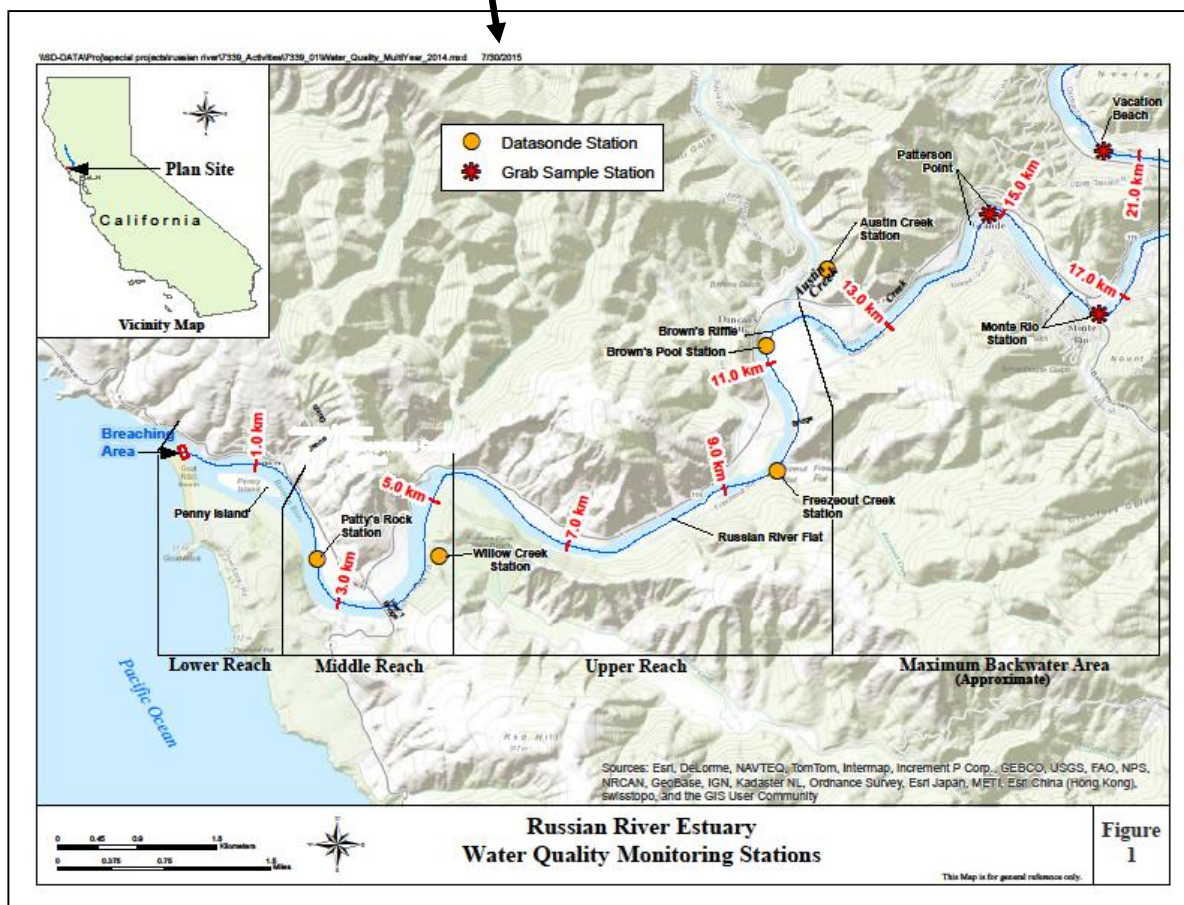




Sonoma Water

# State Water Resources Control Board Temporary Urgency Change Order (6/14/2021) Russian River Water Quality Report September 24, 2021 - September 30, 2021

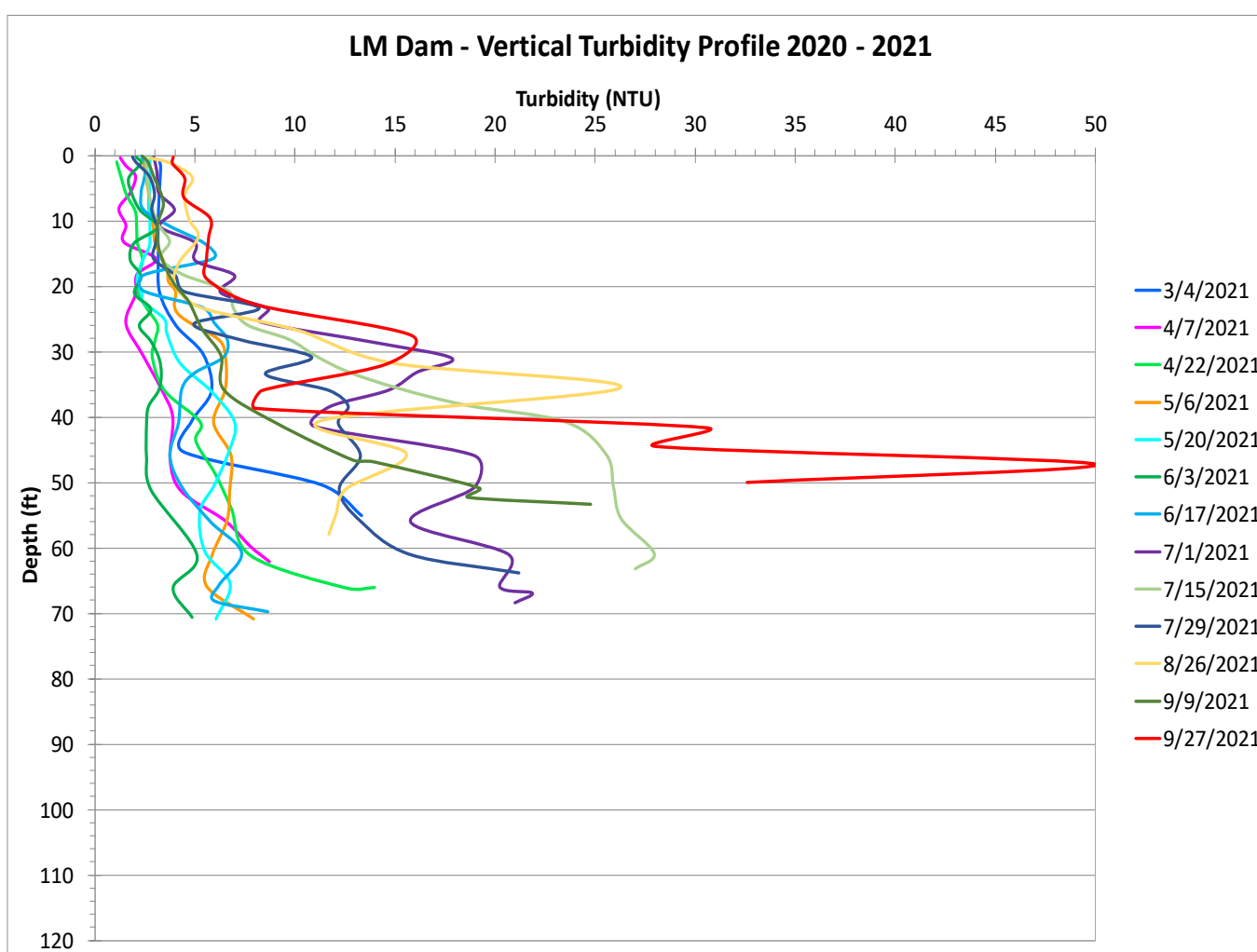
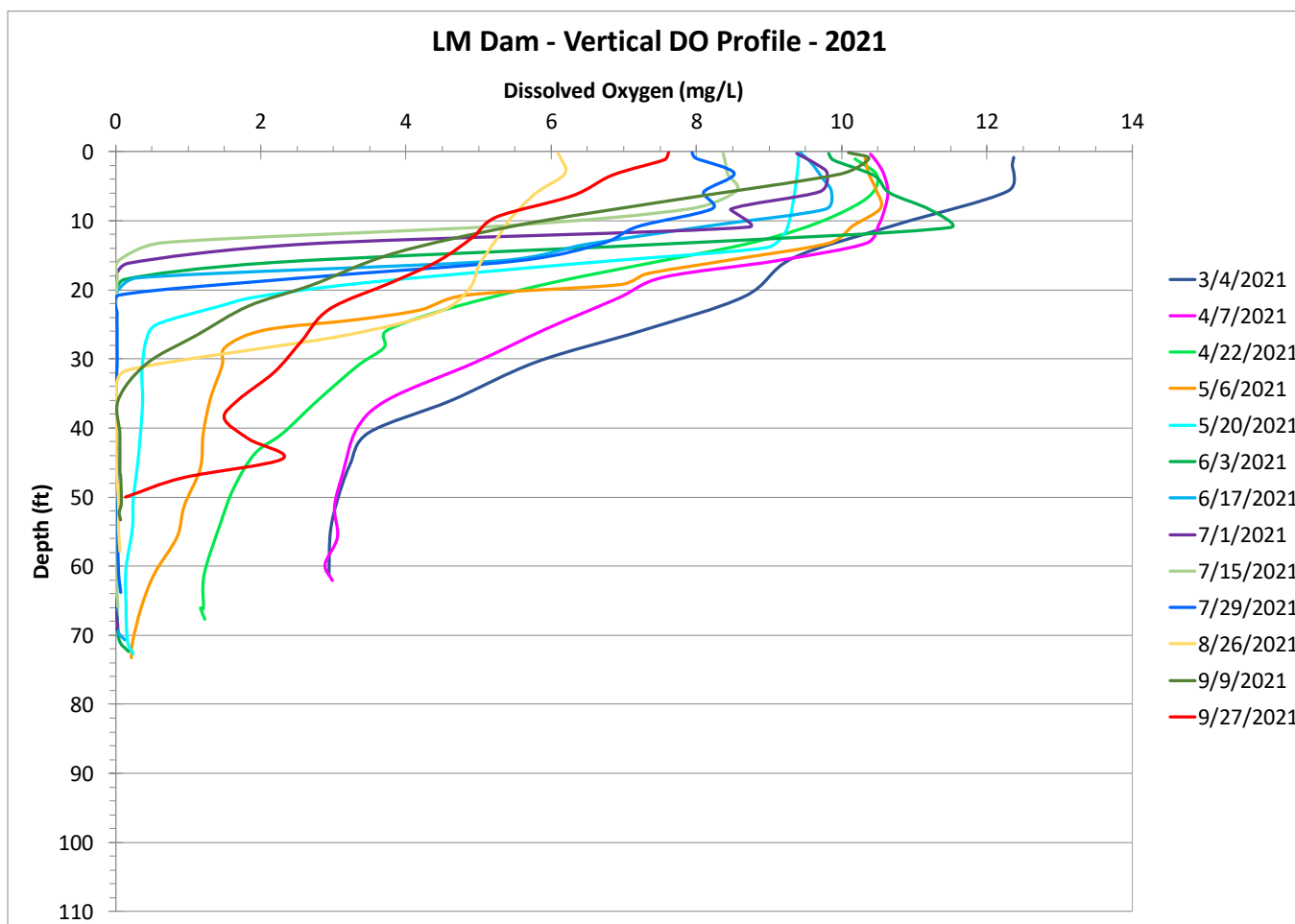
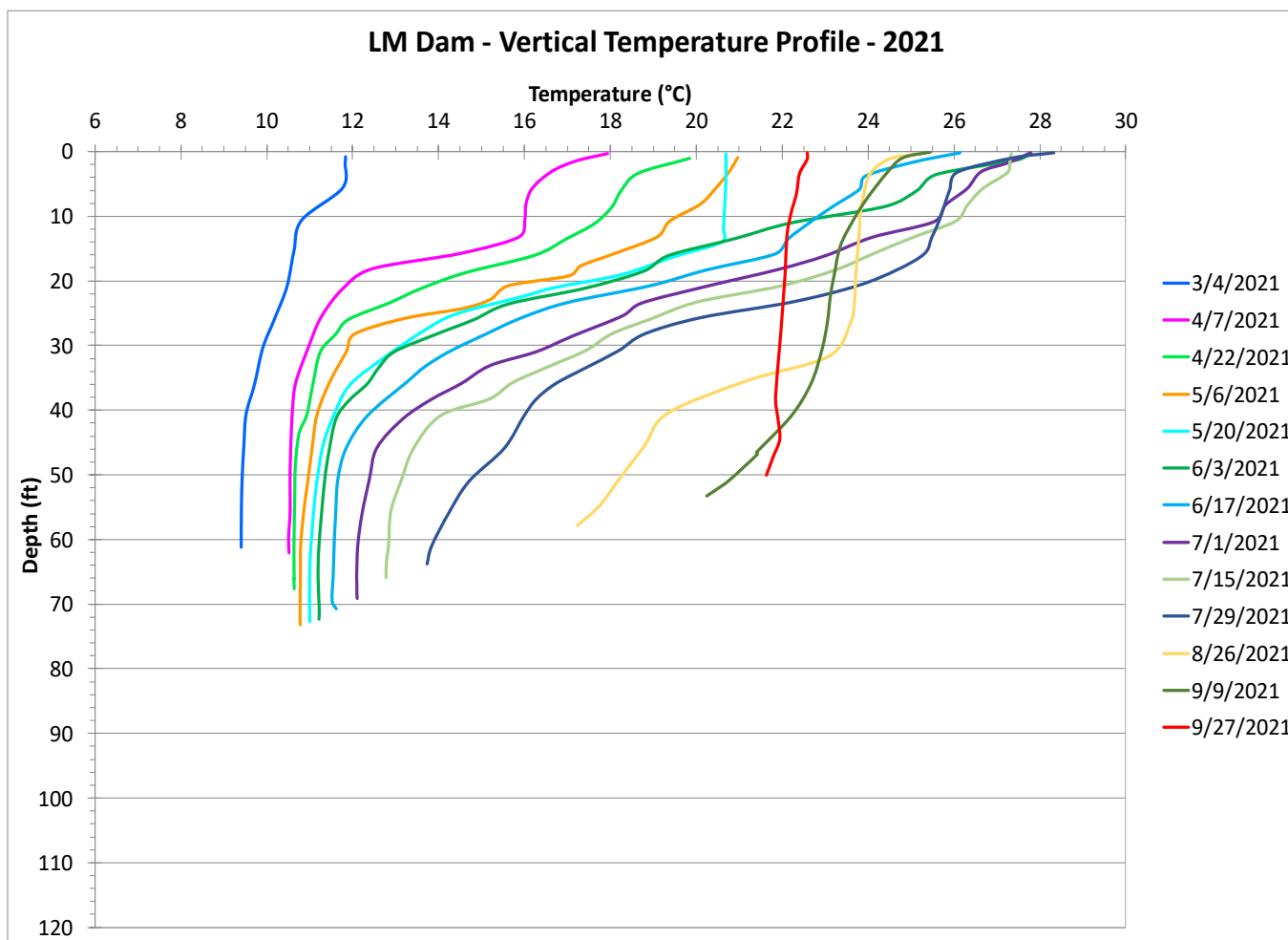
Prepared as a requirement of the Order approving Sonoma Water's Petition for Temporary Urgency Change in Permits 12947A, 12949, 12950, and 16596 (Applications 12919A, 15736, 15737, and 19351).



Russian River Estuary  
Water Quality Monitoring Stations

Figure 1

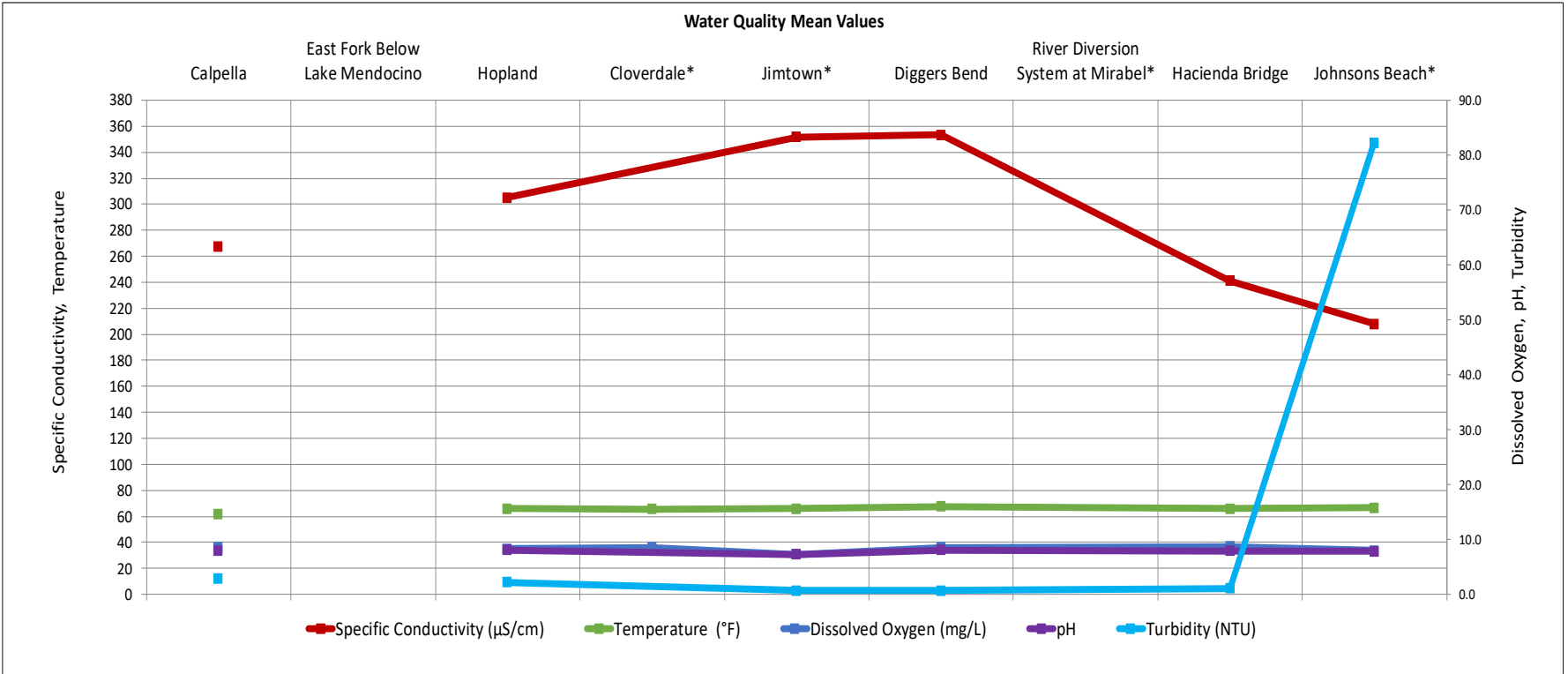
Lake Mendocino Water Quality Vertical Profiles (March 4 - September 30, 2021)  
Provisional Data Subject to Revision



