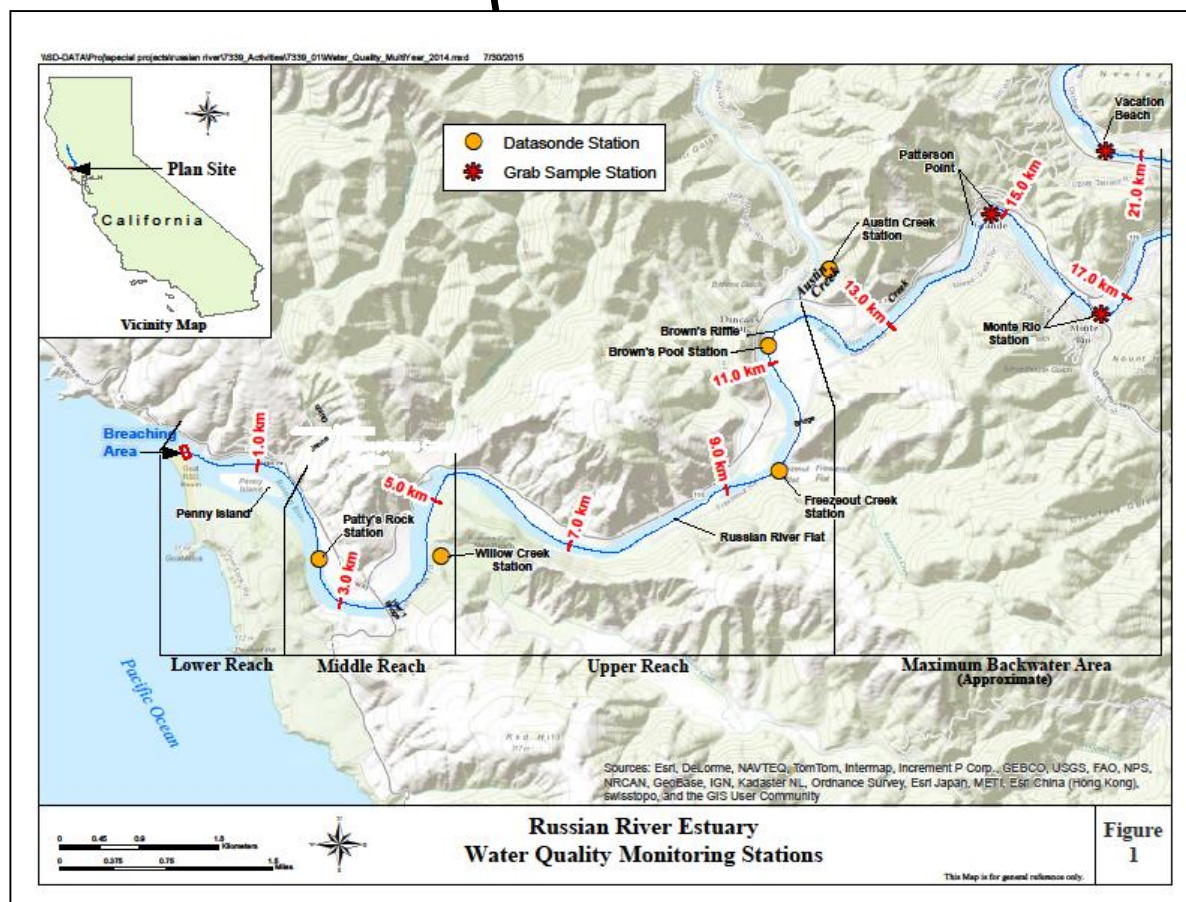
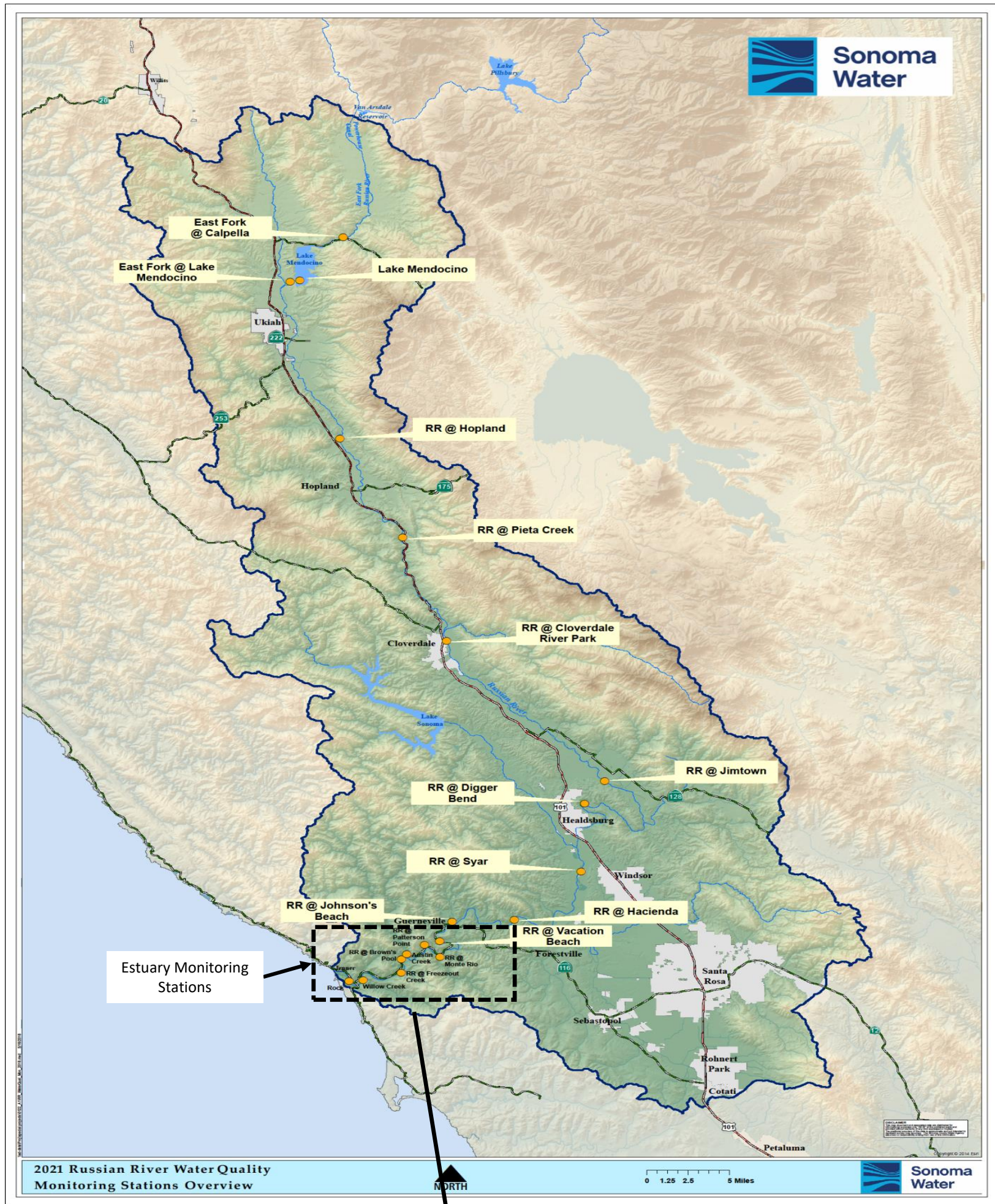




Sonoma Water

# State Water Resources Control Board Temporary Urgency Change Order (6/14/2021) Russian River Water Quality Report November 19, 2021 - November 25, 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).

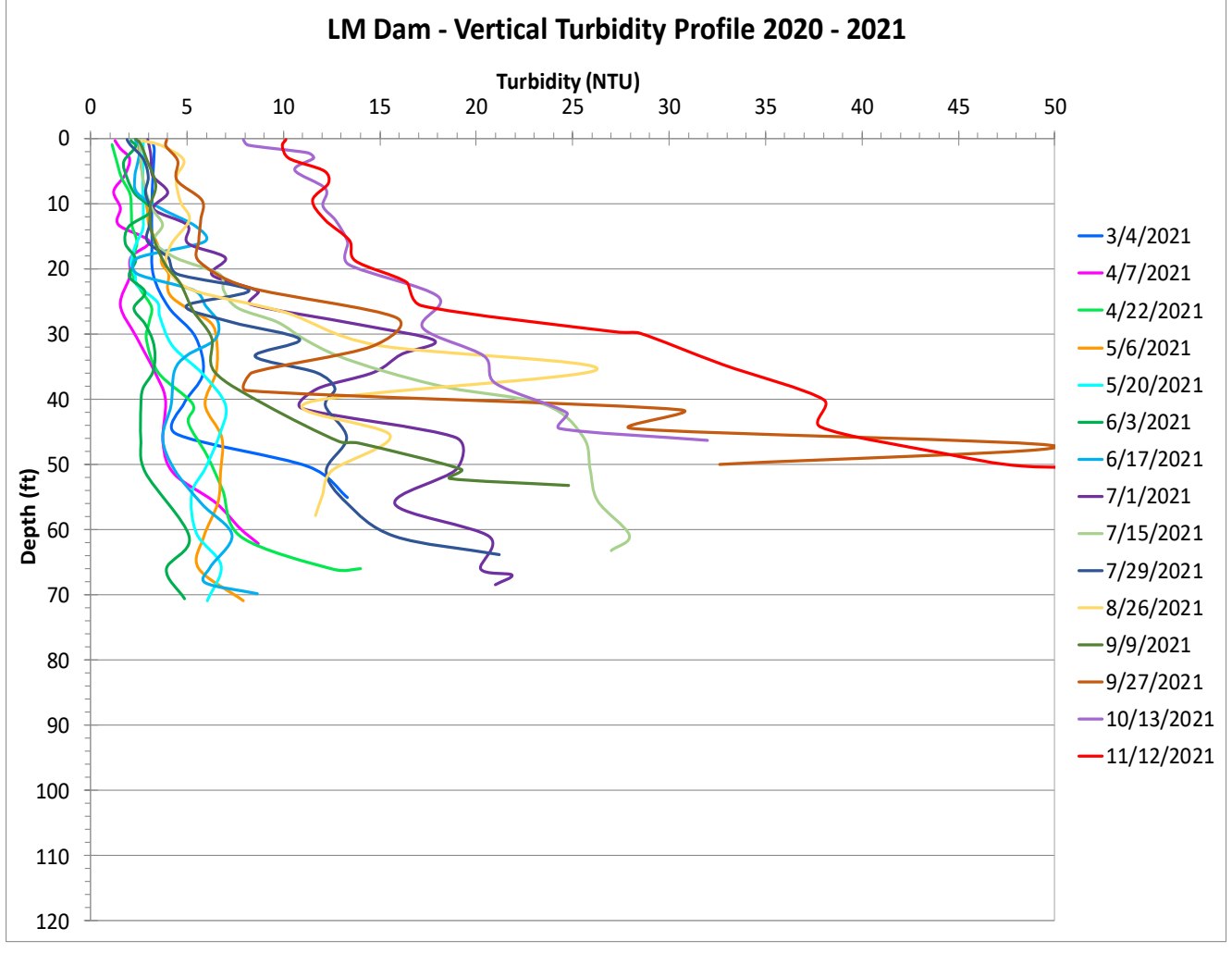
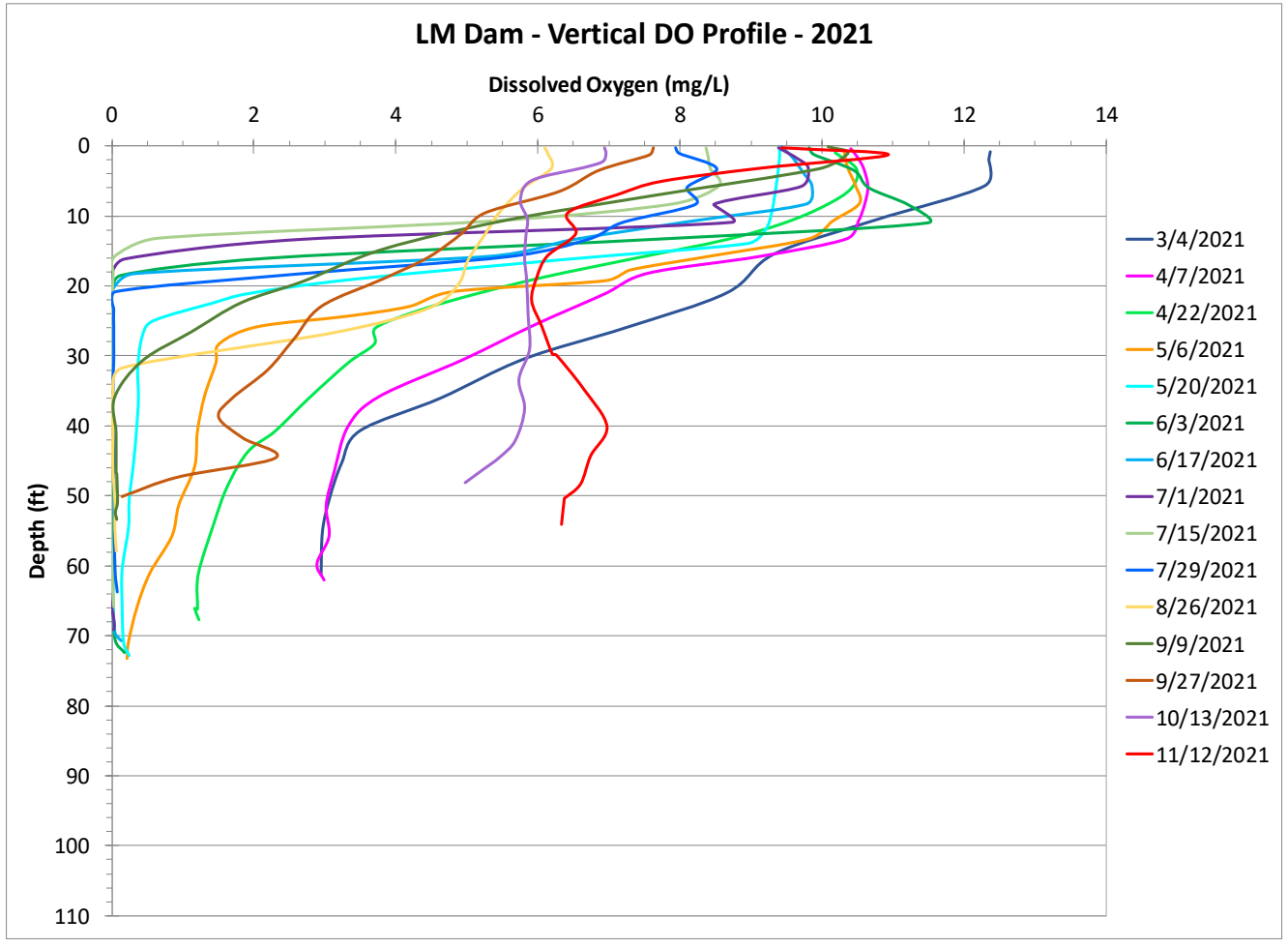
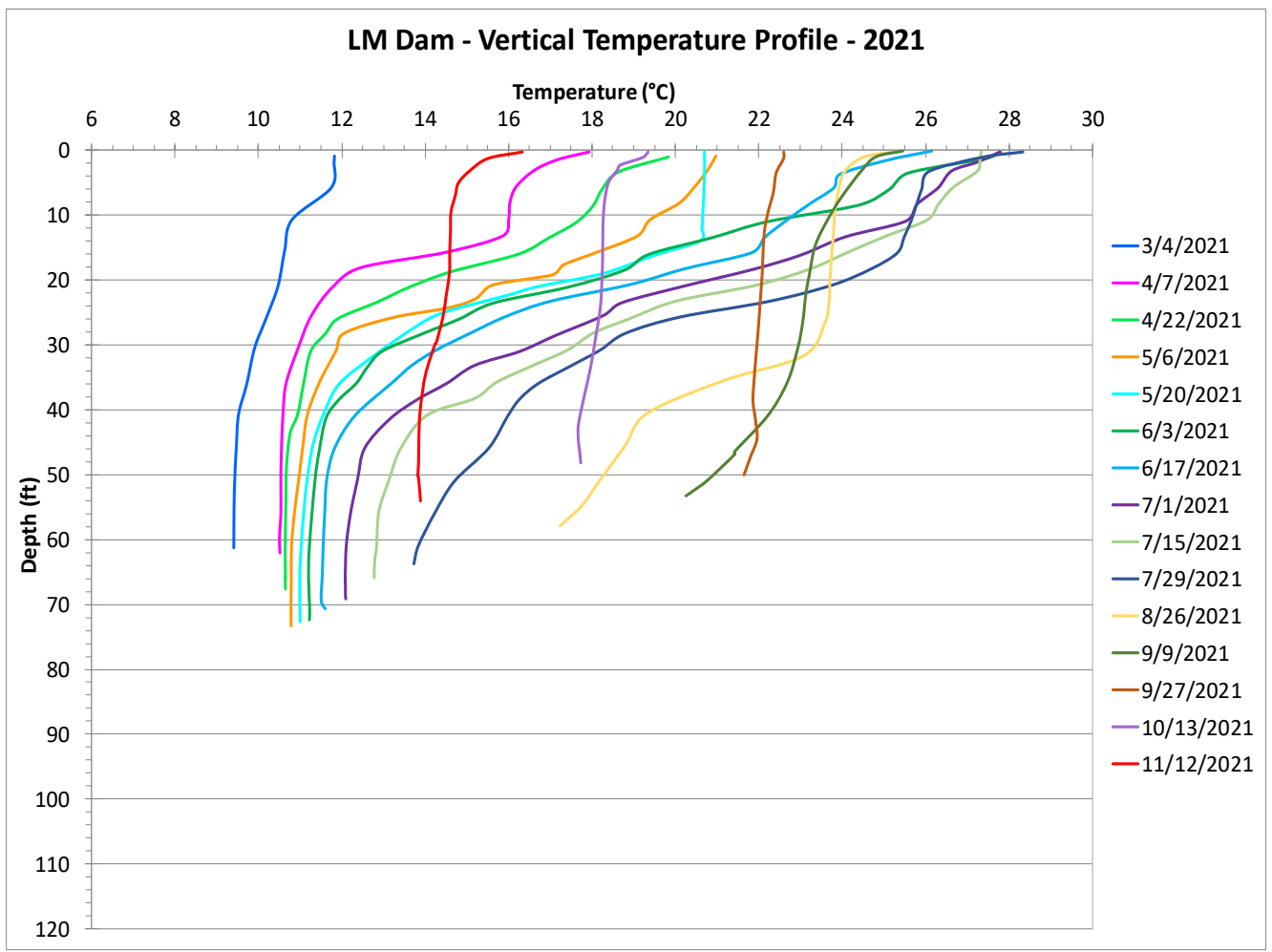


Russian River Estuary  
Water Quality Monitoring Stations

Figure 1



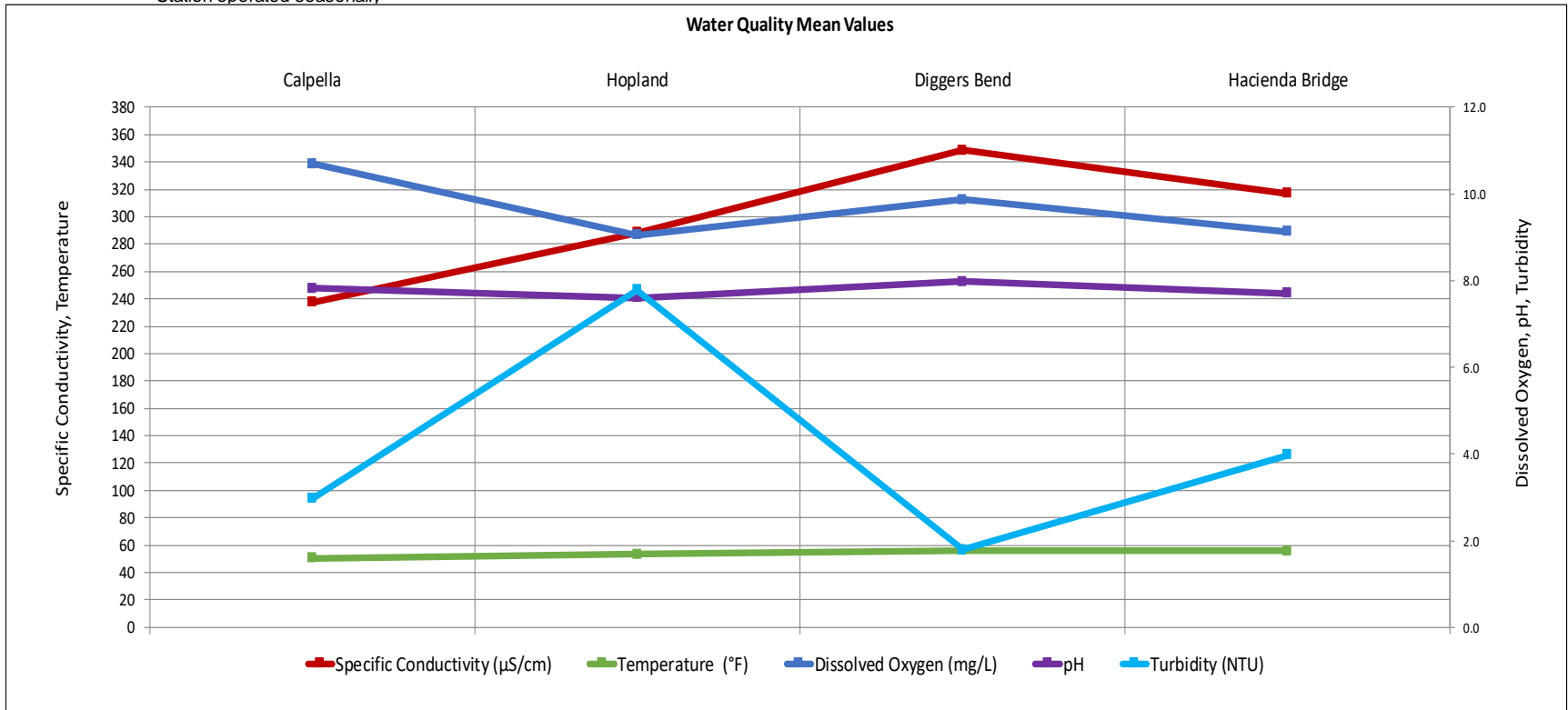
Lake Mendocino Water Quality Vertical Profiles (March 4 - November 25, 2021)  
Provisional Data Subject to Revision



