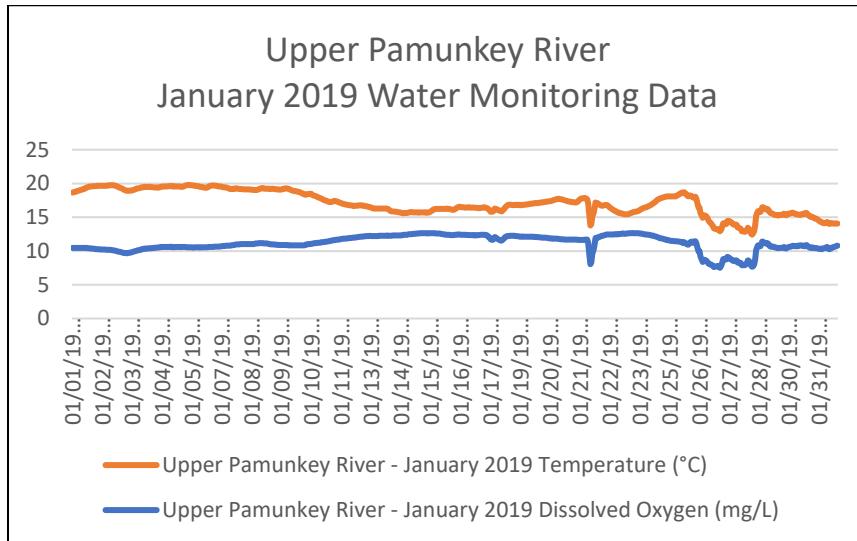


Pamunkey River 2019 Archived Data

Upper Pamunkey

January 2019 monitoring data (744 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 7.71 mg/L to 12.67 mg/L with an average of 11.14 mg/L. Water temperature ranged from 2.84 °C (37.11°F) to 9.64 °C (49.35 °F) with an average of 6.01 °C (42.82°F).

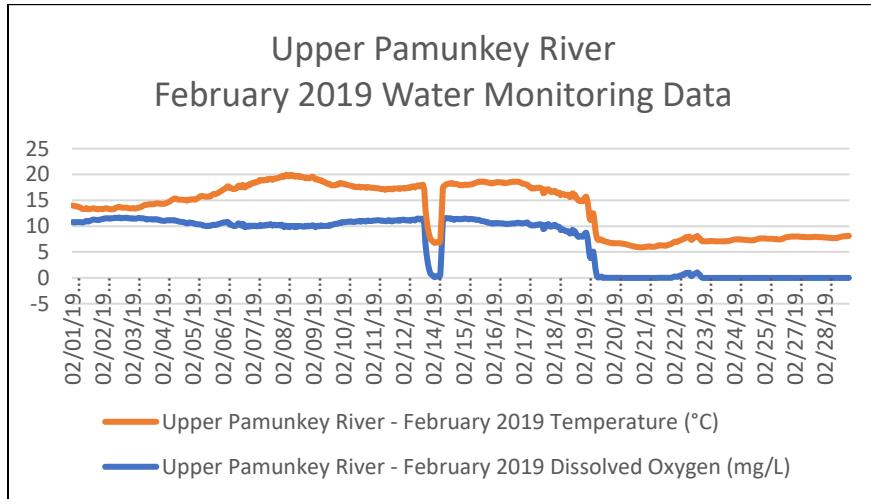
January 2019	Dissolved Oxygen	Temperature
Recorded Samples	744	744
Maximum	12.67 mg/L	9.64 °C
Minimum	7.71 mg/L	2.84 °C
Average	11.14 mg/L	6.01 °C



February 2019 monitoring data (672 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.01 mg/L to 11.66 mg/L with an average of 6.92 mg/L. Water temperature ranged from 1.72 °C (35.01°F) to 9.86 °C (49.75 °F) with an average of 6.55 °C (43.79 °F).

*Note: Monitor for dissolved oxygen was offline from February 23-28, 2019.

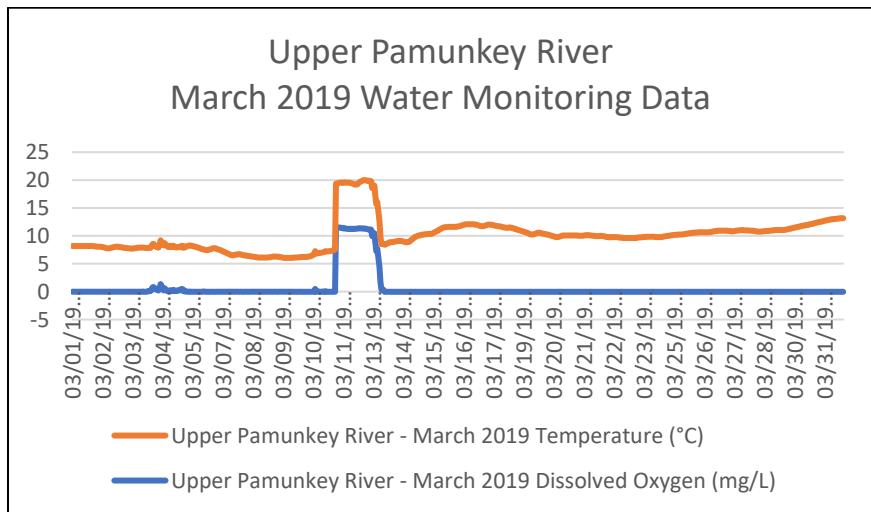
February 2019	Dissolved Oxygen	Temperature
Recorded Samples	672	672
Maximum	11.66 mg/L	9.86 °C
Minimum	-0.01 mg/L	1.72 °C
Average	6.92 mg/L	6.55 °C



March 2019 monitoring data (744 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.01 mg/L to 11.55 mg/L with an average of 0.64 mg/L. Water temperature ranged from 6.06 °C (42.91 °F) to 13.18 °C (55.72 °F) with an average of 9.40 °C (48.92 °F).

*Note: Monitor for dissolved oxygen was offline or operating intermittently March 1-31, 2019.

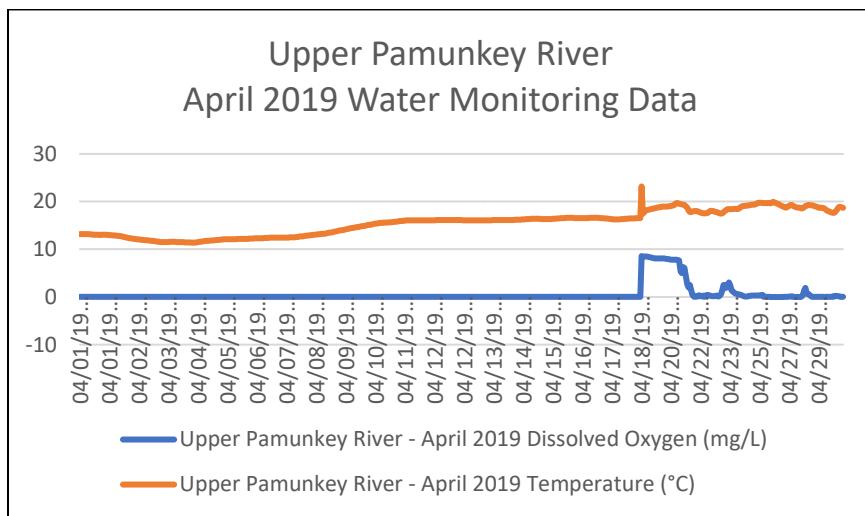
March 2019	Dissolved Oxygen	Temperature
Recorded Samples	744	744
Maximum	11.55 mg/L	13.18 °C
Minimum	-0.01 mg/L	6.06 °C
Average	0.64 mg/L	9.40 °C



April 2019 monitoring data (569 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.01 mg/L to 8.58 mg/L with an average of 0.54 mg/L. Water temperature ranged from 11.4 °C (52.52 °F) to 23.18 °C (73.72 °F) with an average of 15.50 °C (59.90 °F).

*Note: Monitor for dissolved oxygen was offline from April 1 – 17, 2019.

