

Bacteria and Swimmable Water Quality in the Brandywine River in Delaware

Final Draft June 1, 2025

Prepared for:

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Introduction: This report evaluates enterococcus bacteria trends and swimmable water quality in the Brandywine River in Delaware. Three organizations collected 1,331 enterococcus bacteria samples over 20 years at 16 water quality stations situated from the mouth of the Brandywine River in Wilmington upstream to the Delaware/Pennsylvania state line above Rockland and in the tidal Christina River (Figure 1). The University of Delaware Water Resources Center (UDWRC) analyzed bacteria data for the Brandywine River Restoration Trust (BRRT) to evaluate trends over time, frequency of days meeting swimmable criteria, and correlate bacteria levels with rainfall and water temperature. The Delaware swimmable water quality criteria for enterococcus bacteria is 180 MPN#/100 milliliters.

Methods: Brandywine River Restoration Trust (BRRT), City of Wilmington (COW), and Delaware Department of Natural Resources and Environmental Control (DNREC) collected enterococcus bacteria data at 16 water quality monitoring stations along the Brandywine River in Delaware over the course of 20 years (Table 1). BRRT collected bacteria data between July 2023 and September 2023 at Brandywine Park, Brecks Mill, Market Street, Northeast Blvd., Smith Bridge, and Thompson's Bridge. The City of Wilmington (COW) Department of Public Works collected bacteria data between January 2013 and June 2023 along the Brandywine River at the DuPont Experimental Station, Brandywine Park Footbridge, Northeast Blvd, Smith Bridge and tidal Christina River at 7th St. 3rd St. and Kalmar Nyckel dock. The DNREC collected bacteria between October 2005 and April 2023 on the Brandywine River at Smith Bridge, Brandywine Park Swinging Bridge, and Breck's Mill.

The UDWRC reviewed the bacteria data collected and forwarded by BRRT and determined whether levels were increasing (worse) or declining (improved), percentage of samples meeting the 180 MPN#/100 ml swimmable water quality standard, and linear trend analysis with the coefficient of determination (R^2) to determine whether rainfall and water temperature influence bacteria levels that define swimmable water quality in the Brandywine and Christina. Rainfall data was collected from precipitation gages operated by the City of Wilmington and the USGS Brandywine Creek at Chadds Ford stream gage. Water temperature data was collected from the USGS Brandywine Creek at Wilmington stream gage. A coefficient of determination (R^2) of 1.0 is a perfect line of fit and explains 100% of the variance between rainfall/water temperature and bacteria levels, an R^2 of 0.5 to 0.7 explains 50% to 70% of the variance and constitutes a good to strong correlation and 0.2 to 0.4 would be a mild to moderate correlation between rainfall/water temperature and bacteria levels.

Year-round Results: We reviewed the results of the bacteria samples collected year-round by BRRT, City of Wilmington, and DNREC (Table 1). Of the bacteria samples collected by BRRT between June 2023 and September 2023, just 0 to 16% of the samples were less than (met) the 180 MPN#/100 ml swimmable water quality standard. For City of Wilmington bacteria data collected between January 2013 and June 2023, over half (53% to 63%) of the samples met the 180 MPN#/100 ml swimmable water quality standard on the Brandywine and over half (50% to 58%) met the swimmable standard at the 3 tidal Christina River stations. For DNREC bacteria water quality samples collected between 2005 and 2023 at Smith Bridge, Swinging Bridge, and Breck's Mill along the Brandywine, over half to three quarters (59% to 71%) of the samples were less than 180 MPN#/100 ml and therefore met the swimmable water quality standard.

Regarding the influence of antecedent rainfall on bacteria levels at BRRT stations sampled between July and September 2023, coefficient of determination (R^2) levels were very low indicating no trend between 24 hr, 48 hr, and 7 day rainfall on bacteria levels and at the same stations there were little or no statistical correlation between water temperature and enterococcus bacteria levels. At 4 COW stations along the Brandywine, we found a mild correlation where the coefficient of determination (R^2) ranges between 0.23 and 0.27 for 24 hr rainfall vs bacteria. 0.17 and 0.31 for 48 hr rainfall vs bacteria, and 0.19 for 7 day rainfall. At 3 Christina River stations, we can explain 18% to 23% of the variance for 24 hr rainfall and observed the strongest correlation for 48 hr rainfall where 68% of

the variance is explained at the Christina River at 7th St. Bridge. At the DNREC stations at Smith Bridge, Swinging Bridge, and Breck's Mill, we observe a mild correlation of 0.18 to 0.23 for the 24 hr rainfall, and can explain 25% of the variance for 48 hr rainfall, and detected hardly any correlation for 7 day rainfall and water temperature as well.

Seasonal (May – October) Results: Year-round Results: We also reviewed the results of the bacteria samples collected seasonally when rivers are warm enough to swim between May and October by BRRT, City of Wilmington, and DNREC (Table 2). Of the bacteria samples collected by BRRT between June 2023 and September 2023, just 0 to 13% of the samples were less than (met) the 180 MPN#/100 ml swimmable water quality standard. For City of Wilmington bacteria data collected between January 2013 and June 2023, nearly half (40% to 56%) of the samples met the 180 MPN#/100 ml swimmable water quality standard on the Brandywine and nearly half (42% to 53%) met the swimmable standard at the 3 tidal Christina River stations. For DNREC bacteria water quality samples collected between 2005 and 2023 at Smith Bridge, Swinging Bridge, and Breck's Mill along the Brandywine, over half to two thirds (45% to 65%) of the samples were less than 180 MPN#/100 ml and therefore met the swimmable water quality standard.

Regarding the influence of antecedent rainfall on bacteria levels at BRRT stations sampled between July and September 2023, coefficient of determination (R^2) levels were very low (just one at 0.19 at Brecks Mill) indicating no trend between 24 hr, 48 hr, and 7 day rainfall on bacteria levels and at the same stations there were little or no statistical correlation between water temperature and enterococcus bacteria levels. At 4 COW stations along the Brandywine, we found a mild correlation where the coefficient of determination (R^2) ranges between 0.23 and 0.27 for 24 hr rainfall vs bacteria. 0.23 and 0.29 for 48 hr rainfall vs bacteria, and 0.24 for 7 day rainfall. At 3 Christina River stations, we can explain 23% of the variance for 24 hr rainfall at just the Christina Kalmar Nyckel station and observed the strongest correlation for 48 hr rainfall where 81% of the variance is explained at the Christina River at 7th St. Bridge. At the DNREC stations at Smith Bridge, Swinging Bridge, and Breck's Mill, we observe little or correlation for the 24 hr rainfall, and can explain 23% of the variance for 48 hr rainfall, and detected hardly any correlation for 7 day rainfall and water temperature as well.

Conclusions/Recommendations: Along the Brandywine River, enterococcus bacteria levels meet the 180 MPN#/100 ml criteria and therefore the river is swimmable over half (50% to 70%) of the time at 7 stations that extend from Wilmington upstream to the state line. At 3 Christina River stations, the river is swimmable 50% to 60% of the time. Slight correlation (R^2 explaining 25% to 30% of the variance) is detected for the 24 hr and 48 hr rain falling in the days before the bacteria water quality sampling date. Along the Christina River, the we observe the strongest correlation (R^2 of 0.65 - 0.81) between 48 hr rainfall and bacteria levels at 7th Street Bridge. We observe little or no correlation between water temperature and enterococcus bacteria at any of the 16 water quality monitoring sites.

Based on this analysis, UDWRC recommends that when 24 hr and 48 rainfall exceeds 0.2 inches, we deem the Brandywine River not suitable for swimming due to bacteria levels that may exceed the DNREC 180 MPN#/100 ml swimmable water quality criteria. Furthermore, at least 7 days should proceed without rainfall before Brandywine River bacteria levels may fall below the water quality criteria and we judge the river to be swimmable again.