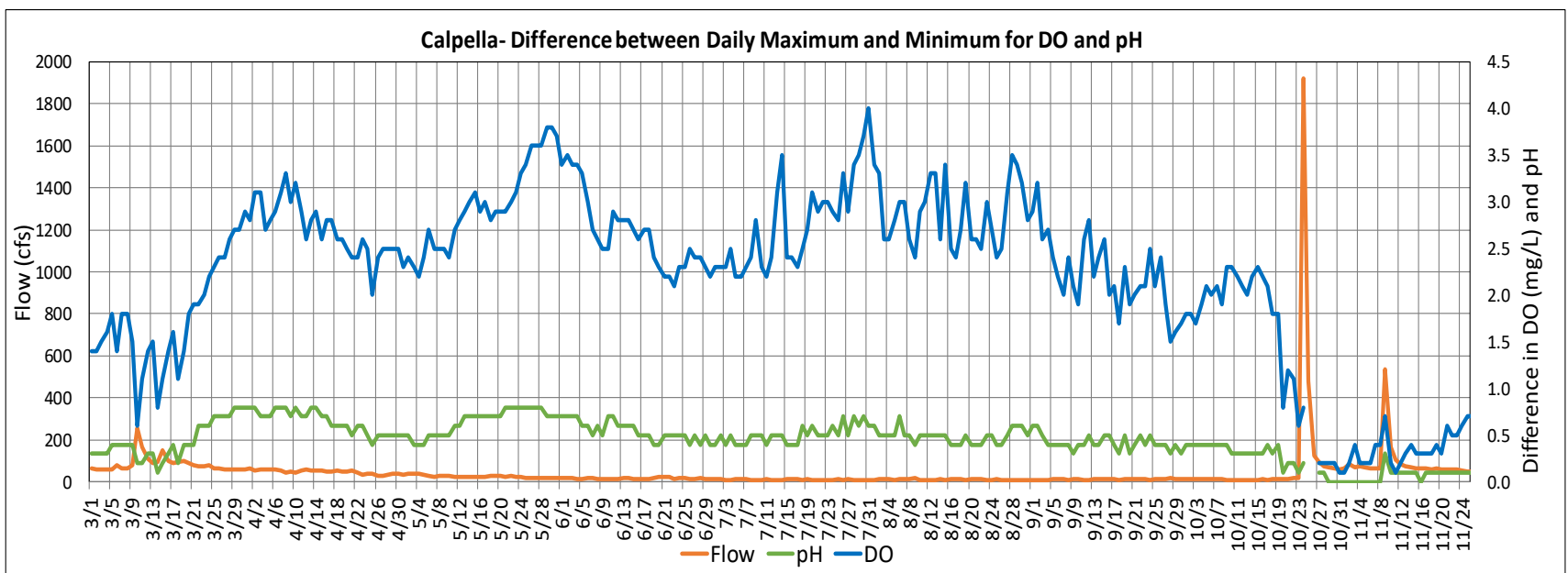
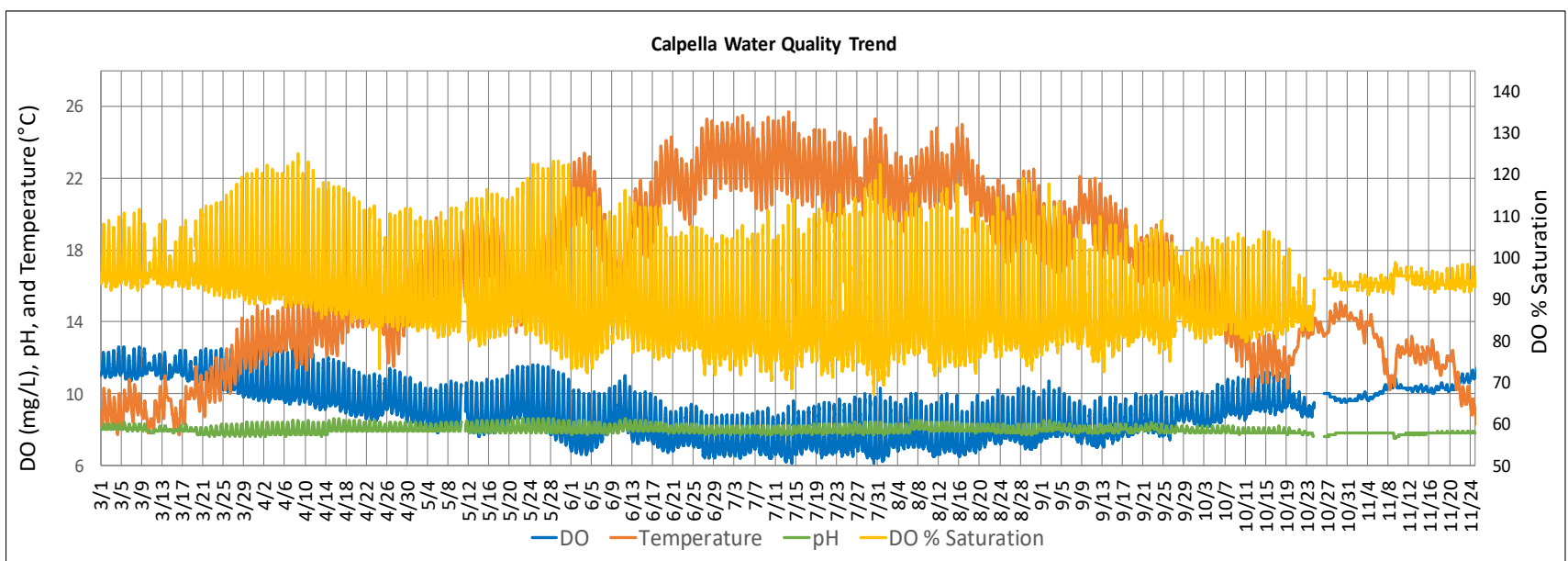
## Russian River Water Quality Sondes (November 19 - November 25, 2021) Provisional Data Subject to Revision

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	46.9		49.8				52.5	
	Max	54.3		56.8				58.5	
	Mean	50.6		53.4				55.8	
Specific Conductivity (µS/cm)	Min	234		283				311	
	Max	241		294				324	
	Mean	237		288				317	
Dissolved Oxygen (mg/L)	Min	10.1		8.5				8.5	
	Max	11.6		9.7				10.1	
	Mean	10.7		9.1				9.1	
Dissolved Oxygen (% Saturation)	Min	85		74				77	
	Max	108		92				98	
	Mean	95		82				87	
pH	Min	7.8		7.6				7.6	
	Max	7.9		7.7				7.8	
	Mean	7.8		7.6				7.7	
Turbidity (NTU)	Min	2.4		5.3				2.5	
	Max	5.8		26.8				18.1	
	Mean	3.0		7.8				4.0	

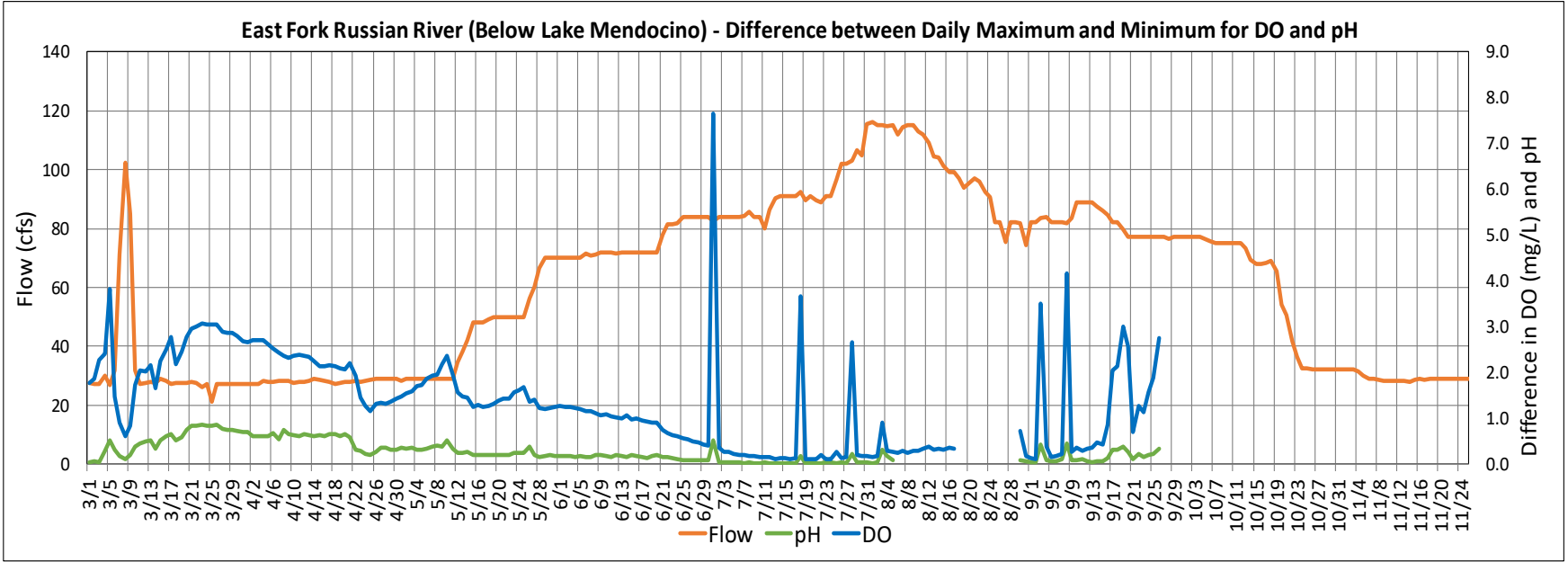
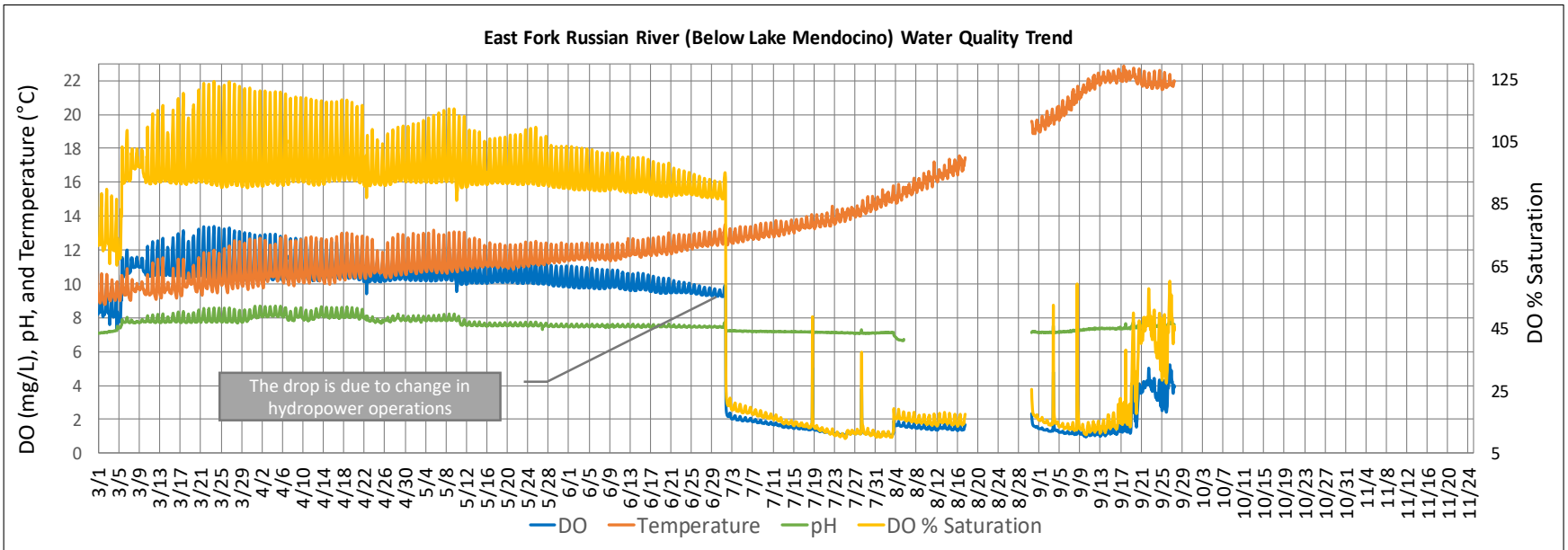
\*Station operated seasonally



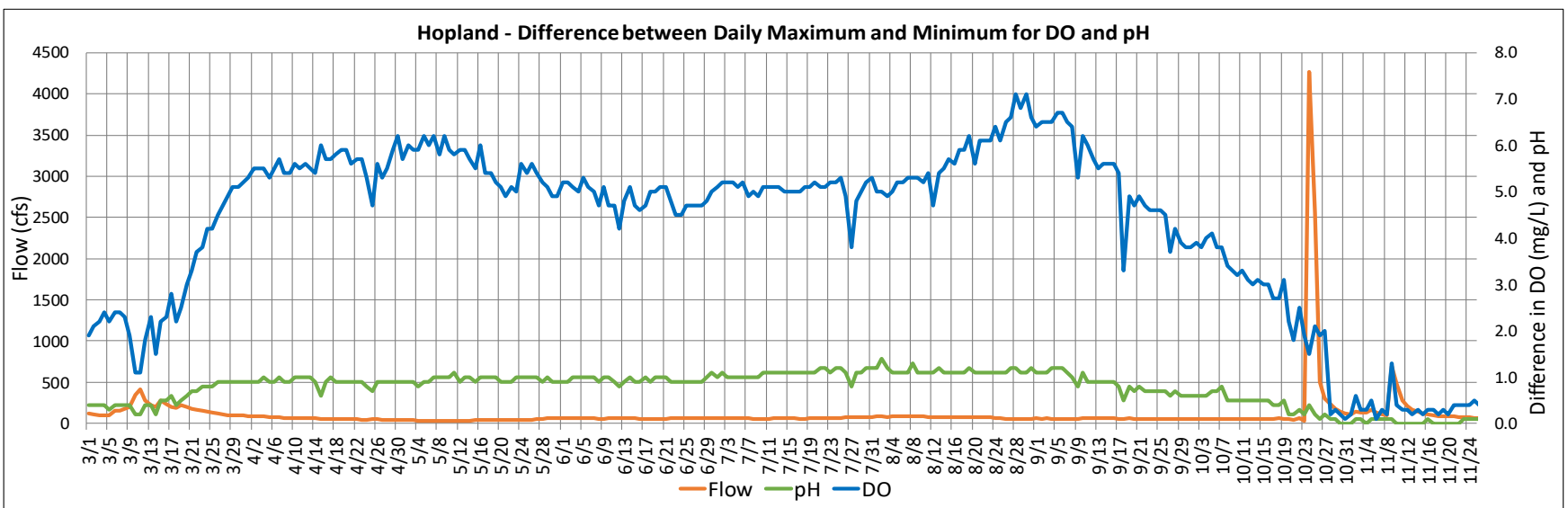
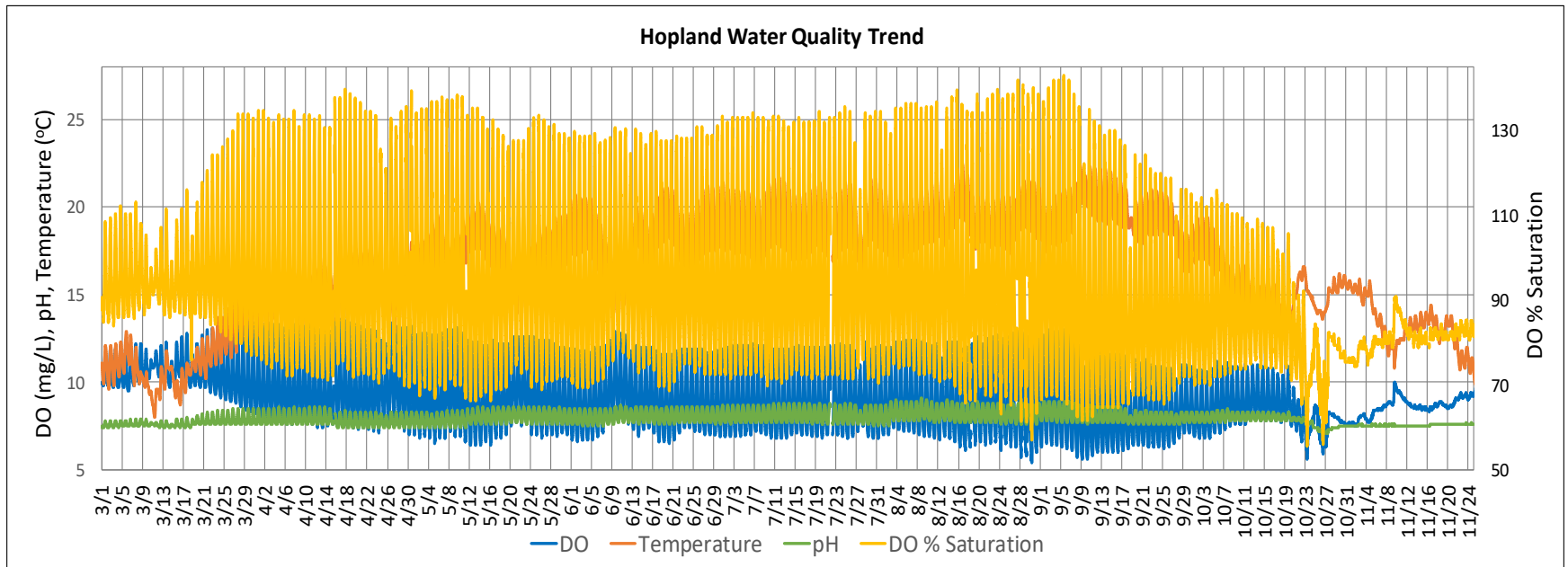
## Russian River Water Quality Sonde Data (March 1 - November 25, 2021) Provisional Data Subject to Revision