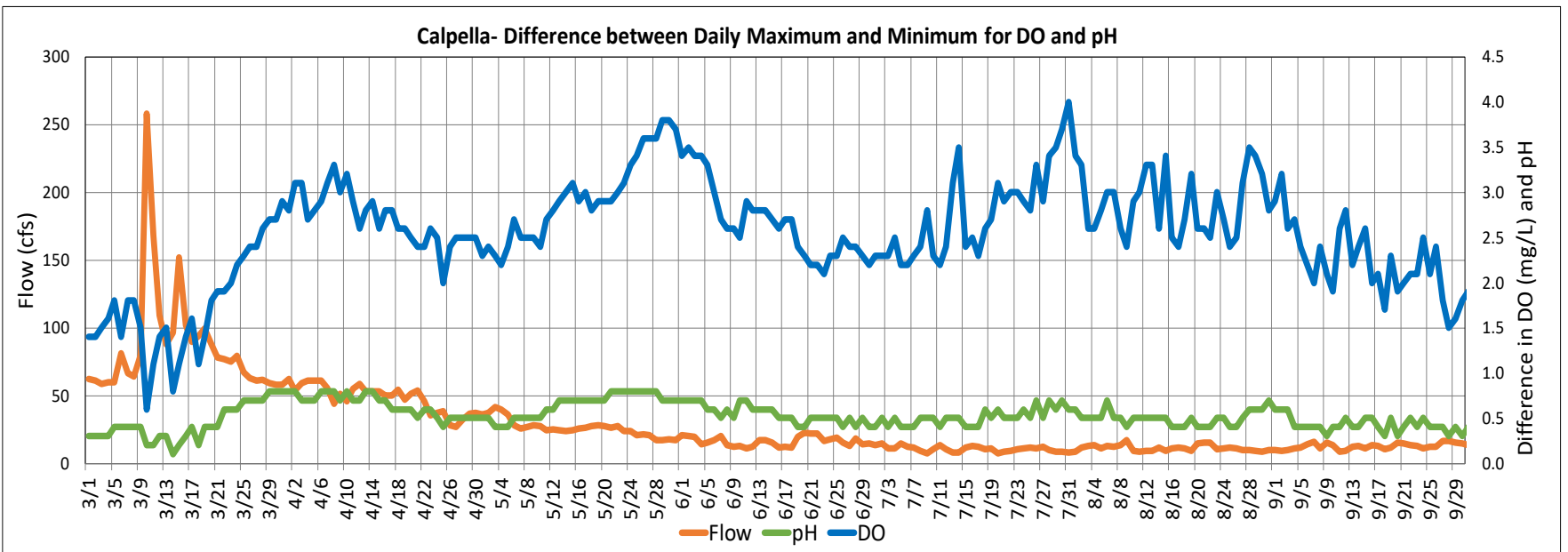
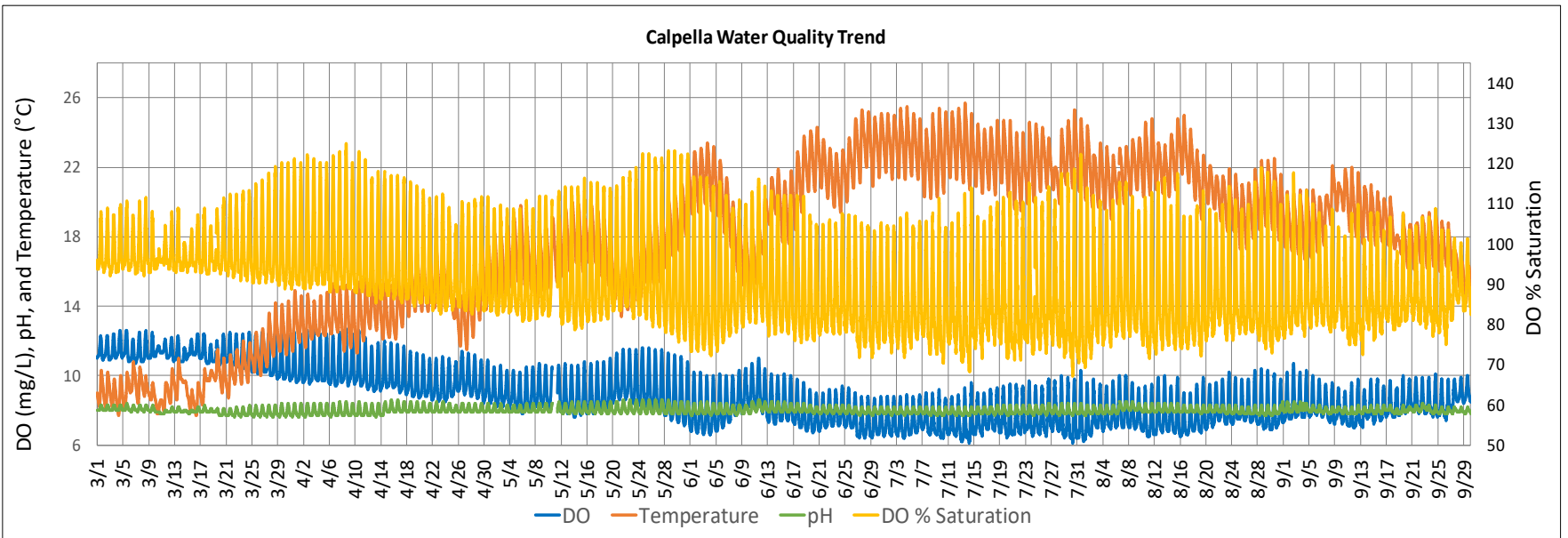
## Russian River Water Quality Sondes (September 24 - September 30, 2021) Provisional Data Subject to Revision

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	57.6		61.3	61.3	62.1	62.6		62.2	49.6
	Max	67.1		69.4	70.0	70.2	72.7		69.8	83.6
	Mean	61.9		65.8	65.6	66.1	67.6		65.9	66.7
Specific Conductivity (µS/cm)	Min	256		299		349	350		236	143
	Max	282		313		353	355		251	220
	Mean	268		305		352	353		241	208
Dissolved Oxygen (mg/L)	Min	7.4		6.2	7.6	5.2	6.8		7.8	3.2
	Max	10.1		11.0	9.8	10.5	10.5		10.1	11.4
	Mean	8.7		8.3	8.5	7.3	8.6		8.7	8.0
Dissolved Oxygen (% Saturation)	Min	72		63	77	53	70		79	28
	Max	109		121	110	118	120		113	145
	Mean	88		88	90	77	92		92	86
pH	Min	7.8		7.7		7.2	7.9		7.8	6.9
	Max	8.3		8.5		7.5	8.3		8.1	8.6
	Mean	7.9		8.1		7.3	8.1		7.9	7.8
Turbidity (NTU)	Min	0.9		1.2		0.3	0.3		0.5	1.7
	Max	9.5		6.7		1.3	1.7		2.5	907.6
	Mean	2.9		2.2		0.7	0.7		1.1	82.3

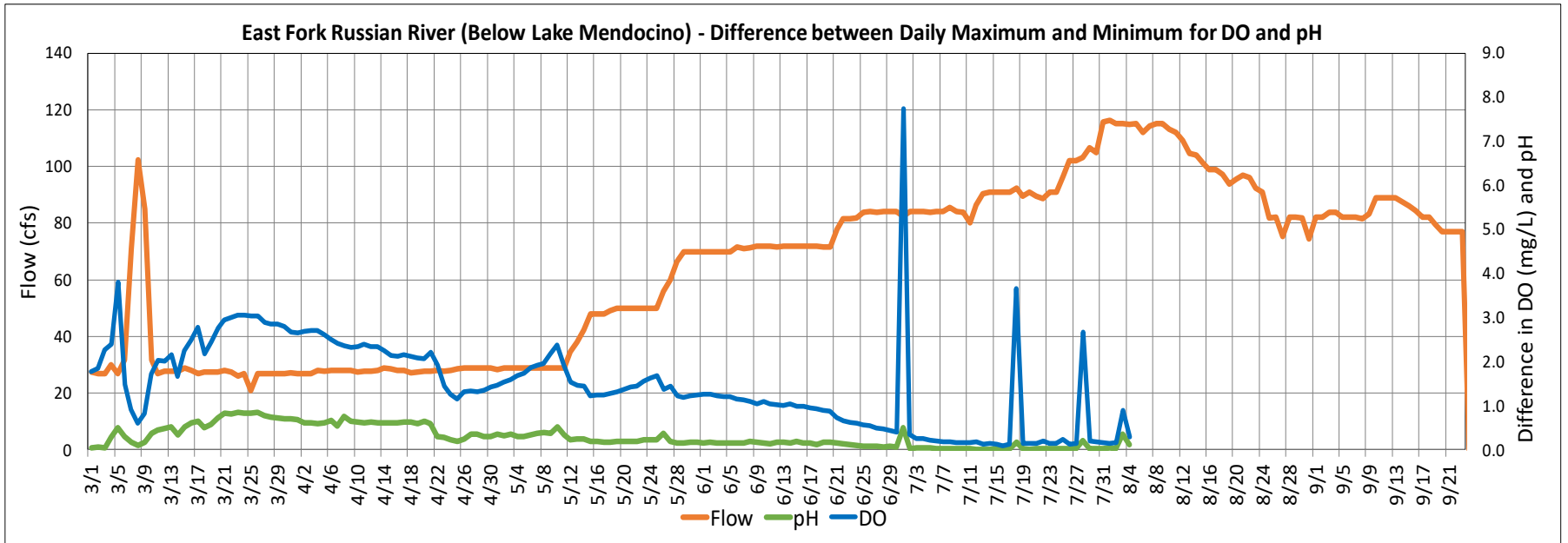
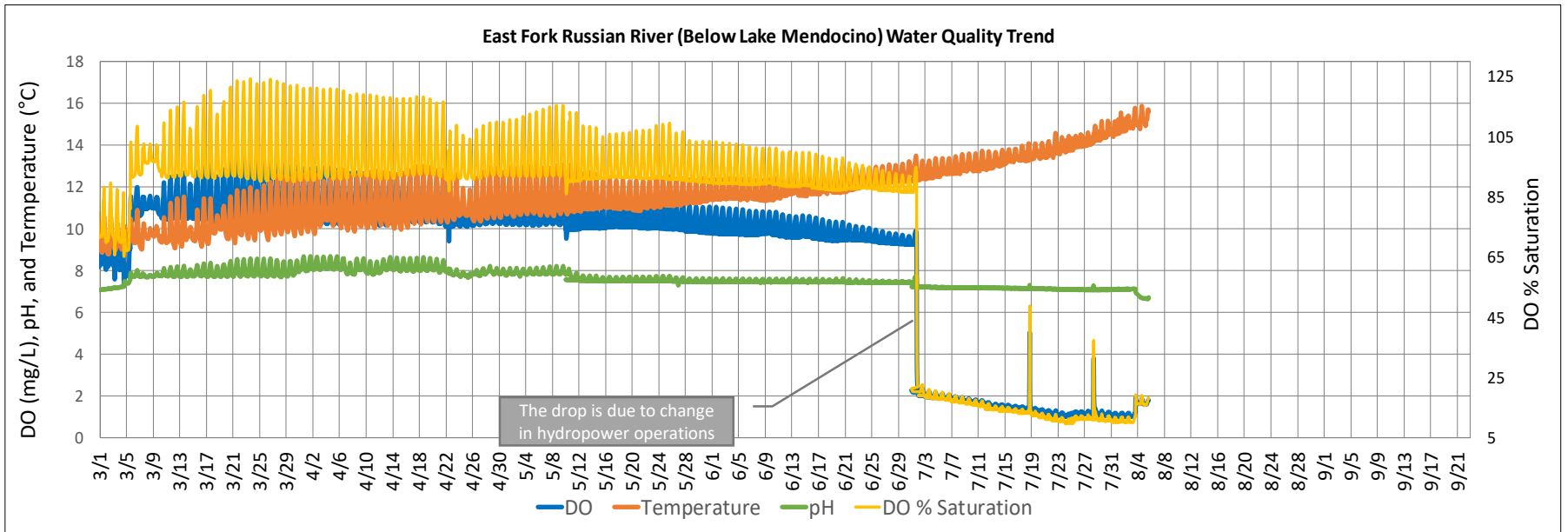
\*Station operated seasonally



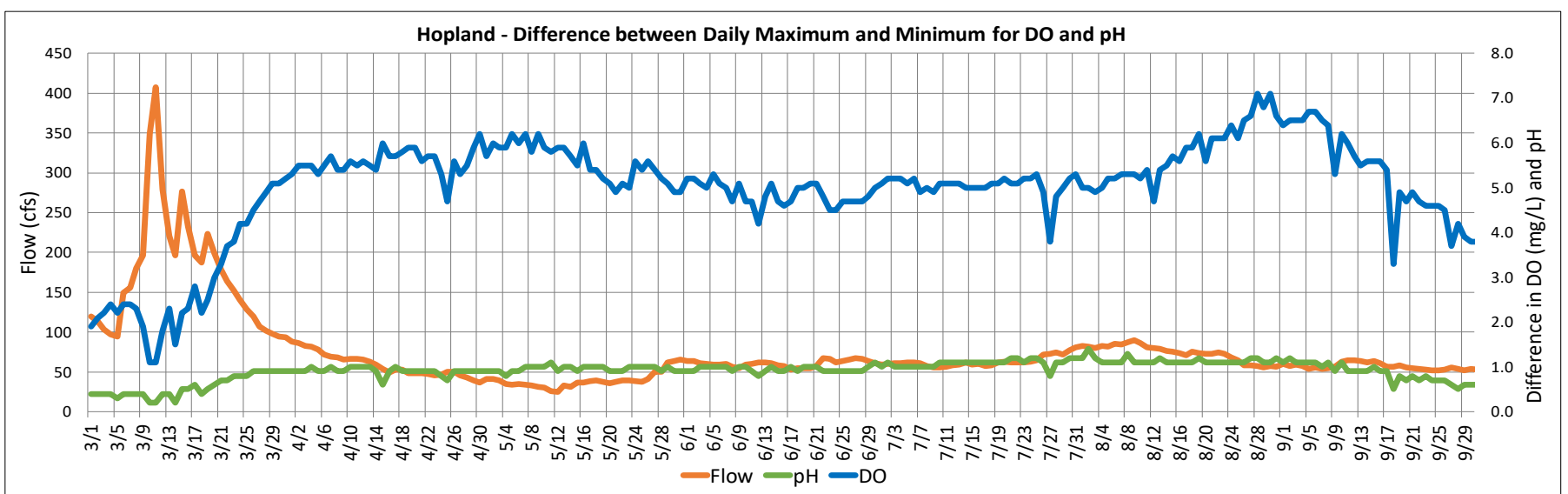
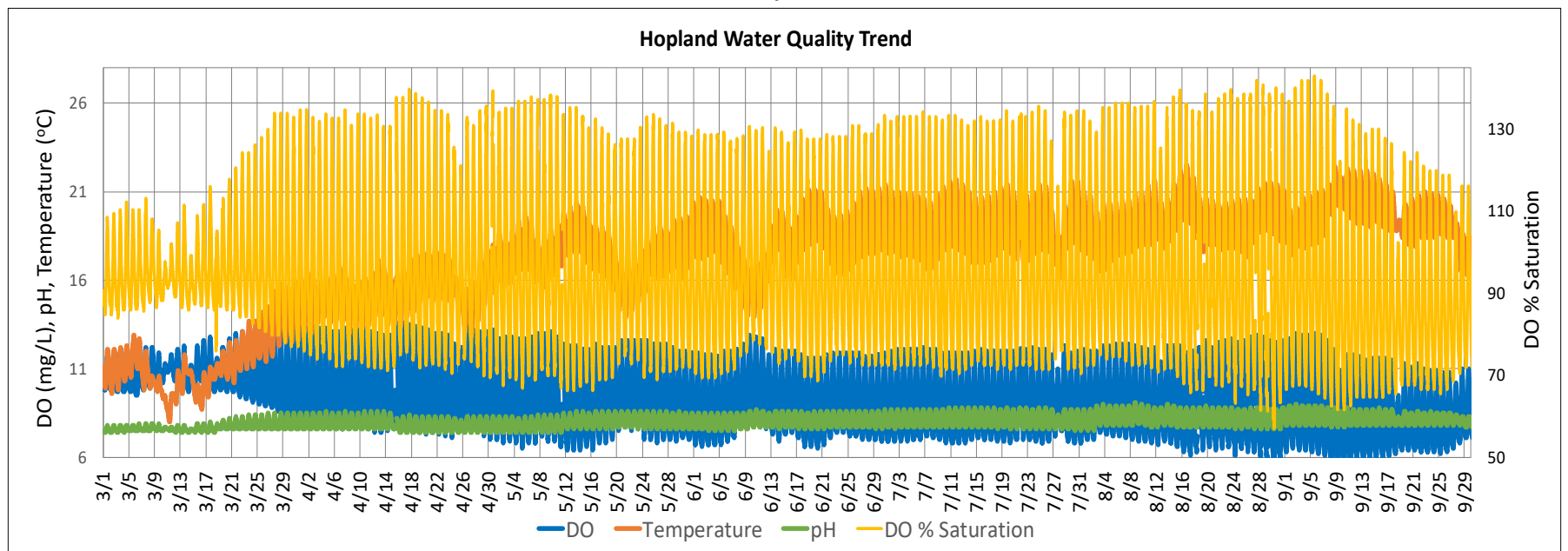
## Russian River Water Quality Sonde Data (March 1 - September 30, 2021) Provisional Data Subject to Revision