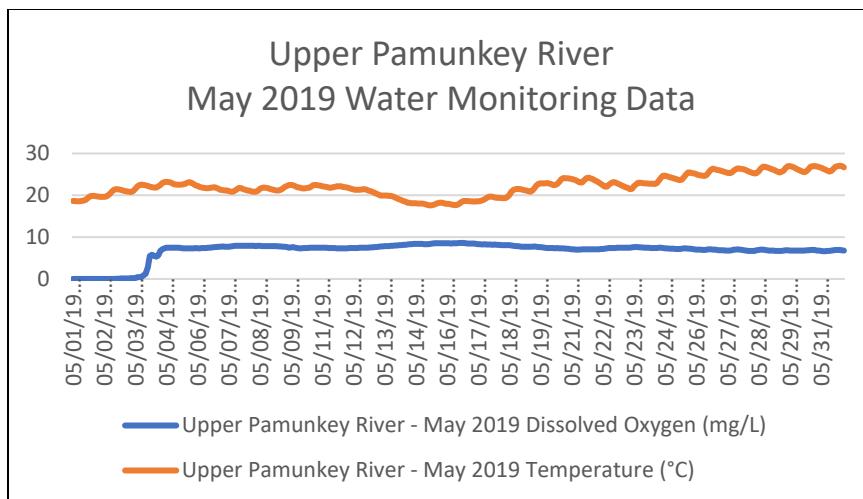
April 2019	Dissolved Oxygen	Temperature
Recorded Samples	569	569
Maximum	8.58 mg/L	23.18 °C
Minimum	-0.01 mg/L	11.4 °C
Average	0.54 mg/L	15.5 °C



May 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0 mg/L to 8.60 mg/L with an average of 6.74 mg/L. Water temperature ranged from 17.58 °C (63.64 °F) to 27.06 °C (80.71 °F) with an average of 22.26 °C (72.07 °F).

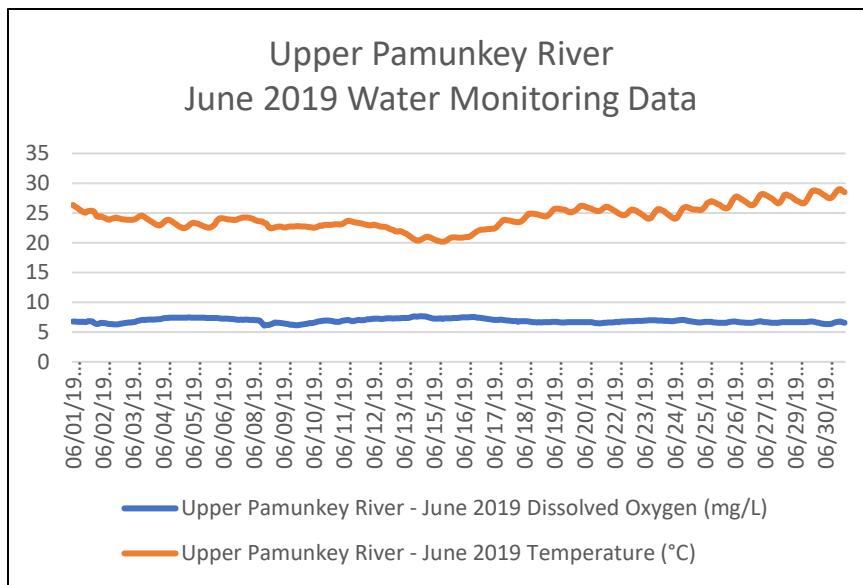
*Note: Monitor for dissolved oxygen was offline from May 1-3, 2019.

May 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	8.6 mg/L	27.06 °C
Minimum	0 mg/L	17.58 °C
Average	6.74 mg/L	22.26 °C



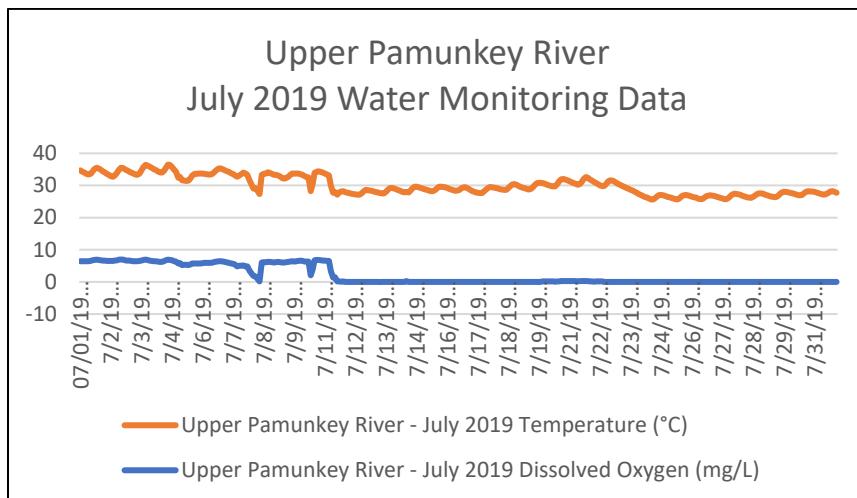
June 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 6.09 mg/L to 7.67 mg/L with an average of 6.88 mg/L. Water temperature ranged from 20.18 °C (68.32 °F) to 29.02 °C (84.24 °F) with an average of 24.30 °C (75.74 °F).

June 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	7.67 mg/L	29.02 °C
Minimum	6.09 mg/L	20.18 °C
Average	6.88 mg/L	24.30 °C



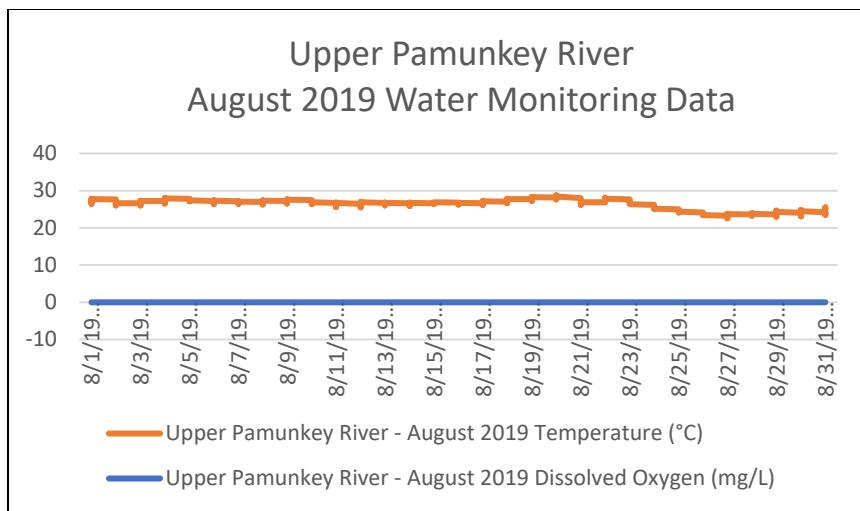
July 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.01 mg/L to 6.96 mg/L with an average of 2.01 mg/L. Water temperature ranged from 25.66 °C (78.19 °F) to 32.38 °C (90.28 °F) with an average of 28.08 °C (82.54 °F).

July 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	6.96 mg/L	32.38 °C
Minimum	-0.01 mg/L	25.66 °C
Average	2.01 mg/L	28.08 °C



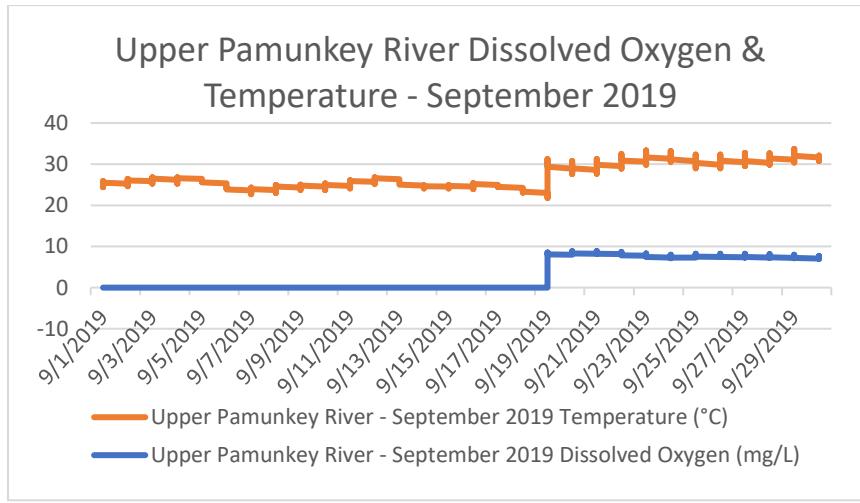
August 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.01 mg/L to -0.01 mg/L with an average of -0.01 mg/L. Water temperature ranged from 22.60 °C (72.68 °F) to 28.76 °C (83.77 °F) with an average of 26.20 °C (79.16 °F).