Table 1. Statistical analysis of (May-Oct) bacteria sampling to meet swimmable criteria along Brandywine River

Station (Year-round)	Record	No. Samples	Meet Criteria (180 MPN# /100 ml (May-Oct)	% meet swimmable Criteria (May-Oct)	24 hr rain vs Enteroc. (R ²)	48 hr rain vs Enteroc. (R ²)	7 day rain vs Enteroc. (R ²)	Water Temp vs Enteroc. (R ²)
Brandywine Park (BRRT)	7/24/23- 9/28/23	37	3	8%	0.00	0.01	0.01	0.01
Brecks Mill (BRRT)	7/24/23- 9/28/23	37	2	5%	0.00	0.19	0.06	0.07
Market Street (BRRT)	7/24/23- 9/28/23	38	3	8%	0.07	0.11	0.01	0.05
Northeast Blvd. (BBRT)	7/24/23- 9/28/23	37	5	13%	0.02	0.02	0.02	0.01
Smith Bridge (BRRT)	7/24/23- 9/28/23	26	0	0%	0.00	0.03	0.01	0.08
Thompsons Bridge (BBRT)	7/24/23- 9/28/23	36	1	3%	0.00	0.01	0.08	0.09
Experimental. Station (COW))	1/16/13- 6/21/23	54	27	50%	0.23	0.23	0.24	0.00
Footbridge (COW)	1/16/13- 6/21/23	52	29	56%	0.00	0.00	0.12	
Northeast Blvd (COW)	1/16/13- 6/21/23	53	21	40%	0.23	0.10	0.14	
Smith Bridge (COW)	1/16/13- 6/21/23	105	65	62%	0.23	0.17	0.19	
Christina 7th St. (COW)	1/16/13- 10/19/16	15	8	53%	0.06	0.81	0.02	
Christina 3rd St. (COW)	1/16/13- 5/31/23	50	22	44%	0.12	0.00	0.18	
Christina Kalmar (COW)	1/16/13- 5/31/23	33	14	42%	0.23	0.00	0.00	
Smith Bridge (DNREC)	10/18/05- 12/6/22	76	34	45%	0.17	0.23	0.09	0.02
Swinging Bridge (DNREC)	10/18/05- 12/6/22	75	49	65%	0.01	0.00	0.02	0.03
Brecks Mill (DNREC)	10/18/05- 4/4/23	111	53	48%	0.01	0.25	0.01	0.01

Table 2. Statistical analysis of (year-round) bacteria sampling to meet swimmable criteria along Brandywine River

Station (Year-round)	Record	No. Samples	Meet Criteria (180 MPN# /100 ml (year-round)	% meet swimmable Criteria (year-round)	24 hr rain vs Enteroc. (R ²)	48 hr rain vs Enteroc. (R ²)	7 day rain vs Enteroc. (R ²)	Water Temp vs Enteroc. (R ²)
Brandywine Park (BRRT)	7/24/23- 9/28/23	37	3	8%	0.00	0.01	0.02	0.01
Brecks Mill (BRRT)	7/24/23- 9/28/23	37	4	11%	0.00	0.19	0.06	0.07
Market Street (BRRT)	7/24/23- 9/28/23	38	3	8%	0.07	0.11	0.01	0.05
Northeast Blvd. (BBRT)	7/24/23- 9/28/23	37	6	16%	0.02	0.02	0.02	0.01
Smith Bridge (BRRT)	7/24/23- 9/28/23	26	0	0%	0.00	0.03	0.01	0.08
Thompsons Bridge (BBRT)	7/24/23- 9/28/23	36	1	3%	0.00	0.01	0.08	0.09
Experimental. Station (COW))	1/16/13- 6/21/23	105	65	62%	0.23	0.28	0.19	0.00
Footbridge (COW)	1/16/13- 6/21/23	104	66	63%	0.06	0.04	0.13	
Northeast Blvd (COW)	1/16/13- 6/21/23	106	56	53%	0.27	0.31	0.15	
Smith Bridge (COW)	1/16/13- 6/21/23	105	65	62%	0.23	0.17	0.19	
Christina 7th St. (COW)	1/16/13- 10/19/16	26	15	58%	0.02	0.65	0.10	
Christina 3rd St. (COW)	1/16/13- 5/31/23	101	50	50%	0.08	0.02	0.19	
Christina Kalmar (COW)	1/16/13- 5/31/23	64	34	53%	0.23	0.01	0.01	
Smith Bridge (DNREC)	10/18/05- 12/6/22	145	99	68%	0.18	0.24	0.10	0.02
Swinging Bridge (DNREC)	10/18/05- 12/6/22	145	86	59%	0.00	0.00	0.00	0.00
Brecks Mill (DNREC)	10/18/05- 4/4/23	219	155	71%	0.00	0.25	0.01	0.00

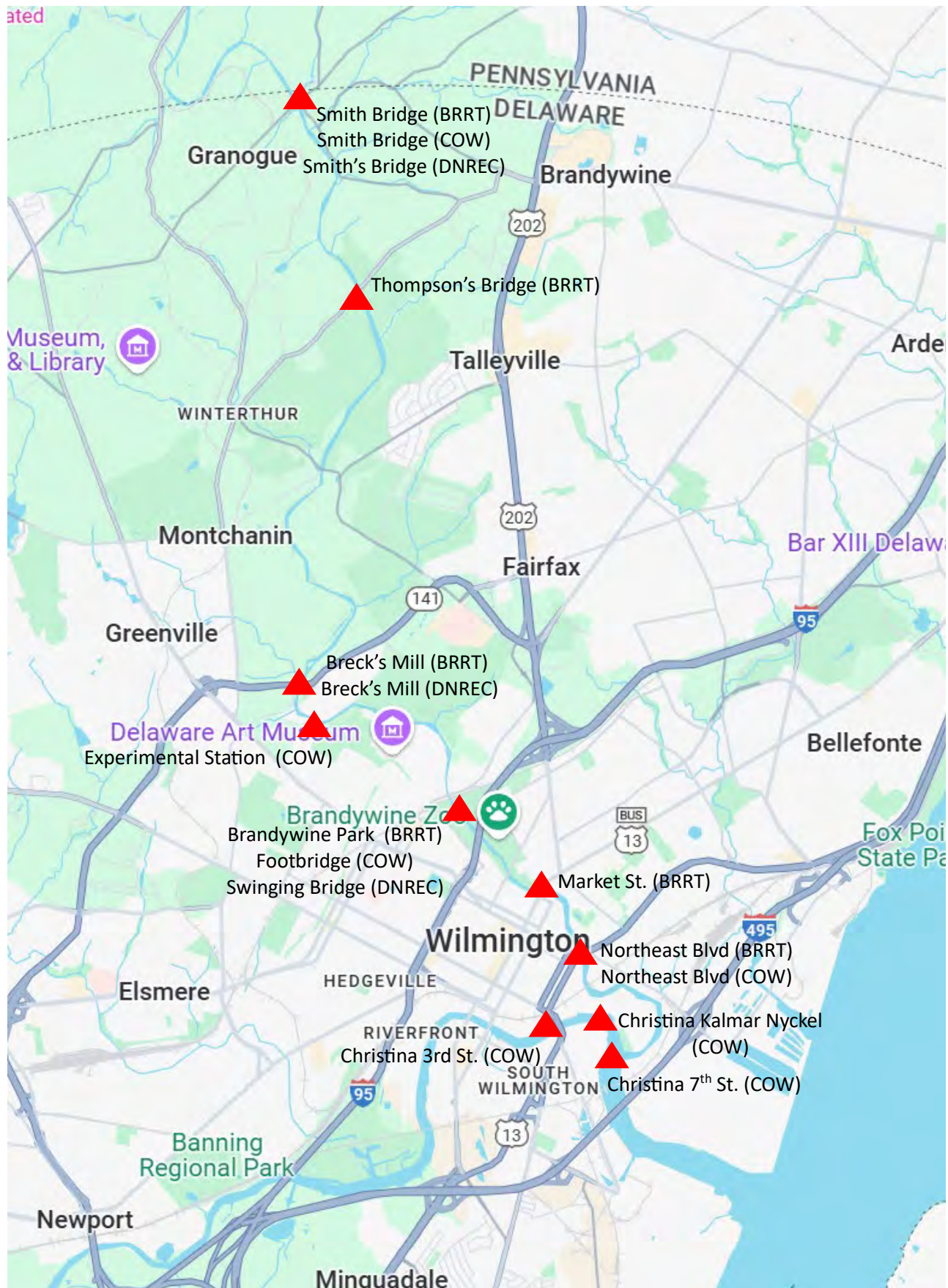


Figure 1. Enterococcus bacteria monitoring stations along the Brandywine River in Delaware