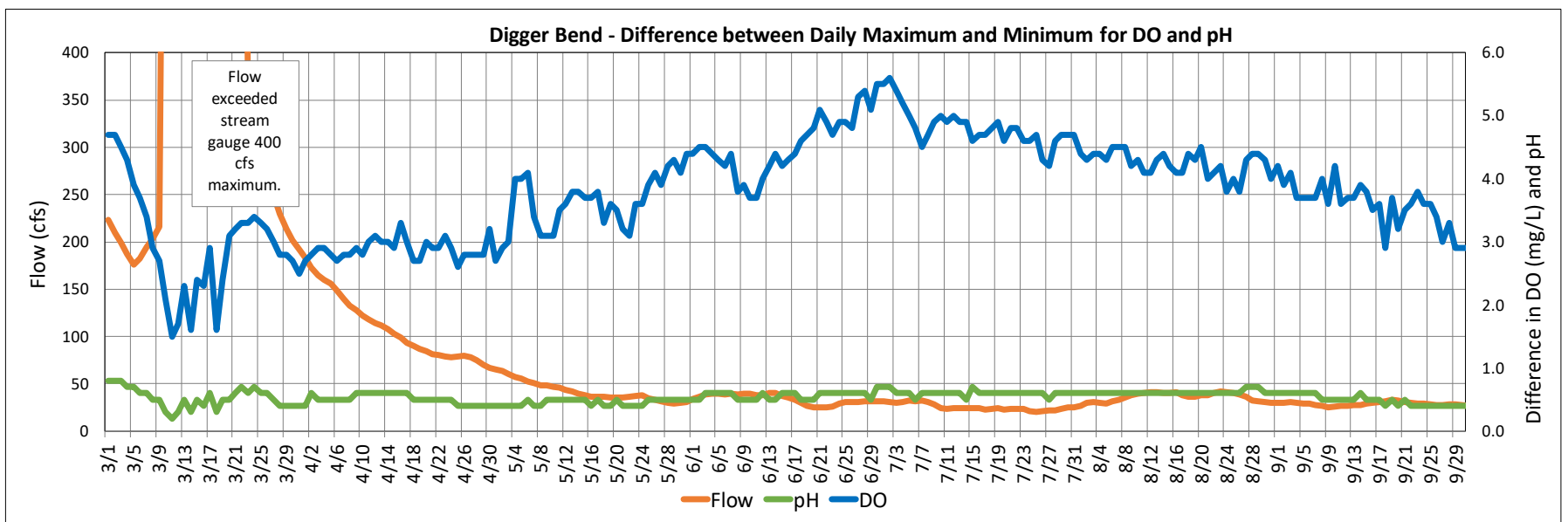
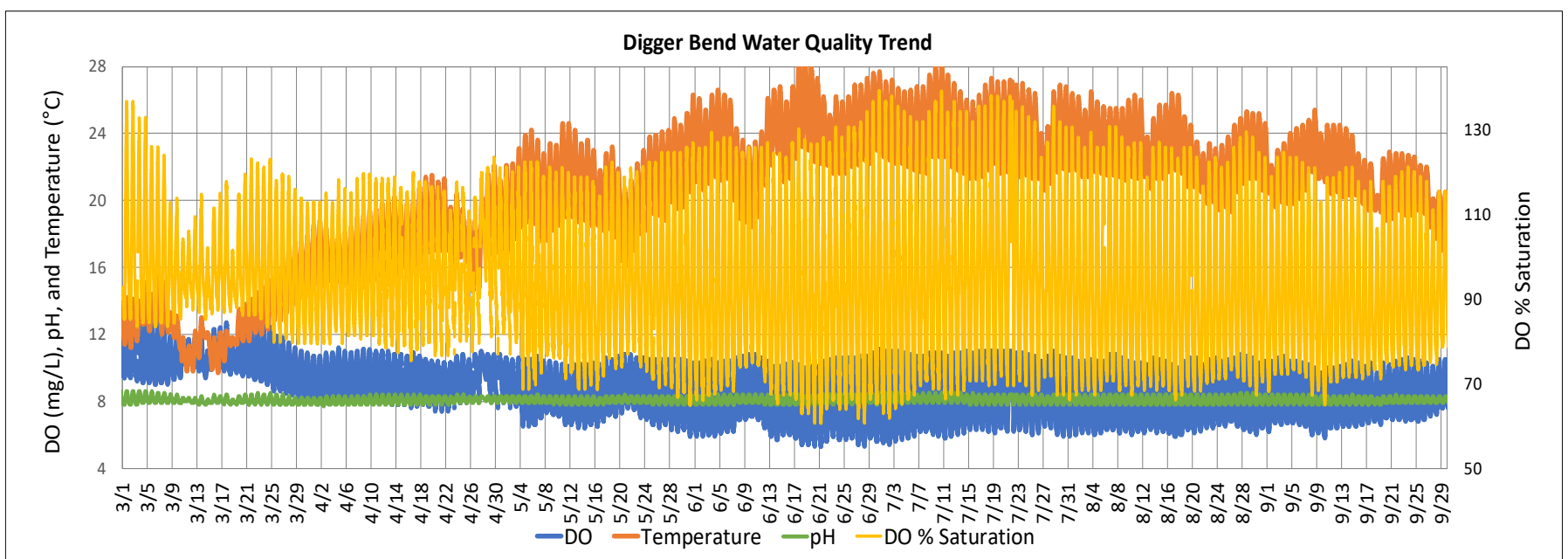
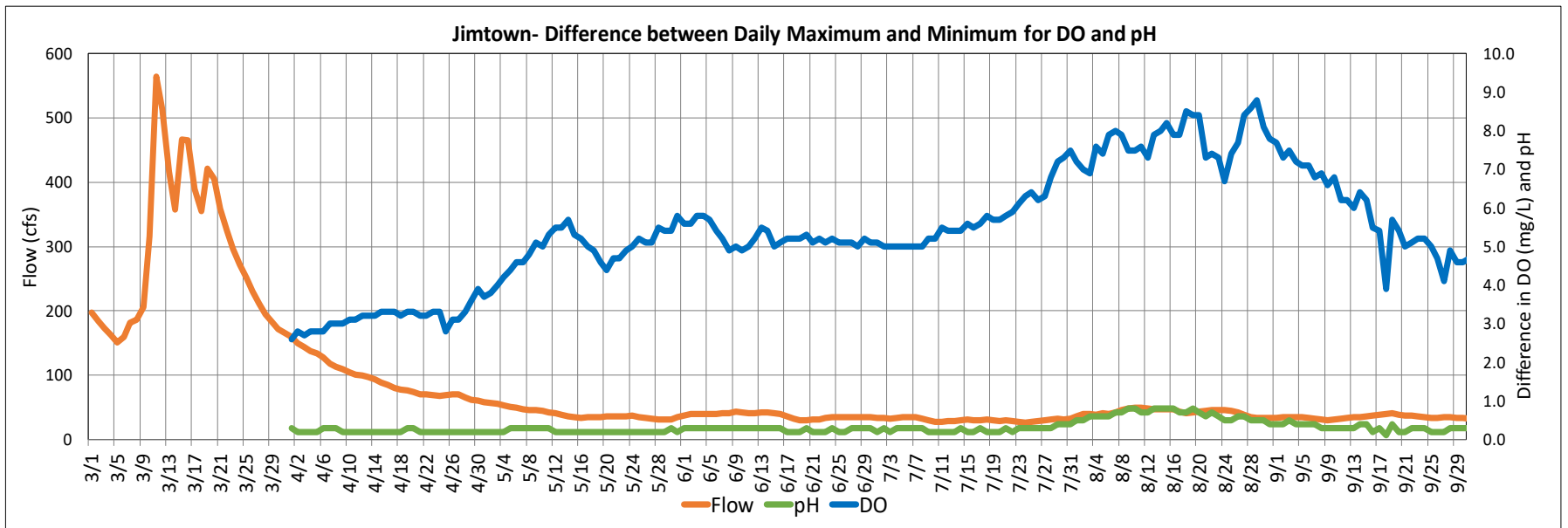
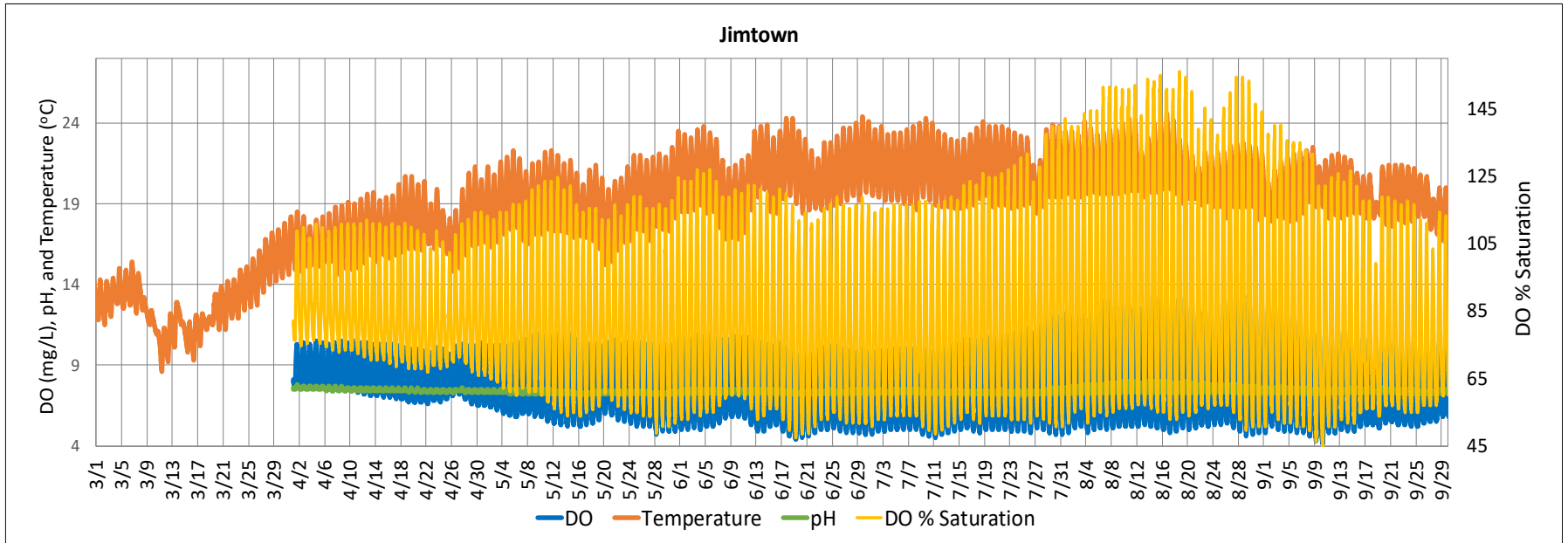
**Russian River Water Quality Sonde Data (March 1 - September 30, 2021)**  
**Provisional Data Subject to Revision**



**Hopland**



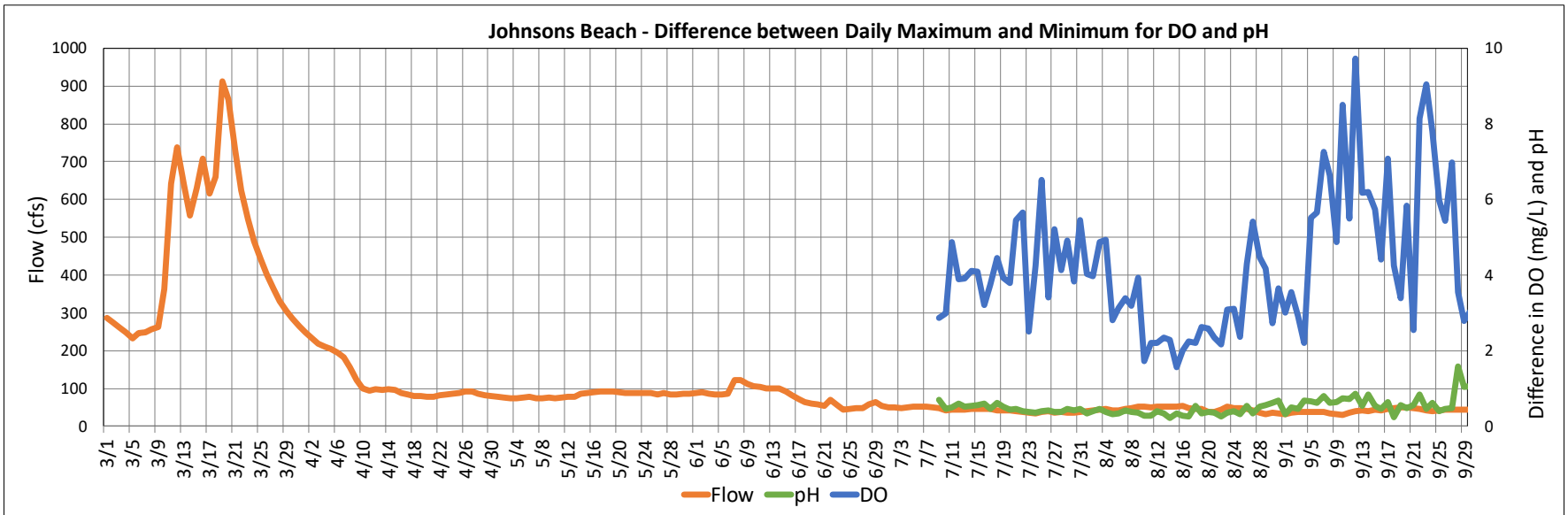
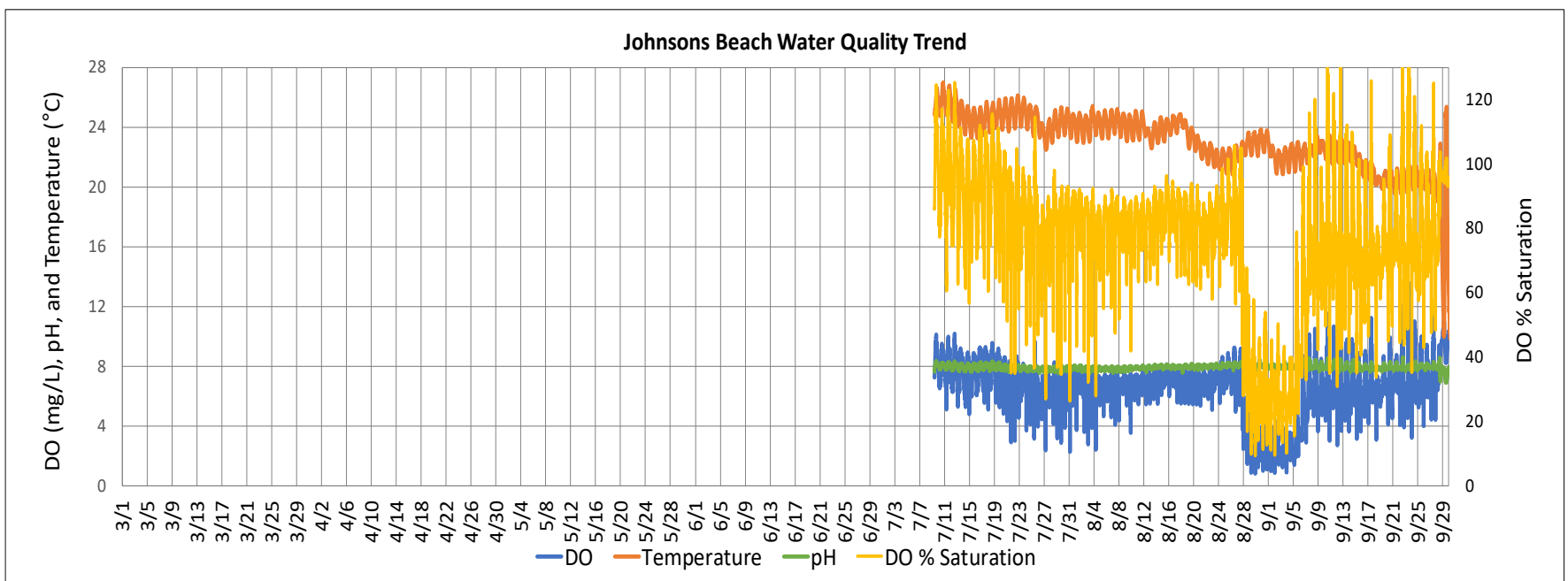
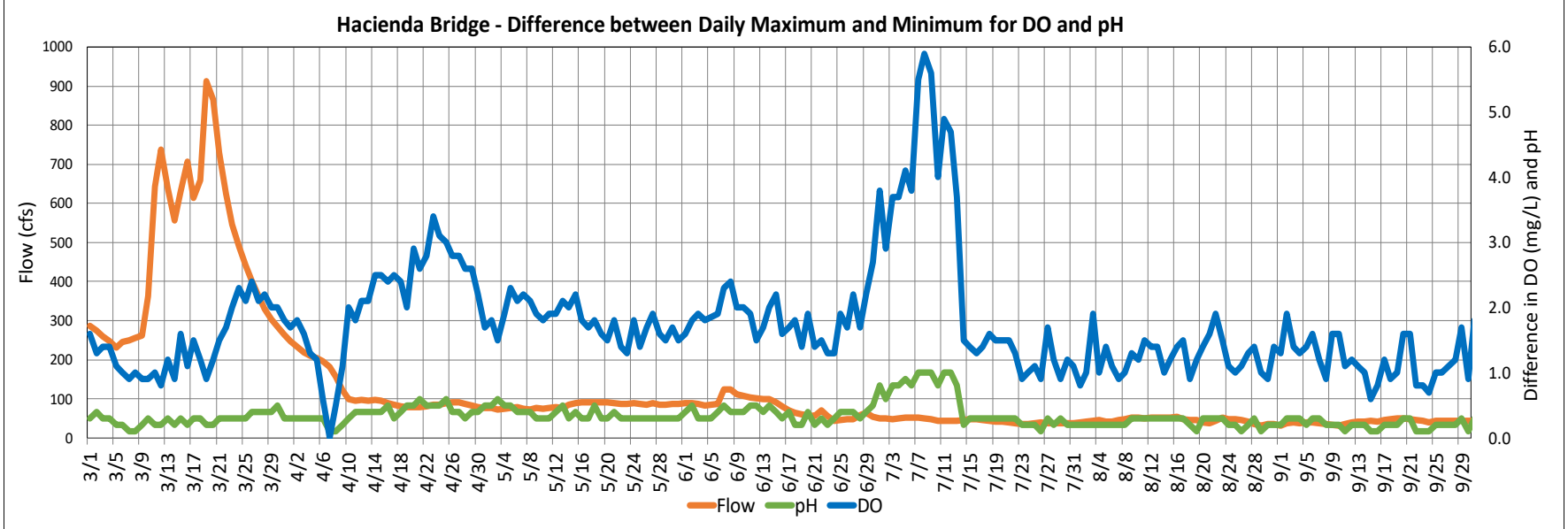
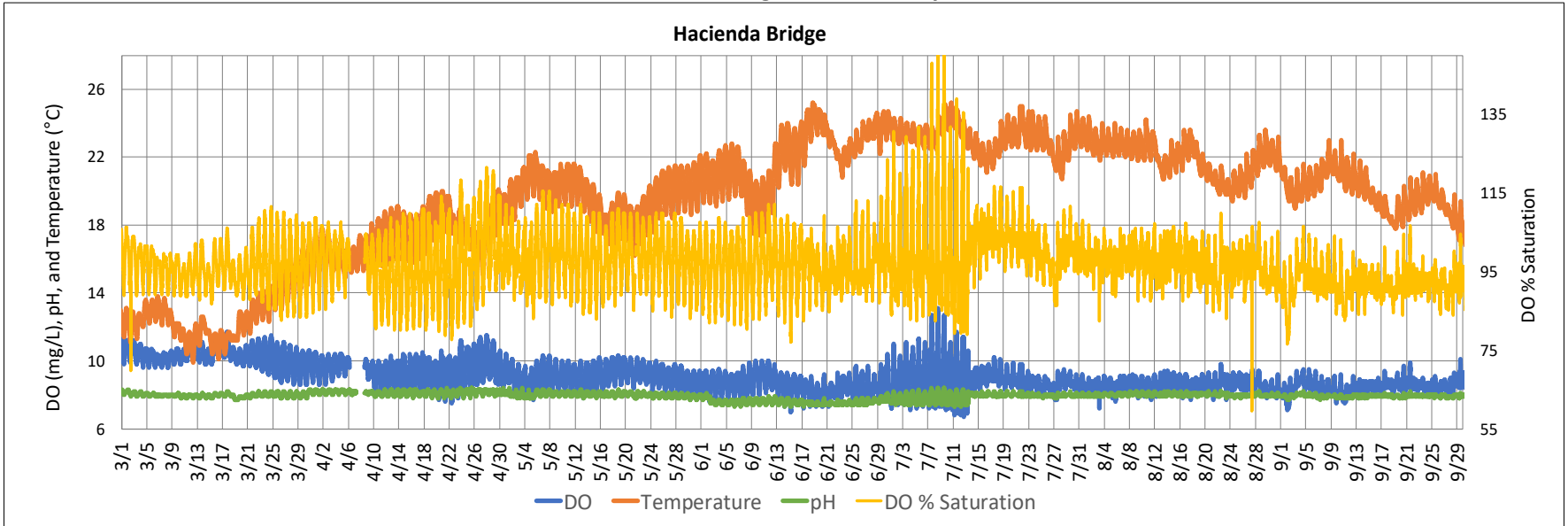
**Russian River Water Quality Sonde Data (March 1 - September 30, 2021)**  
 Provisional Data Subject to Revision



# Russian River Water Quality Sonde Data (March 1 - September 30, 2021)

Provisional Data Subject to Revision

Hacienda Bridge Water Quality



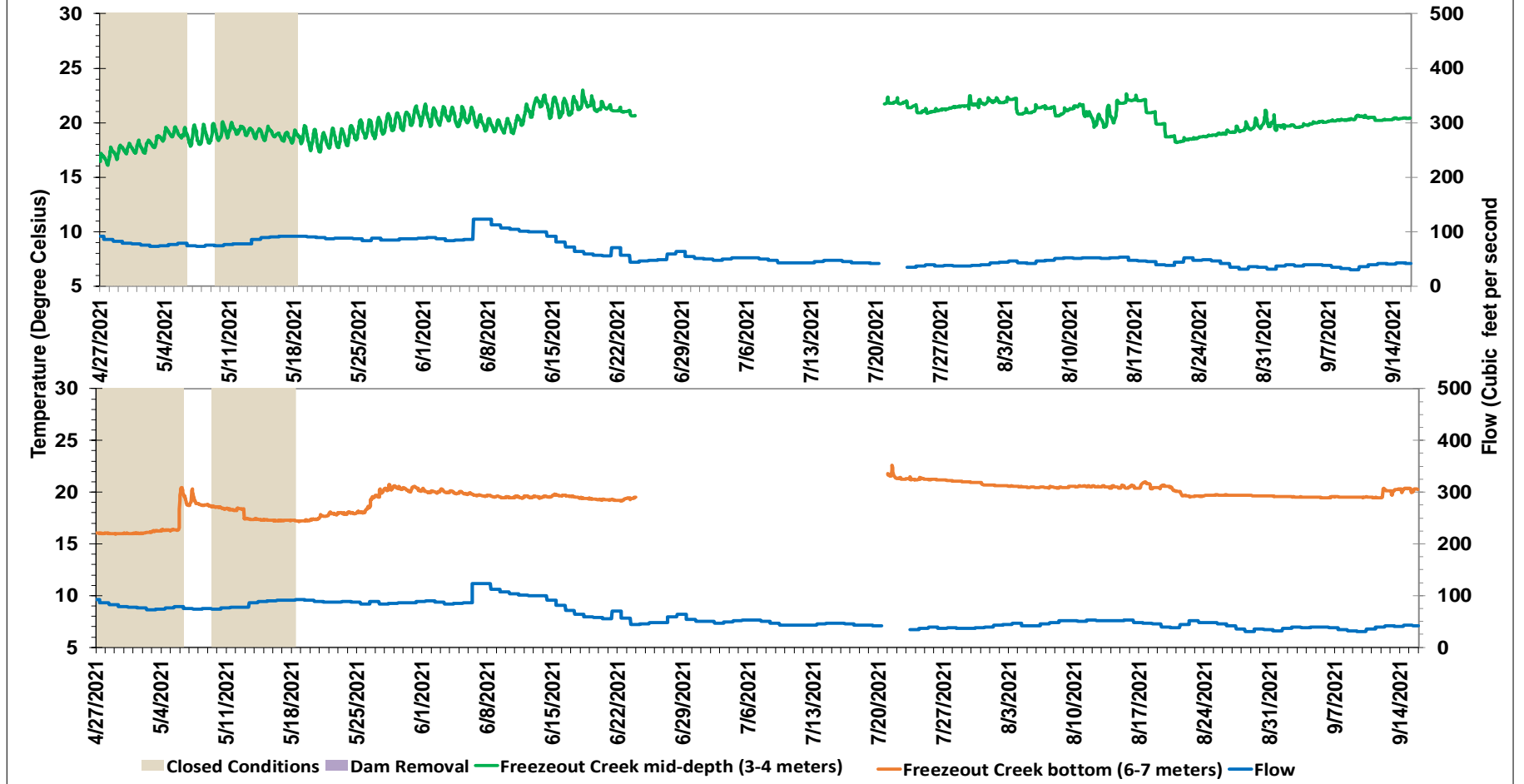
note: Flow at Johnsons Beach is plotted using data collected at Hacienda Bridge.