August 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	-0.01 mg/L	28.76 °C
Minimum	-0.01 mg/L	22.60 °C
Average	-0.01 mg/L	26.20 °C



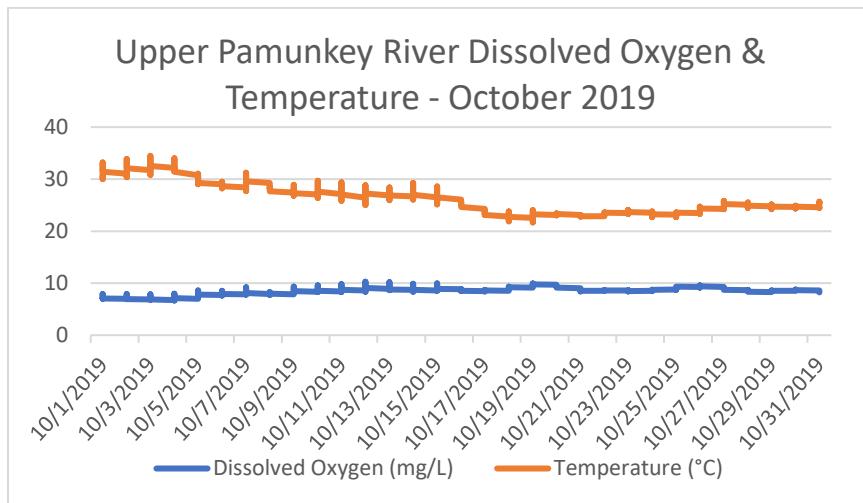
September 2019 monitoring data (366 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.01 mg/L to 8.88 mg/L with an average of 2.93 mg/L. Water temperature ranged from 19.42°C (69.96°F) to 26.86°C (80.35°F) with an average of 24.04°C (75.28°F).

September 2019	Dissolved Oxygen	Temperature
Recorded Samples	366	366
Maximum	8.88 mg/L	26.86 °C
Minimum	-0.01 mg/L	19.42 °C
Average	2.93 mg/L	24.04 °C



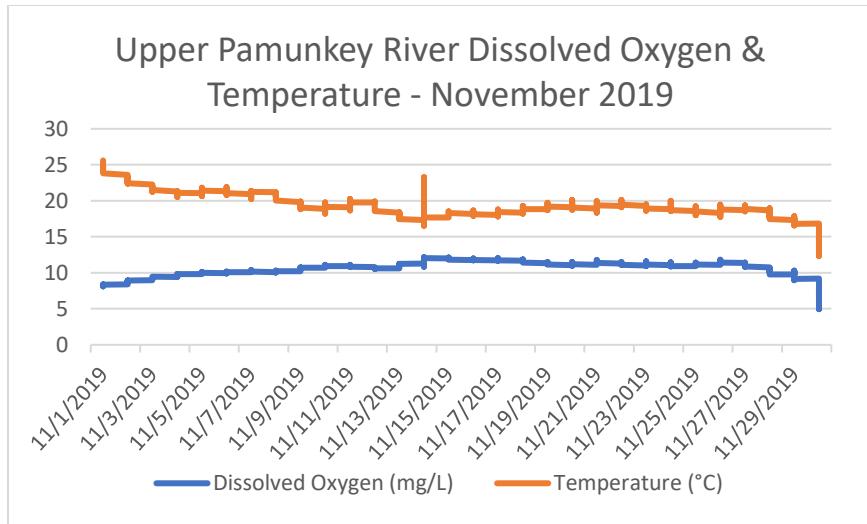
October 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 6.66 mg/L to 10.28 mg/L with an average 8.53 of mg/L. Water temperature ranged from 12.44°C (54.39°F) to 26.6°C (79.88°F) with an average of 17.82°C (64.06°F).

October 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	10.28 mg/L	26.6°C
Minimum	6.66 mg/L	12.44°C
Average	8.53 mg/L	17.82 °C



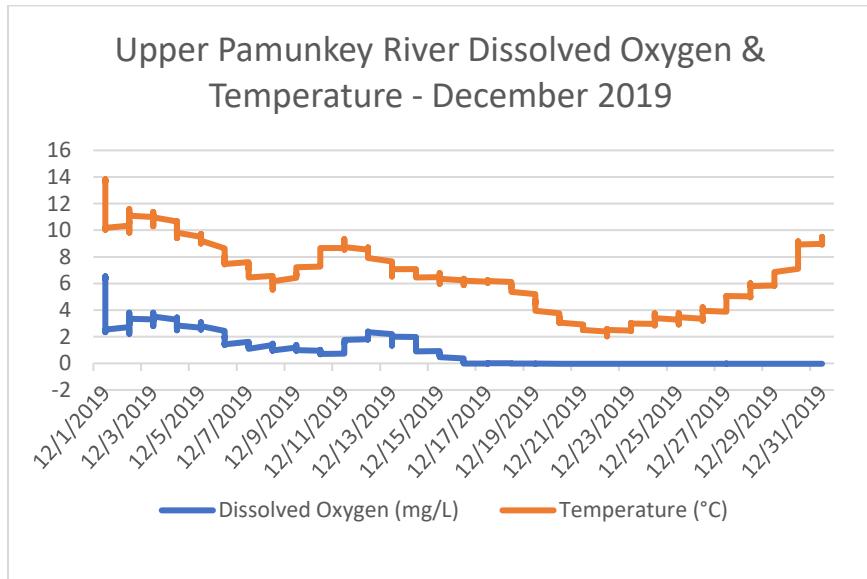
November 2019 monitoring data (361 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 4.95 mg/L to 12.17 mg/L with an average of 10.62 mg/L. Water temperature ranged from 5.06°C (41.11°F) to 17.44°C (63.39°F) with an average of 8.81°C (47.86°F).

November 2019	Dissolved Oxygen	Temperature
Recorded Samples	361	361
Maximum	12.17 mg/L	17.44 °C
Minimum	4.95 mg/L	5.06 °C
Average	10.62 mg/L	8.81 °C



December 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.03 mg/L to 6.54 mg/L with an average of 0.97 mg/L. Water temperature ranged from 2.06°C (35.71°F) to 9.54°C (49.17°F) with an average of 5.63°C (42.13°F).

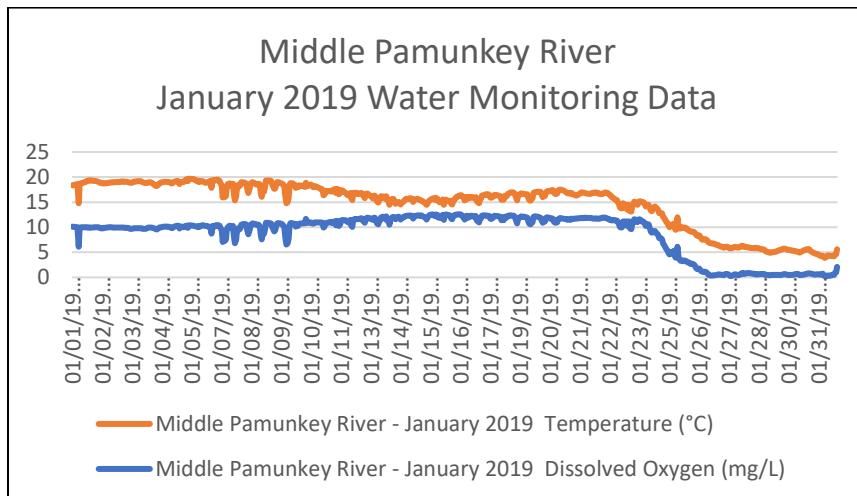
December 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	6.54 mg/L	9.54 °C
Minimum	-0.03 mg/L	2.06 °C
Average	0.97 mg/L	5.63 °C