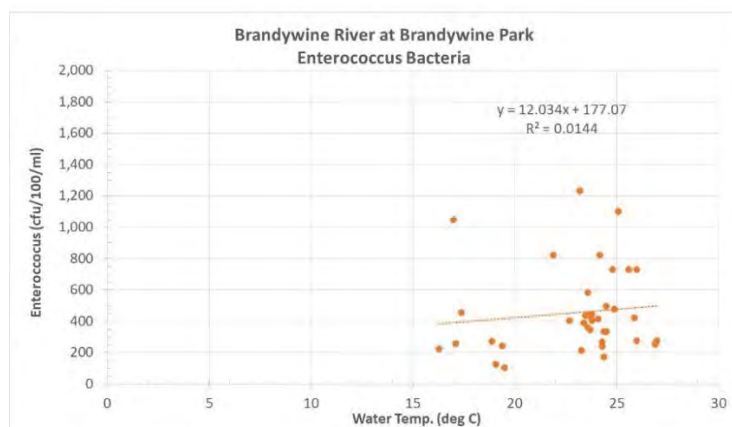
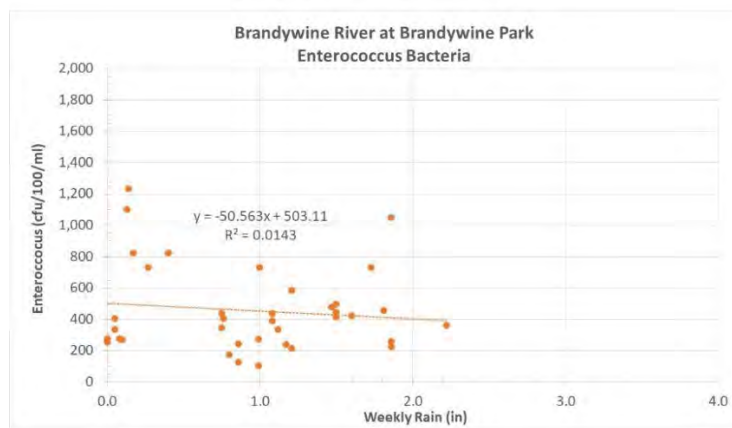
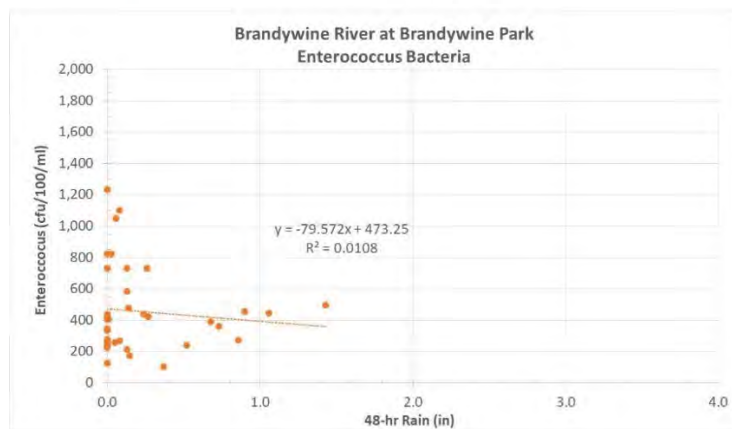
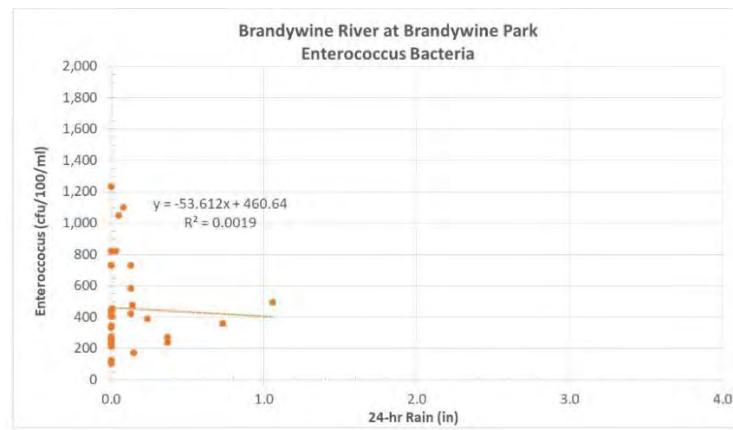


Figure 2. Enterococcus bacteria along the Brandywine River at Brandywine Park, Jul 24, 2023-Sep 28, 2023 (BRRT)

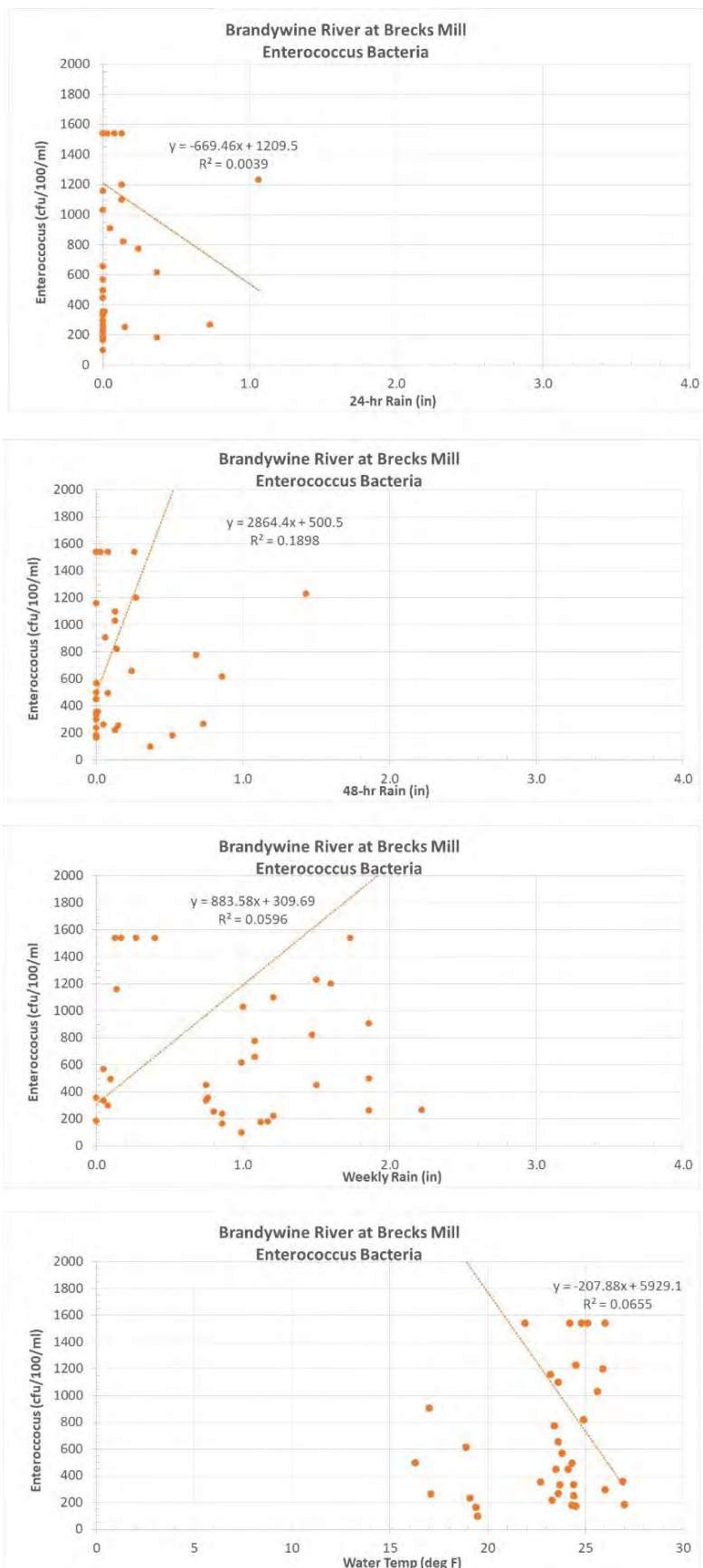


Figure 3. Enterococcus bacteria along the Brandywine River at Brecks Mill, Jul 24, 2023-Sep 28, 2023 (BRRT)

