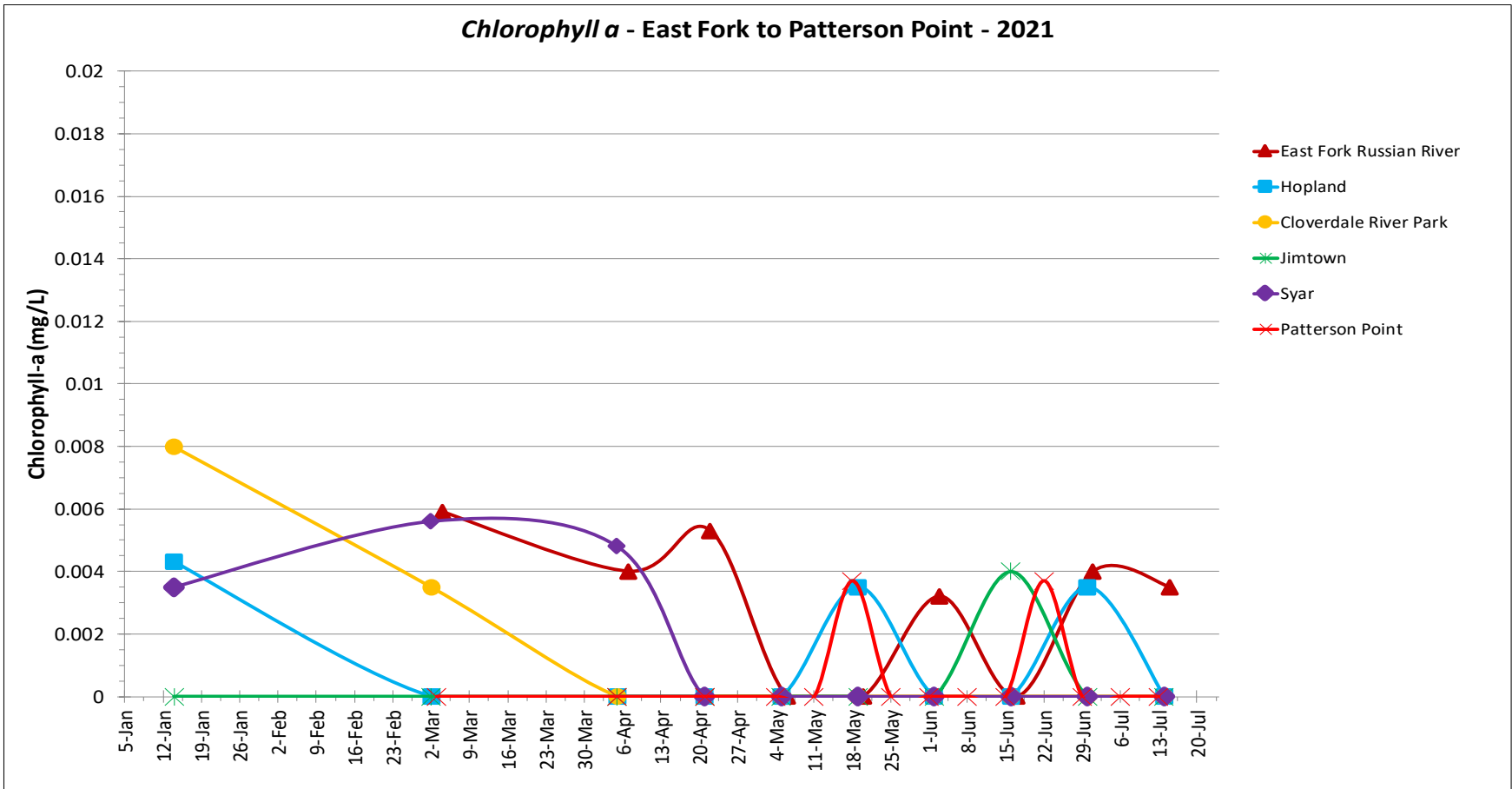
East Fork (below Lake Mendocino) to Patterson Point Water Quality



*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 - August 26, 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

*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				