**Russian River Water Quality Sonde Data (March 1 - November 25, 2021)**  
**Provisional Data Subject to Revision**

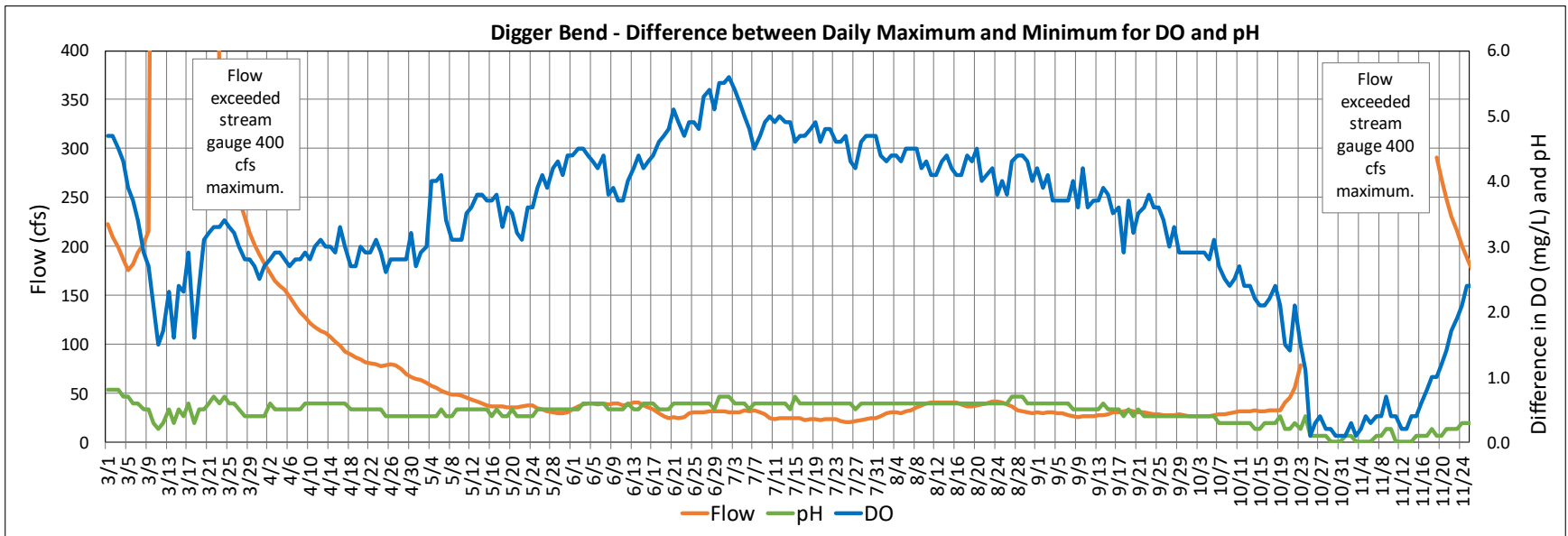
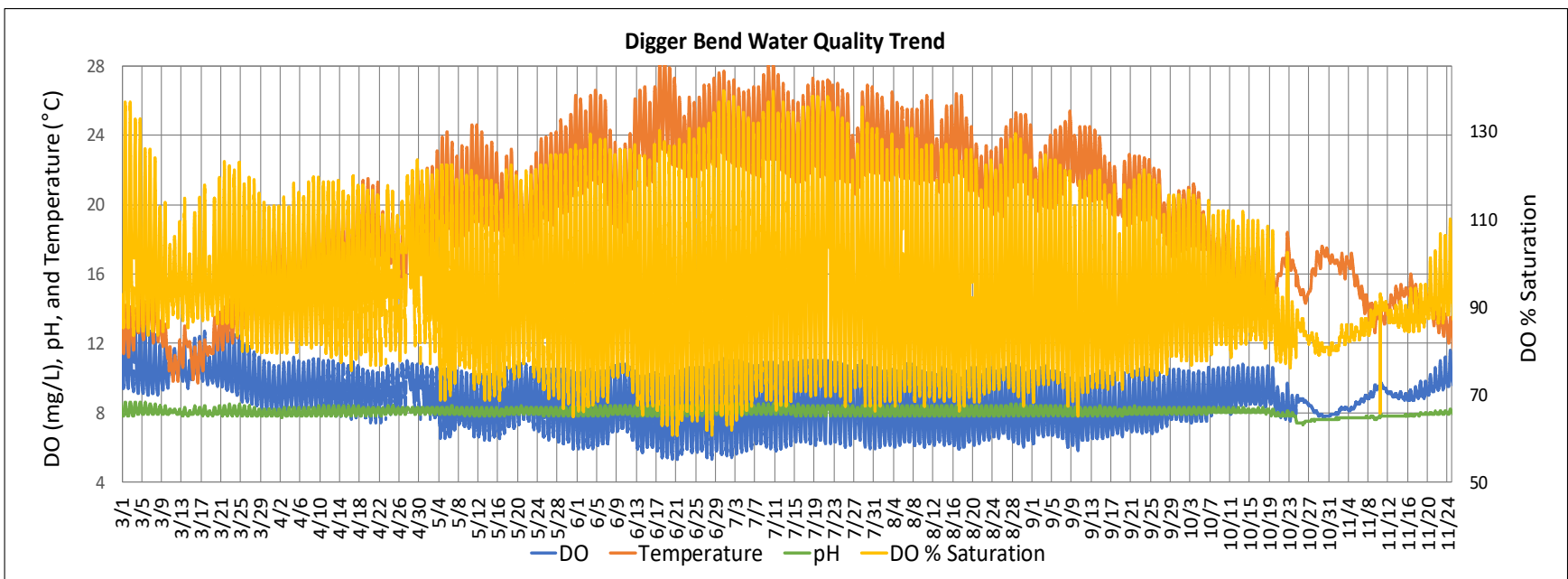
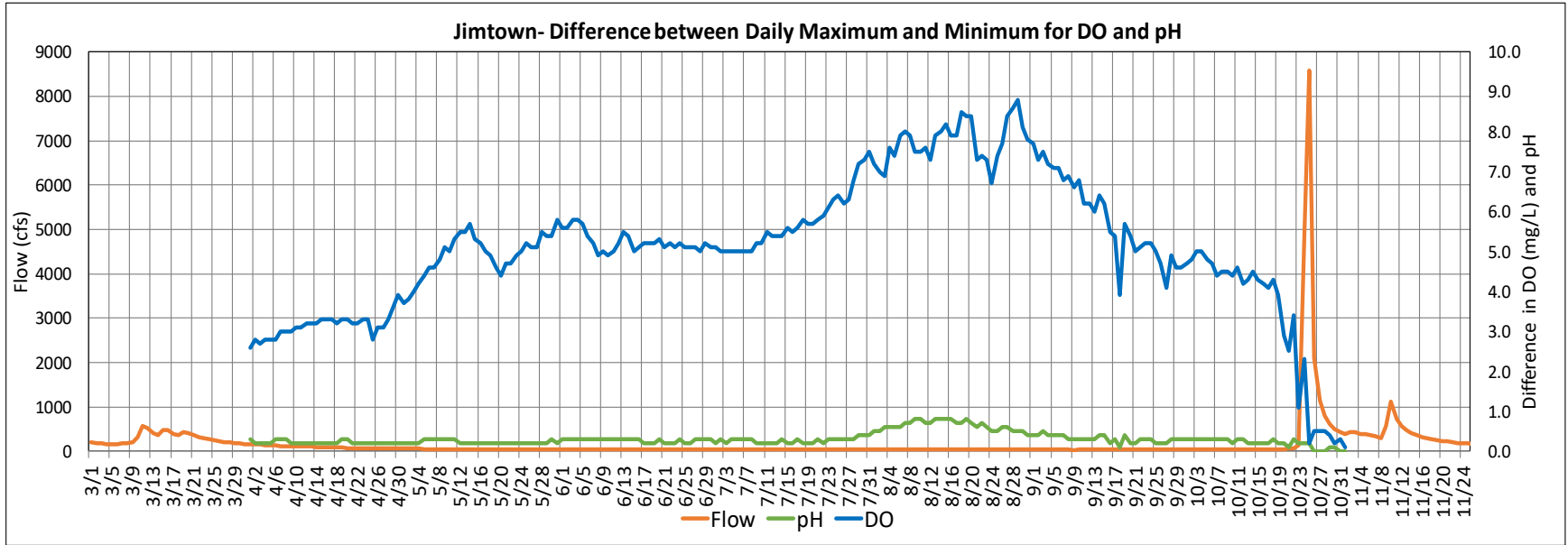
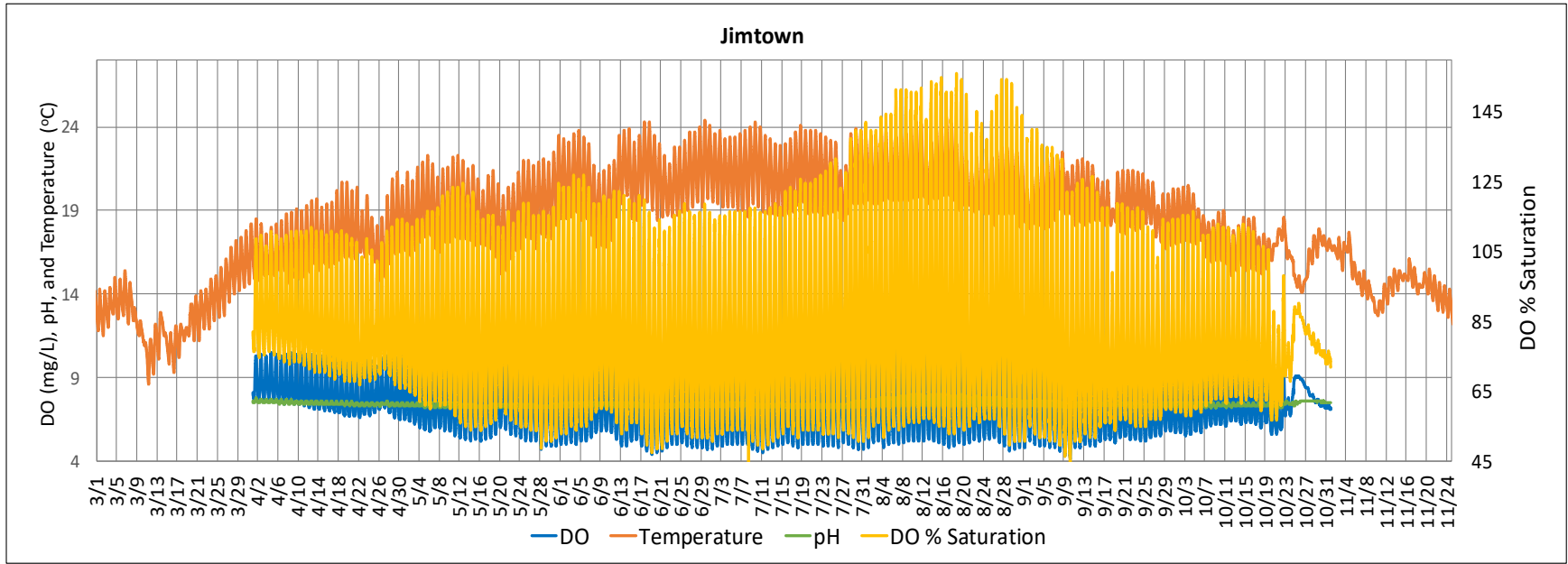


**Hopland**





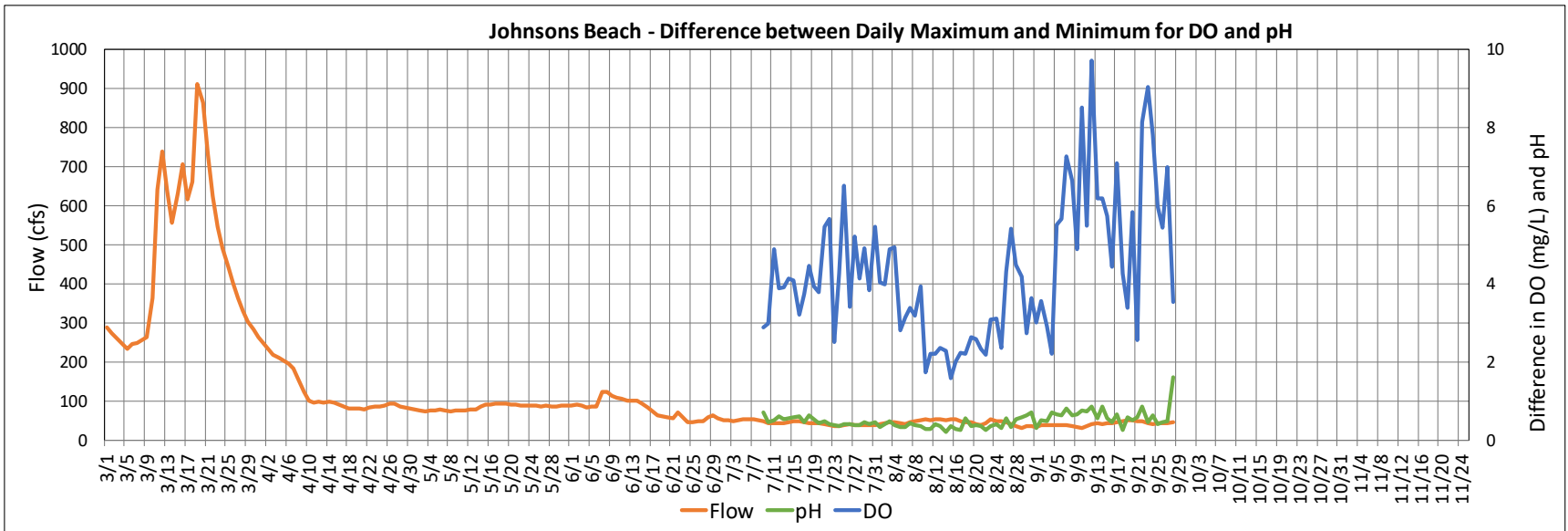
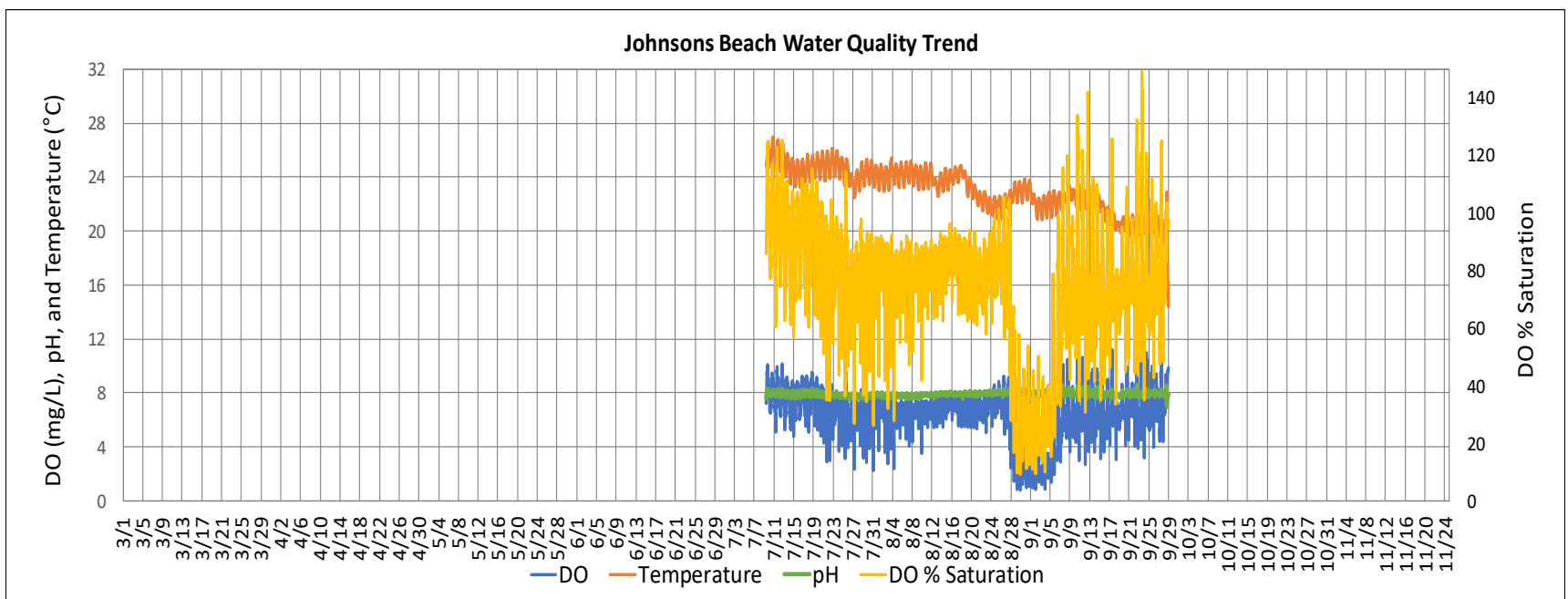
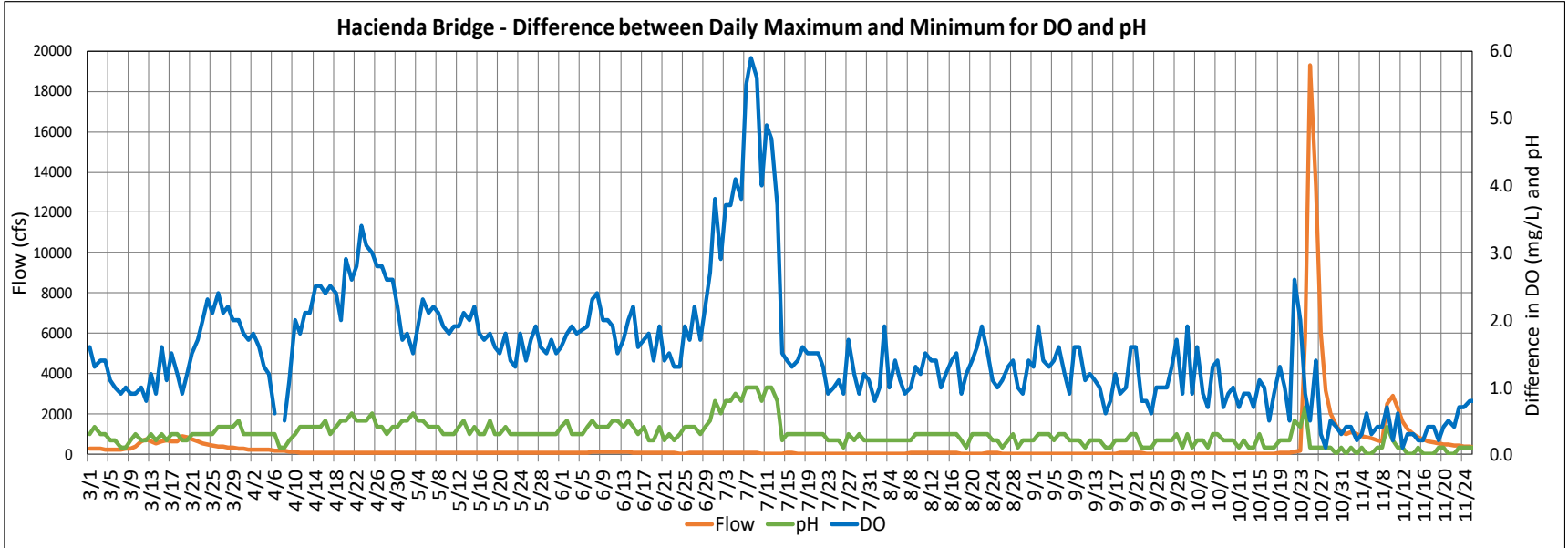
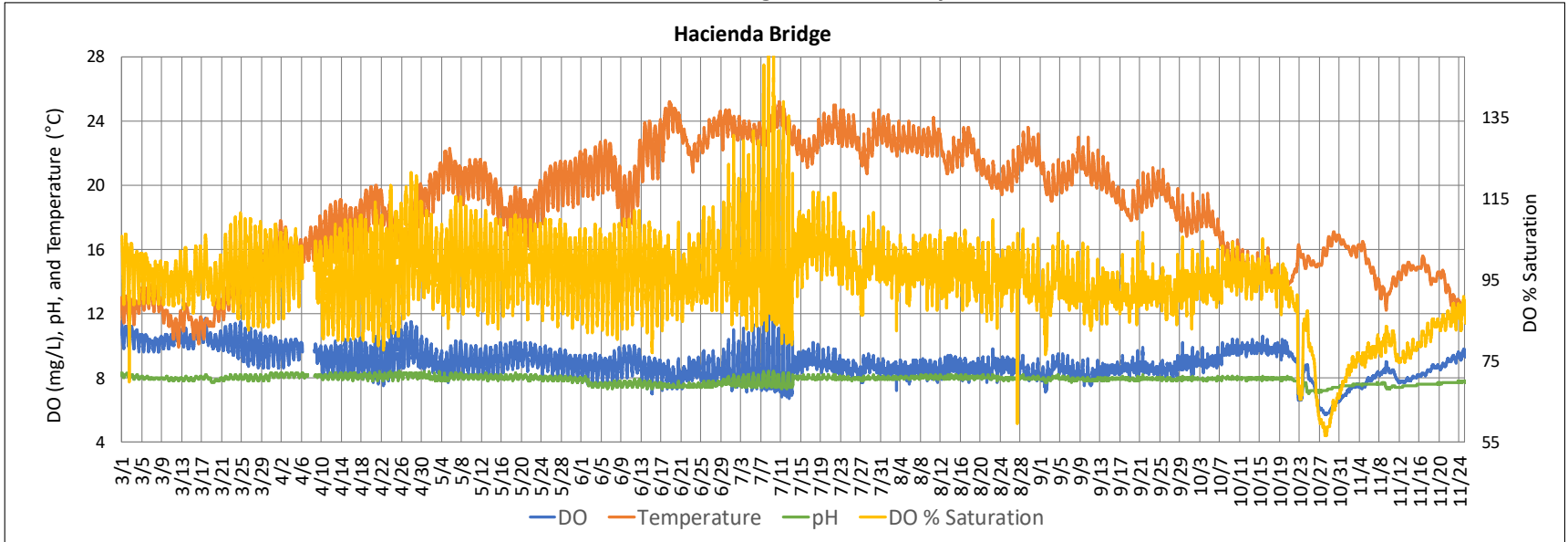
**Russian River Water Quality Sonde Data (March 1 - November 25, 2021)**  
**Provisional Data Subject to Revision**