Russian River Water Quality Sonde Data - Estuary (April 27 - September 30, 2021)

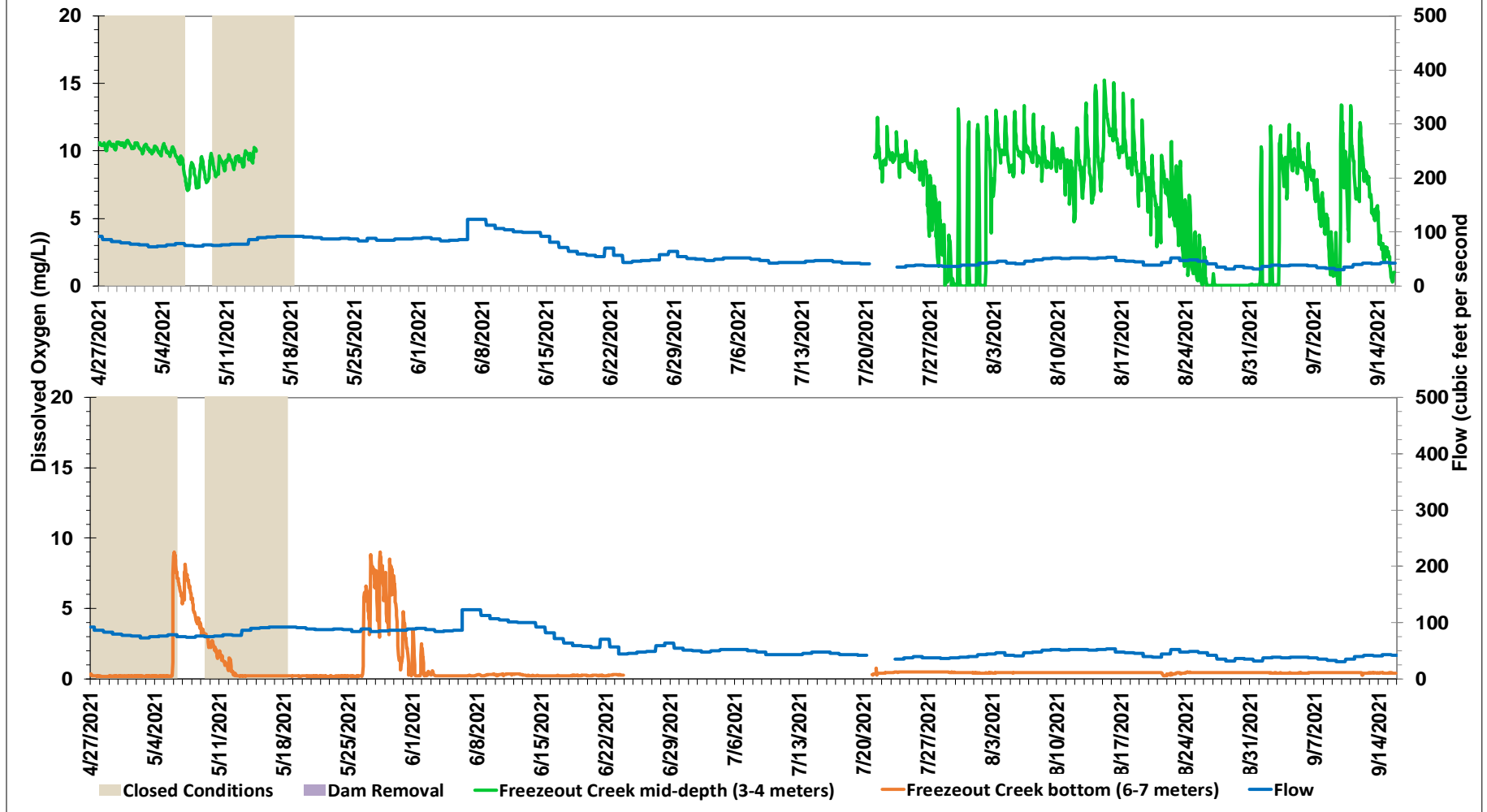
Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality

Russian River at Freezeout Creek - Temperature and Flow 2021



Russian River at Freezeout Creek - Dissolved Oxygen and Flow 2021

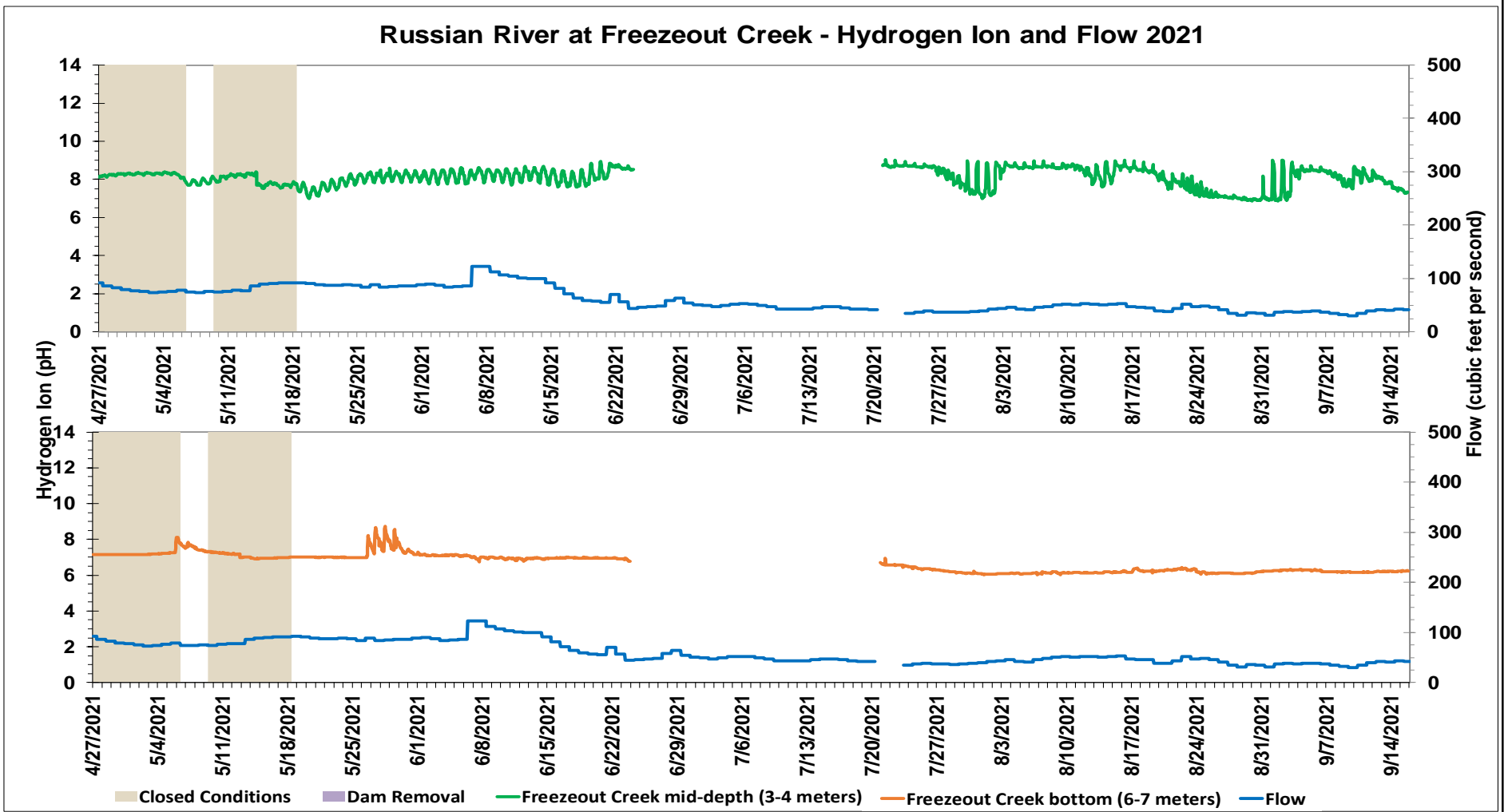


Russian River Water Quality Sonde Data - Estuary (April 27 - September 30, 2021)

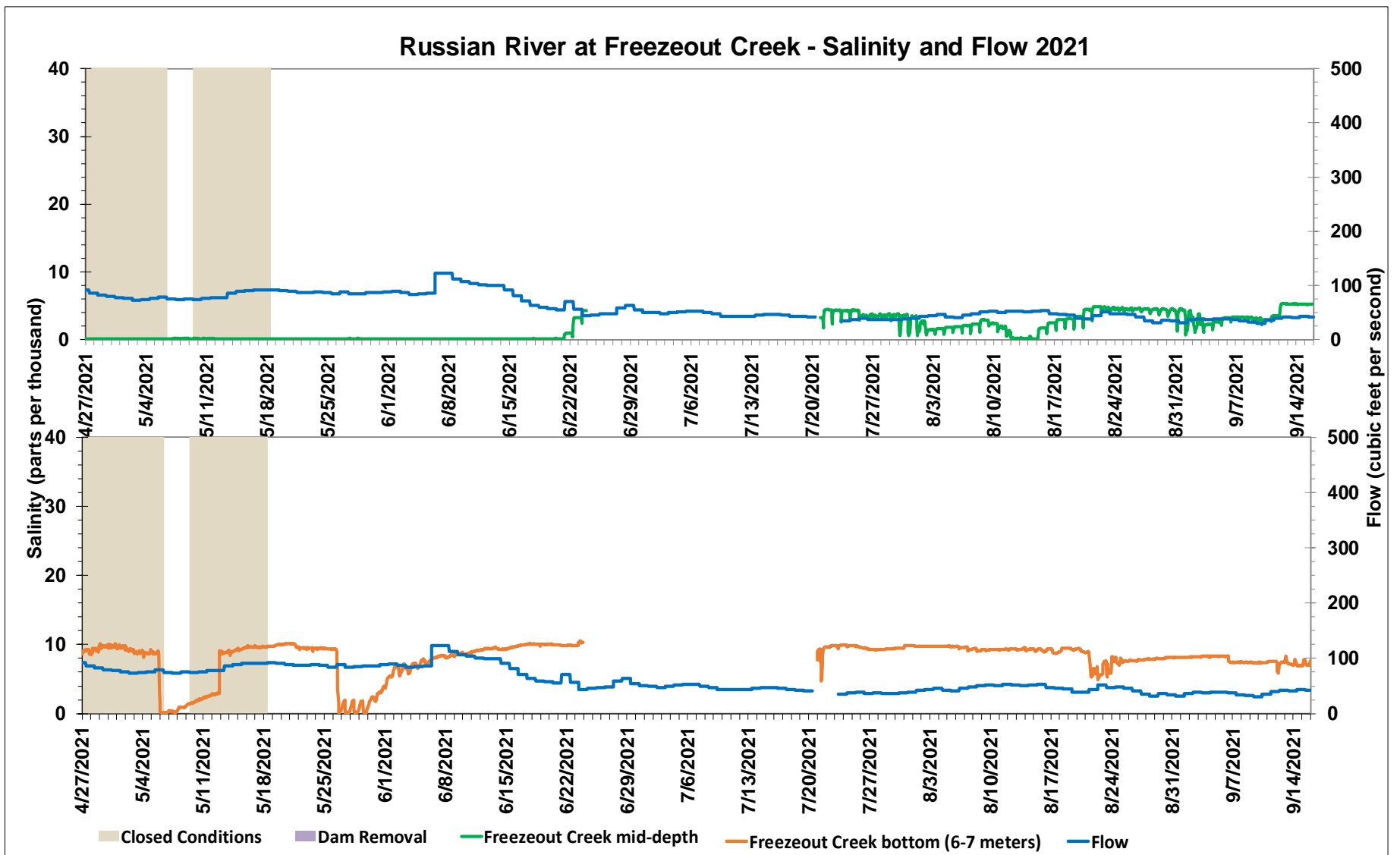
Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality

Russian River at Freezeout Creek - Hydrogen Ion and Flow 2021

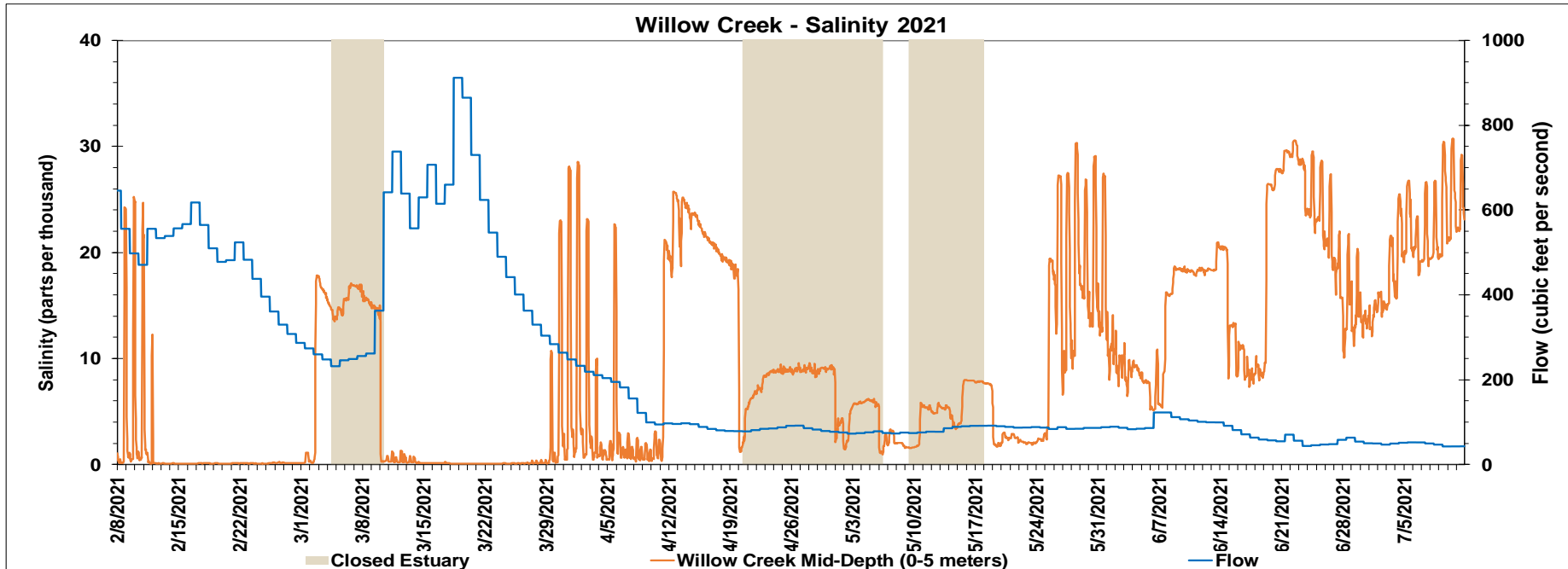
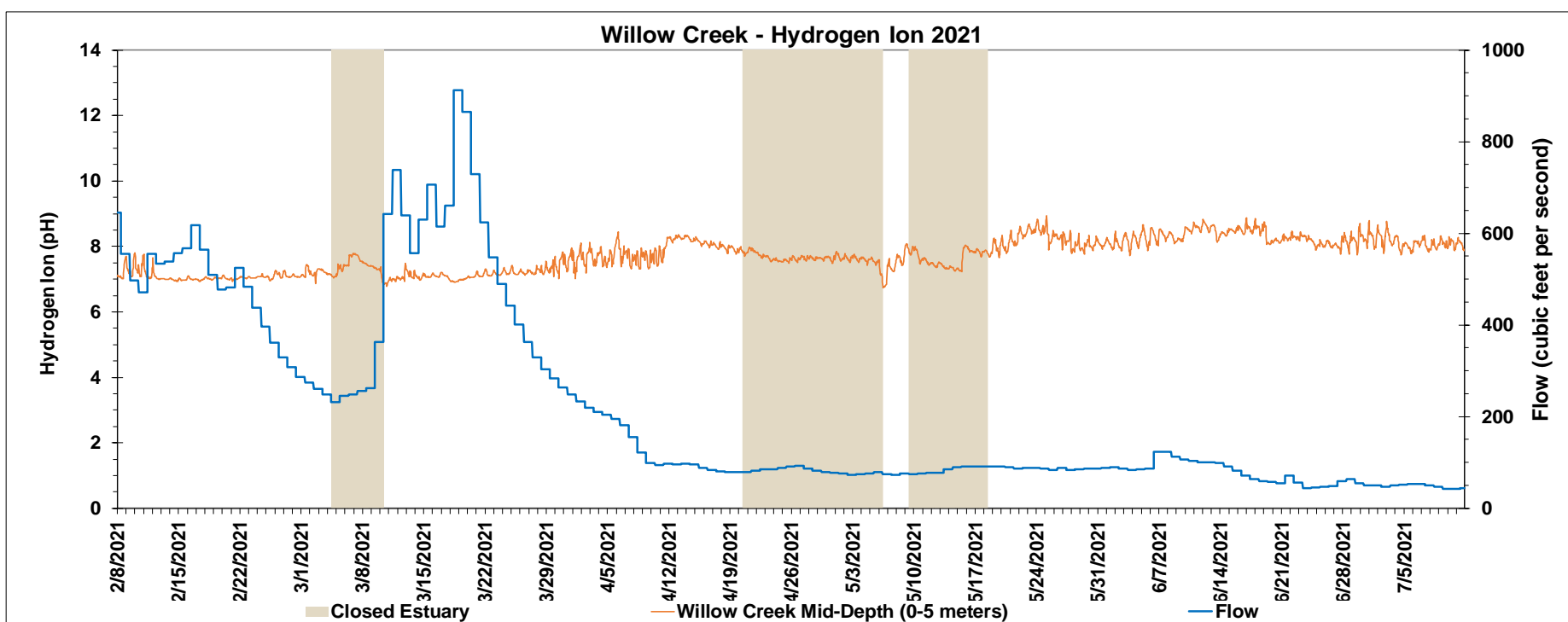
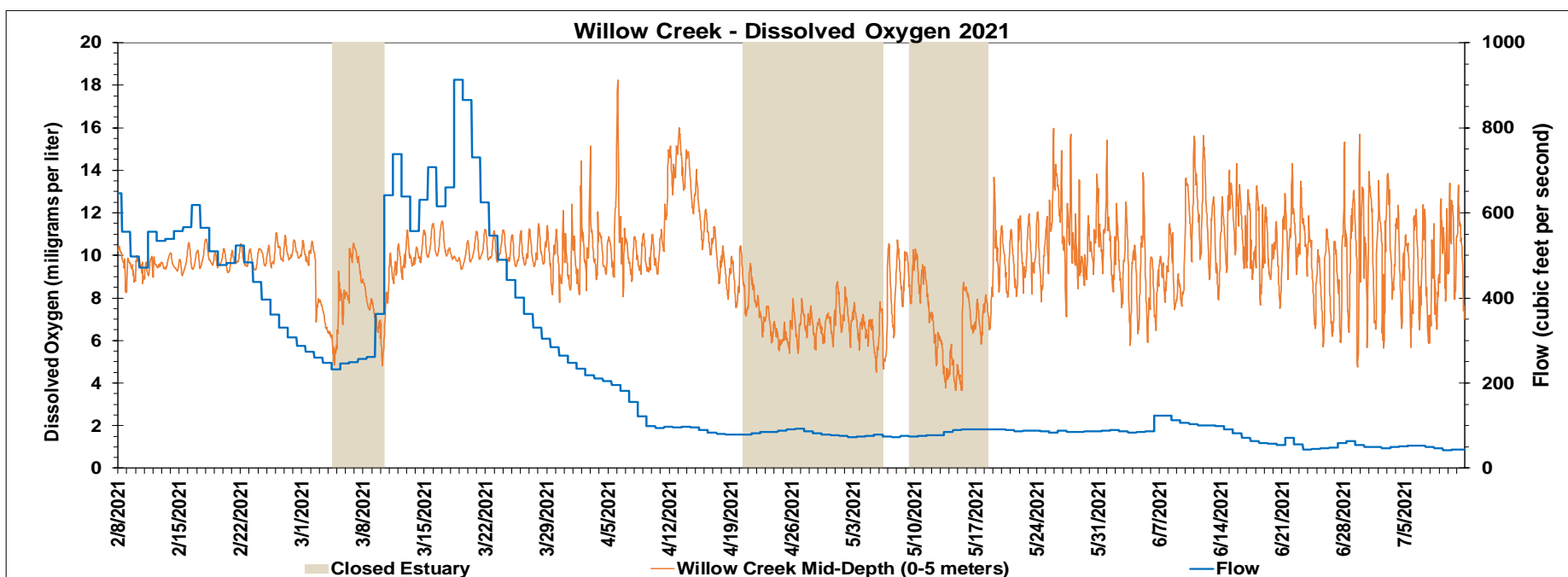
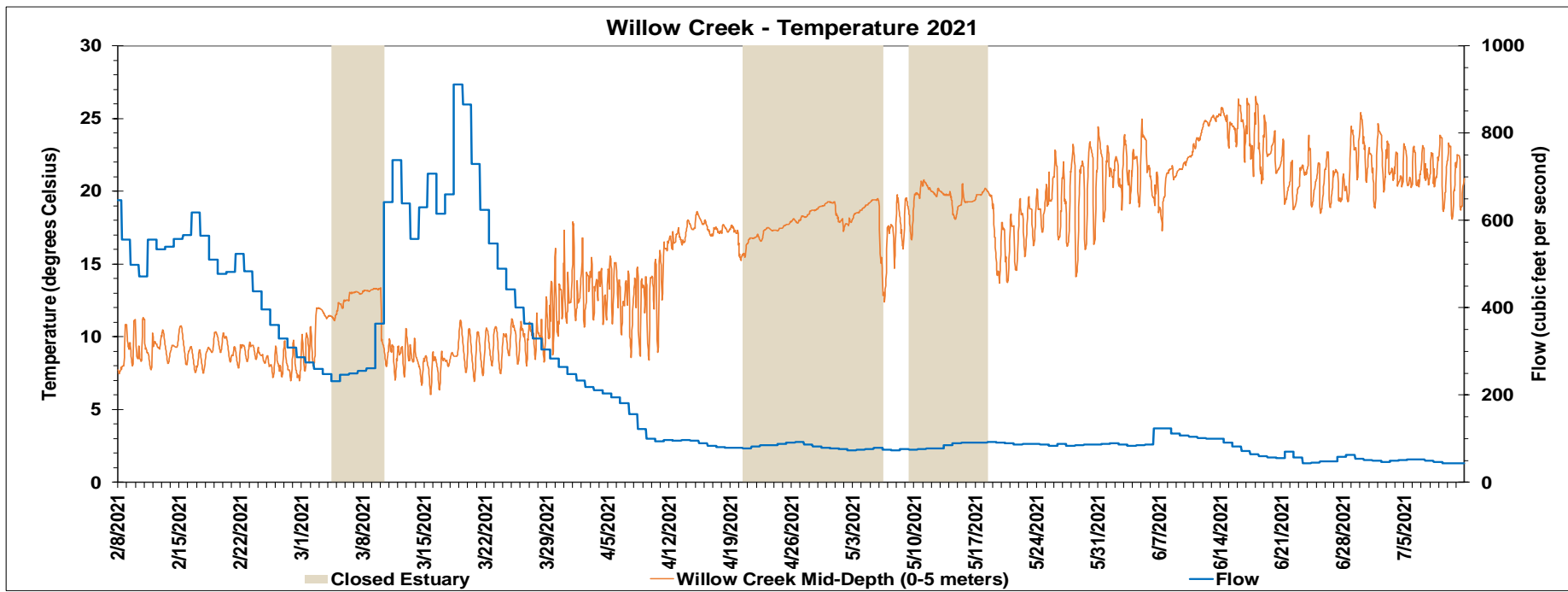