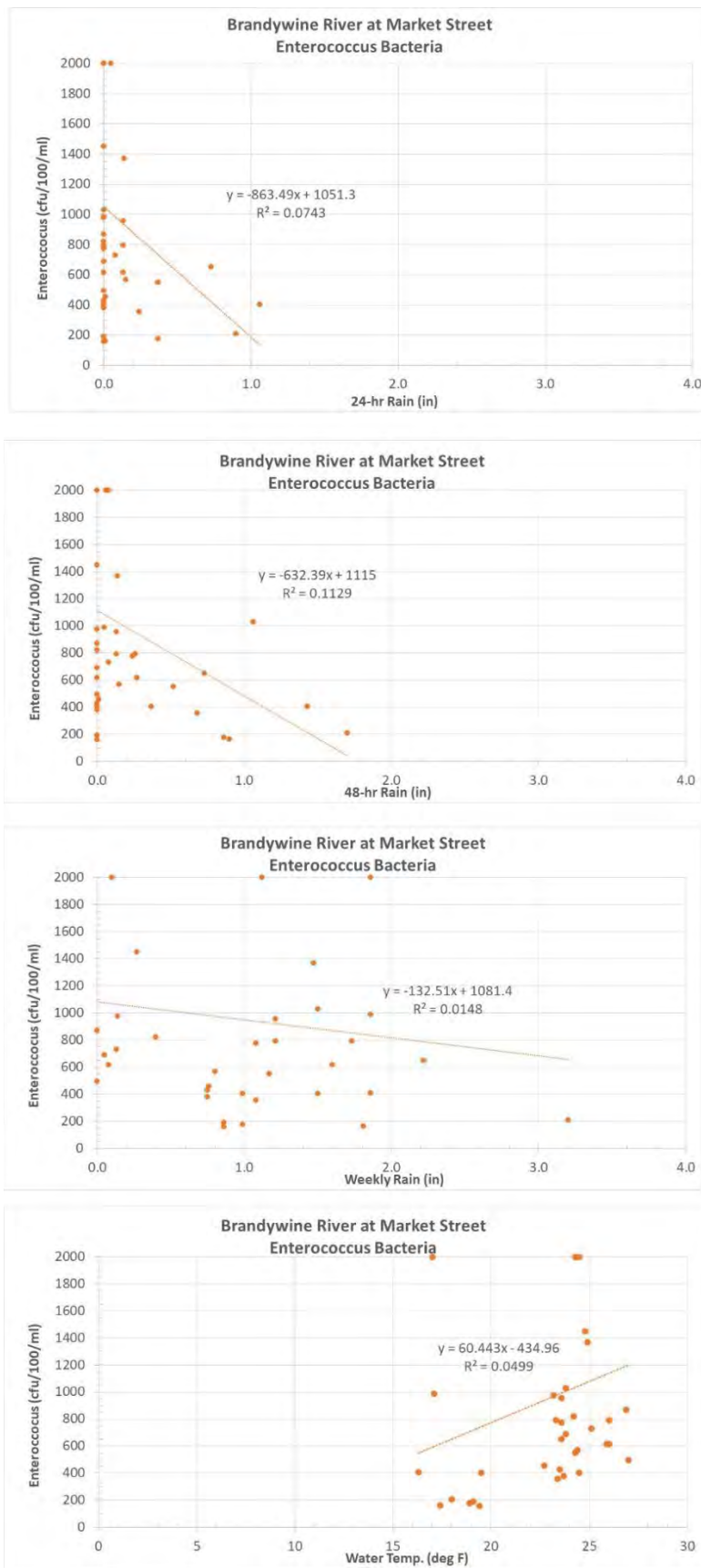


Figure 4. Enterococcus bacteria along Brandywine River at Market Street Bridge, Jul 24, 2023-Sep 28, 2023 (BRRT)

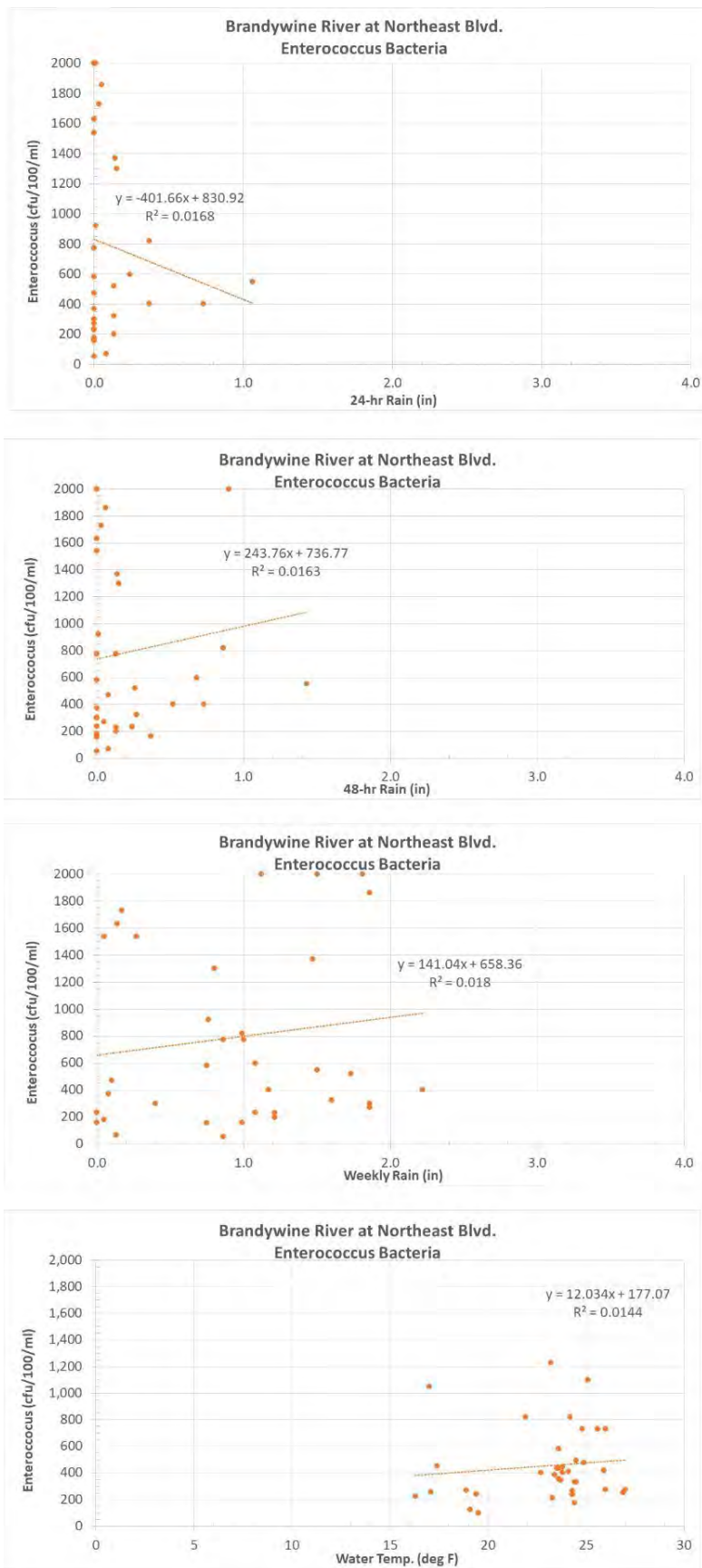


Figure 5. Enterococcus bacteria along Brandywine River at Northeast Blvd Bridge, Jul 24, 2023-Sep 28, 2023 (BRRT)