Middle Pamunkey

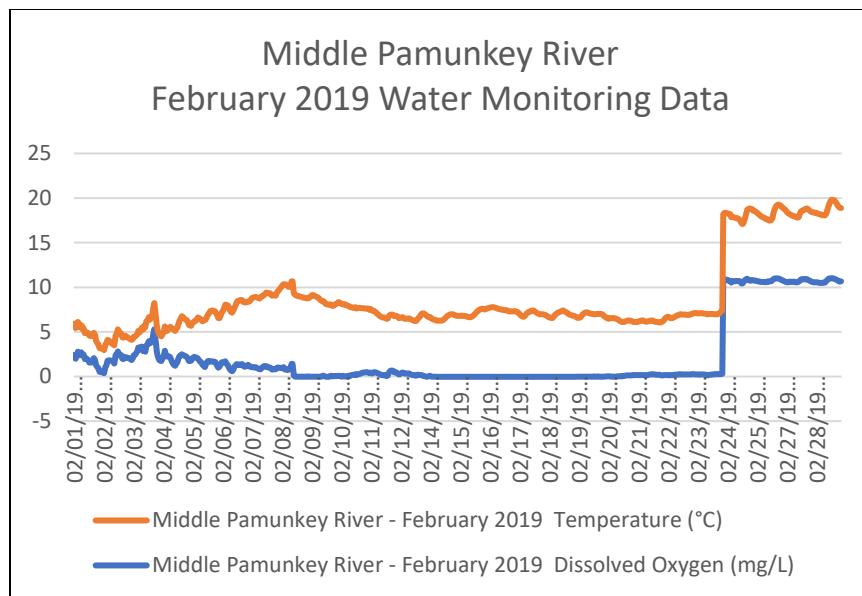
January 2019 monitoring data (744 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.25 mg/L to 12.6 mg/L with an average of 8.70 mg/L. Water temperature ranged from 2.86 °C (37.15 °F) to 9.44 °C (48.99 °F) with an average of 5.97 °C (42.75 °F).

January 2019	Dissolved Oxygen	Temperature
Recorded Samples	744	744
Maximum	12.6 mg/L	9.44 °C
Minimum	0.25 mg/L	2.86 °C
Average	8.70 mg/L	5.97 °C



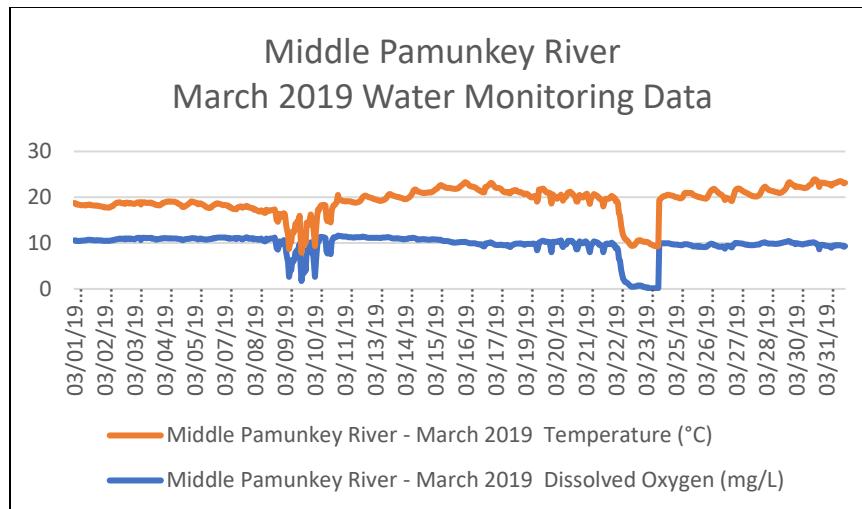
February 2019 monitoring data (672 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from -0.03 mg/L to 11.03 mg/L with an average of 2.21 mg/L. Water temperature ranged from 1.88 °C (35.38 °F) to 9.56 °C (49.21 °F) with an average of 6.47 °C (43.65 °F).

February 2019	Dissolved Oxygen	Temperature
Recorded Samples	672	672
Maximum	11.03 mg/L	9.56 °C
Minimum	-0.03 mg/L	1.88 °C
Average	2.21 mg/L	6.47 °C



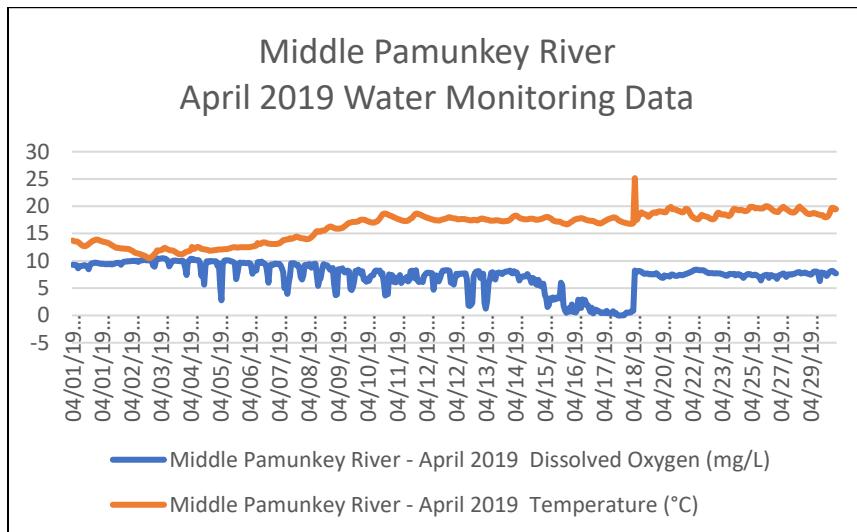
March 2019 monitoring data (744 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.11 mg/L to 11.64 mg/L with an average of 9.66 mg/L. Water temperature ranged from 5.86 °C (42.55 °F) to 14.02 °C (57.24 °F) with an average of 9.54 °C (49.17 °F).

March 2019	Dissolved Oxygen	Temperature
Recorded Samples	744	744
Maximum	11.64 mg/L	14.02 °C
Minimum	0.11 mg/L	5.86 °C
Average	9.66 mg/L	9.54 °C



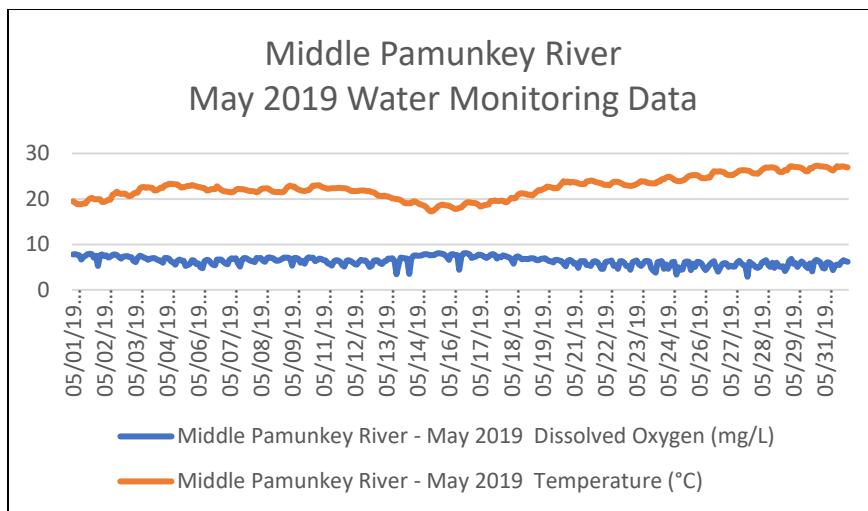
April 2019 monitoring data (570 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.02 mg/L to 10.49 mg/L with an average of 7.21 mg/L. Water temperature ranged from 10.48 °C (50.86 °F) to 25.16 °C (77.29°F) with an average of 16.29 °C (61.32 °F).

April 2019	Dissolved Oxygen	Temperature
Recorded Samples	570	570
Maximum	10.49 mg/L	25.16 °C
Minimum	-0.02 mg/L	10.48 °C
Average	7.21 mg/L	16.29 °C



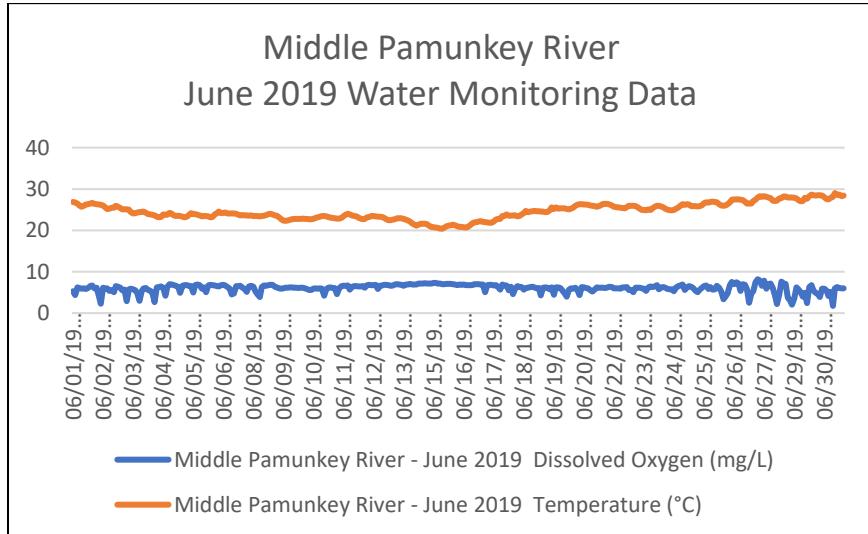
May 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 2.89 mg/L to 8.09 mg/L with an average of 6.3 mg/L. Water temperature ranged from 17.26 °C (63.07 °F) to 27.30 °C (81.14 °F) with an average of 22.53 °C (72.55 °F).