Russian River at Freezeout Creek - Salinity and Flow 2021





Russian River Water Quality Sonde Data - Estuary (February 28 - September 30, 2021)  
Provisional Data Subject to Revision  
Willow Creek Water Quality

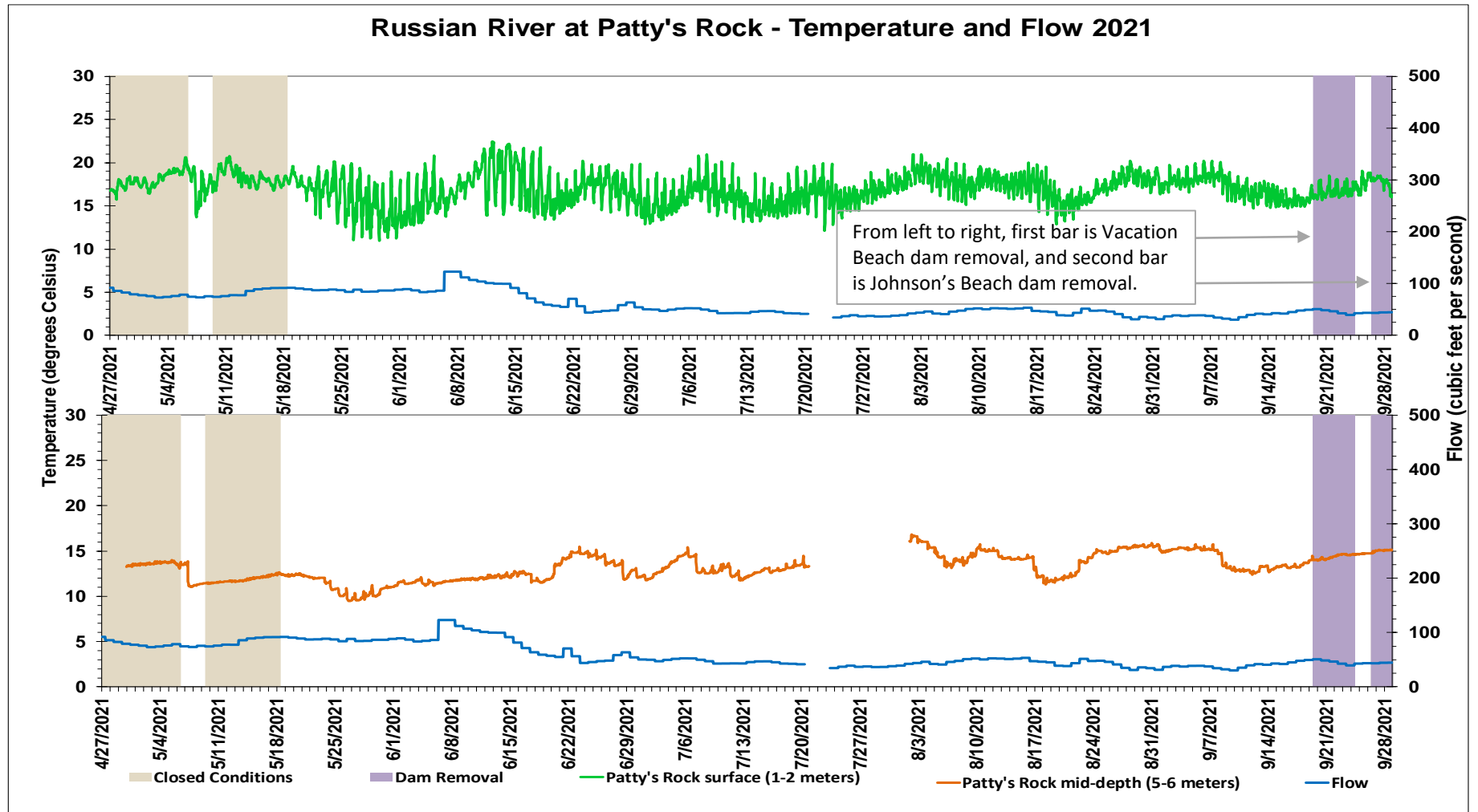


# Russian River Water Quality Sonde Data - Estuary (April 27 - September 30, 2021)

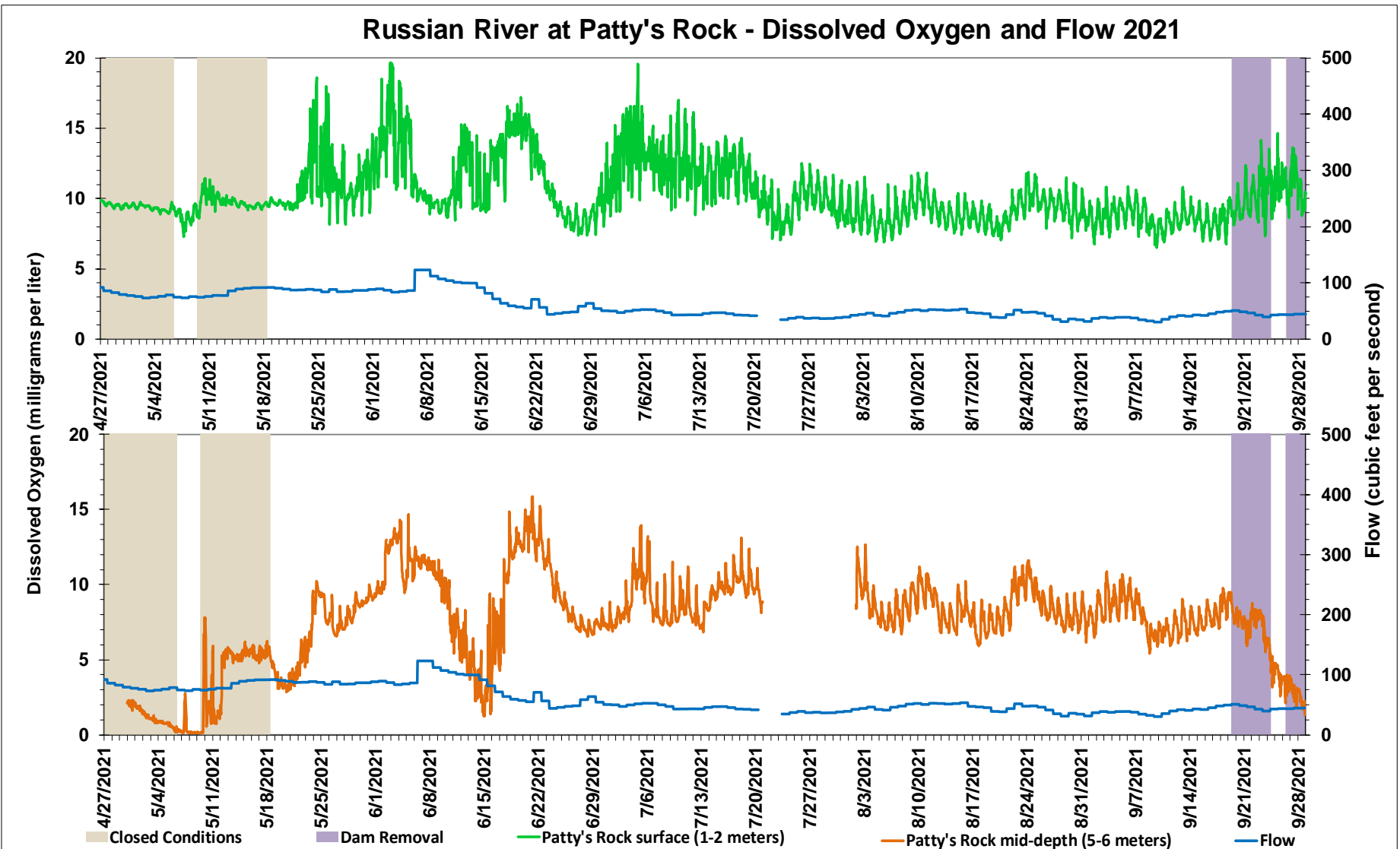
Provisional Data Subject to Revision

## Russian River at Patty's Rock Water Quality

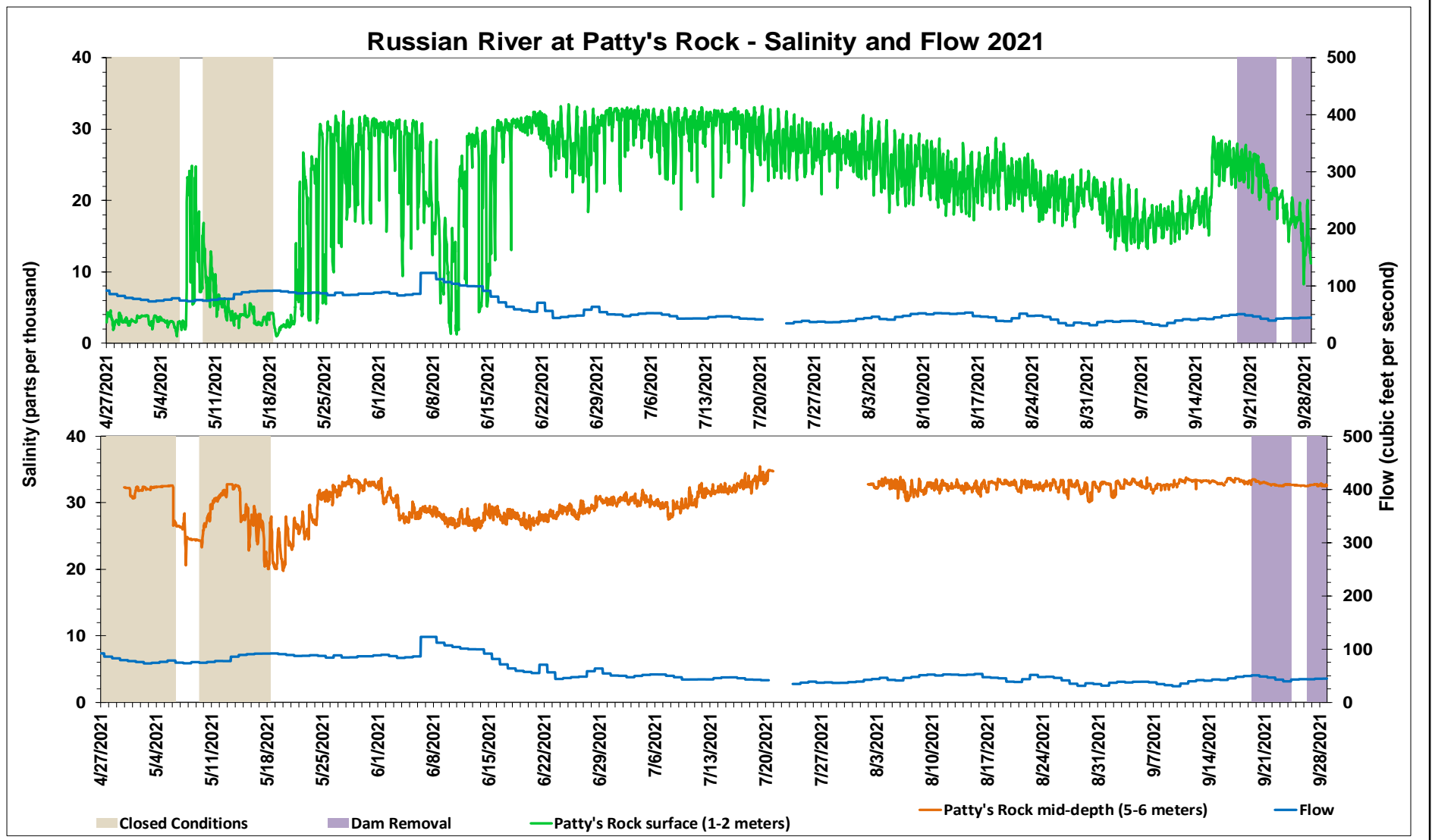
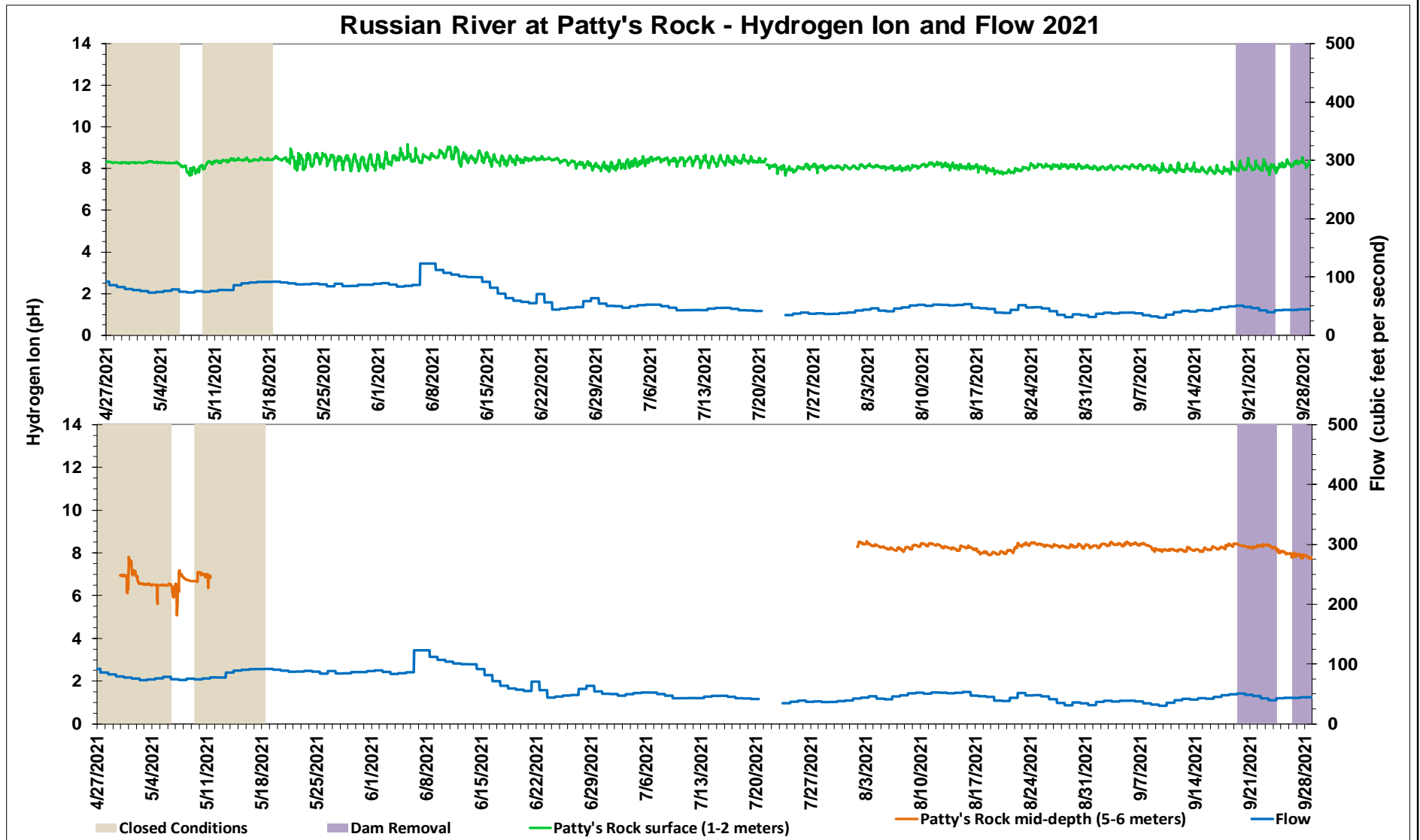
### Russian River at Patty's Rock - Temperature and Flow 2021