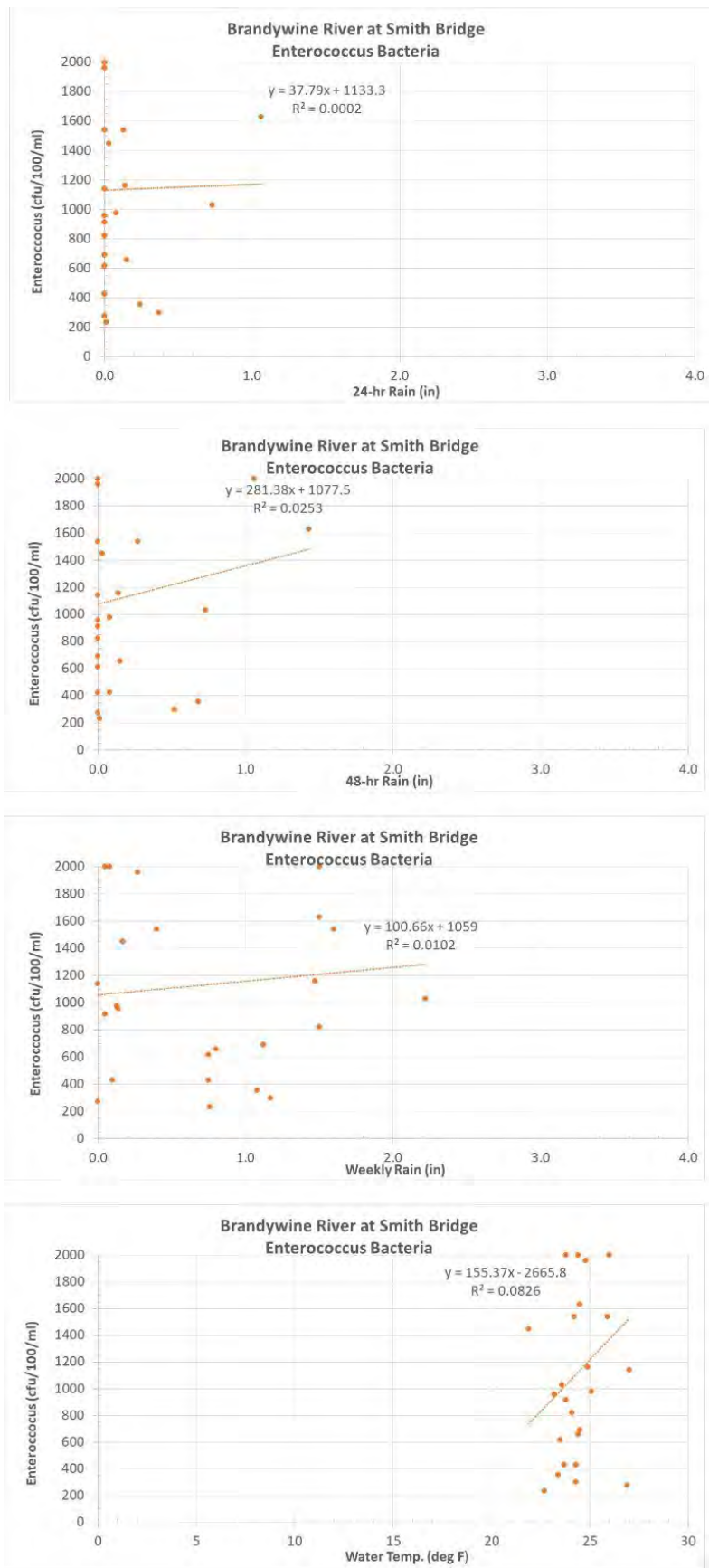


Figure 6. Enterococcus bacteria along the Brandywine River at Smith Bridge, Jul 24, 2023-Sep 28, 2023 (BRRT)

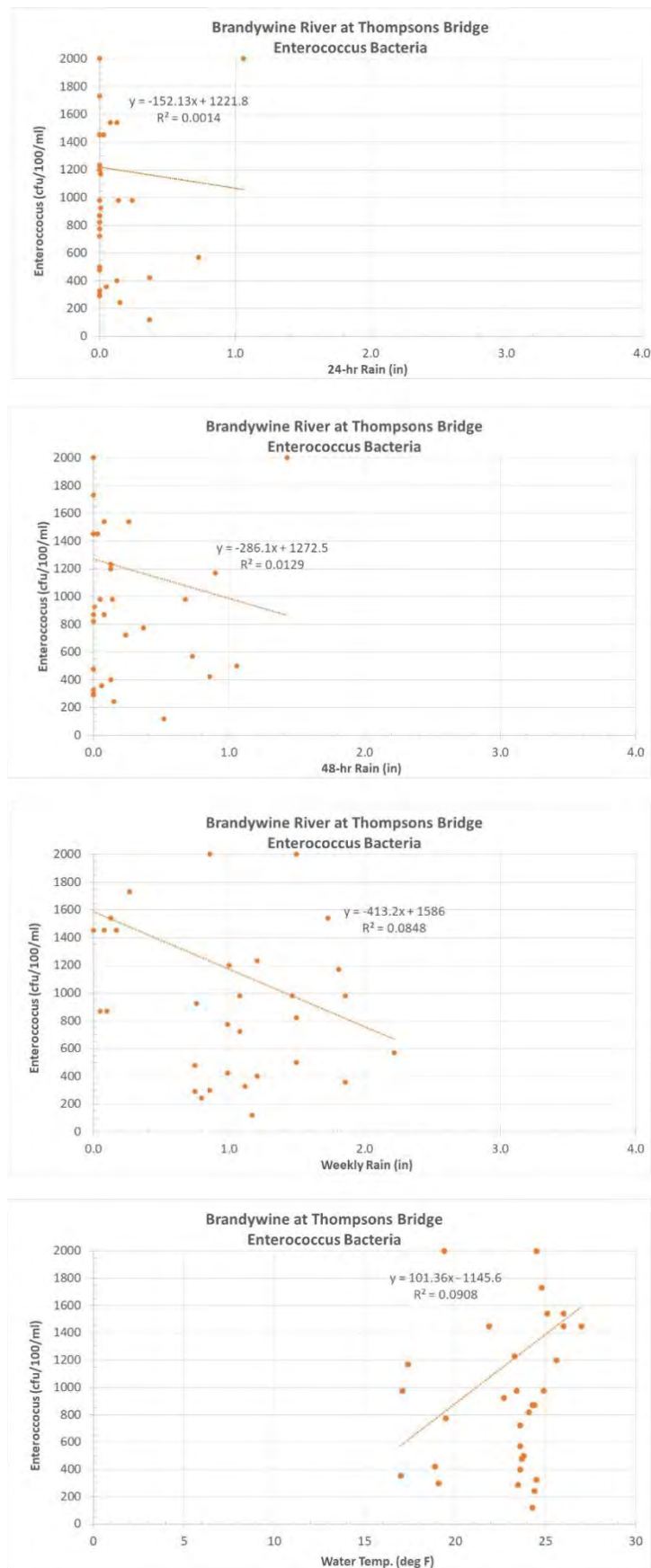


Figure 7. Enterococcus bacteria along Brandywine River at Thompson Bridge, Jul 24, 2023-Sep 28, 2023 (BRRT)