May 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	8.09 mg/L	27.3 °C
Minimum	2.89 mg/L	17.26 °C
Average	6.31 mg/L	22.53 °C



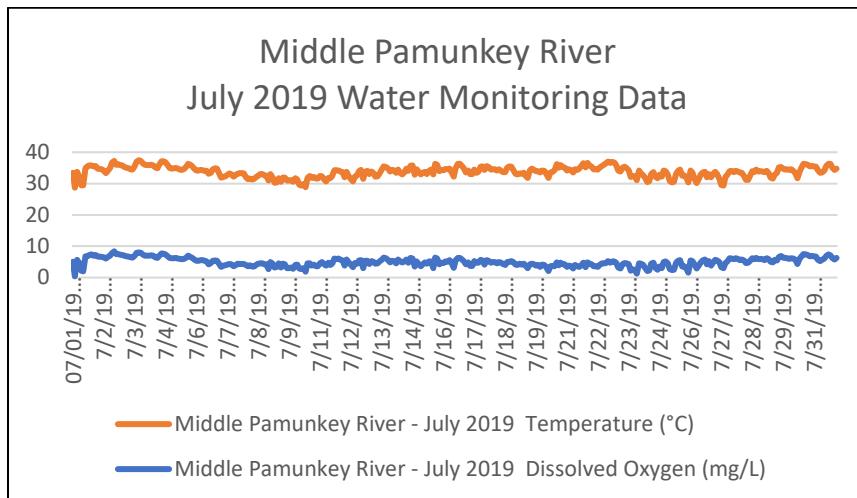
June 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 1.74 mg/L to 8.19 mg/L with an average of 6.03 mg/L. Water temperature ranged from 20.4 °C (68.72 °F) to 29.02 °C (84.24 °F) with an average of 24.61 °C (76.30 °F).

June 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	8.19 mg/L	29.02 °C
Minimum	1.74 mg/L	20.4 °C
Average	6.03 mg/L	24.61 °C



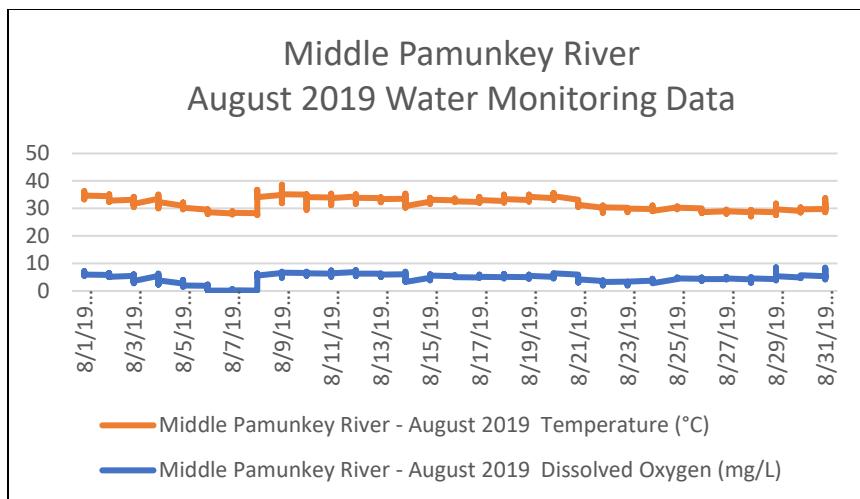
July 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.39 mg/L to 8.37 mg/L with an average of 4.94 mg/L. Water temperature ranged from 26.28 °C (79.30 °F) to 31.86 °C (89.35 °F) with an average of 28.81 °C (83.86 °F).

July 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	8.37 mg/L	31.86 °C
Minimum	0.39 mg/L	26.28 °C
Average	4.94 mg/L	28.81 °C



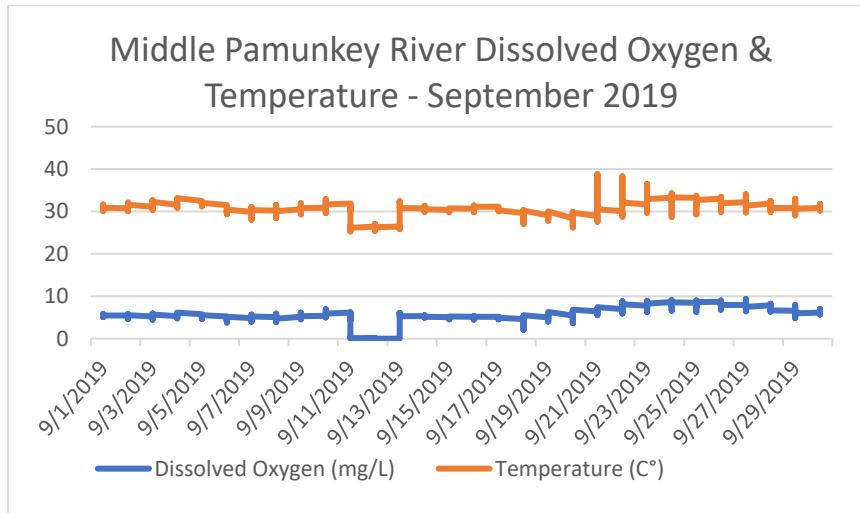
August 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.10 mg/L to 8.58 mg/L with an average of 4.67 mg/L. Water temperature ranged from 23.16 °C (73.69 °F) to 31.60 °C (88.88 °F) with an average of 27.02 °C (80.64 °F).

August 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	8.58 mg/L	31.6 °C
Minimum	0.10 mg/L	23.16 °C
Average	4.67 mg/L	27.02 °C



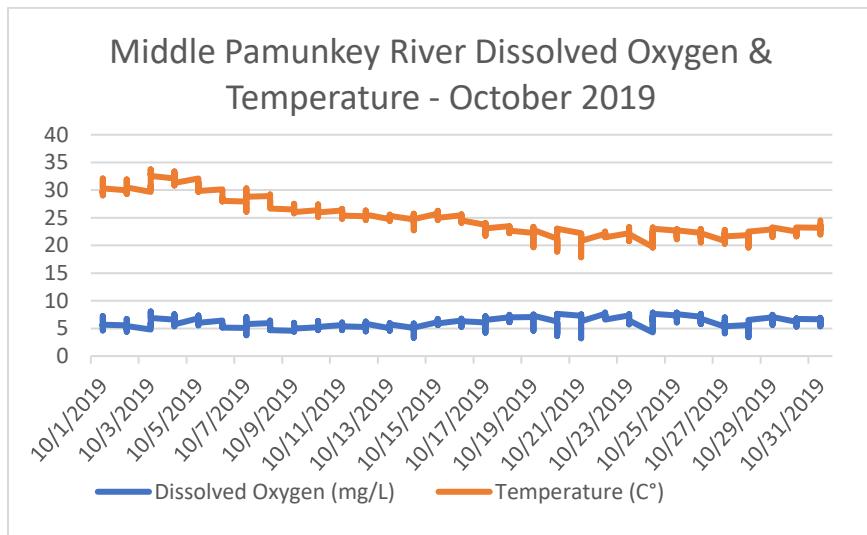
September 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0 mg/L to 9.32 mg/L with an average of 5.56 mg/L. Water temperature ranged from 21.08°C (69.94°F) to 31.82°C (89.28°F) with an average of 25°C (77°F).

September 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	9.32 mg/L	31.82 °C
Minimum	0 mg/L	21.08 °C
Average	5.56 mg/L	25.0 °C



October 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 3.21 mg/L to 11.57 mg/L with an average of 6.11 mg/L. Water temperature ranged from 14.34°C (57.81°F) to 26.04°C (78.87°F) with an average of 18.95°C (66.11°F).