### Russian River at Patty's Rock - Dissolved Oxygen and Flow 2021



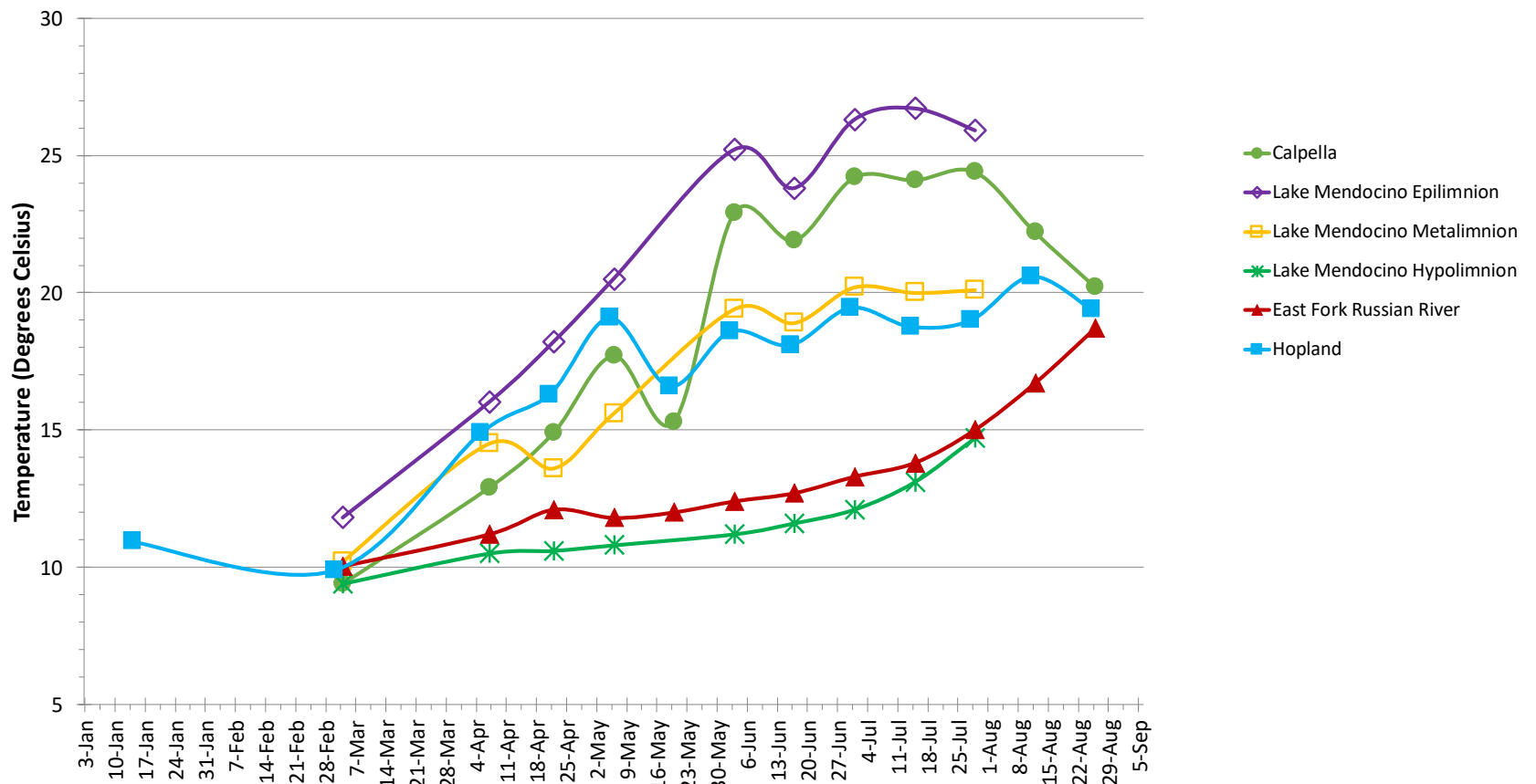
Russian River Water Quality Sonde Data - Estuary (April 27 - September 30, 2021)  
 Provisional Data Subject to Revision  
 Russian River at Patty's Rock Water Quality



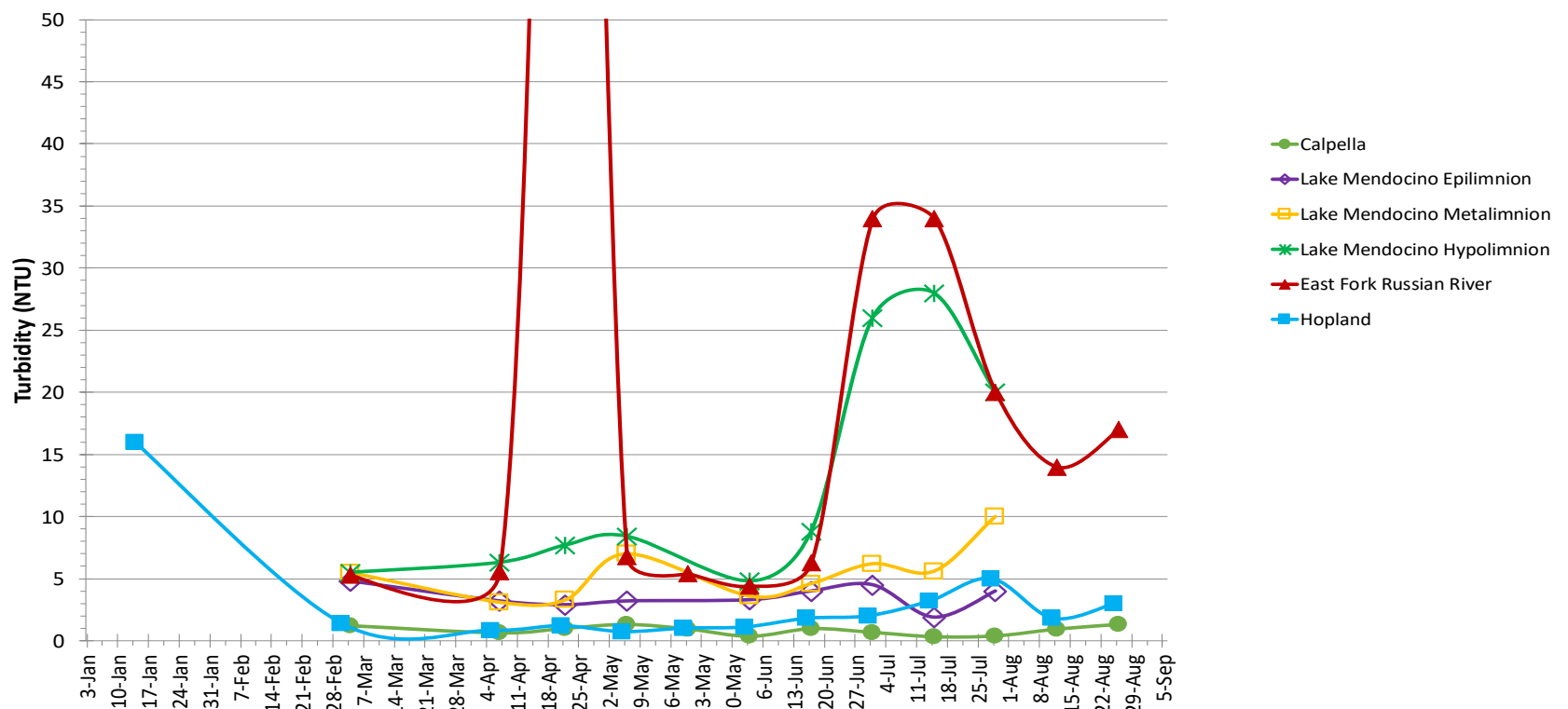
**Russian River Water Quality Grab Samples (January 14 - September 30, 2021)**  
**Provisional Data Subject to Revision**

**Lake Mendocino to Hopland Water Quality**

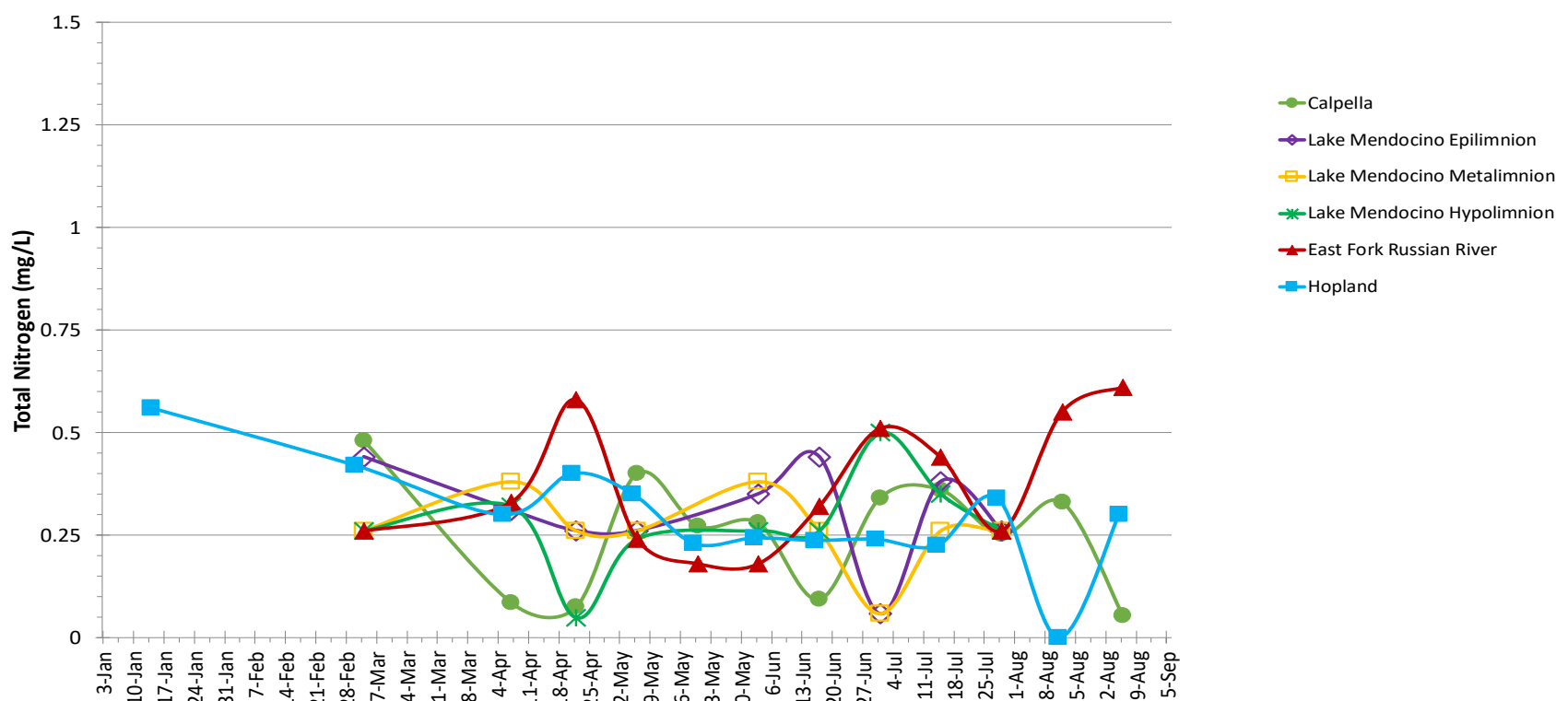
**Temperature - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



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



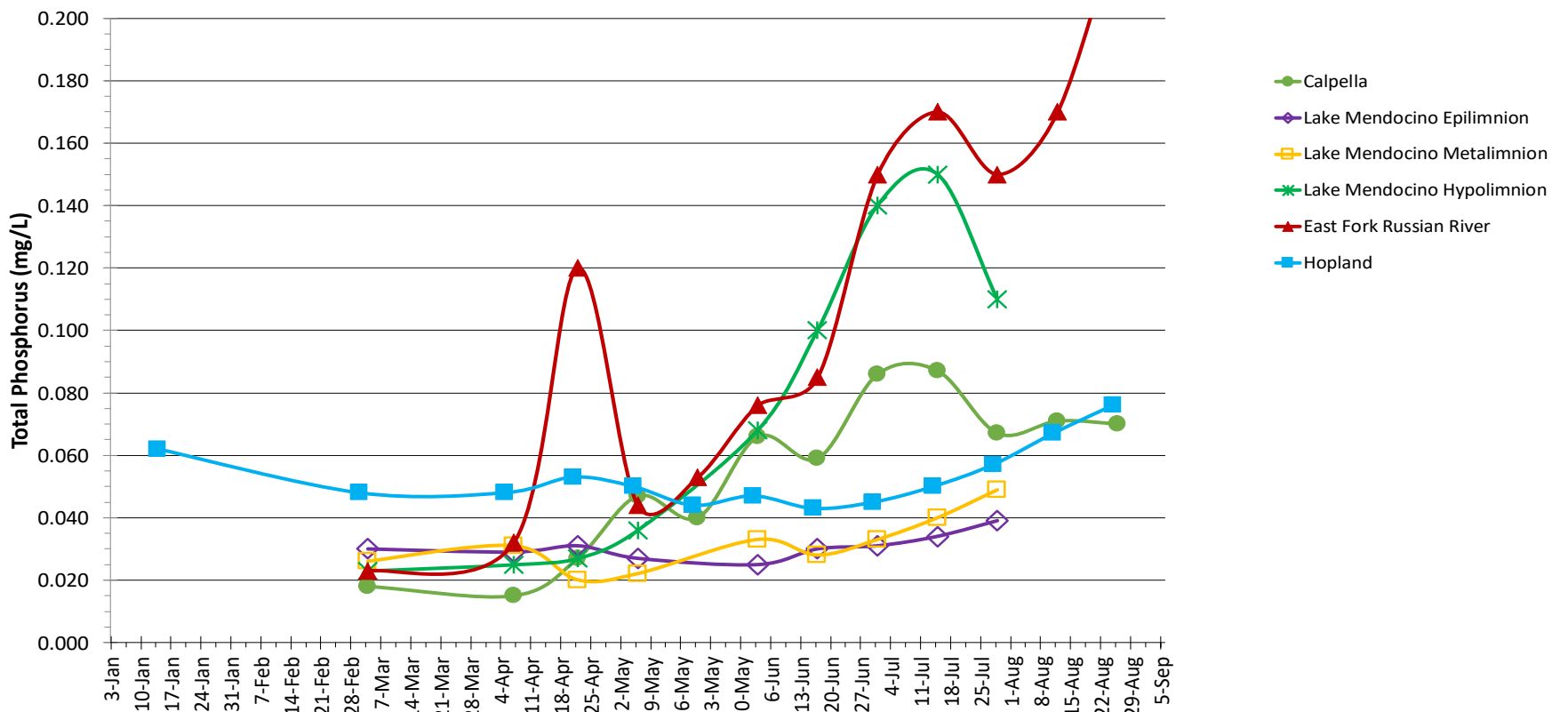
**Total Nitrogen - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



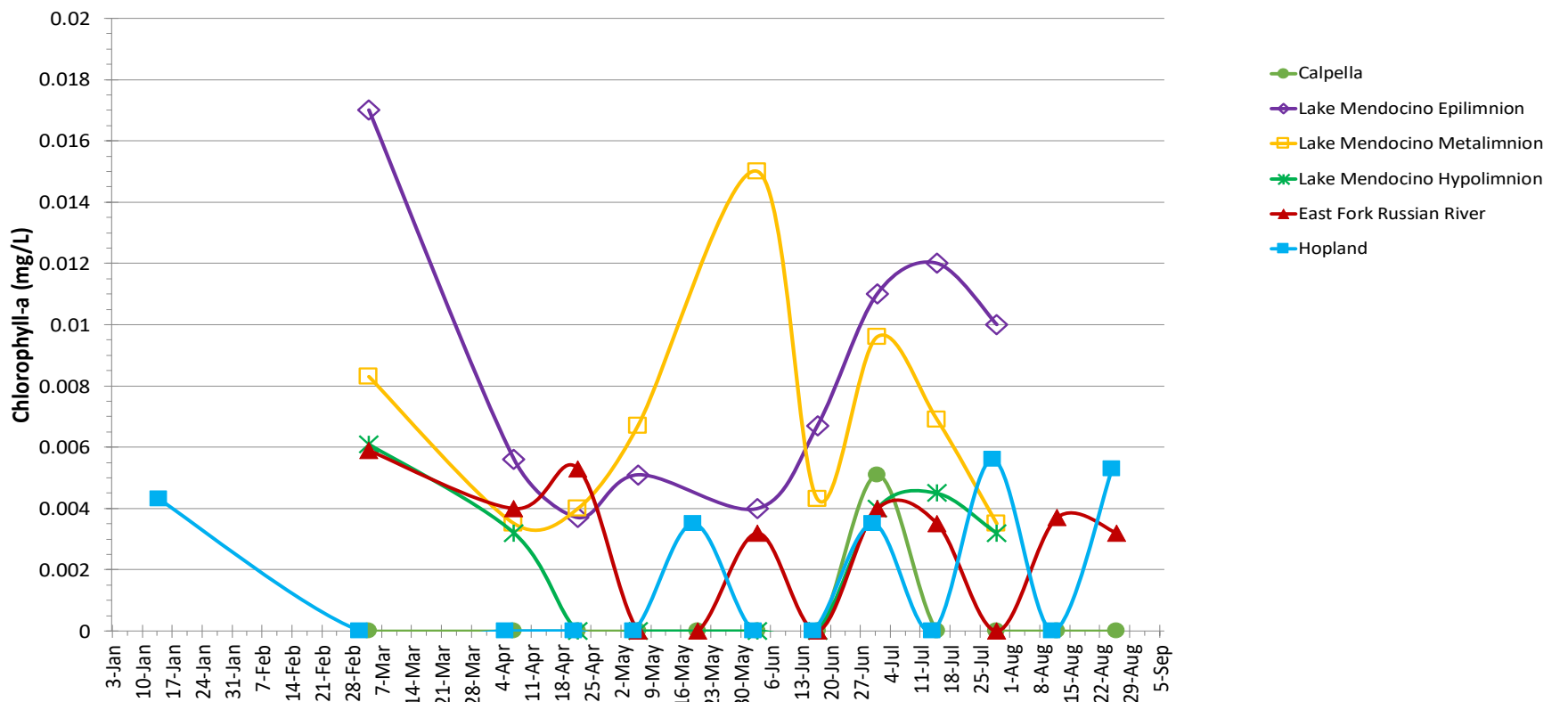
\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

**Russian River Water Quality Grab Samples (January 14 - September 30, 2021)**  
 Provisional Data Subject to Revision  
 Lake Mendocino to Hopland Water Quality

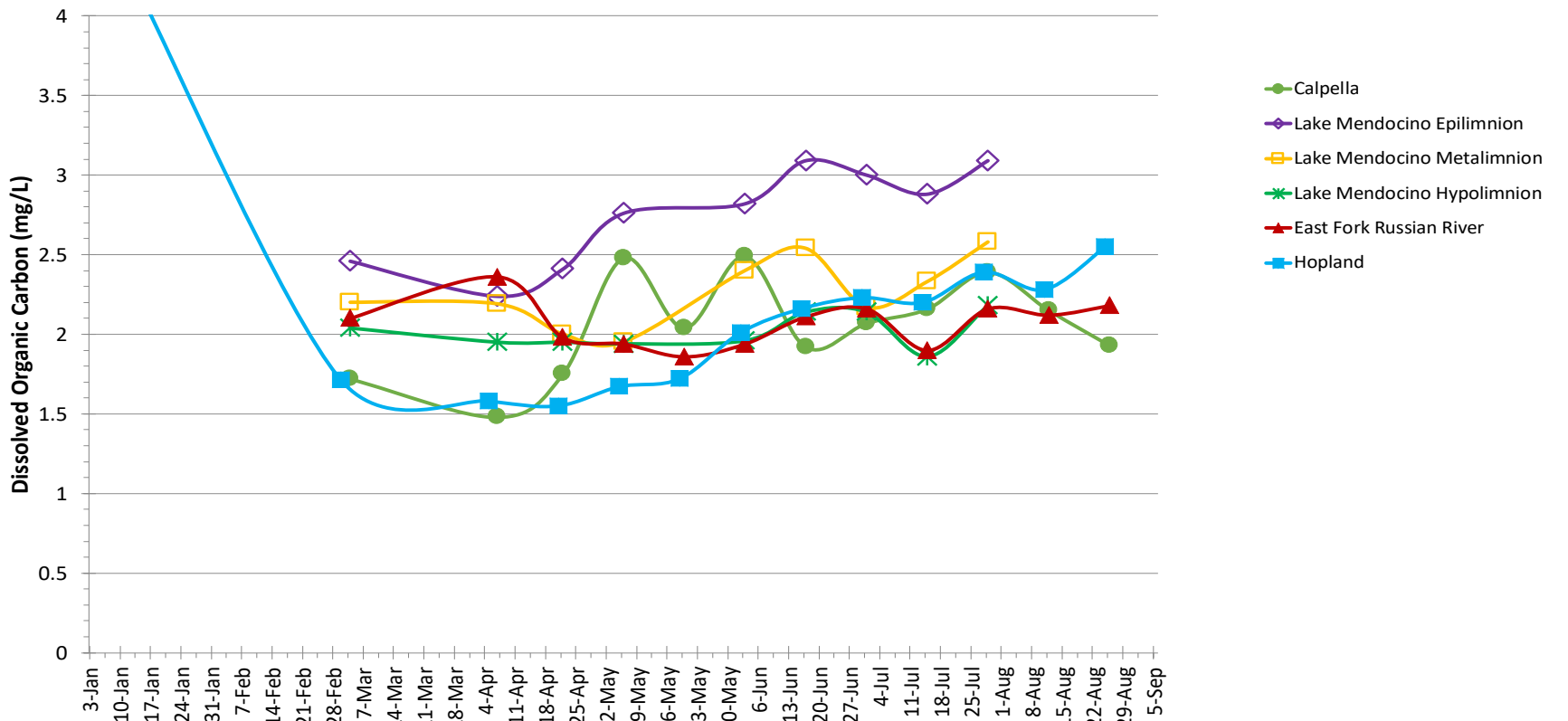
**Total Phosphorus - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