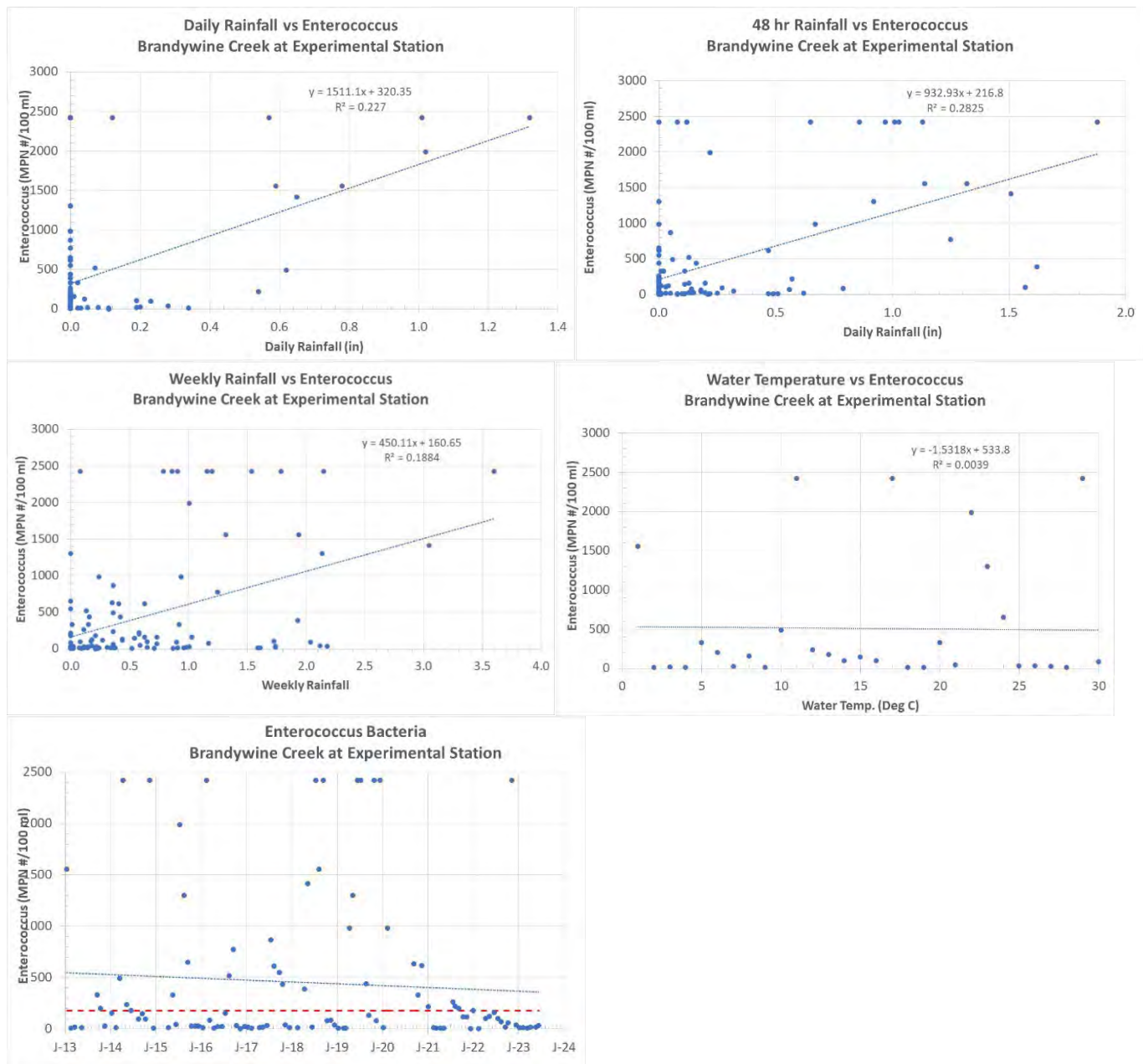


Figure 8. Enterococcus bacteria along Brandywine River at Experimental Station, Jan 16, 2013-Jun 21, 2023 (COW)

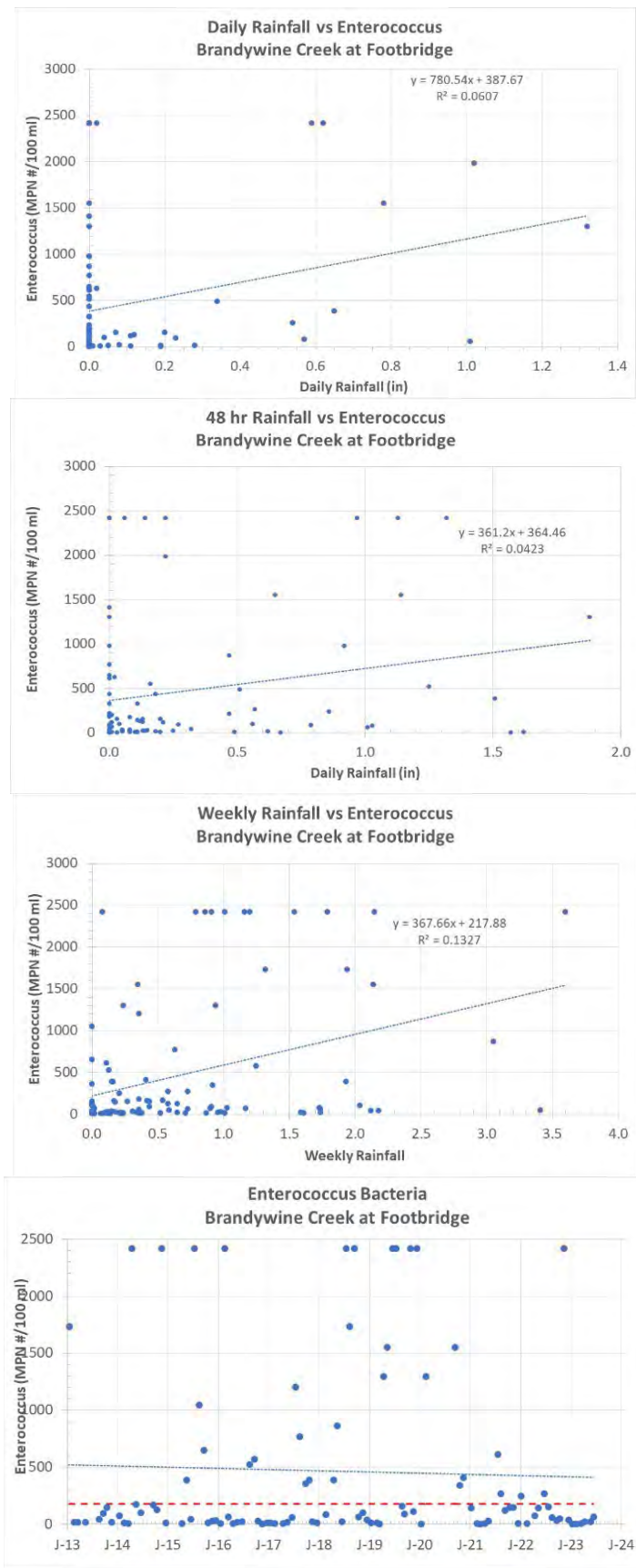


Figure 9. Enterococcus bacteria along the Brandywine River at Footbridge, Jan 16, 2013-Jun 21, 2023 (COW)

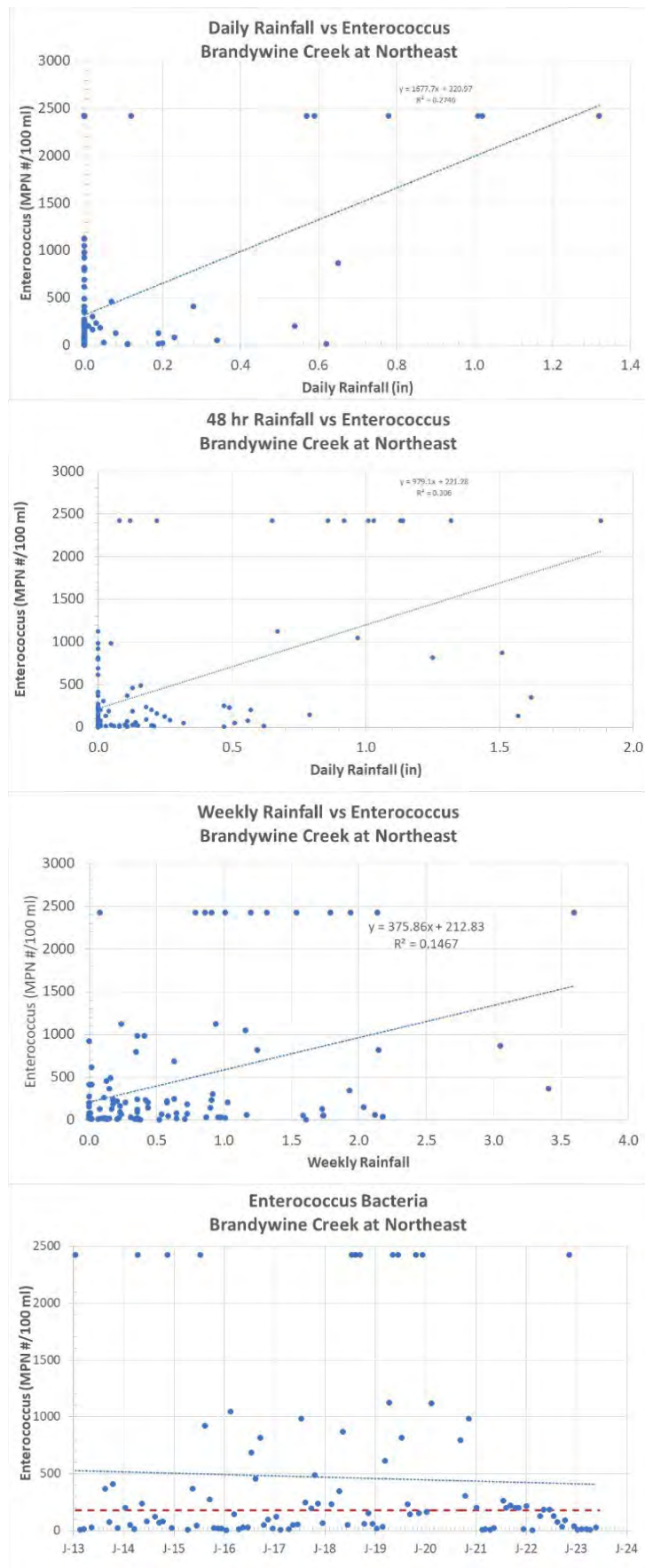


Figure 10. Enterococcus bacteria along the Brandywine River at Northeast, Jan 16, 2013-Jun 21, 2023 (COW)