# Russian River Water Quality Sonde Data (March 1 - November 25, 2021)

Provisional Data Subject to Revision

Hacienda Bridge Water Quality



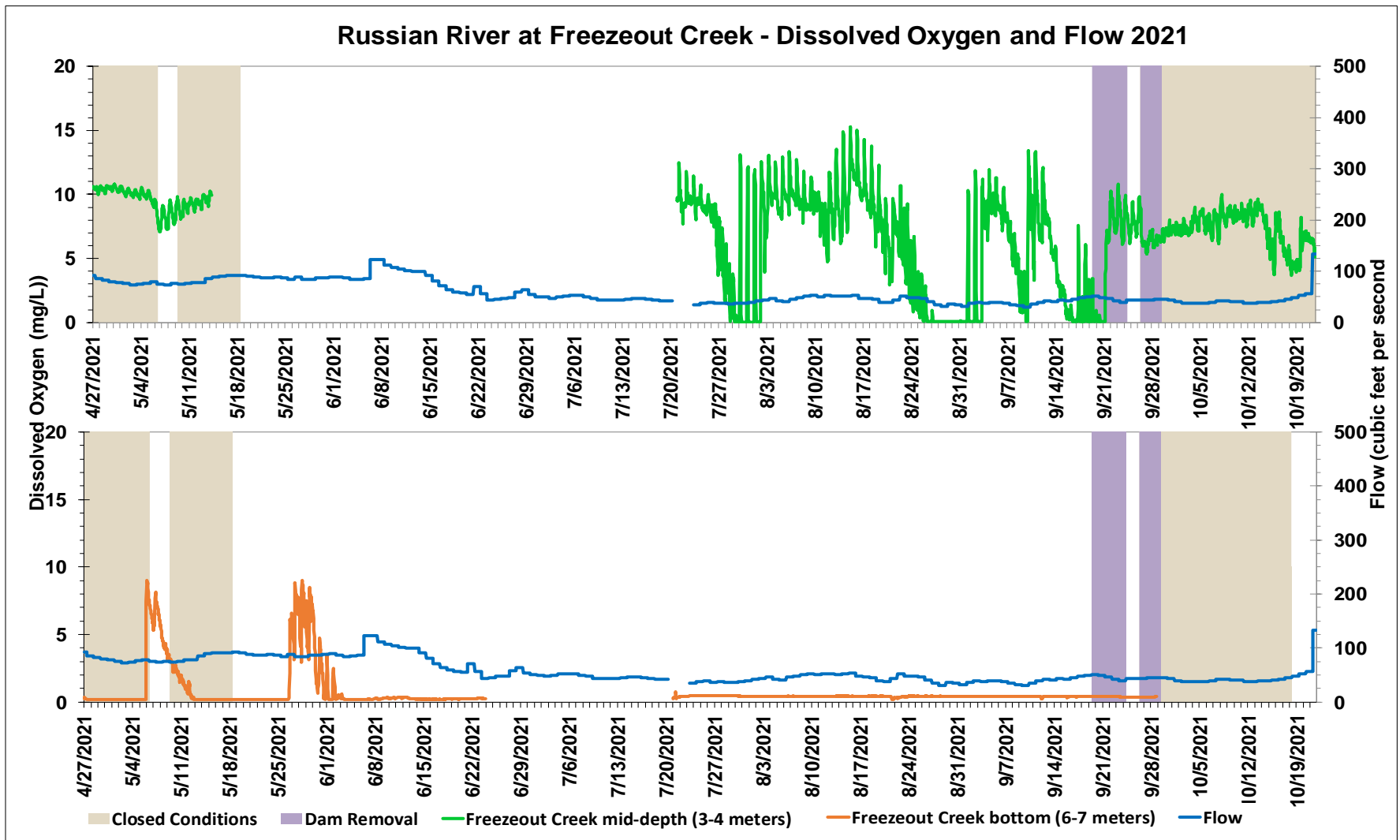
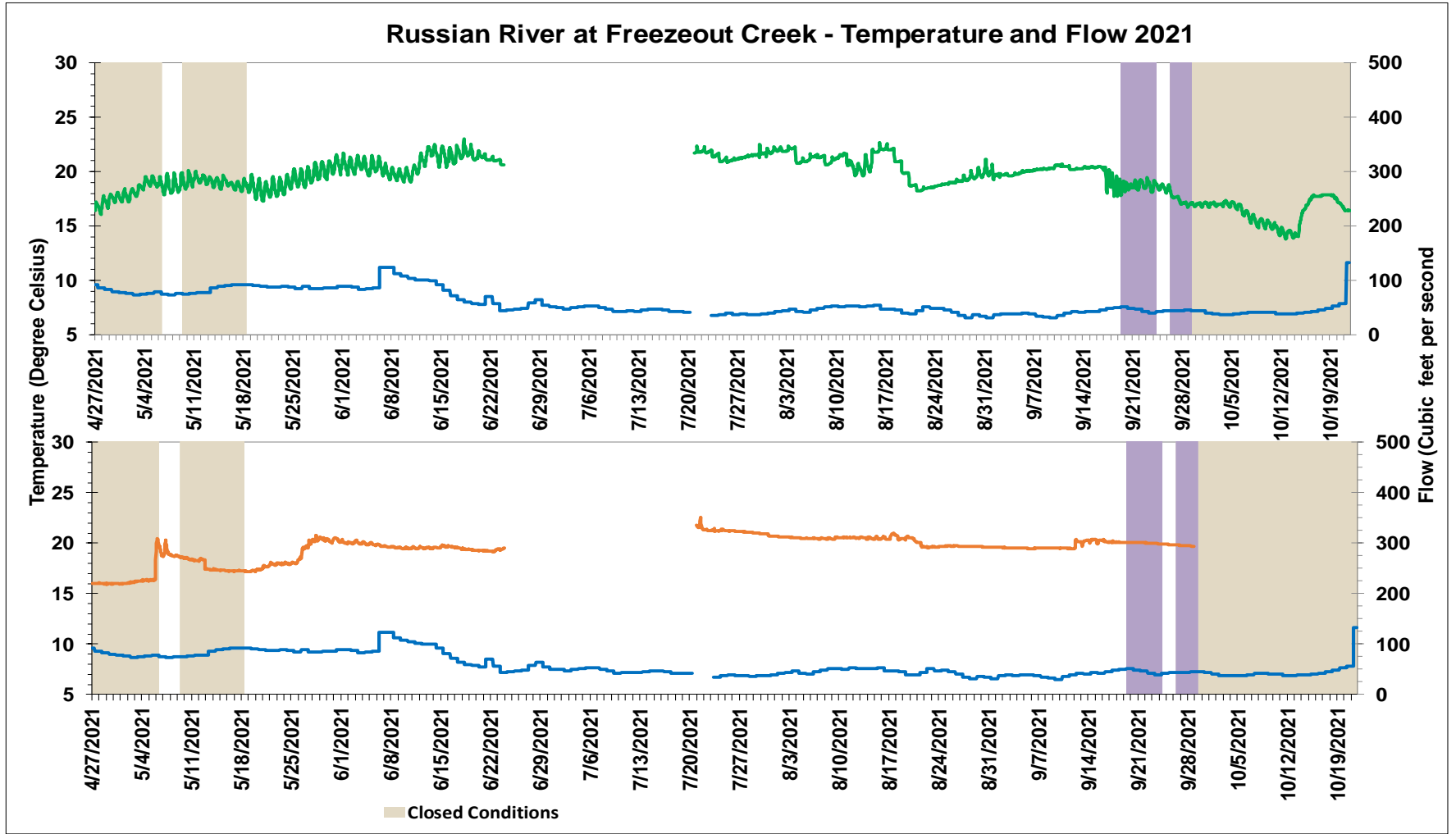
Note: Flow at Johnsons Beach is plotted using data collected at Hacienda Bridge.



Russian River Water Quality Sonde Data - Estuary (April 27 - November 25, 2021)

Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality

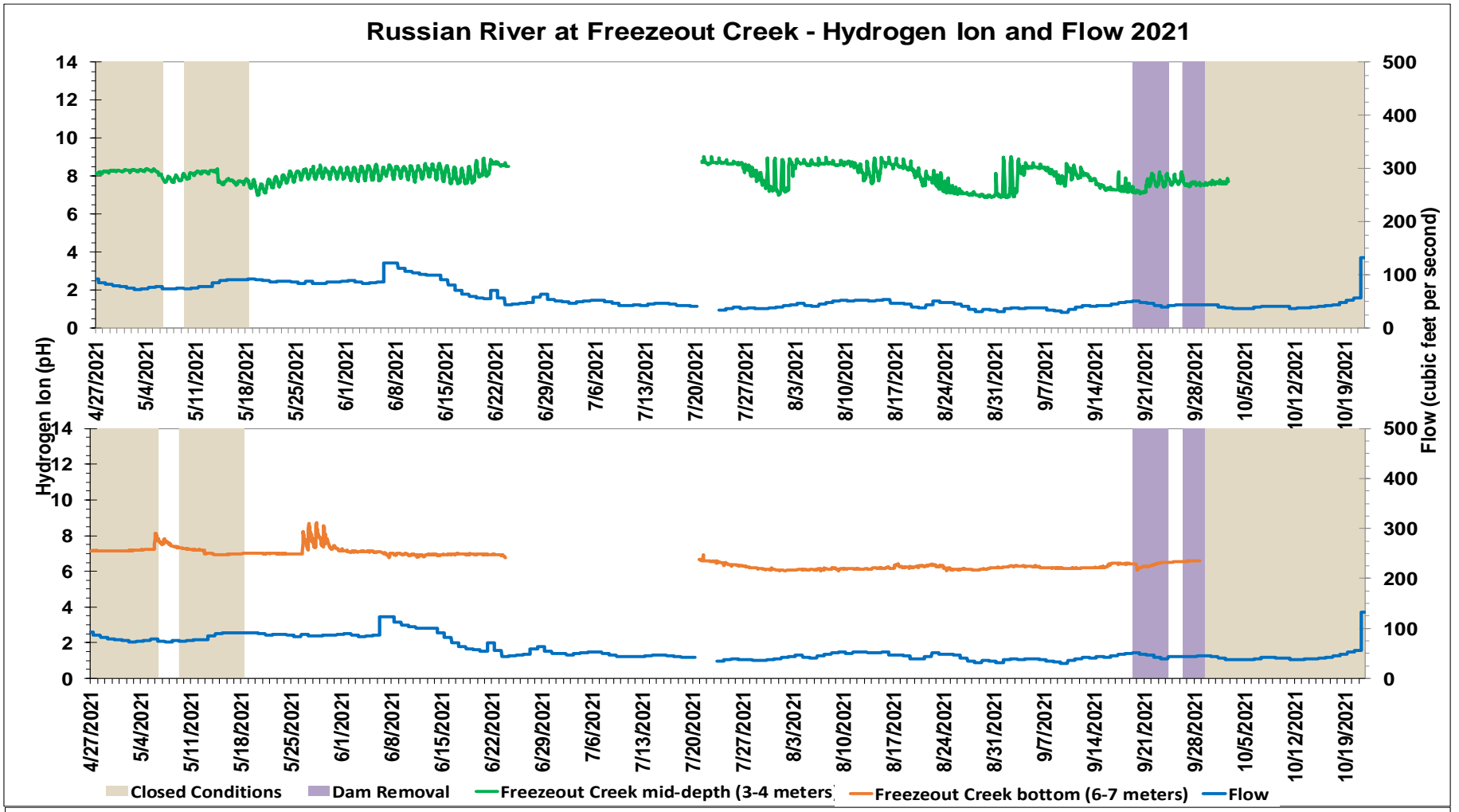


Russian River Water Quality Sonde Data - Estuary (April 27 - November 25, 2021)

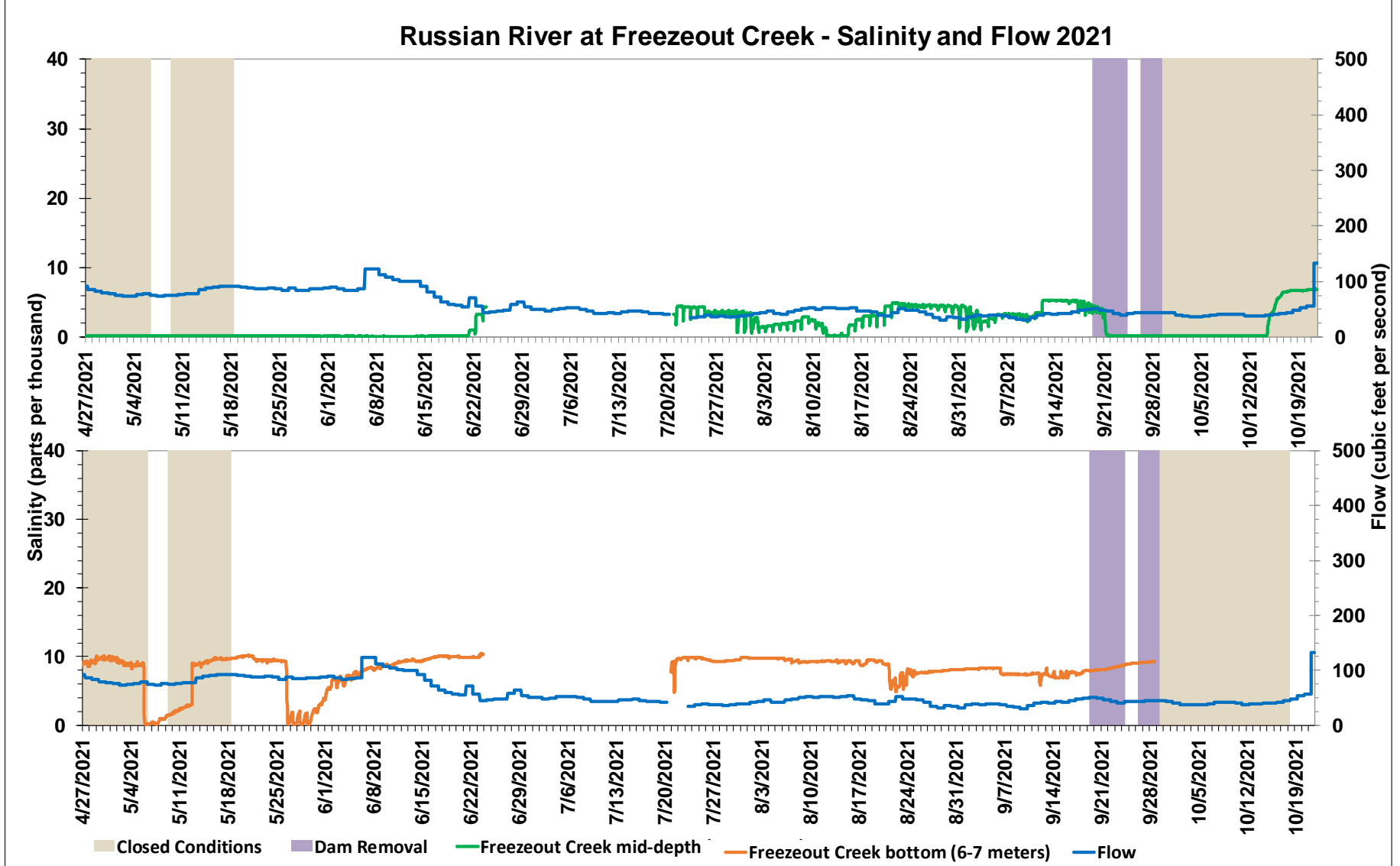
Provisional Data Subject to Revision

Russian River at Freezeout Creek Water Quality

Russian River at Freezeout Creek - Hydrogen Ion and Flow 2021

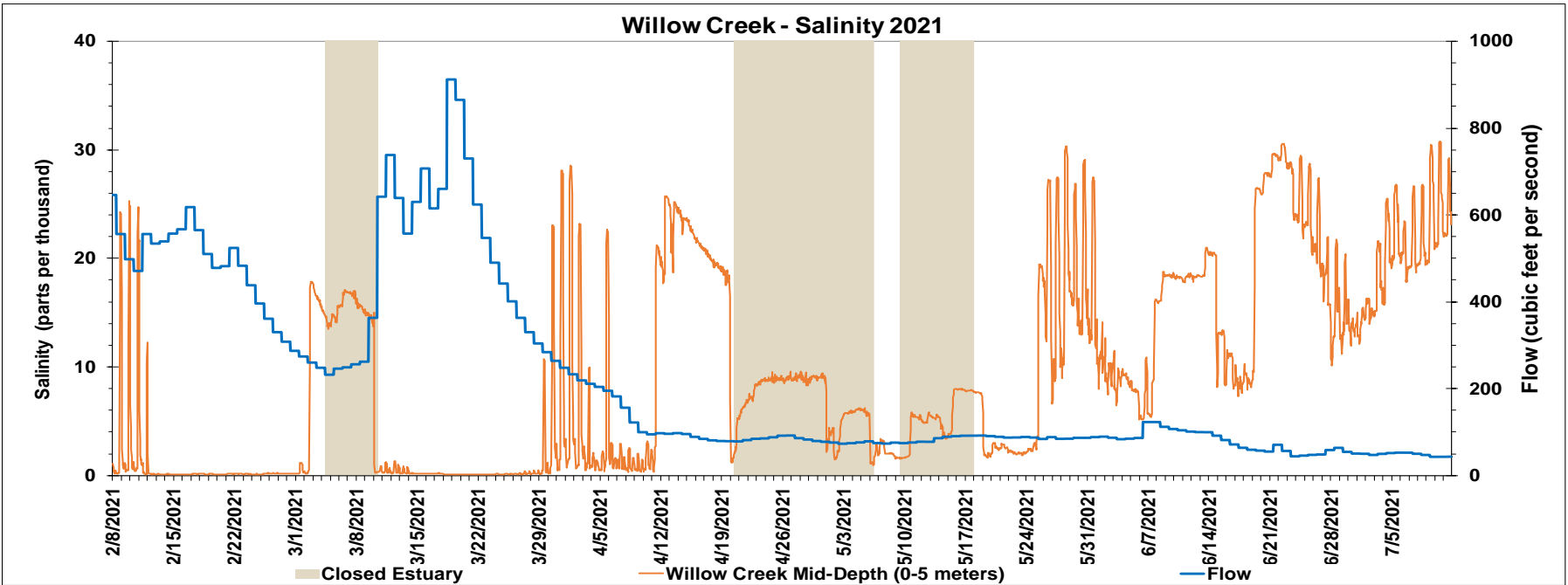
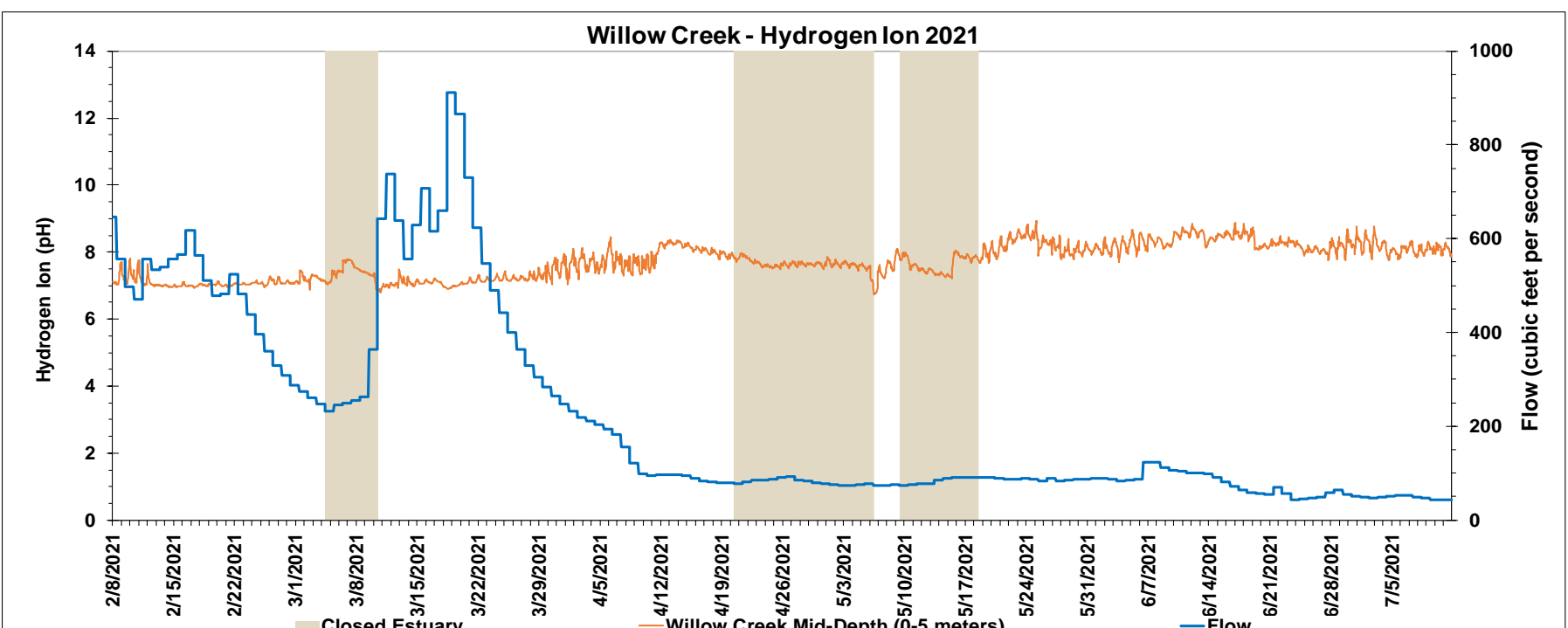
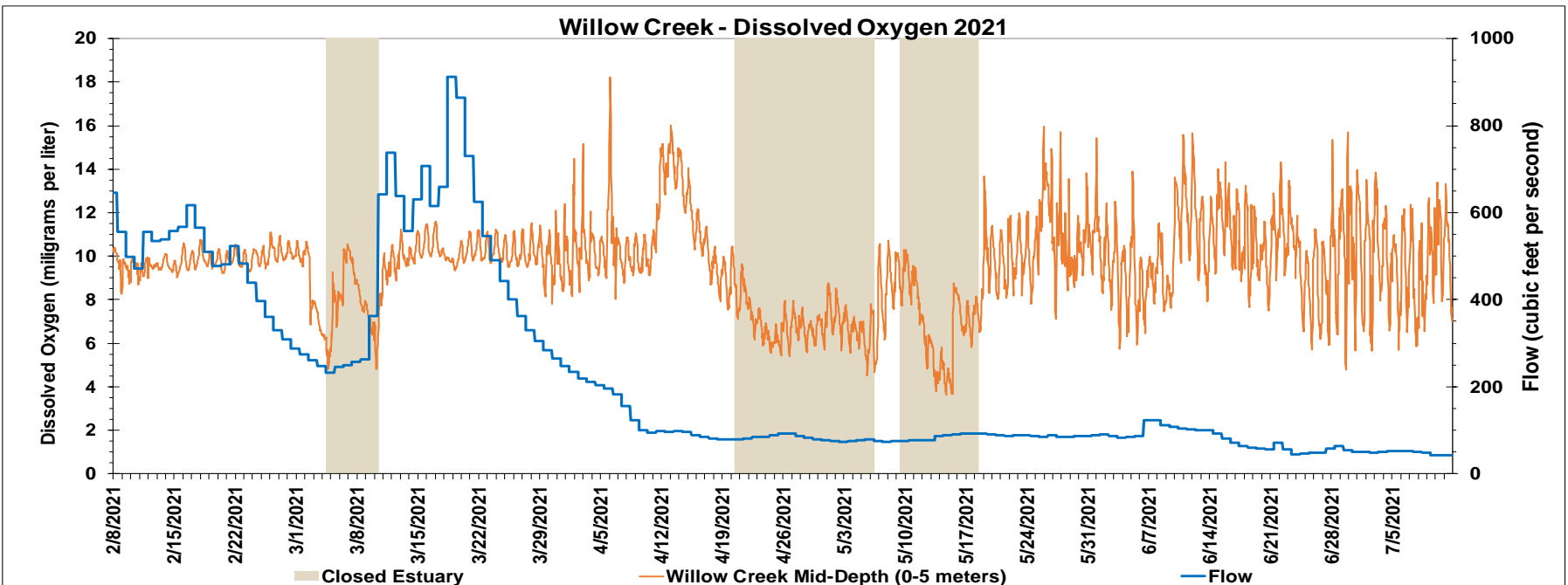
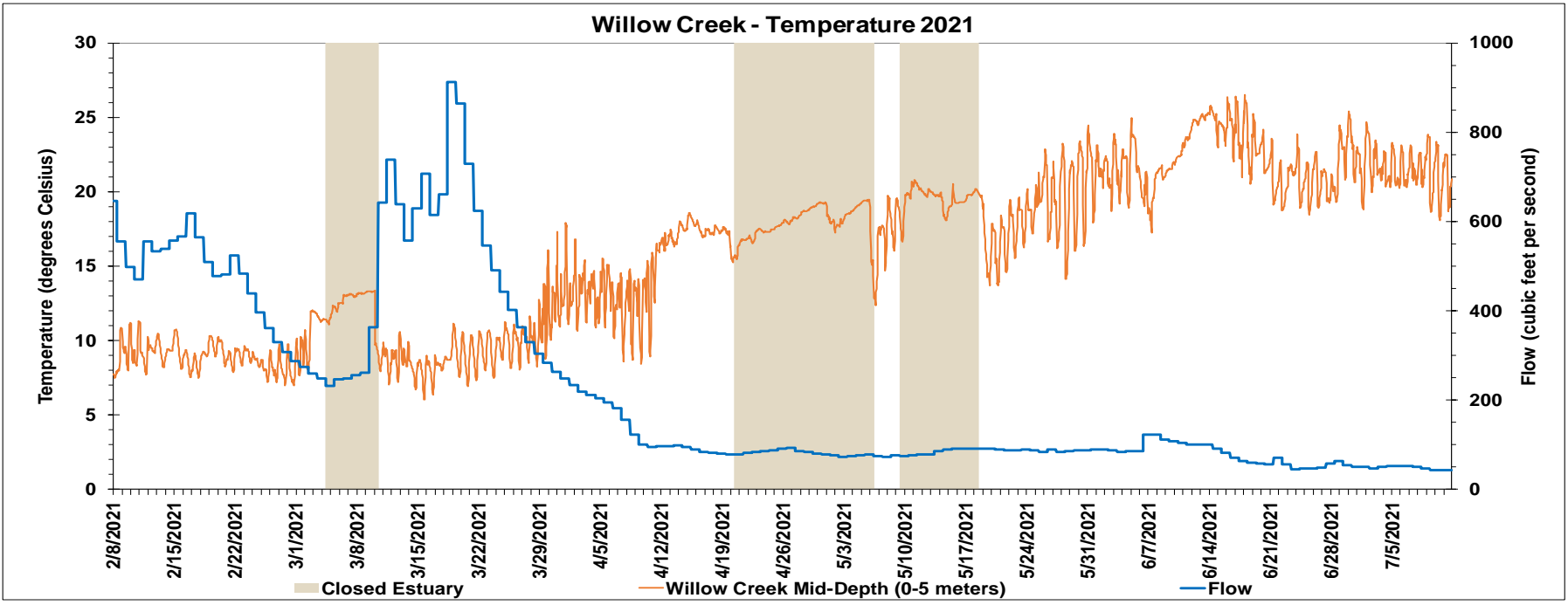