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



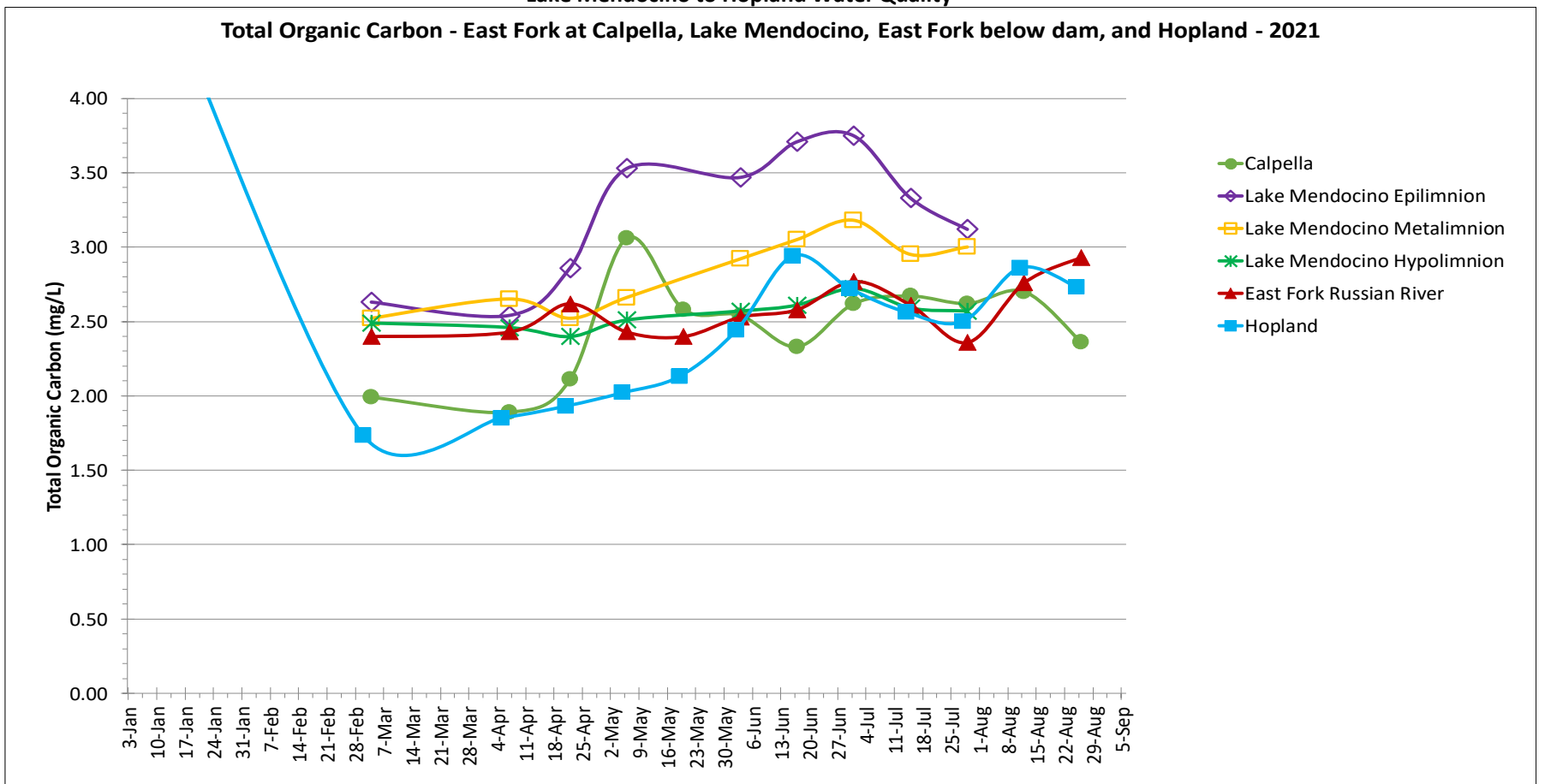
**Dissolved Organic Carbon - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



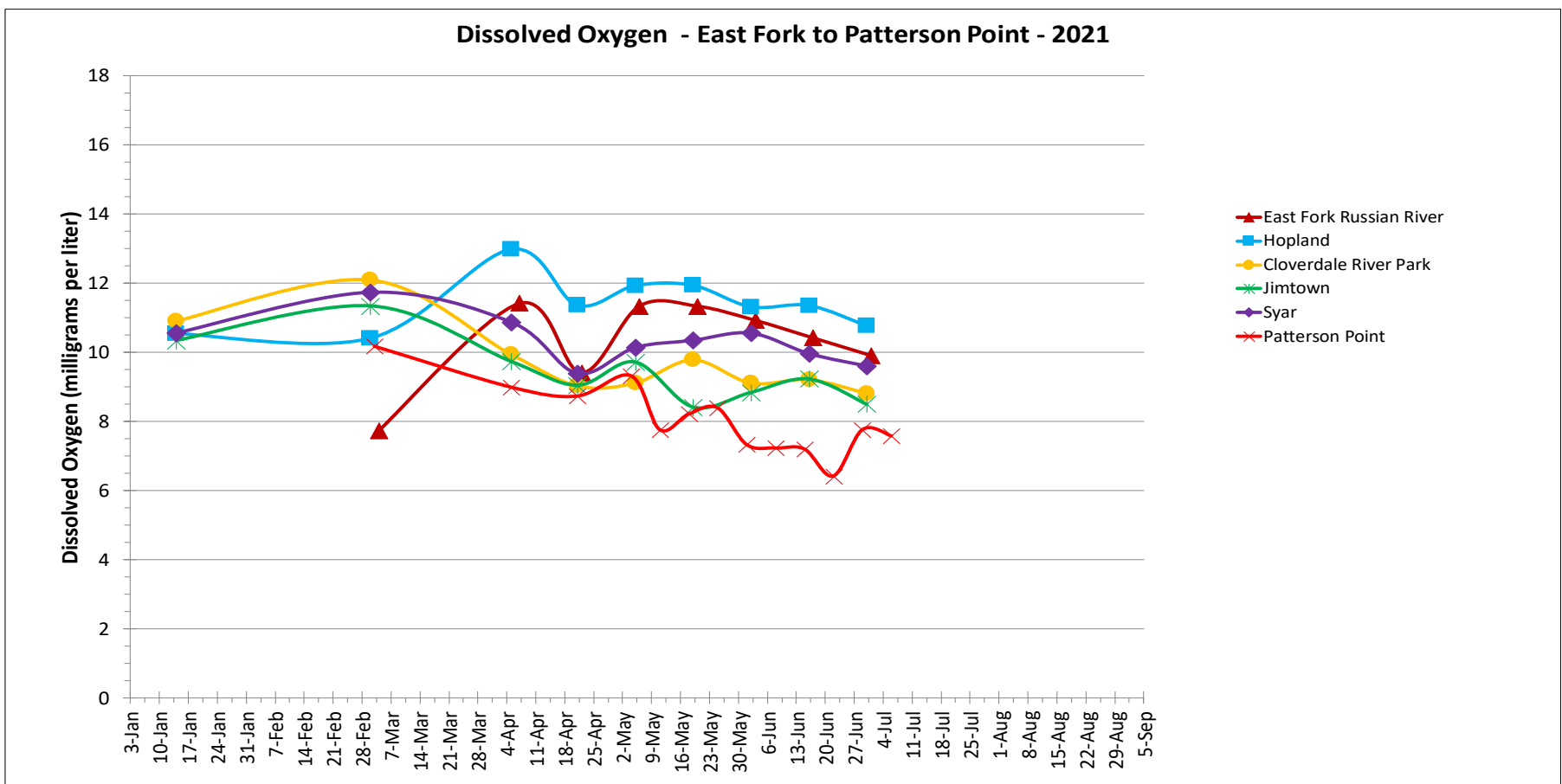
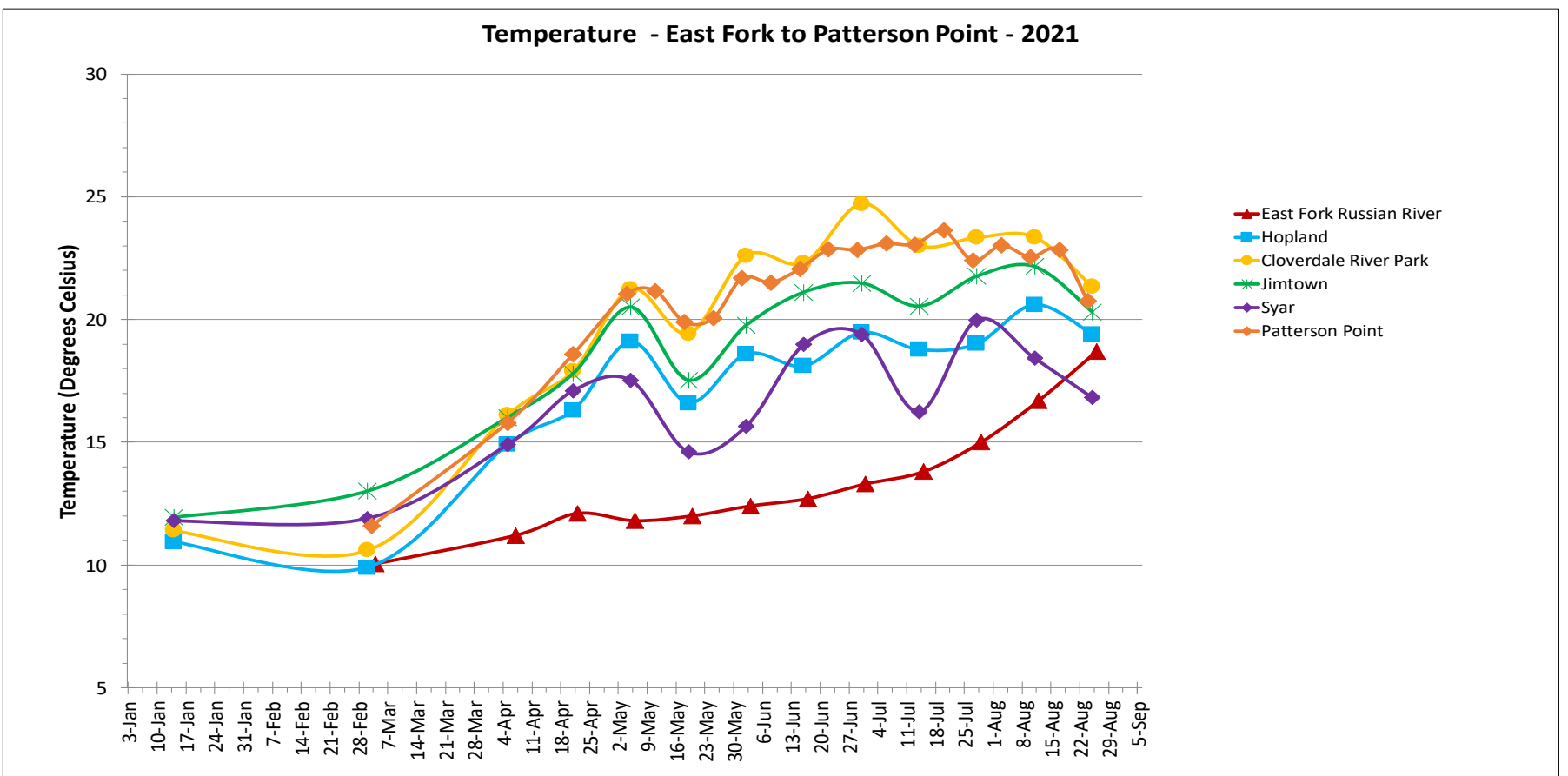
\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

**Russian River Water Quality Grab Samples (January 14 - September 30, 2021)**  
**Provisional Data Subject to Revision**

**Lake Mendocino to Hopland Water Quality**



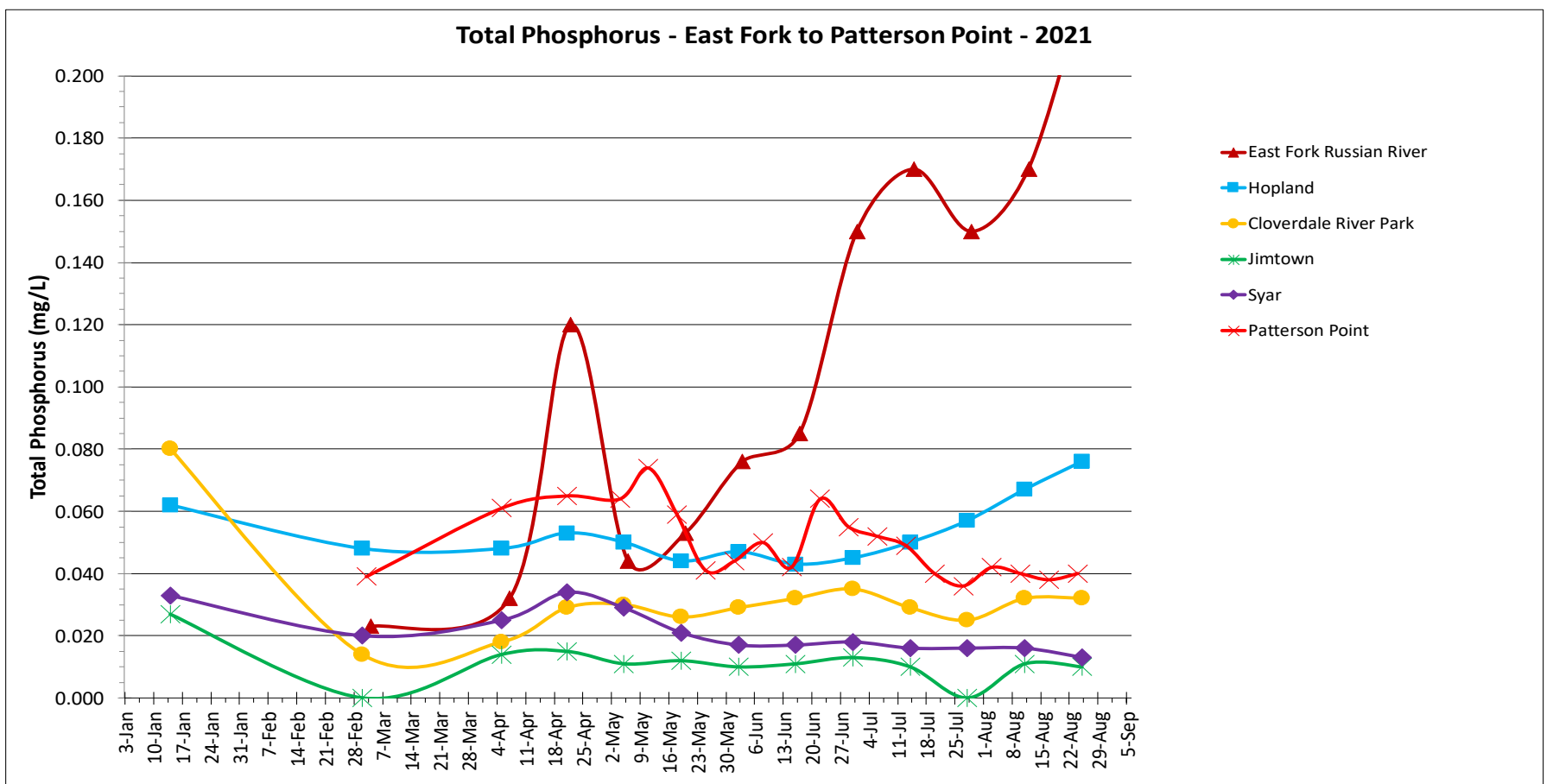
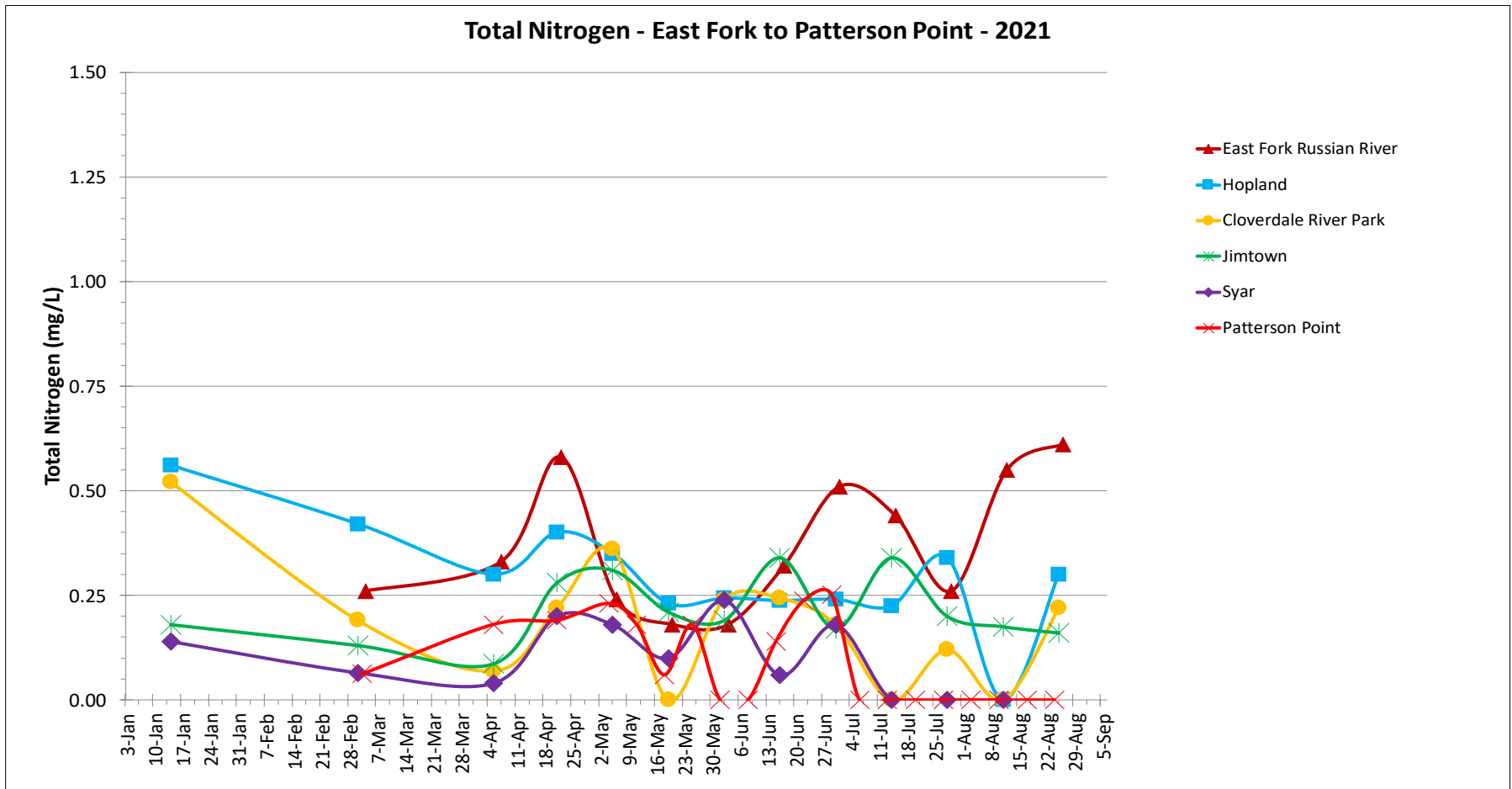
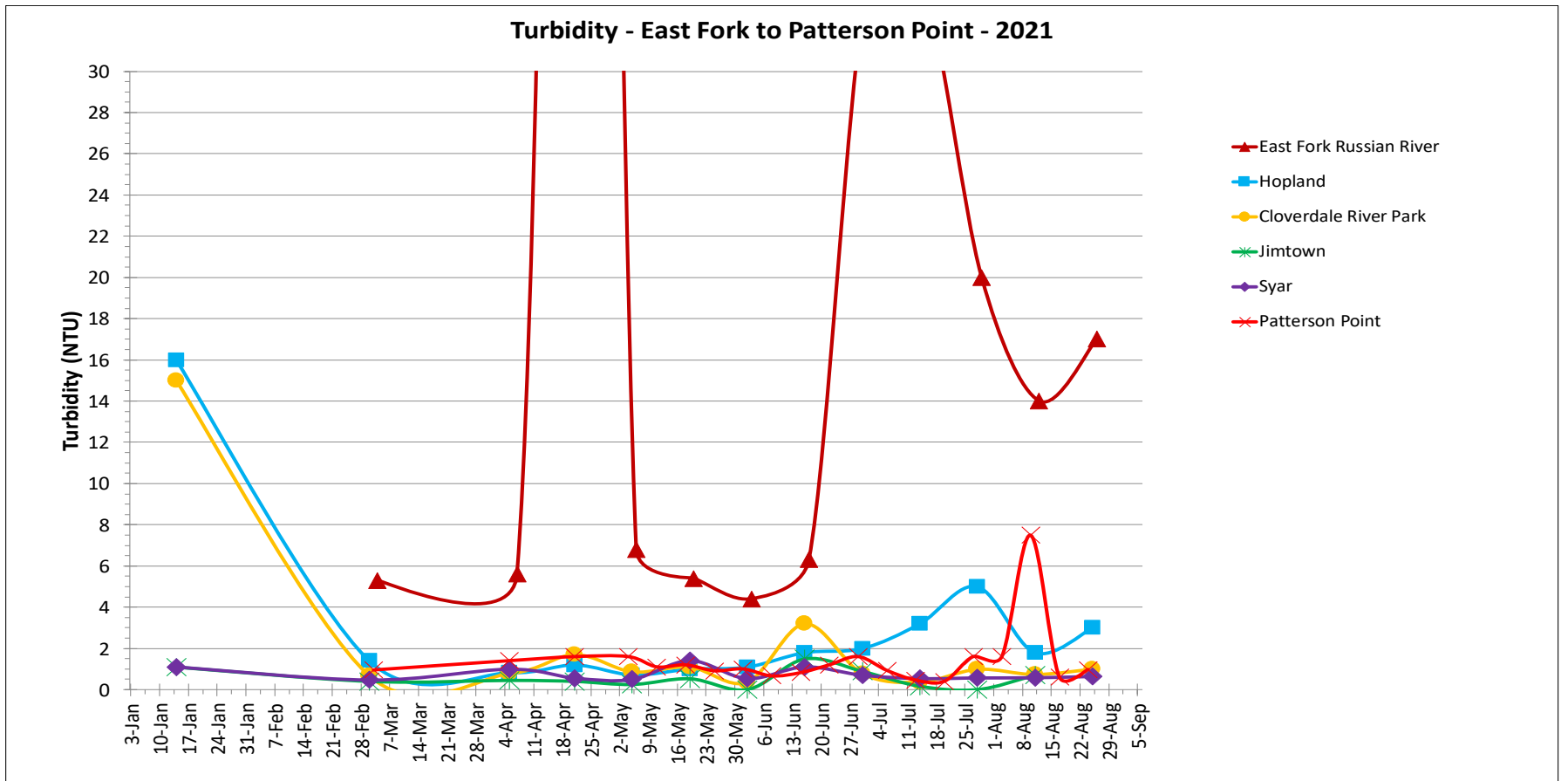
**East Fork (below Lake Mendocino) to Patterson Point Water Quality**