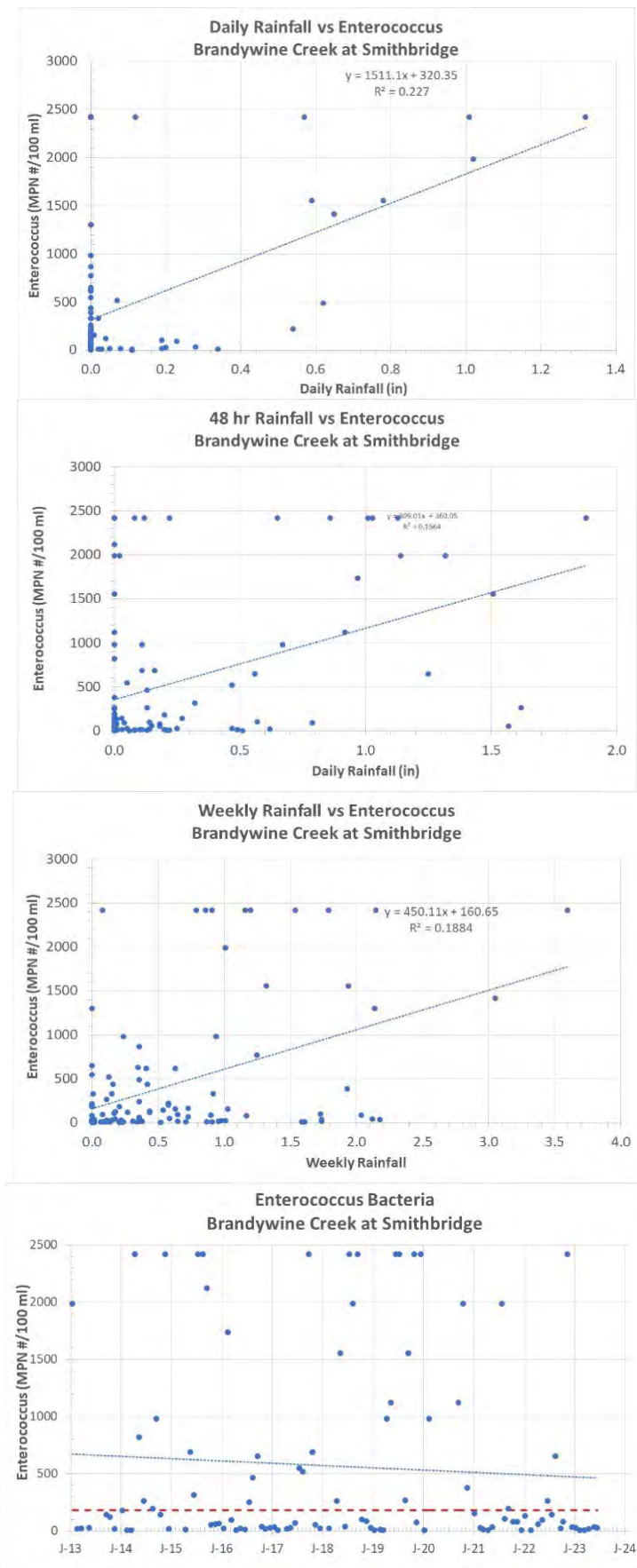


Figure 11. Enterococcus bacteria along the Brandywine River at Smithbridge, Jan 16, 2013-Jun 21, 2023 (COW)

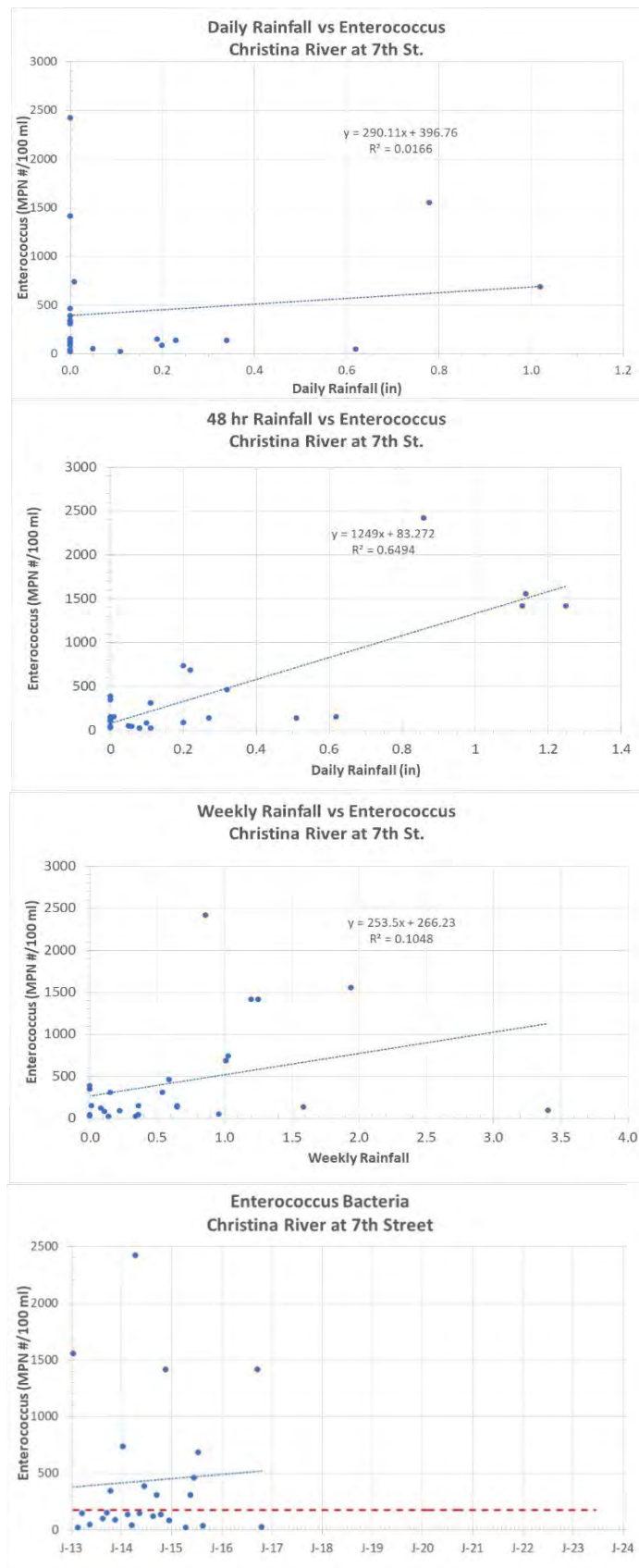


Figure 12. Enterococcus bacteria along the Christine River at 7th Street, (Jul 16, 2013-Jun 21, 2018 (COW))