Russian River at Freezeout Creek - Salinity and Flow 2021





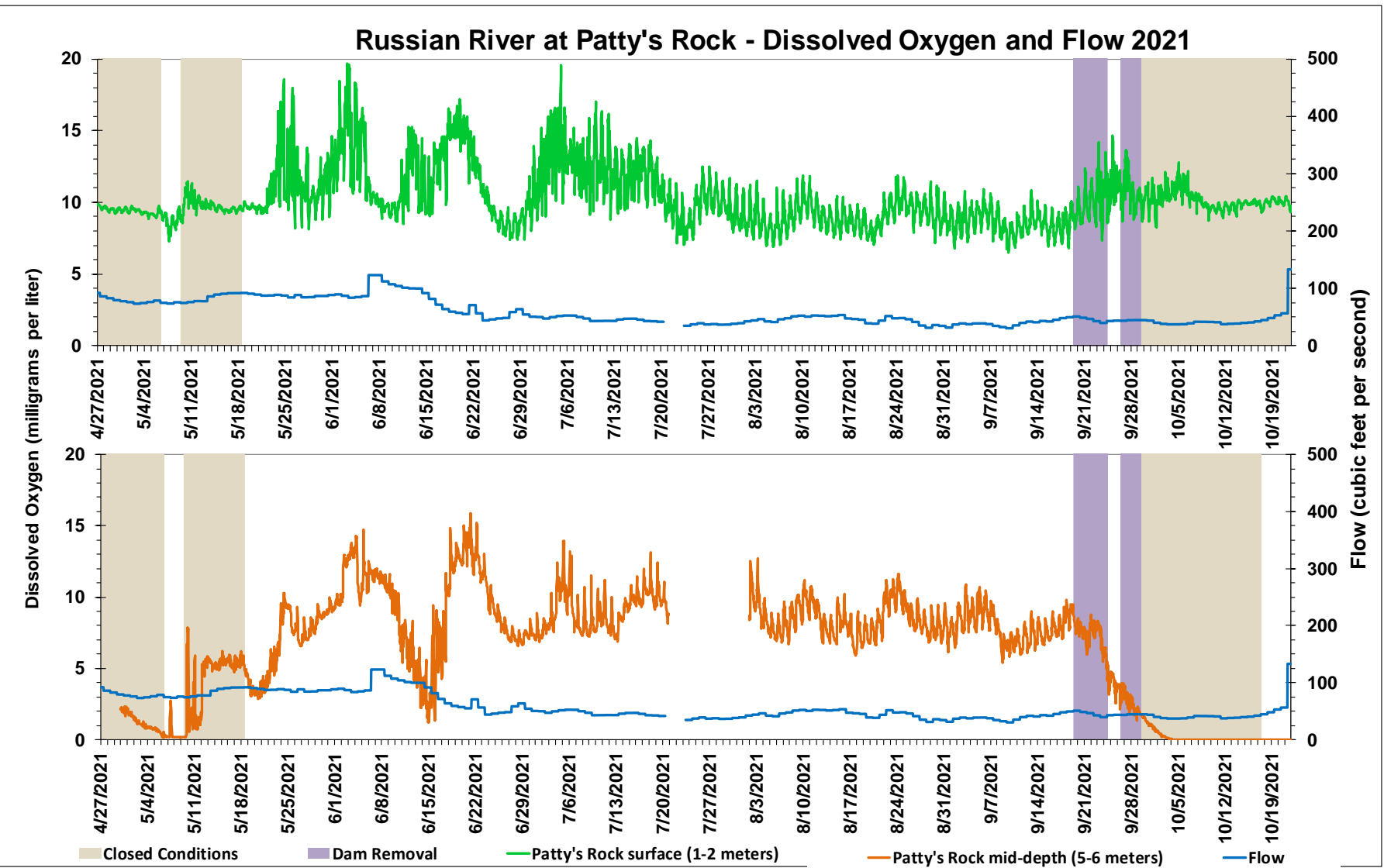
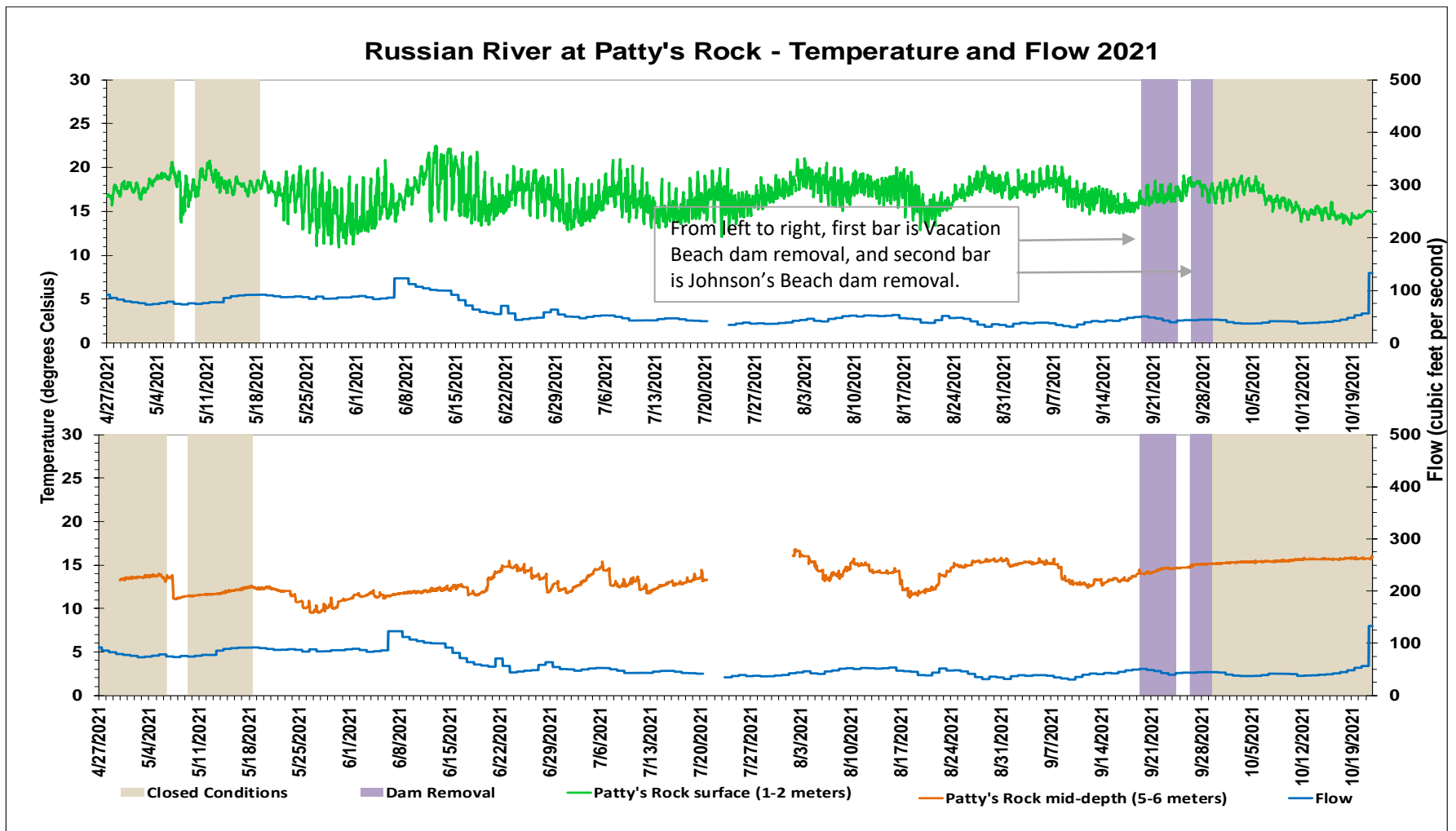
Russian River Water Quality Sonde Data - Estuary (February 28 - November 25, 2021)  
Provisional Data Subject to Revision  
Willow Creek Water Quality



# Russian River Water Quality Sonde Data - Estuary (April 27 - November 25, 2021)

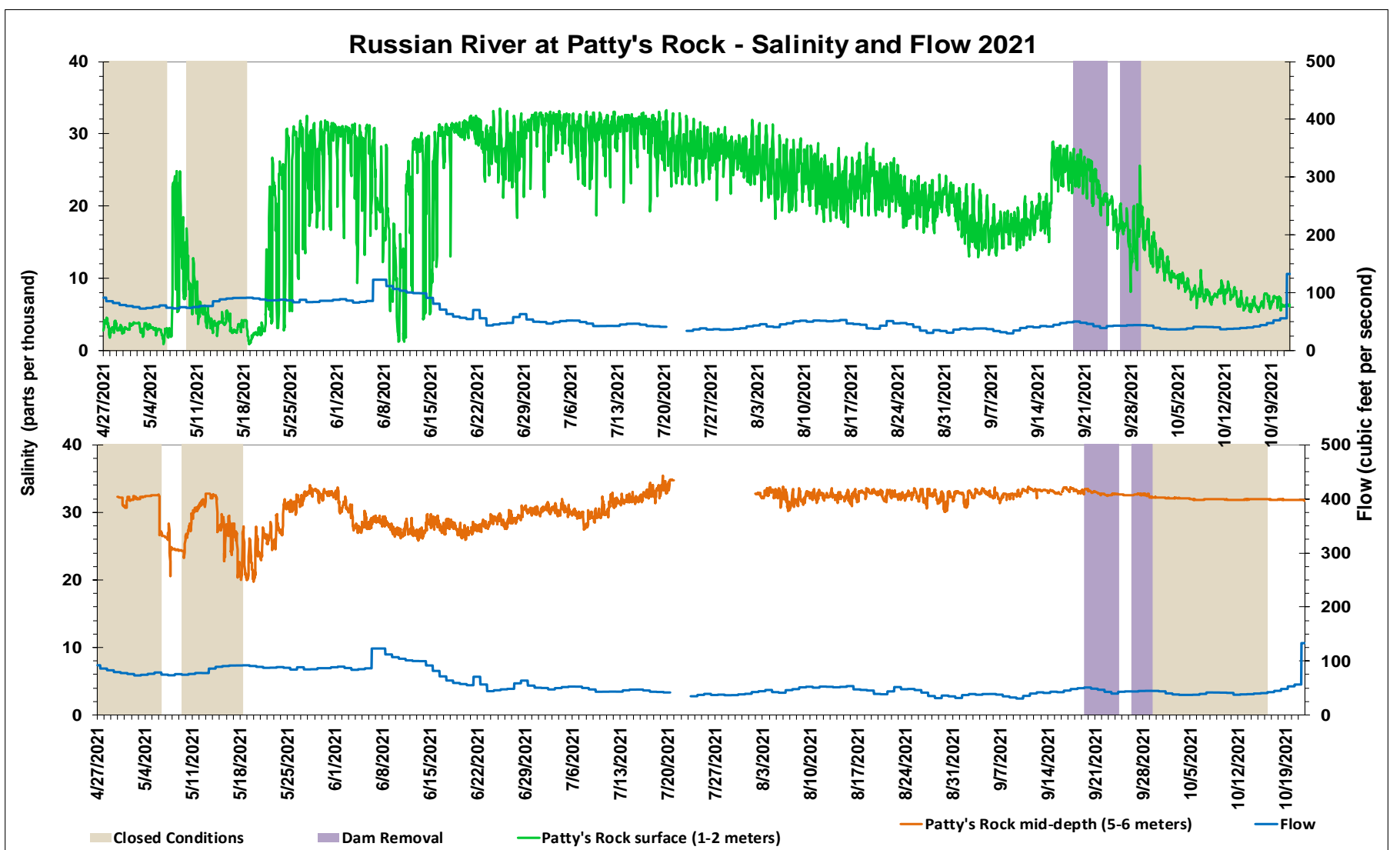
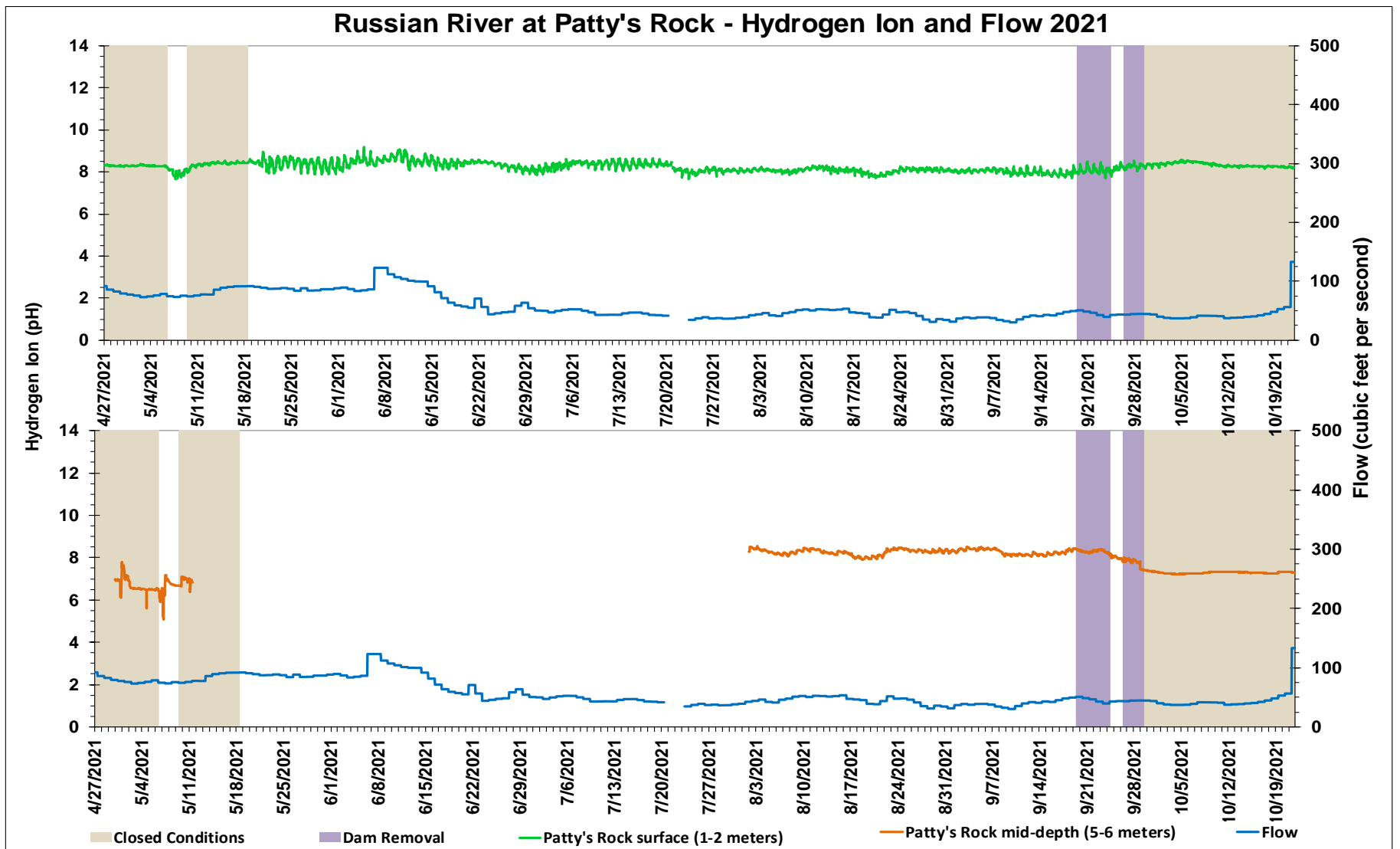
Provisional Data Subject to Revision