\*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 30, 2021)**  
 Provisional Data Subject to Revision

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

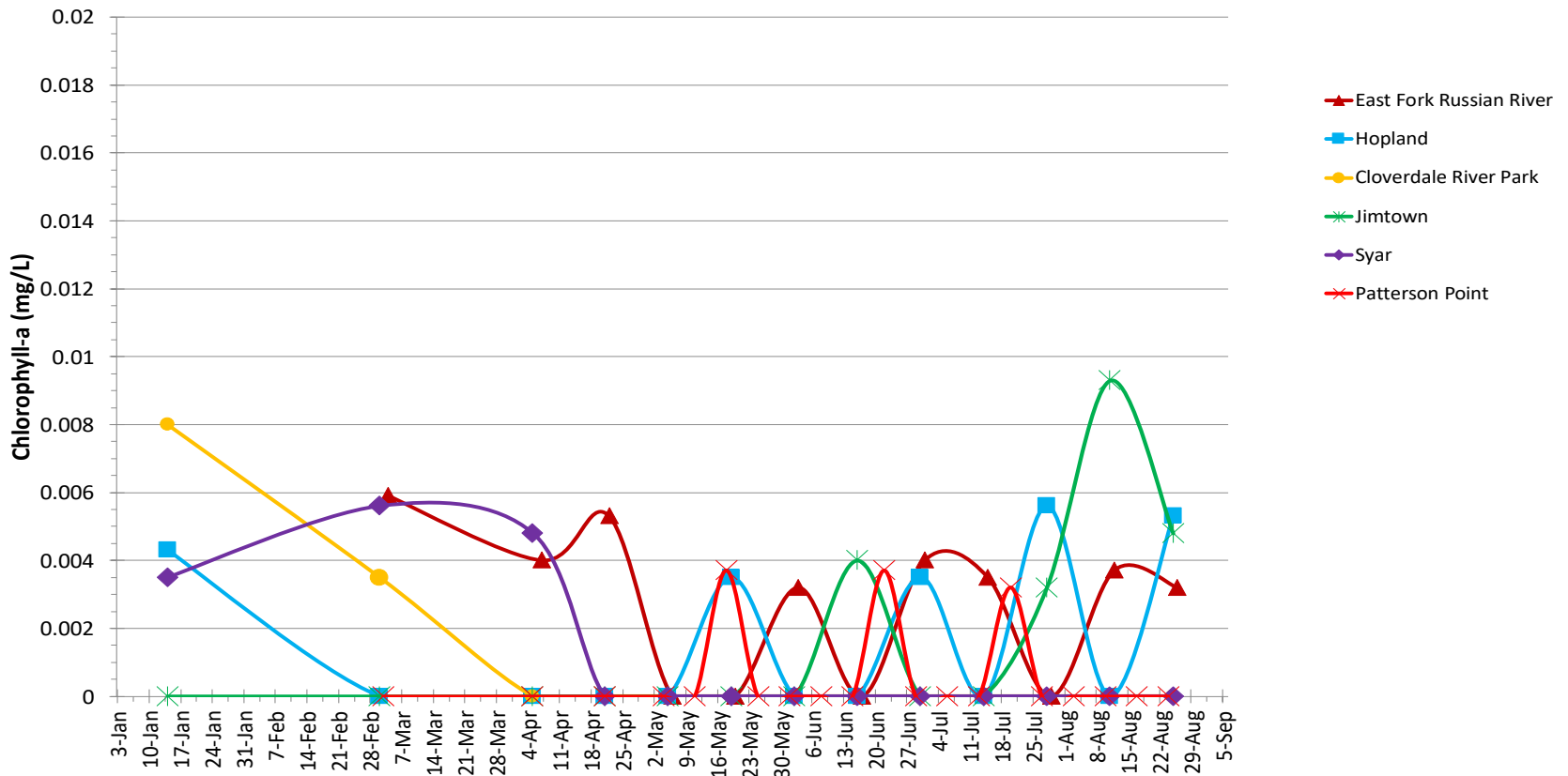


\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

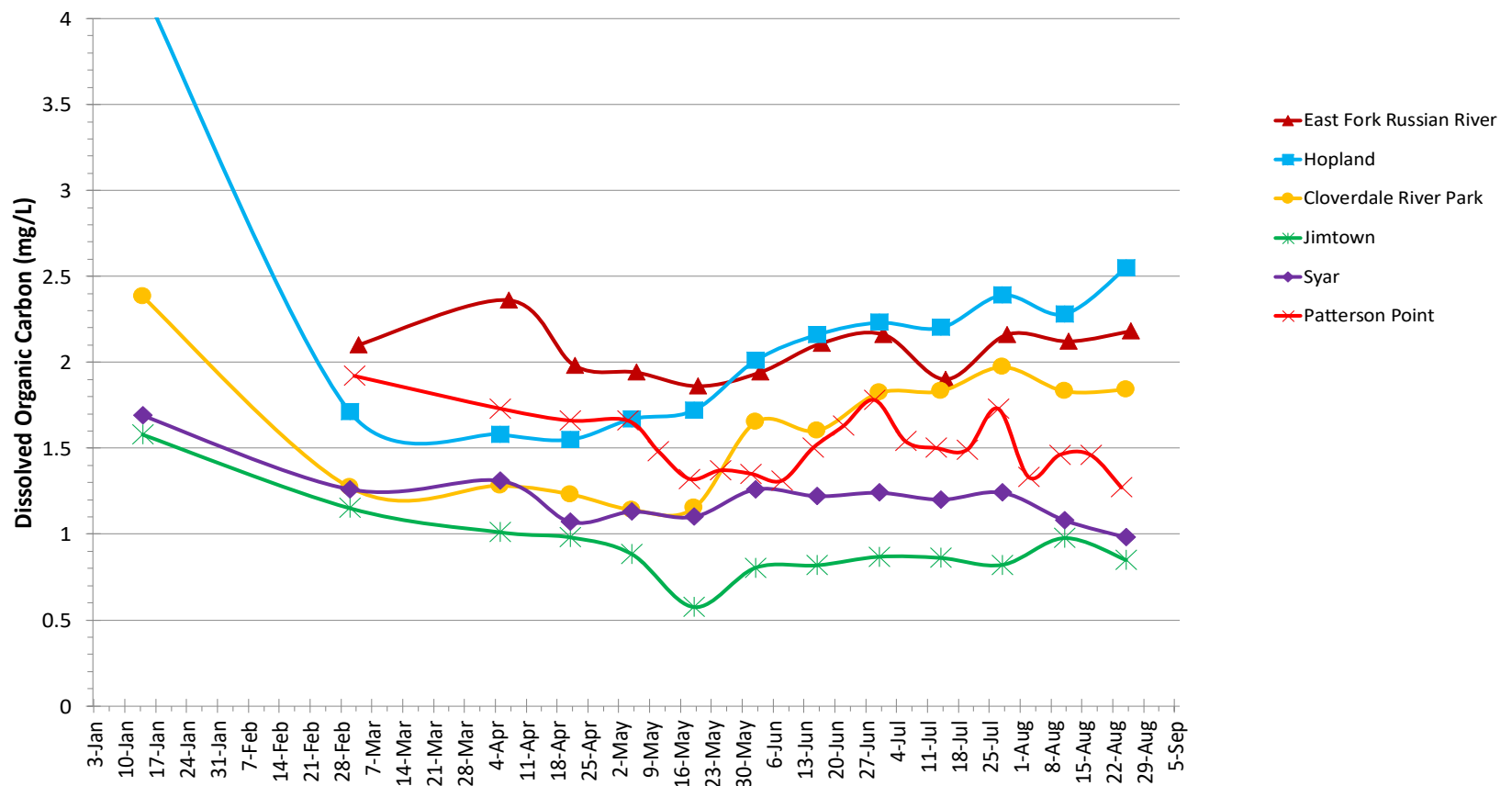
**Russian River Water Quality Grab Samples (January 14 - September 30, 2021)**  
**Provisional Data Subject to Revision**

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

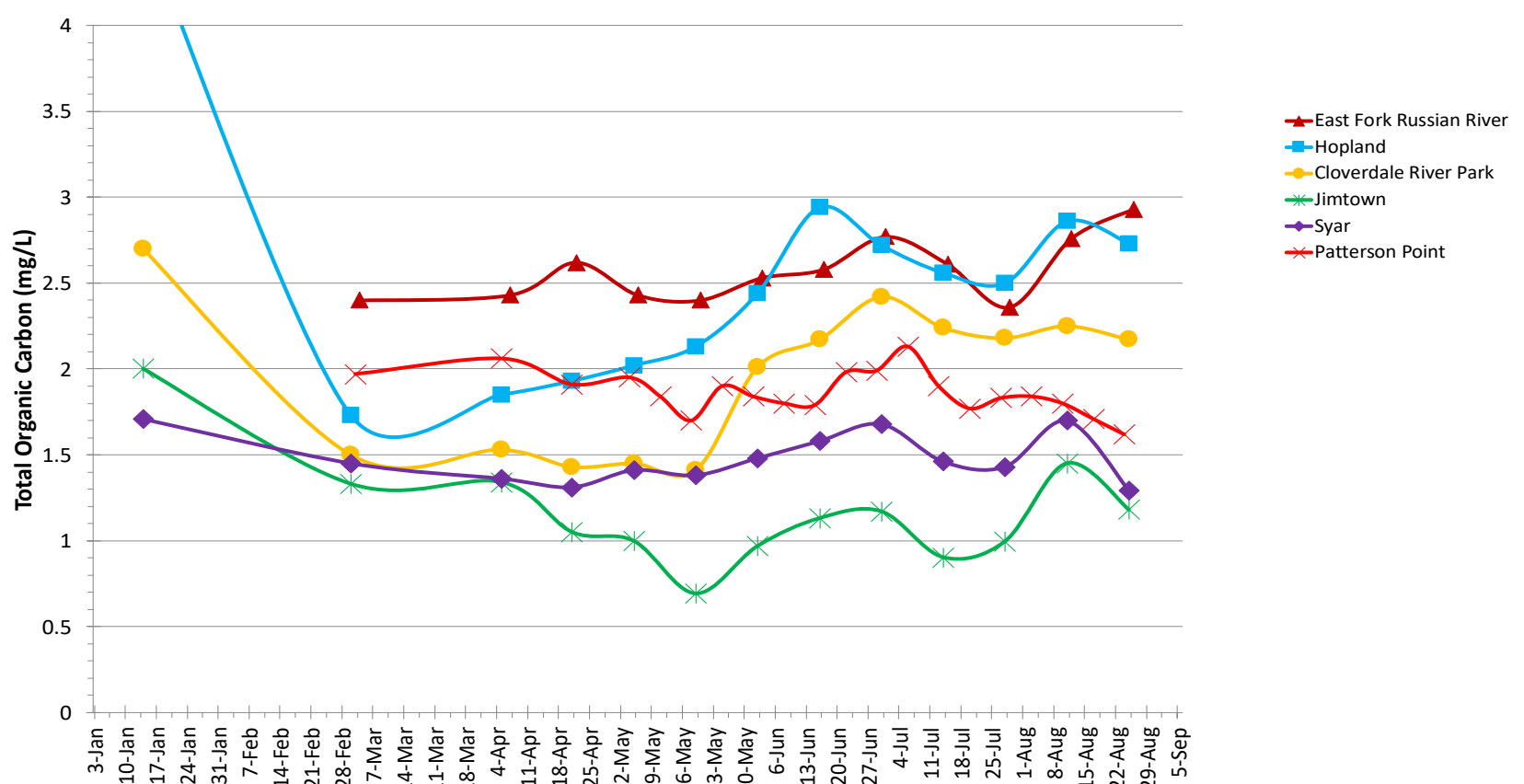
**Chlorophyll-a - East Fork to Patterson Point - 2021**



**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 (August 24 - September 30, 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	8/24/2021	1314**	1935**	2098**
		8/31/2021	1720**	1565**	2359**
		9/7/2021	1314**	1396**	2046**
		9/14/2021	882**	1421**	1281**
		9/21/2021	1627**	1153**	1658**
		9/23/2021	2481**	1664**	1119**
		9/28/2021	1529**	1723**	1178**
		9/30/2021	1112**	1860**	1500**
E. Coli MPN/100 mL	235	8/24/2021	2.0	8.4	60.2
		8/31/2021	5.2	10.9	29.5
		9/7/2021	5.2	28.8	17.3
		9/14/2021	19.3	4.1	28.2
		9/21/2021	72.3	30.1	31.8
		9/23/2021	41.0	75.9	40.8
		9/28/2021	4.1	25.3	6.3
		9/30/2021	17.3	67.6	24.1
Enterococcus MPN/100 mL****	61	8/24/2021	5.1	3.1	22.1
		8/31/2021	131.4	20.3	65.0
		9/7/2021	8.6	17.5	3.1
		9/14/2021	14.5	12.1	28.5
		9/21/2021	112.4	53.7	26.9
		9/23/2021	73.3	59.1	28.5
		9/28/2021	16.8	36.4	9.8
		9/30/2021	17.3	53.8	7.2

\*\*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 22 - August 24, 2021)**  
**Provisional Data Subject to Revision**

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
	Temperature	-	°C	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
				8/10/2021	22.6	22.7	23.3
				8/17/2021	22.8	22.9	23.5
				8/24/2021	20.7	20.8	21.0
Nutrients	Ammonia as N	0.01	mg/L	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
				8/10/2021	ND	ND	ND
				8/17/2021	ND	ND	ND
	8/24/2021	ND	ND	ND			
	Nitrate as N	0.03	mg/L	6/22/2021	0.057	ND	ND
				6/29/2021	0.071	ND	ND
				7/6/2021	ND	ND	0.057
				7/13/2021	ND	ND	ND
				7/20/2021	ND	ND	ND
				7/27/2021	ND	ND	ND
				8/3/2021	0.120	ND	ND
				8/10/2021	ND	ND	ND
8/17/2021				ND	ND	ND	
8/24/2021	0.120	0.110	0.110				
Nutrients	Nitrite as N	0.03	mg/L	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
				8/10/2021	ND	ND	ND
				8/17/2021	ND	ND	ND
	8/24/2021	ND	ND	ND			
	Total Organic Nitrogen as N	0.2	mg/L	6/22/2021	0.18	0.18	0.18
				6/29/2021	0.18	0.18	0.18
				7/6/2021	0.10	0.10	ND
				7/13/2021	ND	ND	ND
				7/20/2021	0.26	0.35	0.18
				7/27/2021	ND	ND	ND
				8/3/2021	0.18	0.18	0.18
				8/10/2021	ND	0.21	ND
				8/17/2021	0.26	0.18	0.10
	8/24/2021	0.14	0.14	0.14			
	Total Kjeldahl Nitrogen	0.1	mg/L	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	0.26	0.35	ND
				7/27/2021	ND	ND	ND
				8/3/2021	ND	ND	ND
				8/10/2021	ND	0.21	ND
				8/17/2021	0.26	ND	ND
	8/24/2021	ND	ND	ND			
	Total Phosphorus	0.02	mg/L	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	
8/10/2021				0.040	0.039	0.030	
8/17/2021				0.038	0.035	0.026	
8/24/2021	0.040	0.033	0.022				
Total Orthophosphate	0.02	mg/L	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	
			8/10/2021	0.055	0.051	0.039	
			8/17/2021	0.047	0.039	0.031	
8/24/2021	0.055	0.039	0.031				

**Russian River Water Quality Grab Samples (June 22 - August 24, 2021)**  
**Provisional Data Subject to Revision**

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
Chlorophyll	Chlorophyll A	0.00005	mg/L	6/22/2021	0.0037	ND	0.0043
				6/29/2021	ND	ND	0.0053
				7/6/2021	ND	ND	ND
				7/13/2021	ND	ND	ND
				7/20/2021	0.0035	ND	0.0032
				7/27/2021	ND	ND	ND
				8/3/2021	0.0040	ND	ND
				8/10/2021	ND	ND	ND
				8/17/2021	ND	ND	ND
				8/24/2021	ND	ND	ND
Carbon	Total Organic Carbon	0.04	mg/L	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
				8/10/2021	1.80	1.73	1.66
				8/17/2021	1.71	1.65	1.60
	8/24/2021	1.62	1.59	1.51			
	Dissolved Organic Carbon	0.04	mg/L	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
				8/10/2021	1.46	1.36	1.60
8/17/2021				1.46	1.35	1.56	
8/24/2021	1.27	1.20	1.21				
Solids	Turbidity	0.02	NTU	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
				8/10/2021	7.50	3.00	1.50
				8/17/2021	0.61	1.00	0.54
	8/24/2021	0.97	1.20	0.83			
	TDS	4.2	mg/L	6/22/2021	130	130	150
				6/29/2021	130	130	130
				7/6/2021	140	160	140
				7/13/2021	150	140	130
				7/20/2021	160	150	140
				7/27/2021	140	140	130
				8/3/2021	160	150	140
				8/10/2021	140	140	140
8/17/2021				170	150	140	
8/24/2021	150	140	150				