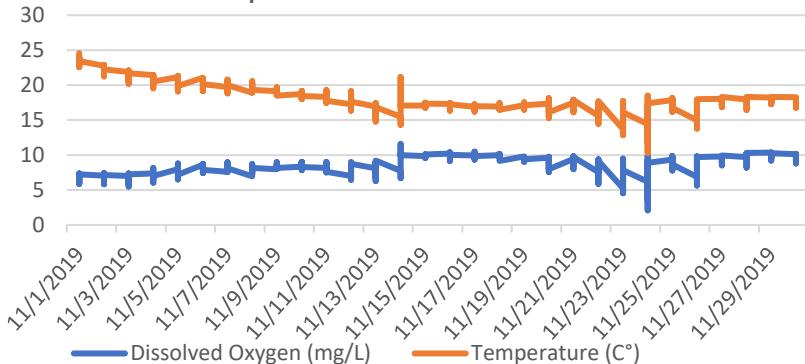
October 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	8.06 mg/L	26.04 °C
Minimum	3.21 mg/L	14.34 °C
Average	6.11 mg/L	18.95 °C



November 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 2.08 mg/L to 11.57 mg/L with an average of 8.57 mg/L. Water temperature ranged from 6.6°C (43.88°F) to 17.52°C (63.54°F) with an average of 9.65°C (49.37°F).

November 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	11.57 mg/L	17.52 °C
Minimum	2.08 mg/L	6.6 °C
Average	8.57 mg/L	9.65 °C

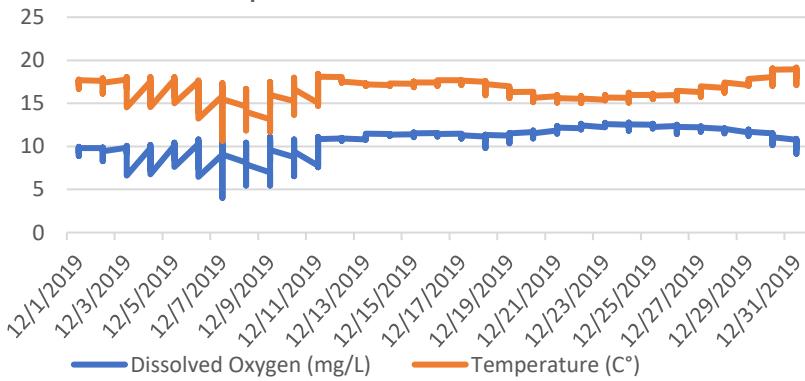
Middle Pamunkey River Dissolved Oxygen & Temperature - November 2019



December 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 4.02 mg/L to 12.77 mg/L with an average of 10.83 mg/L. Water temperature ranged from 2.78°C (37°F) to 8.54°C (47.37°F) with an average of 5.85°C (42.53°F).

December 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	12.77 mg/L	8.54 °C
Minimum	4.02 mg/L	2.78 °C
Average	10.83 mg/L	5.85 °C

Middle Pamunkey River Dissolved Oxygen & Temperature - December 2019

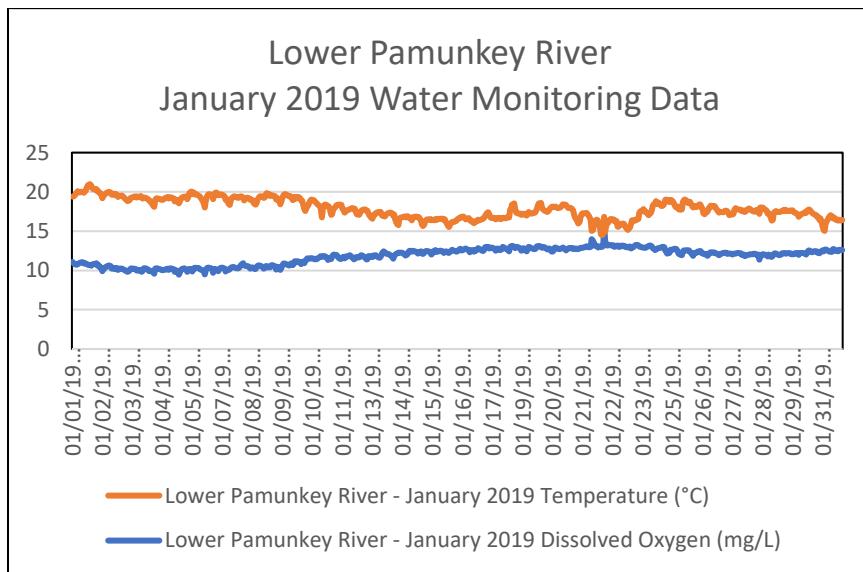


Lower Pamunkey

January 2019 monitoring data (745 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 9.47 mg/L to 15.64 mg/L with an average of 11.80 mg/L.

Water temperature ranged from 1.08 °C (33.94 °F) to 10.26 °C (50.47 °F) with an average of 6.09 °C (42.96 °F).

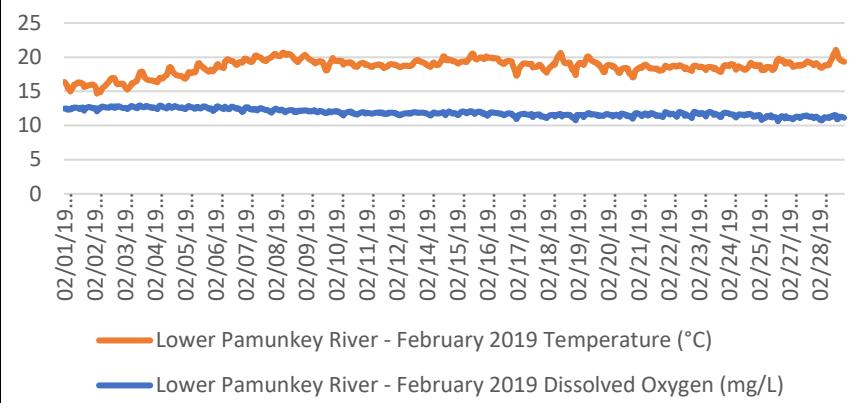
January 2019	Dissolved Oxygen	Temperature
Recorded Samples	745	745
Maximum	15.64 mg/L	10.26 °C
Minimum	9.47 mg/L	1.08 °C
Average	11.80 mg/L	6.09 °C



February 2019 monitoring data (672 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 10.63 mg/L to 12.95 mg/L with an average of 11.90 mg/L. Water temperature ranged from 2.36 °C (36.35 °F) to 9.78 °C (49.60 °F) with an average of 6.70 °C (44.06 °F).

February 2019	Dissolved Oxygen	Temperature
Recorded Samples	672	672
Maximum	12.95 mg/L	9.78 °C
Minimum	10.63 mg/L	2.36 °C
Average	11.90 mg/L	6.70 °C

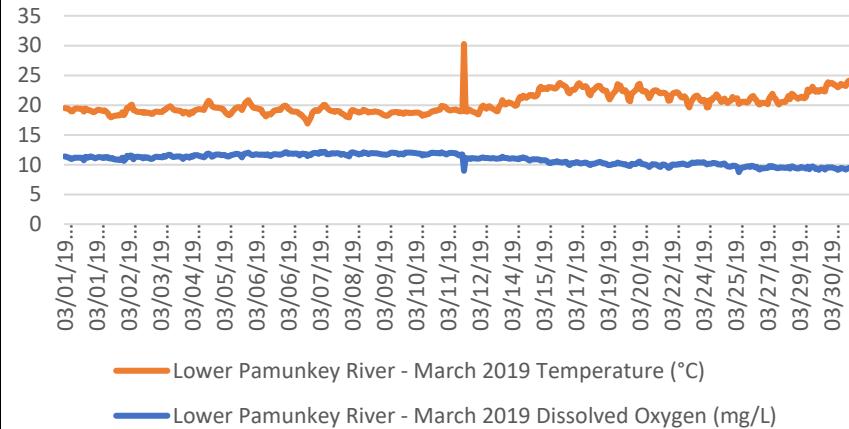
Lower Pamunkey River February 2019 Water Monitoring Data



March 2019 monitoring data (495 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 8.73 mg/L to 12.14 mg/L with an average of 10.85 mg/L. Water temperature ranged from 5.48 °C (41.86 °F) to 21.32 °C (70.38 °F) with an average of 9.44 °C (48.99 °F).