Russian River at Patty's Rock Water Quality



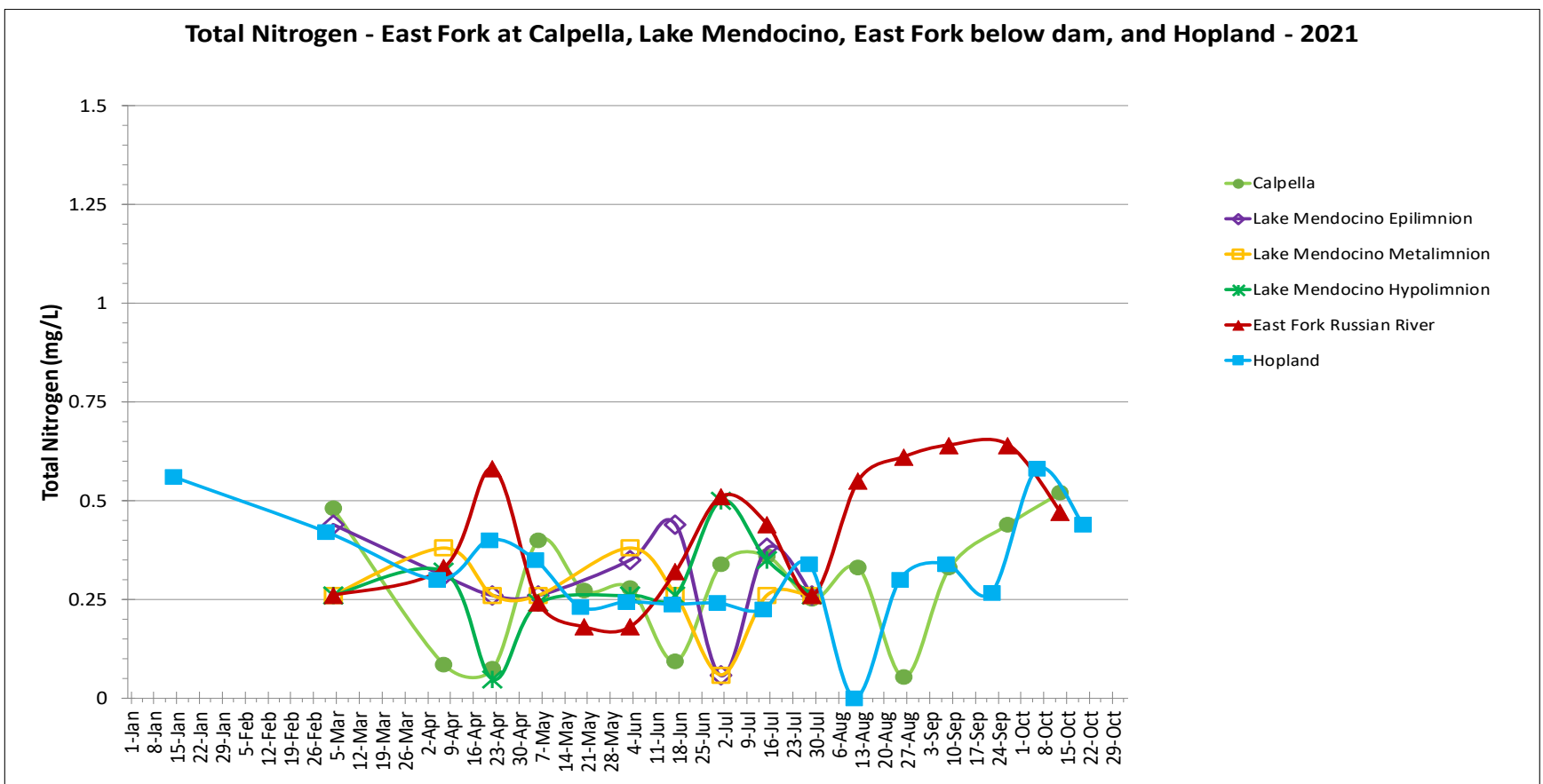
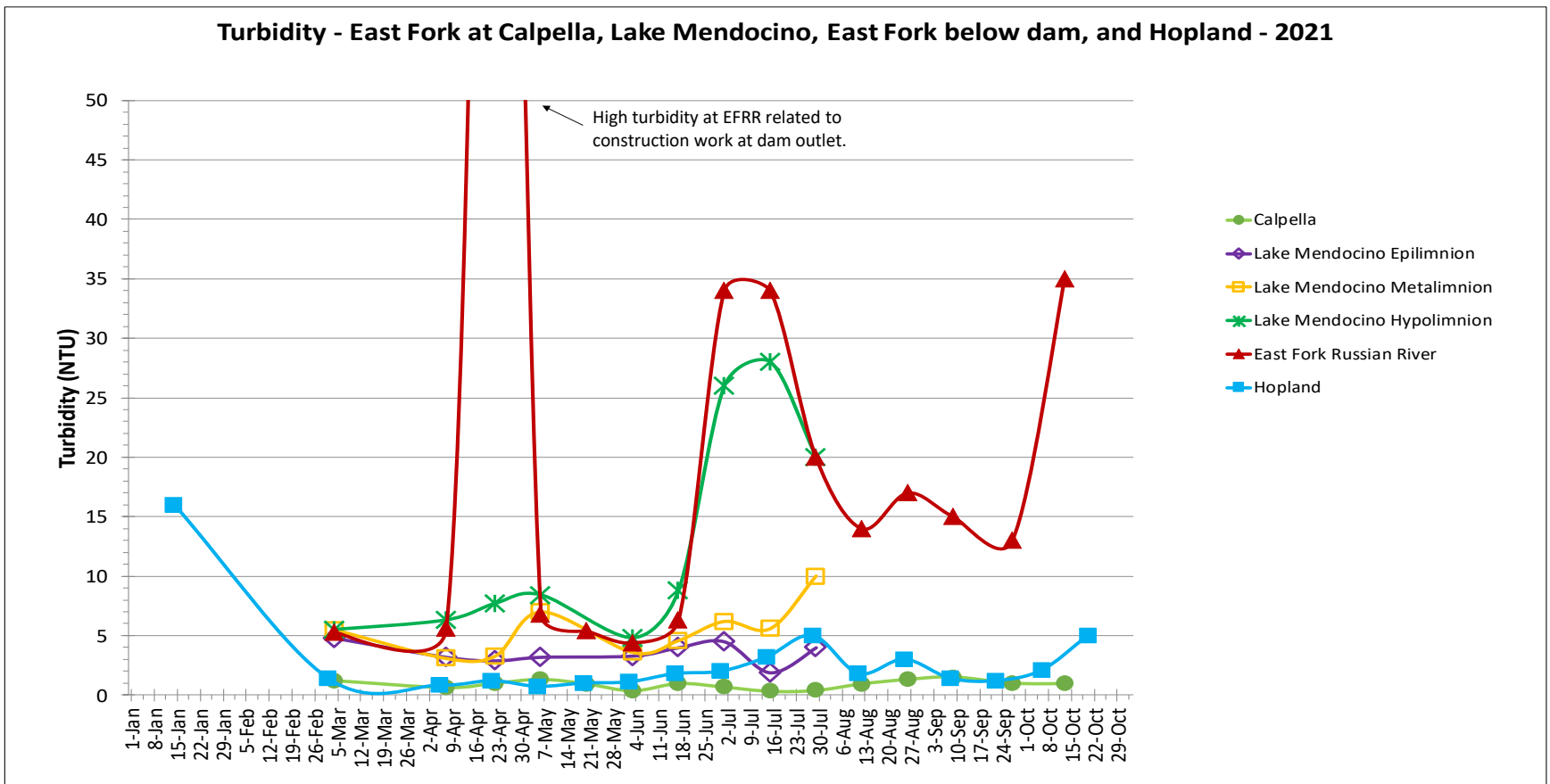
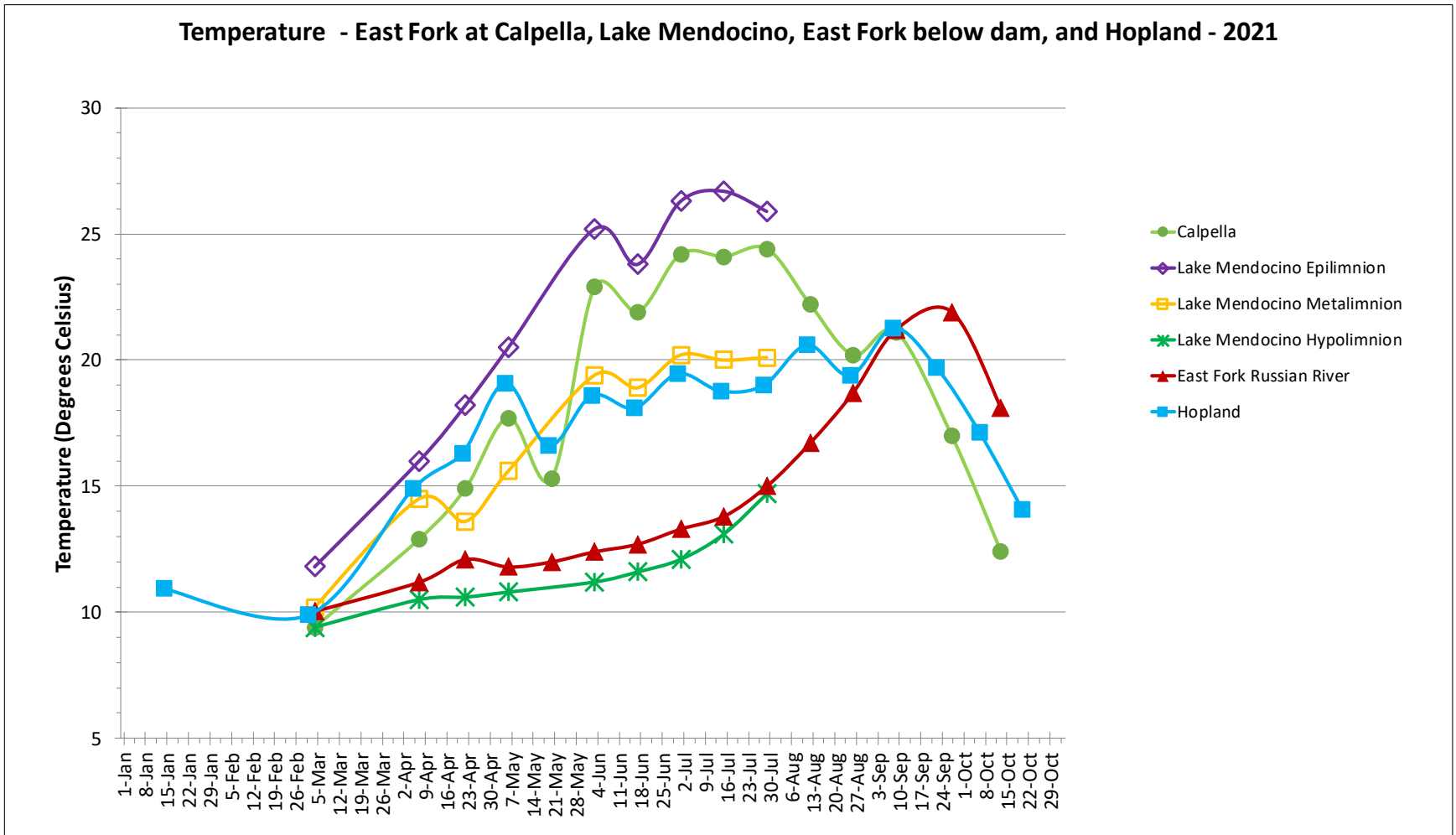


Russian River Water Quality Sonde Data - Estuary (April 27 - November 25, 2021)  
 Provisional Data Subject to Revision  
 Russian River at Patty's Rock Water Quality



**Russian River Water Quality Grab Samples (January 14 - November 25, 2021)**  
**Provisional Data Subject to Revision**

**Lake Mendocino to Hopland Water Quality**

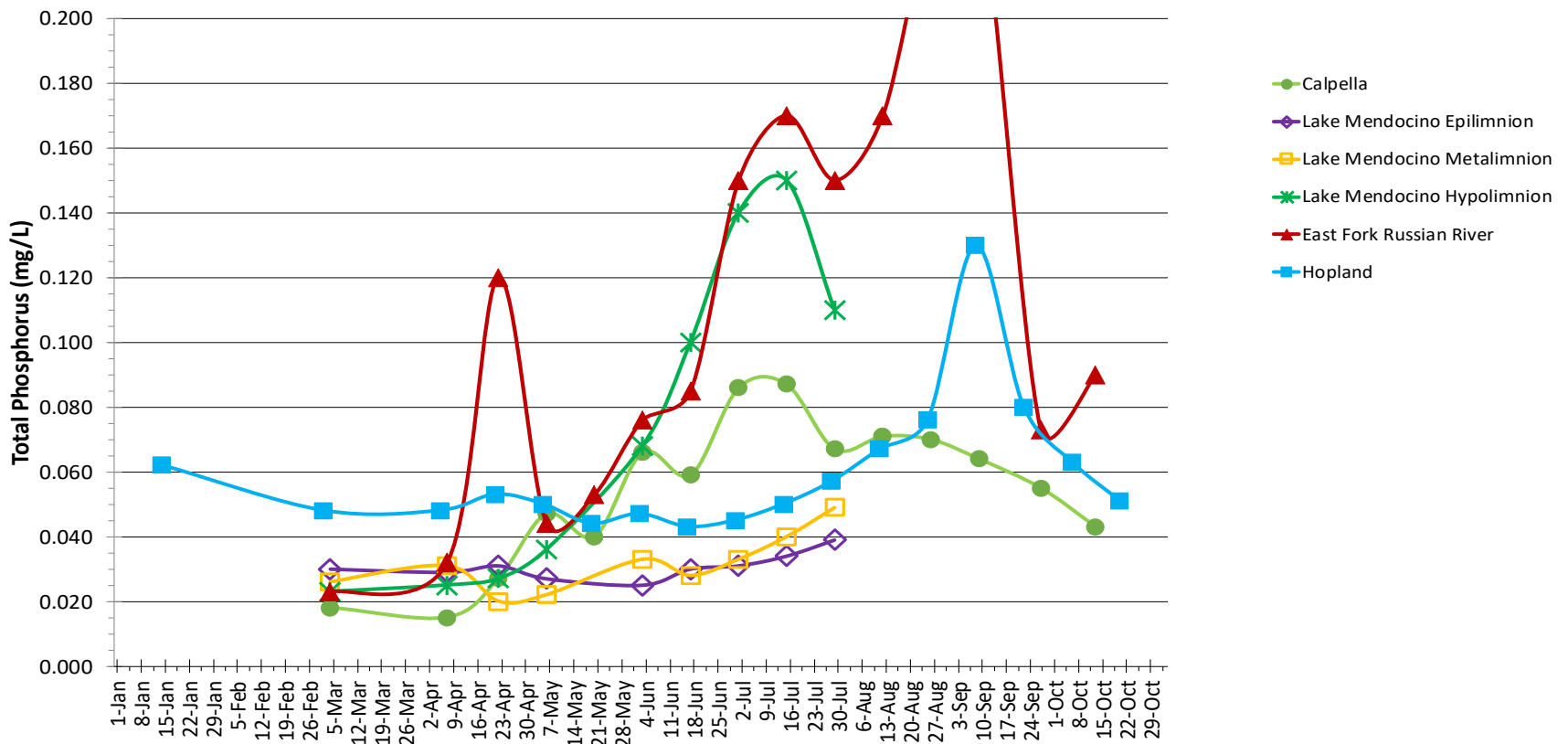


\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

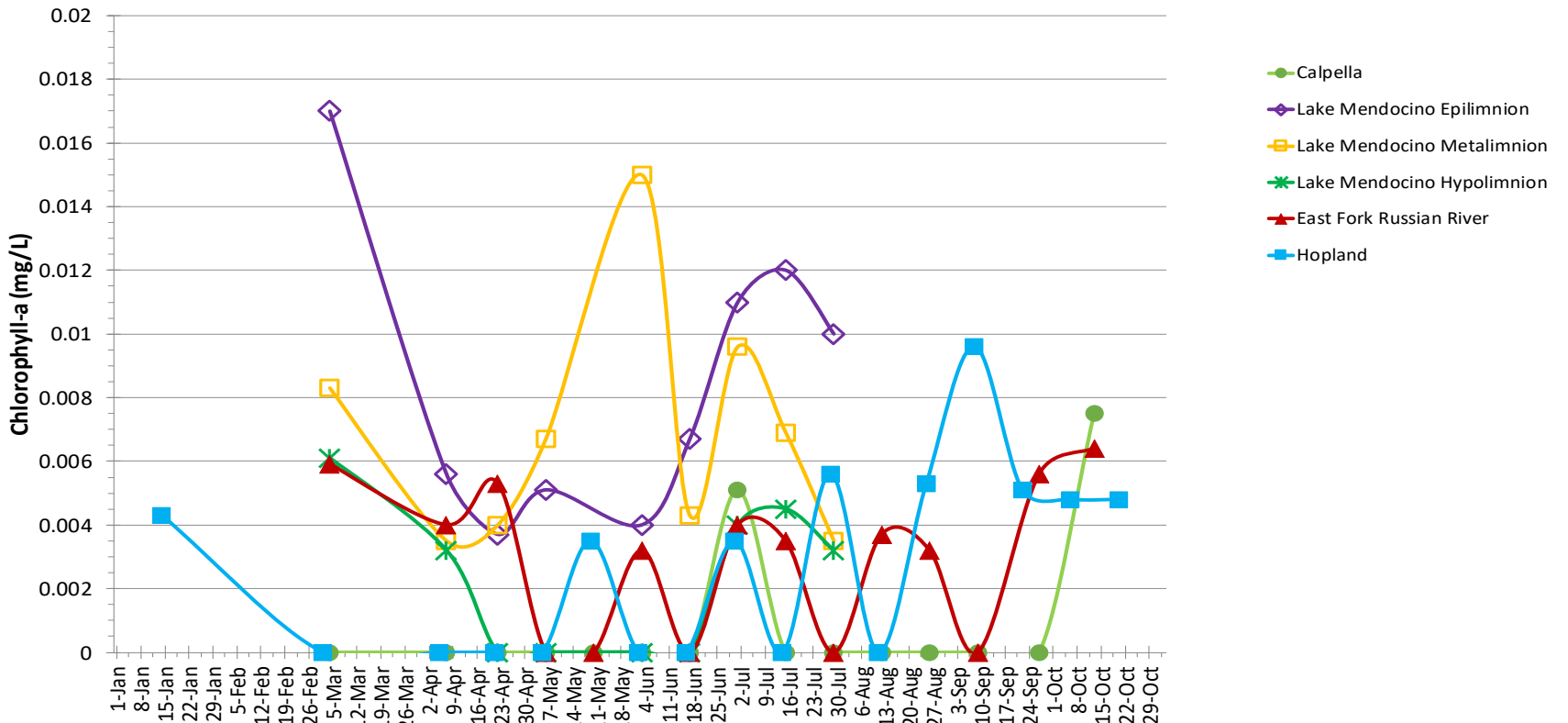


**Russian River Water Quality Grab Samples (January 14 - November 25, 2021)**  
**Provisional Data Subject to Revision**  
**Lake Mendocino to Hopland Water Quality**

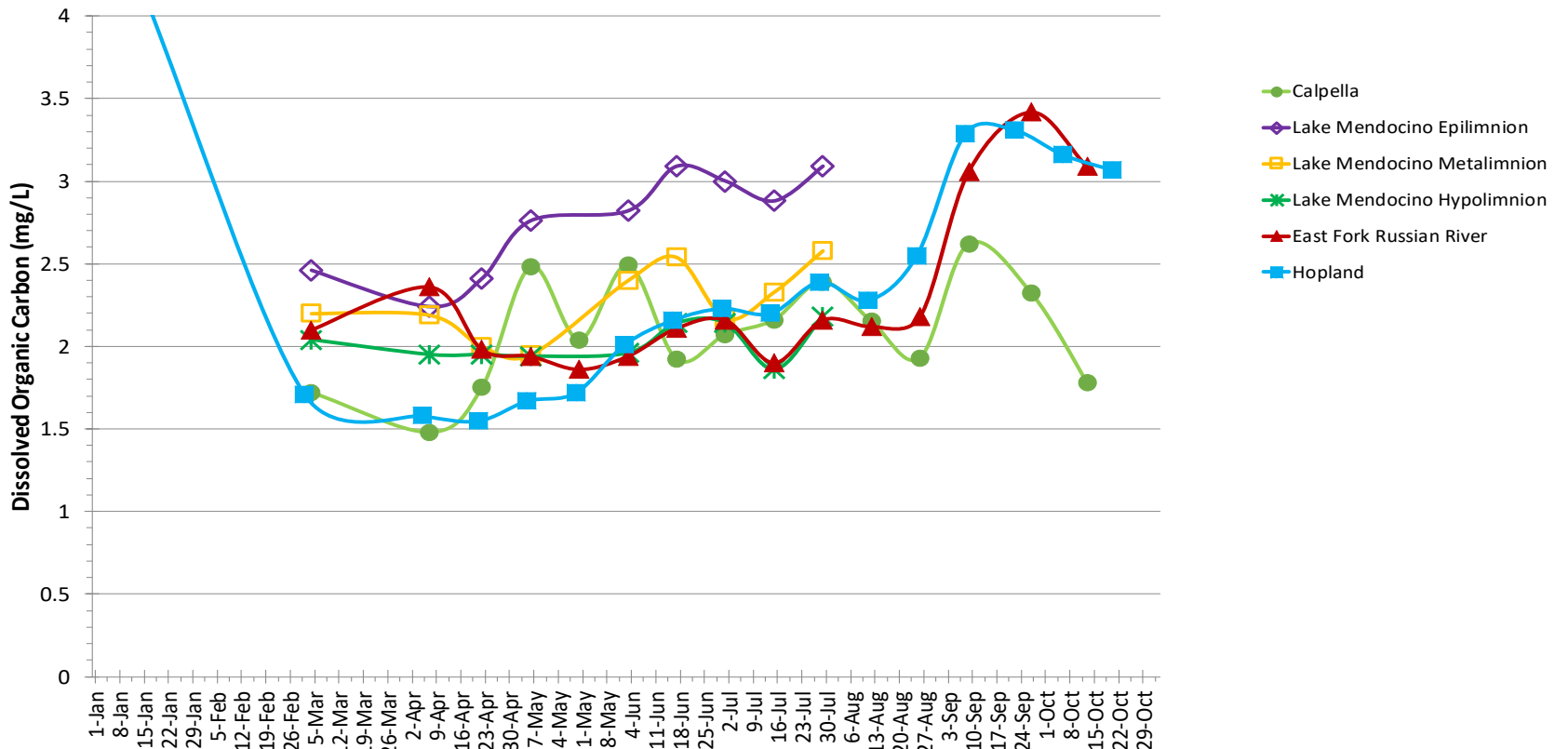
**Total Phosphorus - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



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



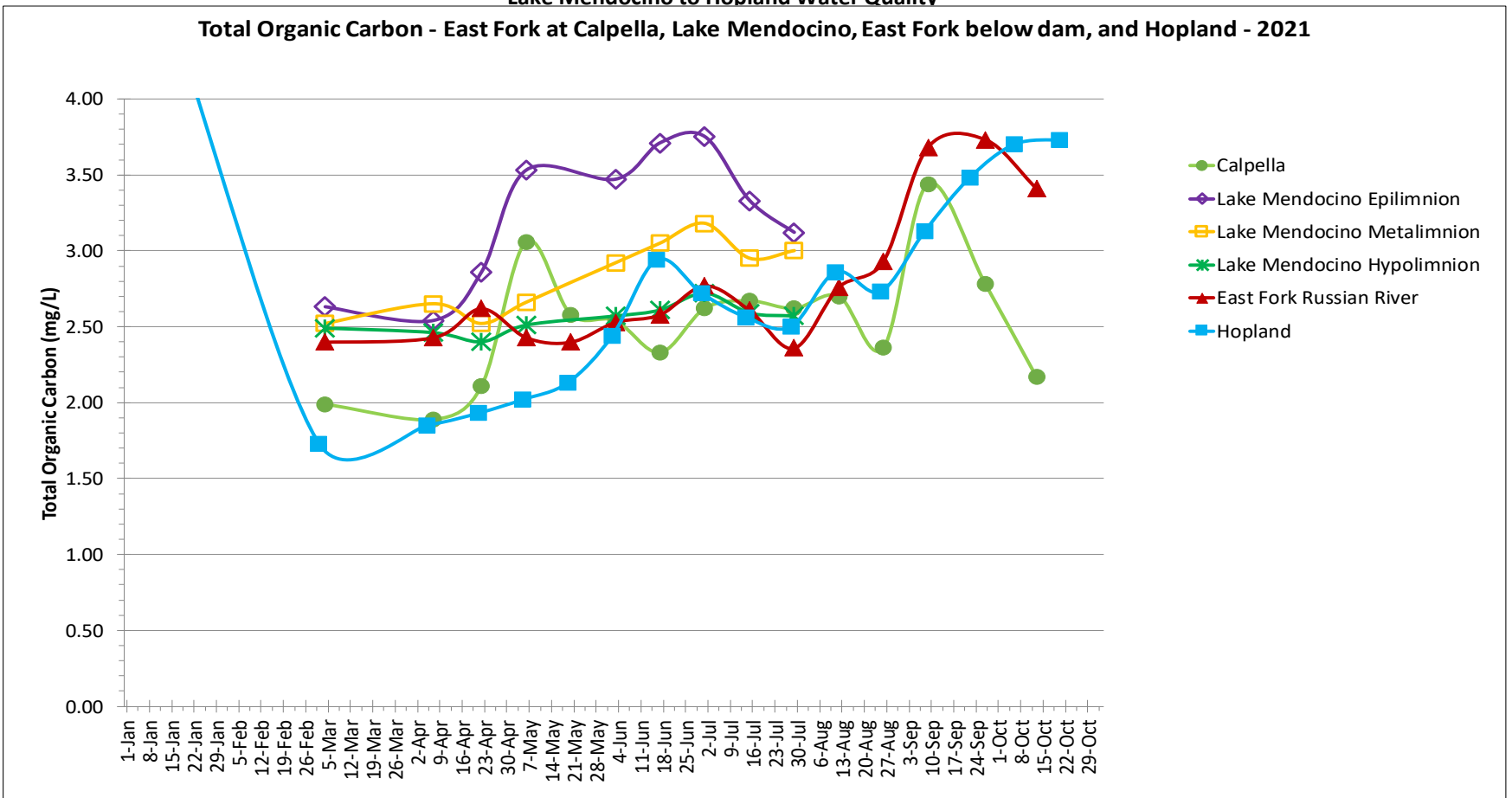
**Dissolved Organic Carbon - East Fork at Calpella, Lake Mendocino, East Fork below dam, and Hopland - 2021**



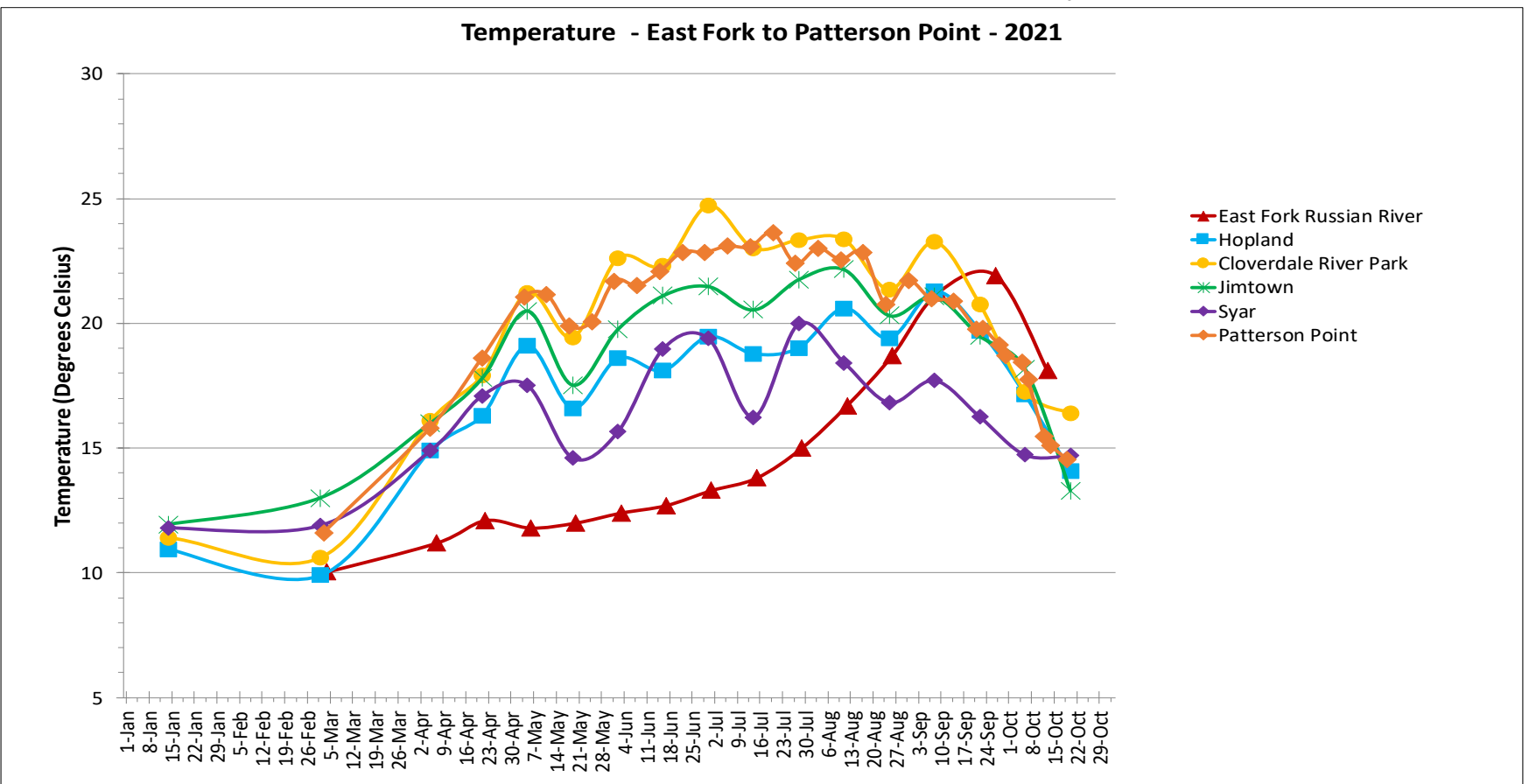
\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

**Russian River Water Quality Grab Samples (January 14 - November 25, 2021)**  
**Provisional Data Subject to Revision**

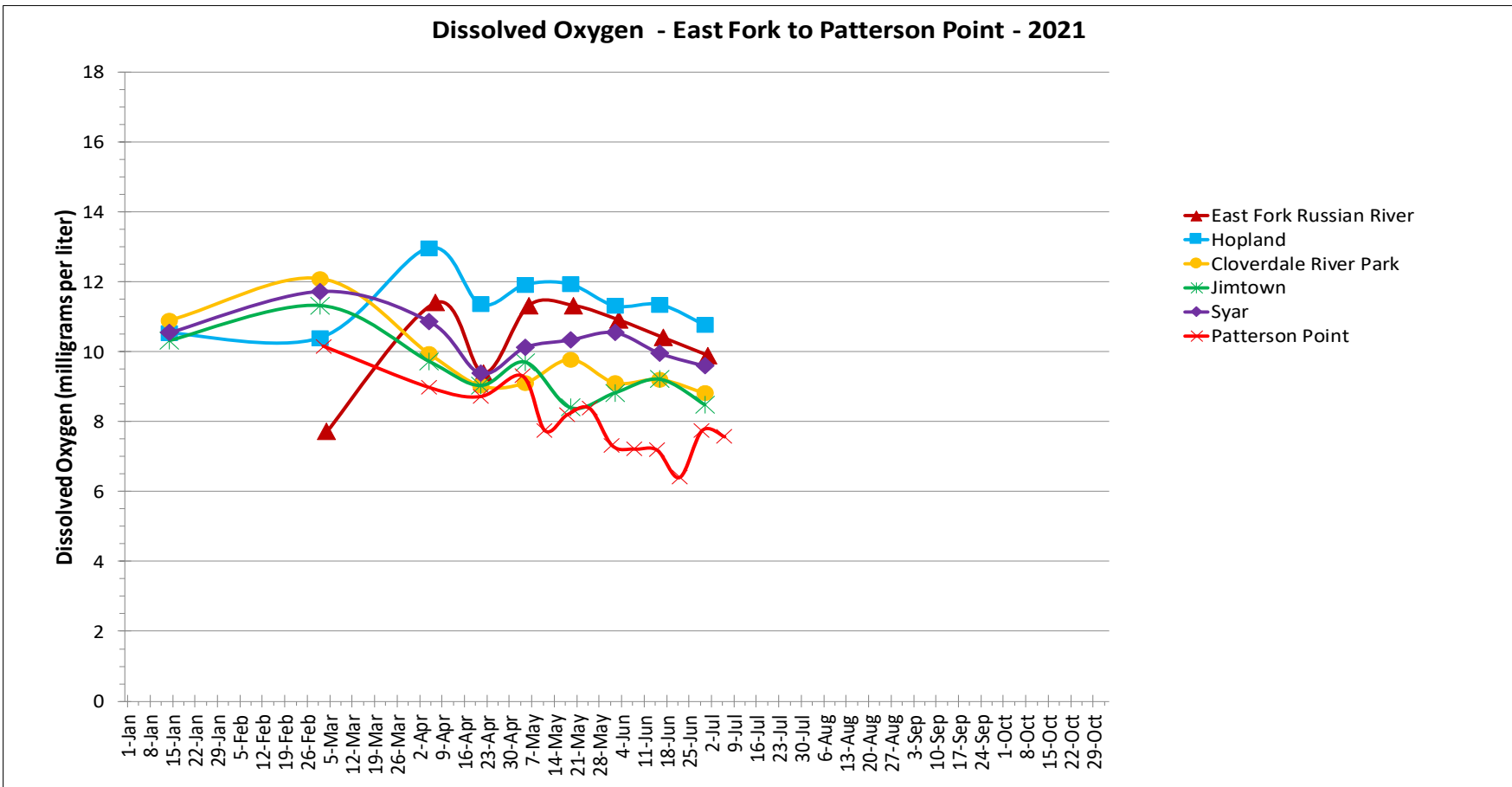
**Lake Mendocino to Hopland Water Quality**



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



**Dissolved Oxygen - East Fork to Patterson Point - 2021**

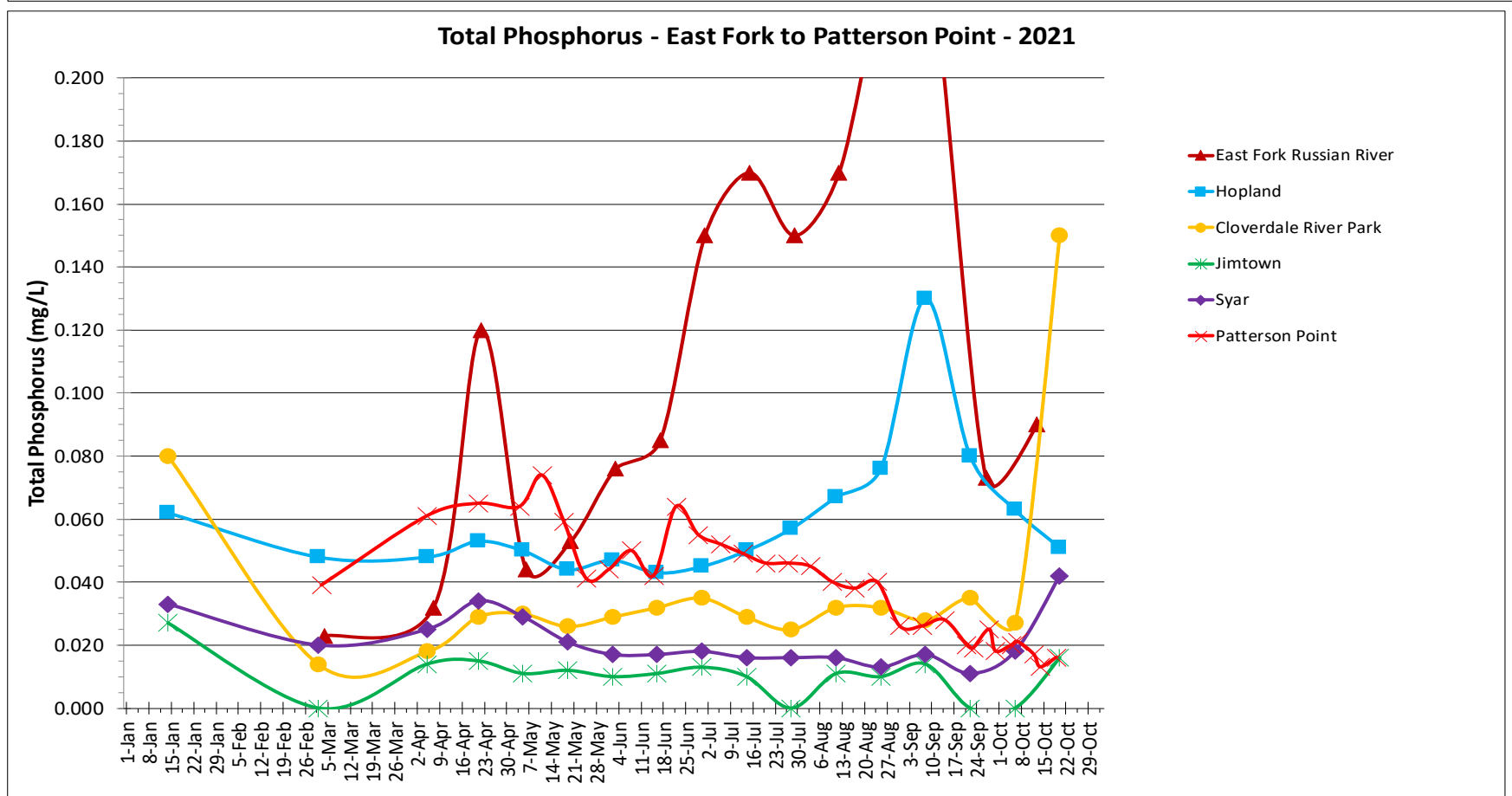
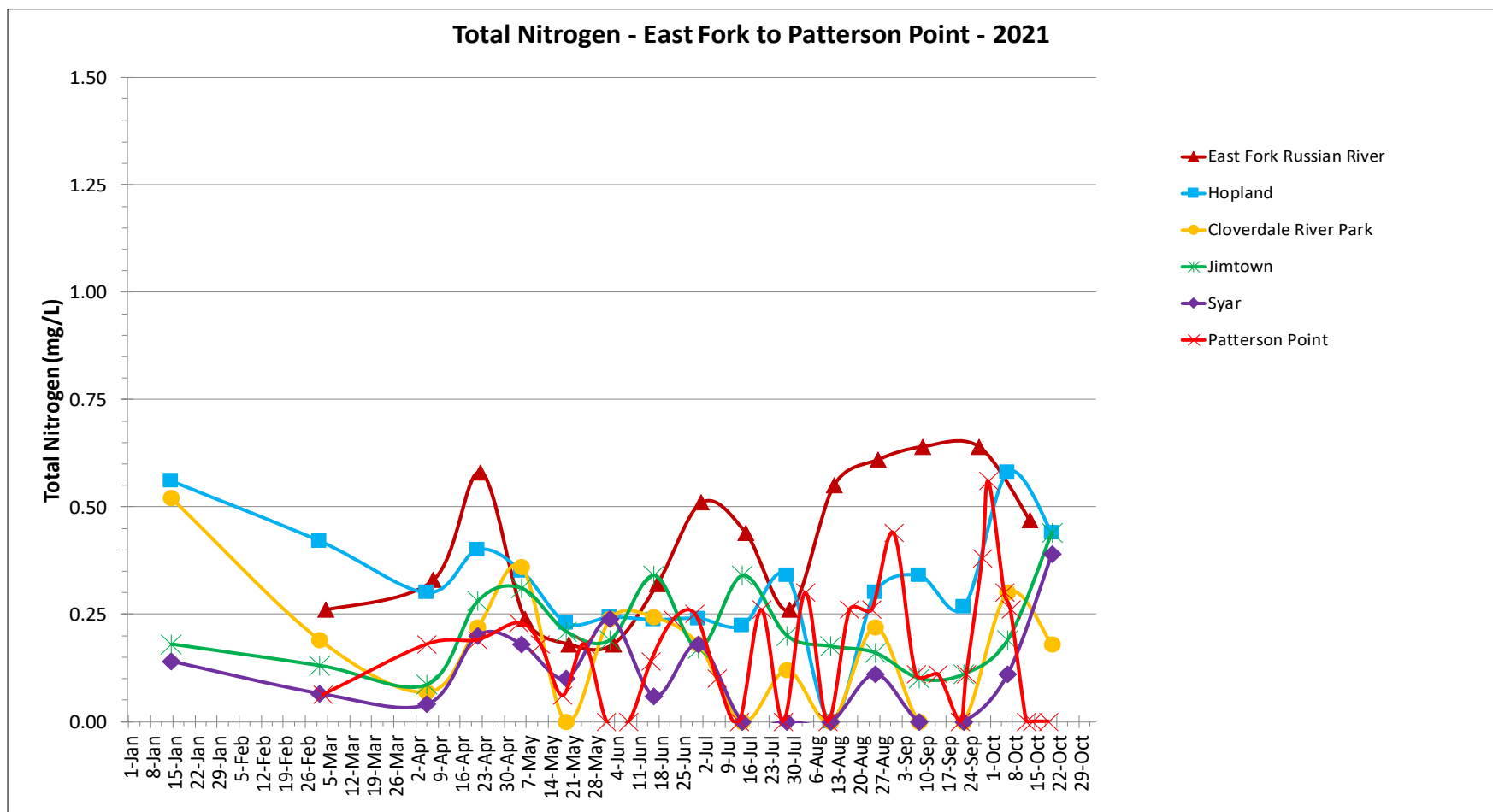
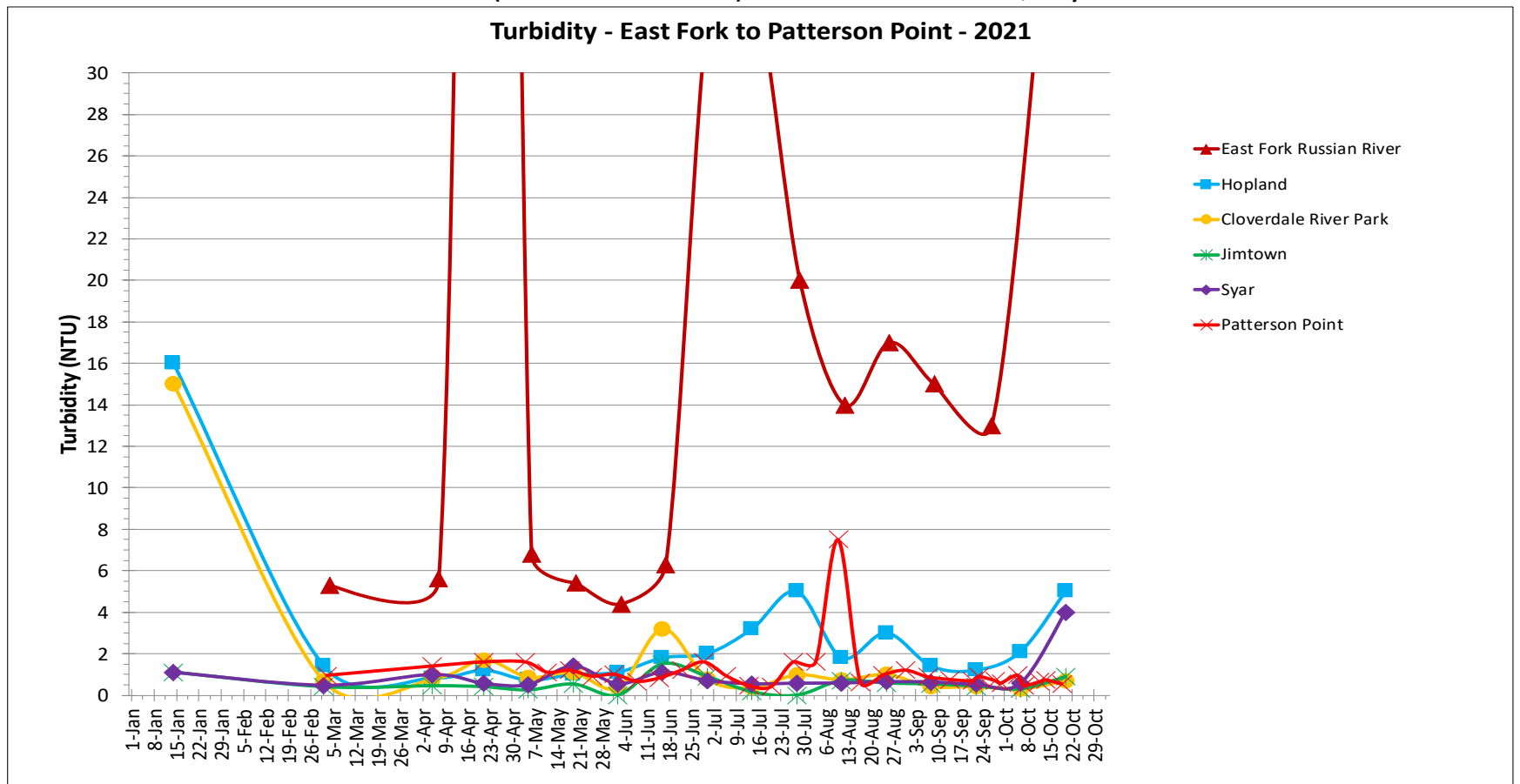


\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.