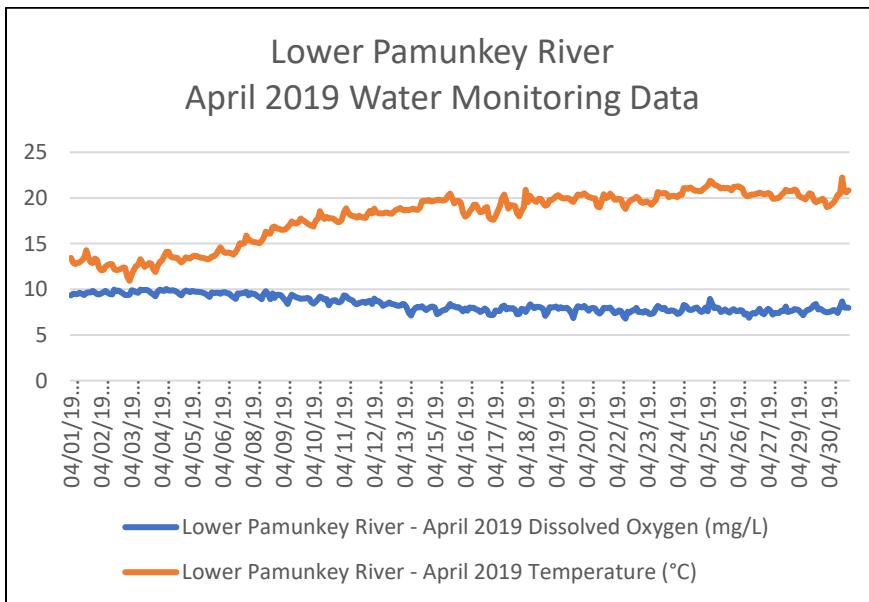
March 2019	Dissolved Oxygen	Temperature
Recorded Samples	495	495
Maximum	12.14 mg/L	21.32 °C
Minimum	8.73 mg/L	5.48 °C
Average	10.85 mg/L	9.44 °C

Lower Pamunkey River March 2019 Water Monitoring Data



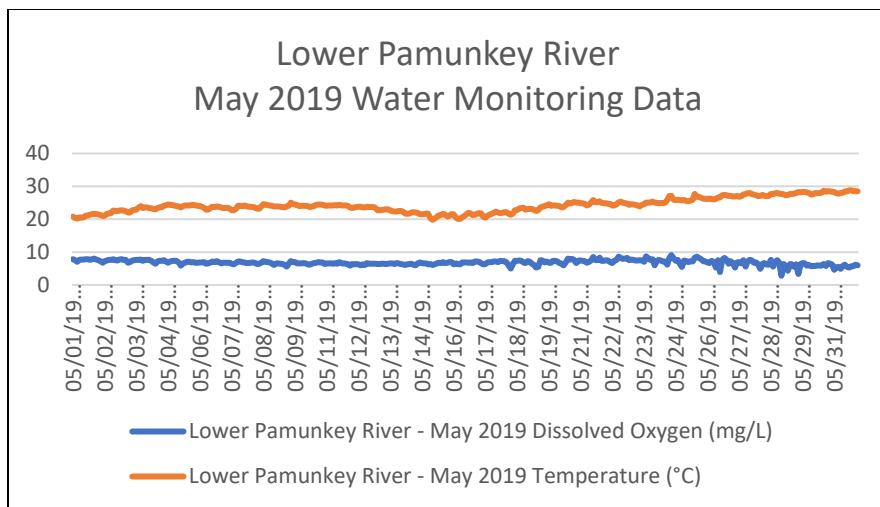
April 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 6.79 mg/L to 10.03 mg/L with an average of 8.40 mg/L. Water temperature ranged from 10.92 °C (51.66 °F) to 22.24 °C (72.03 °F) with an average of 17.9 °C (64.22 °F).

April 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	10.03 mg/L	22.24 °C
Minimum	6.79 mg/L	10.92 °C
Average	8.40 mg/L	17.9 °C



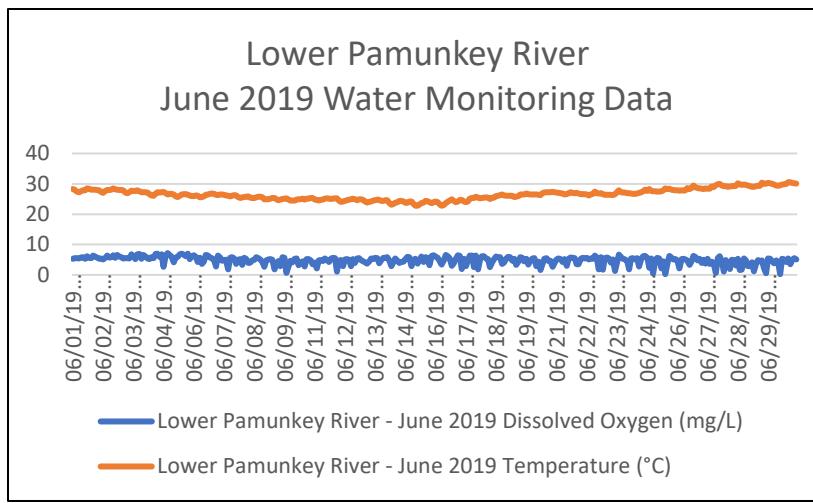
May 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 2.8 mg/L to 9.08 mg/L with an average of 6.81 mg/L. Water temperature ranged from 19.82 °C (67.68 °F) to 28.78 °C (83.80 °F) with an average of 24.24 °C (75.63 °F).

May 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	9.08 mg/L	28.78 °C
Minimum	2.8 mg/L	19.82 °C
Average	6.81 mg/L	24.24 °C



June 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.23 mg/L to 7.18 mg/L with an average of 4.80 mg/L. Water temperature ranged from 22.78 °C (73.0 °F) to 30.54 °C (86.97 °F) with an average of 26.52 °C (79.74 °F).

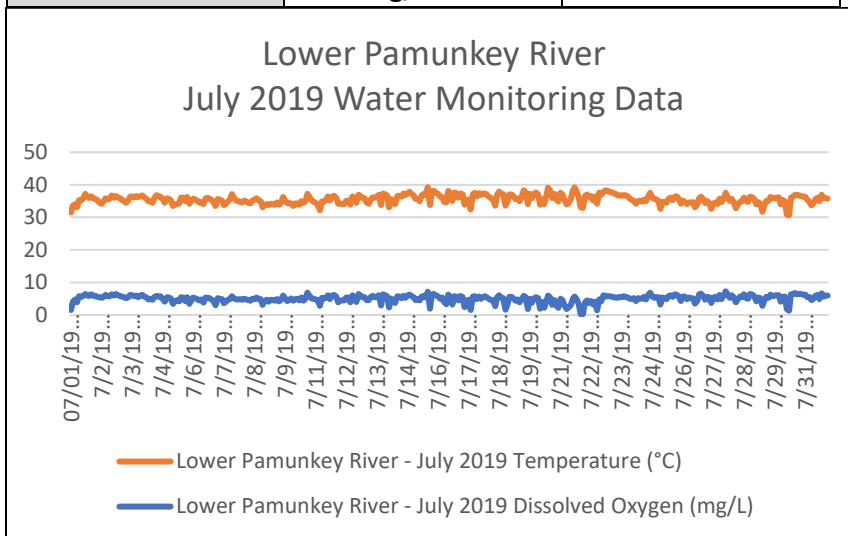
June 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	7.18 mg/L	30.54 °C
Minimum	0.23 mg/L	22.78 °C
Average	4.80 mg/L	26.52 °C



July 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 0.20 mg/L to 7.27 mg/L with an average of 5.02 mg/L. Water

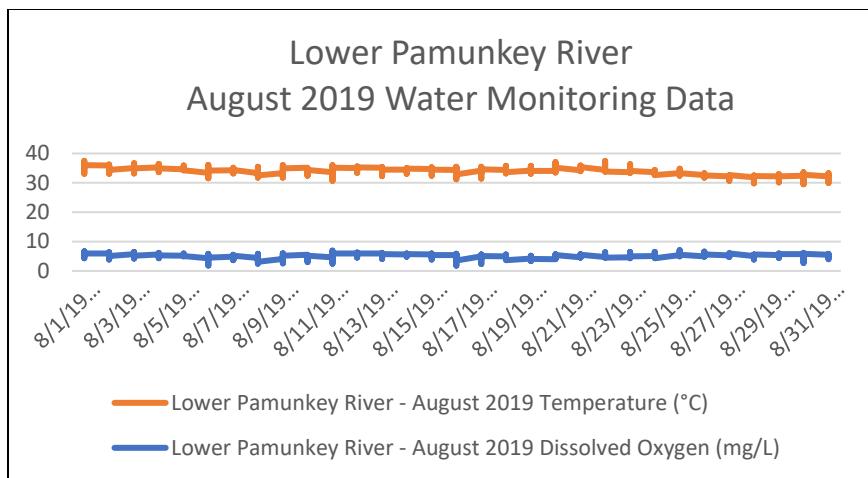
temperature ranged from 28.82 °C (83.88 °F) to 33.52 °C (92.34 °F) with an average of 30.52 °C (86.94 °F).

July 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	7.27 mg/L	33.52 °C
Minimum	0.20 mg/L	28.82 °C
Average	5.02 mg/L	30.52 °C



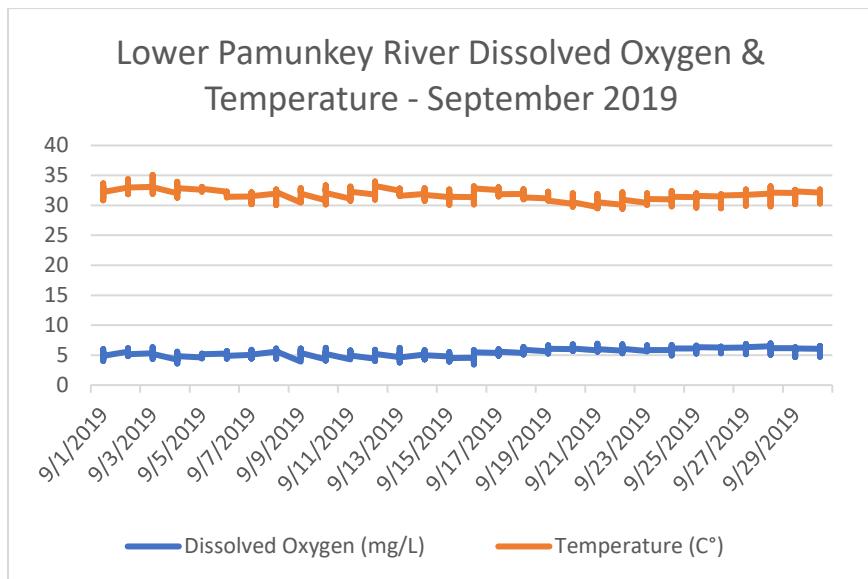
August 2019 monitoring data (372 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 1.84 mg/L to 7.1 mg/L with an average of 5.11 mg/L. Water temperature ranged from 25.42 °C (77.76 °F) to 31.34 °C (88.41 °F) with an average of 28.78 °C (83.80 °F).

August 2019	Dissolved Oxygen	Temperature
Recorded Samples	372	372
Maximum	7.1 mg/L	31.34 °C
Minimum	1.84 mg/L	25.42 °C
Average	5.11 mg/L	28.78 °C



September 2019 monitoring data (360 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 3.44 mg/L to 6.97 mg/L with an average of 5.45 mg/L. Water temperature ranged from 23.74°C (74.73°F) to 28.78°C (83.8°F) with an average of 26.27°C (79.29°F).

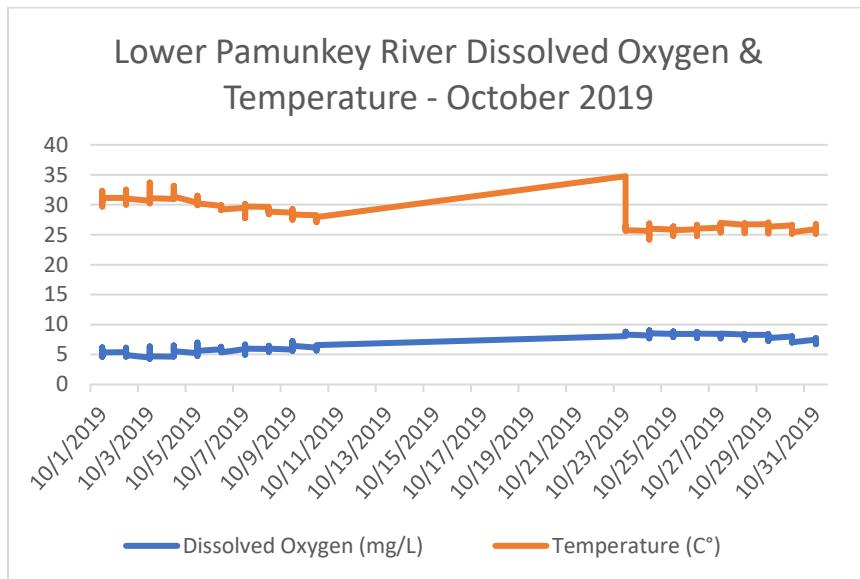
September 2019	Dissolved Oxygen	Temperature
Recorded Samples	360	360
Maximum	6.97 mg/L	28.78 °C
Minimum	3.44 mg/L	23.74 °C
Average	5.45 mg/L	26.27 °C



October 2019 monitoring data (217 dissolved oxygen and temperature readings) logged dissolved oxygen levels ranging from 4.27 mg/L to 9.03 mg/L with an average of 6.83 mg/L.

Water temperature ranged from 16.5°C (61.7°F) to 27.34°C (81.21°F) with an average of 21.40°C (70.52°F).

October 2019	Dissolved Oxygen	Temperature
Recorded Samples	217	217
Maximum	9.03 mg/L	27.34 °C
Minimum	4.27 mg/L	16.5°C
Average	6.83 mg/L	21.40 °C

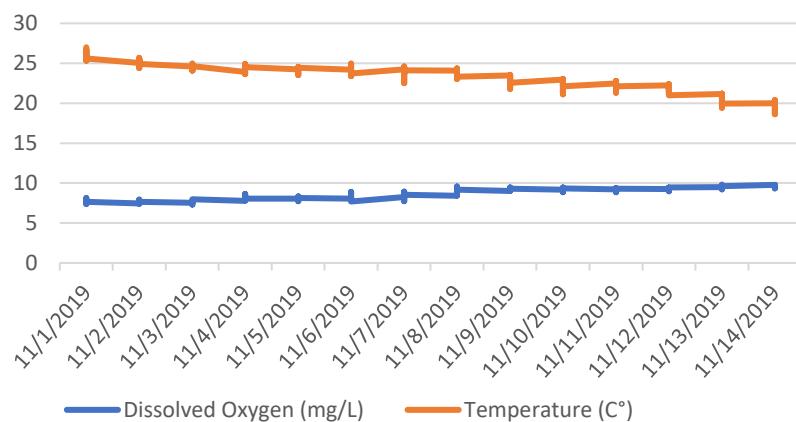


November 2019 monitoring data (163 dissolved oxygen (**November 1 – November 14, 2019**) and 360 temperature readings November 1 – 30, 2019) logged dissolved oxygen levels ranging from 4.27 mg/L to 9.8 mg/L with an average of 6.83 mg/L. Water temperature recorded from a separate temperature logger at same station ranged from 5.92°C (42.66°F) to 19.42°C (66.96°F) with an average of 11.93°C (53.47°F).

November 2019	Dissolved Oxygen	Temperature
Recorded Samples	*163	360
Maximum	9.8 mg/L	19.42 °C
Minimum	4.27 mg/L	5.92 °C
Average	6.83 mg/L	11.93 °C

* U26 Logger did not record complete month's data, temp data collected from separate temp logger at same station.

Lower Pamunkey River Dissolved Oxygen & Temperature - *November 1 - 14, 2019



** U26 Logger did not record complete month's data, temp data collected from separate temp logger at same station (Chart reflects data 11/1/2019 – 11/14/2019).

December 2019 monitoring data (0 dissolved oxygen and 373 temperature readings) logged no dissolved oxygen levels. Water temperature ranged from -3.63°C (38.53°F) to 9.71°C (49.48°F) with an average of 7.45°C (45.41°F).

December 2019	Dissolved Oxygen	Temperature
Recorded Samples	*0	373
Maximum	*	9.71 °C
Minimum	*	-3.63 °C
Average	*	7.45 °C

* U26 Logger did not record data, temperature data was collected from separate temp logger at same station.