Russian River Water Quality Grab Samples (January 14 - November 25, 2021)

Provisional Data Subject to Revision

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



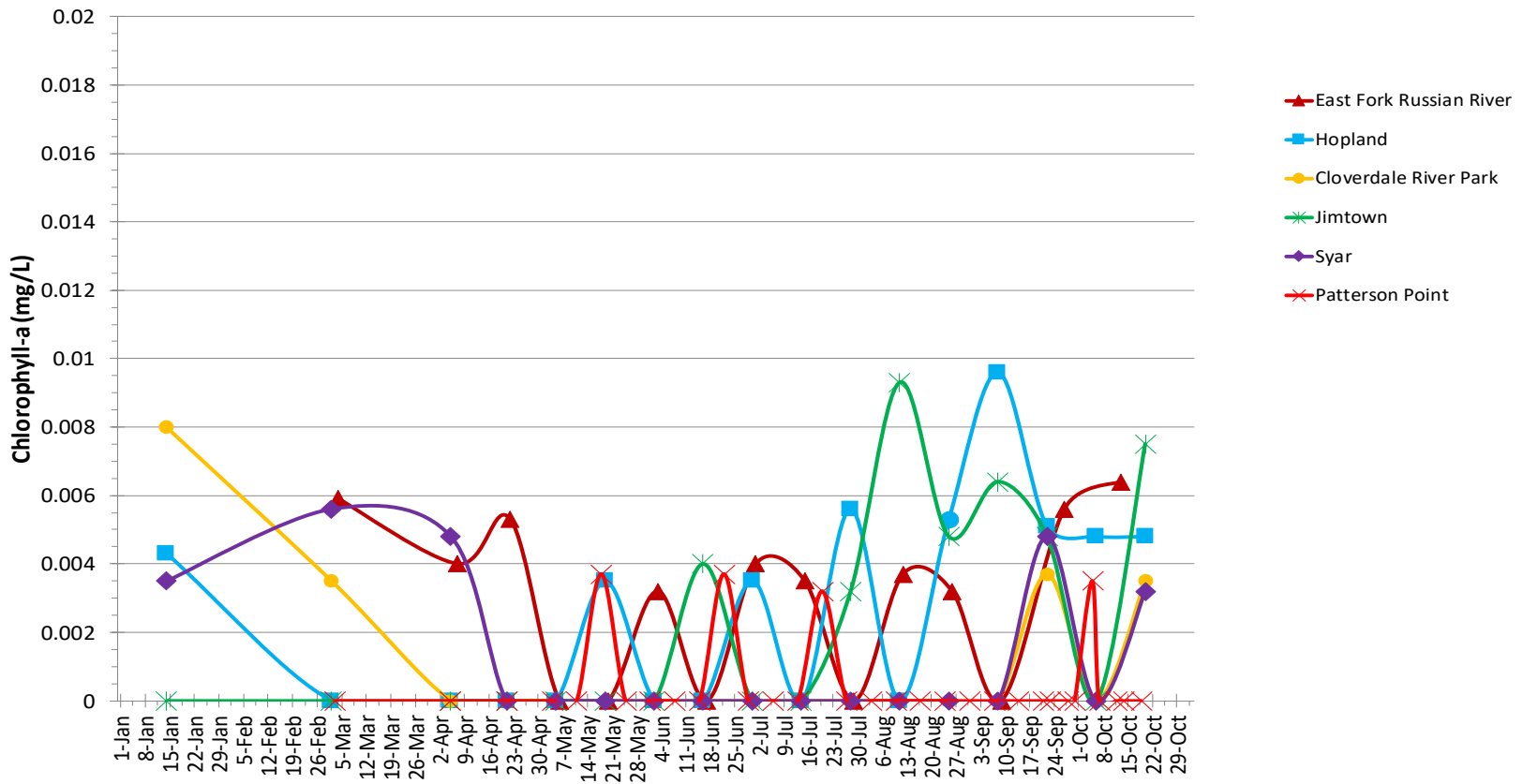
\*Each marker in the plot represents a grab sample. The lines are used to help visualize the data, but do not represent a continuous data measurement.



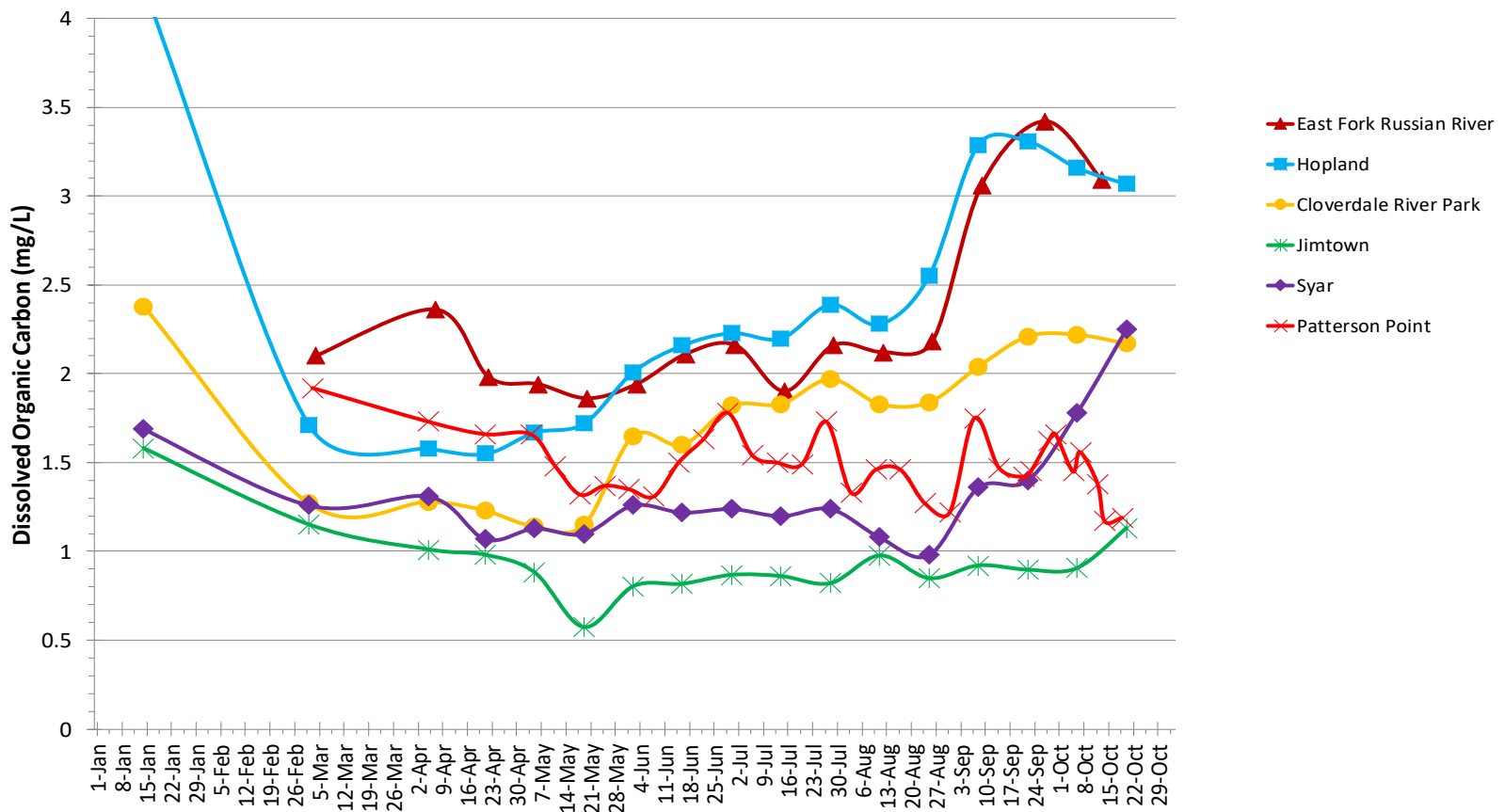
**Russian River Water Quality Grab Samples (January 14 - November 25, 2021)**  
**Provisional Data Subject to Revision**

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

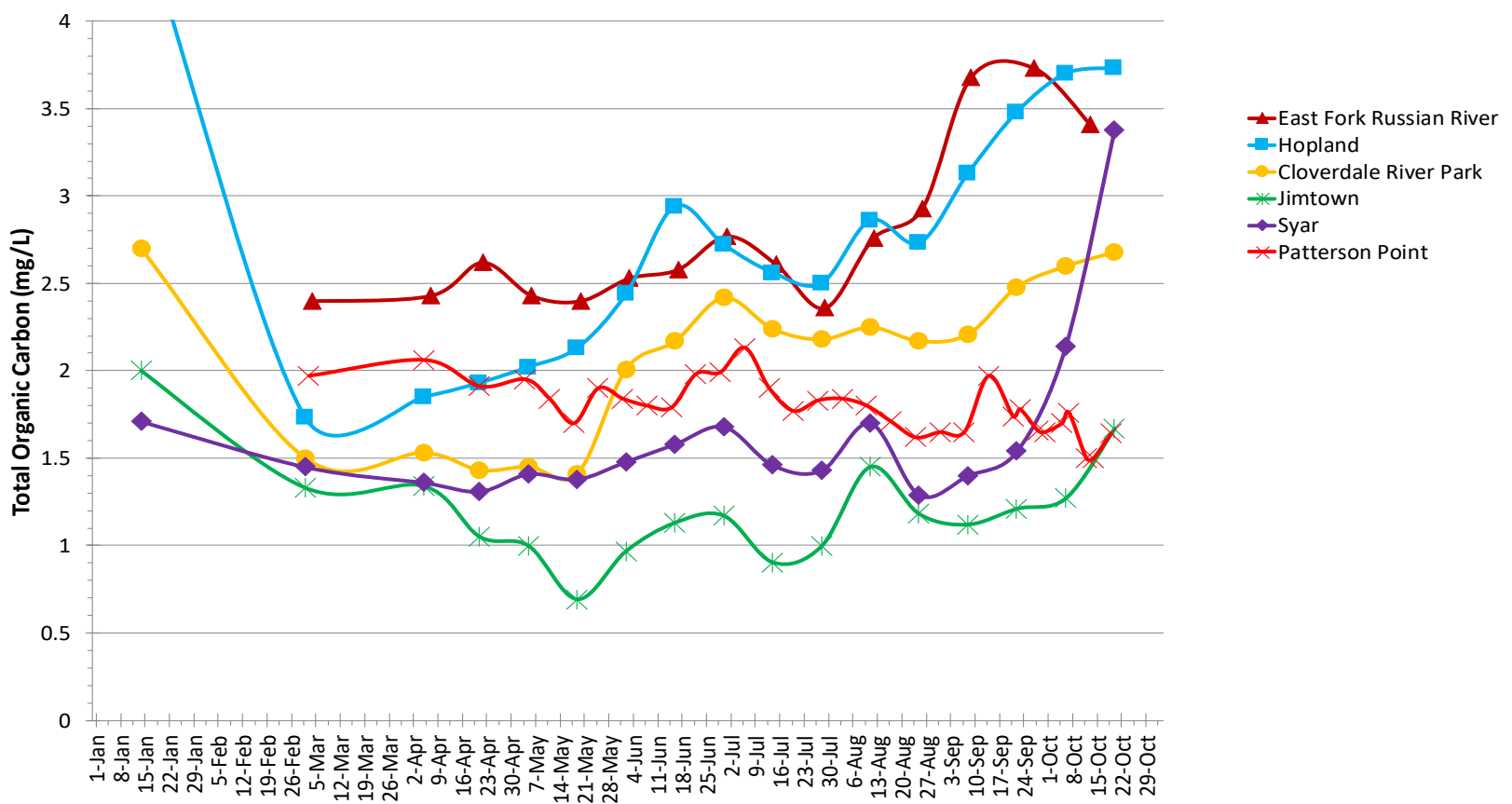
**Chlorophyll-a - East Fork to Patterson Point - 2021**



**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 (September 23 - October 19, 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	9/23/2021	2481**	1664**	1119**
		9/28/2021	1203.3	1986.3	1732.9
		9/30/2021	1203.3	1986.3	1986.3
		10/5/2021	727.0	1119.9	1413.6
		10/7/2021	1299.7	1299.7	1413.6
		10/12/2021	920.8	980.4	629.4
		10/14/2021	613.1	686.7	727.0
		10/19/2021	547.5	547.5	461.1
E. Coli MPN/100 mL	235	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
		10/5/2021	18.5	18.5	8.5
		10/7/2021	35.5	50.4	31.5
		10/12/2021	33.6	54.6	34.1
		10/14/2021	38.8	42.0	24.9
		10/19/2021	22.6	33.6	30.9
Enterococcus MPN/100 mL****	61	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
		10/5/2021	22.6	23.3	7.5
		10/7/2021	23.5	20.3	8.6
		10/12/2021	38.8	76.2	19.5
		10/14/2021	33.6	21.8	22.6
		10/19/2021	47.1	39.9	22.6

\*\*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 (September 7 - October 19, 2021)**  
**Provisional Data Subject to Revision**

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
	Temperature	-	°C	9/7/2021	21.0	21.1	21.4
				9/14/2021	20.9	21.0	21.2
				9/21/2021	19.8	19.7	19.9
				9/23/2021	19.8	20.0	20.3
				9/28/2021	19.1	19.0	19.9
				9/30/2021	18.7	18.8	19.9
				10/5/2021	18.4	18.2	18.0
				10/7/2021	17.8	17.2	17.2
				10/12/2021	15.5	14.8	15.5
				10/19/2021	14.6	14.1	14.3
Nutrients	Ammonia as N	0.01	mg/L	9/7/2021	ND	ND	ND
				9/14/2021	ND	ND	ND
				9/21/2021	ND	ND	ND
				9/23/2021	ND	ND	ND
				9/28/2021	ND	ND	ND
				9/30/2021	ND	ND	ND
				10/5/2021	ND	ND	ND
				10/7/2021	ND	ND	ND
				10/12/2021	ND	ND	ND
	10/19/2021	ND	ND	ND			
	Nitrate as N	0.03	mg/L	9/7/2021	0.11	0.12	0.11
				9/14/2021	0.11	0.12	0.11
				9/21/2021	ND	ND	ND
				9/23/2021	0.11	0.12	0.12
				9/28/2021	0.12	0.11	0.12
				9/30/2021	0.12	0.11	0.12
				10/5/2021	0.12	0.12	0.12
				10/7/2021	ND	ND	ND
10/12/2021				ND	ND	ND	
10/19/2021	ND	ND	ND				
Nutrients	Nitrite as N	0.03	mg/L	9/7/2021	ND	ND	ND
				9/14/2021	ND	ND	ND
				9/21/2021	ND	ND	ND
				9/23/2021	ND	ND	ND
				9/28/2021	ND	ND	ND
				9/30/2021	ND	ND	ND
				10/5/2021	ND	ND	ND
				10/7/2021	ND	ND	ND
				10/12/2021	ND	ND	ND
	10/19/2021	ND	ND	ND			
	Total Organic Nitrogen as N	0.2	mg/L	9/7/2021	ND	ND	ND
				9/14/2021	ND	ND	ND
				9/21/2021	ND	ND	ND
				9/23/2021	ND	ND	0.70
				9/28/2021	0.26	0.18	0.18
				9/30/2021	0.44	0.18	0.18
				10/5/2021	0.18	0.18	0.18
				10/7/2021	0.26	0.18	0.35
				10/12/2021	ND	0.18	0.18
	10/19/2021	ND	ND	ND			
	Total Kjeldahl Nitrogen	0.1	mg/L	9/7/2021	ND	ND	ND
				9/14/2021	ND	ND	ND
				9/21/2021	ND	ND	ND
				9/23/2021	ND	ND	0.70
				9/28/2021	0.26	ND	ND
				9/30/2021	0.44	ND	ND
				10/5/2021	ND	ND	ND
				10/7/2021	0.26	ND	0.35
				10/12/2021	ND	ND	ND
	10/19/2021	ND	ND	ND			
	Total Phosphorus	0.02	mg/L	9/7/2021	0.026	0.028	0.013
				9/14/2021	0.028	0.023	0.017
				9/21/2021	0.020	0.019	0.018
				9/23/2021	0.019	0.020	0.060
				9/28/2021	0.025	0.017	0.020
				9/30/2021	0.018	0.018	0.021
10/5/2021				0.020	0.020	0.018	
10/7/2021				0.021	0.023	0.025	
10/12/2021				0.017	0.015	0.018	
10/19/2021	0.016	0.019	0.015				
Total Orthophosphate	0.02	mg/L	9/7/2021	ND	ND	ND	
			9/14/2021	0.032	ND	ND	
			9/21/2021	ND	ND	ND	
			9/23/2021	ND	ND	0.038	
			9/28/2021	ND	ND	0.039	
			9/30/2021	ND	ND	0.031	
			10/5/2021	ND	ND	ND	
			10/7/2021	ND	ND	ND	
			10/12/2021	ND	ND	ND	
10/19/2021	ND	0.030	0.120				



**Russian River Water Quality Grab Samples (September 7 - October 19, 2021)**  
**Provisional Data Subject to Revision**

Parameter		MDL*	Units	Date	Patterson Point	Monte Rio	Vacation Beach
Chlorophyll	Chlorophyll A	0.00005	mg/L	9/7/2021	ND	0.0032	0.0040
				9/14/2021	ND	ND	0.0035
				9/21/2021	ND	ND	ND
				9/23/2021	ND	0.0630	0.0083
				9/28/2021	ND	0.0048	0.0032
				9/30/2021	ND	ND	ND
				10/5/2021	0.0035	ND	ND
				10/7/2021	ND	0.0037	0.0032
				10/12/2021	ND	0.0110	ND
				10/19/2021	ND	ND	ND
Carbon	Total Organic Carbon	0.04	mg/L	9/7/2021	1.65	1.67	1.65
				9/14/2021	1.97	1.89	1.90
				9/21/2021	1.74	1.76	1.78
				9/23/2021	1.78	1.74	1.76
				9/28/2021	1.66	1.65	1.62
				9/30/2021	1.65	1.62	1.55
				10/5/2021	1.70	1.66	1.54
				10/7/2021	1.76	1.63	1.60
				10/12/2021	1.50	1.46	1.45
				10/19/2021	1.64	1.53	1.46
	Dissolved Organic Carbon	0.04	mg/L	9/7/2021	1.75	1.47	1.49
				9/14/2021	1.47	1.51	1.52
				9/21/2021	1.42	1.40	1.43
				9/23/2021	1.45	1.44	1.30
				9/28/2021	1.62	1.34	1.24
				9/30/2021	1.66	1.40	1.37
				10/5/2021	1.45	1.43	1.57
				10/7/2021	1.56	1.23	1.25
				10/12/2021	1.38	1.16	1.13
10/19/2021	1.19	1.10	1.14				
Solids	Turbidity	0.02	NTU	9/7/2021	0.88	1.00	0.88
				9/14/2021	0.75	0.91	0.86
				9/21/2021	0.69	0.98	0.81
				9/23/2021	0.89	1.40	3.10
				9/28/2021	0.70	0.79	0.84
				9/30/2021	0.58	0.71	0.57
				10/5/2021	0.96	2.20	2.10
				10/7/2021	0.47	1.00	0.58
				10/12/2021	0.64	1.20	1.30
				10/19/2021	0.53	1.40	2.40
	TDS	4.2	mg/L	9/7/2021	160	170	160
				9/14/2021	170	130	140
				9/21/2021	140	150	130
				9/23/2021	190	170	130
				9/28/2021	140	150	140
				9/30/2021	130	140	150
				10/5/2021	150	150	140
				10/7/2021	140	140	150
				10/12/2021	160	140	140
10/19/2021	150	130	140				