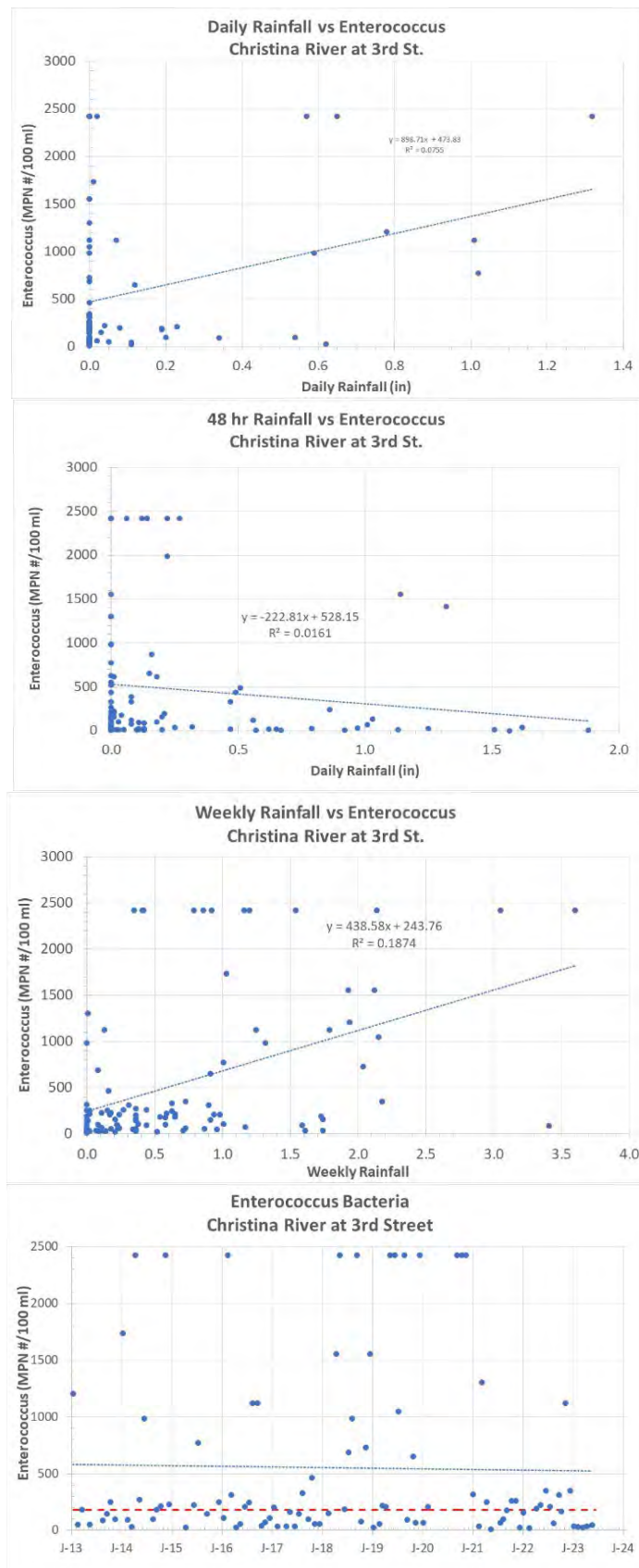


Figure 13. Enterococcus bacteria along the Christina River at 3rd Street, Jul 16, 2013-May 31, 2023 (COW)

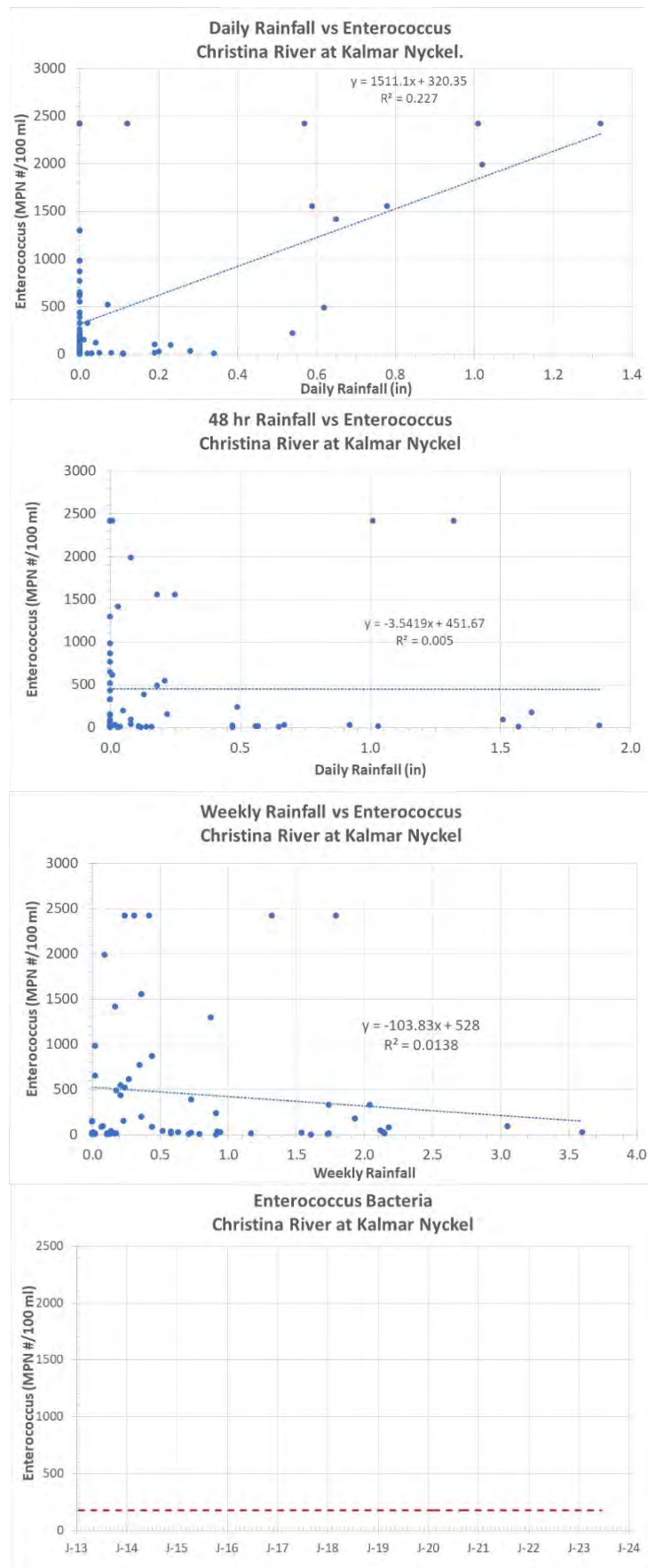


Figure 14. Enterococcus bacteria along the Christina River at Kalmar Nyckel Dock, Jul 16, 2013-Jun 21, 2023 (COW)

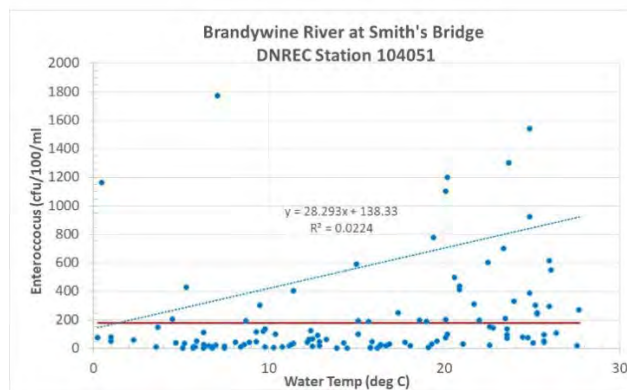
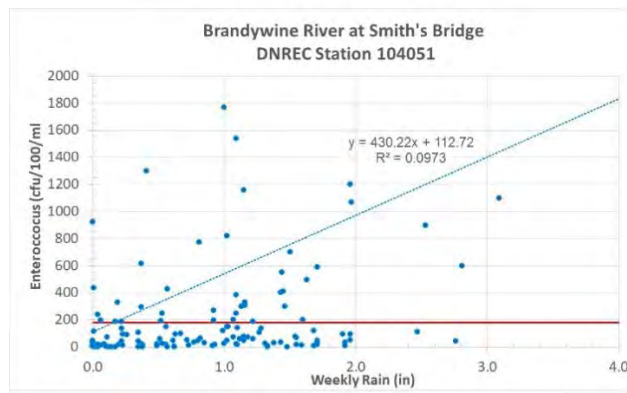
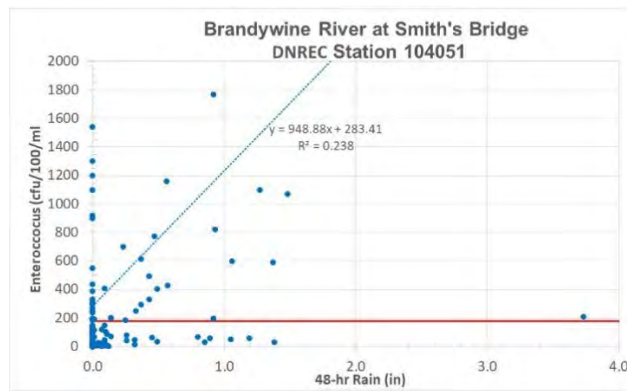
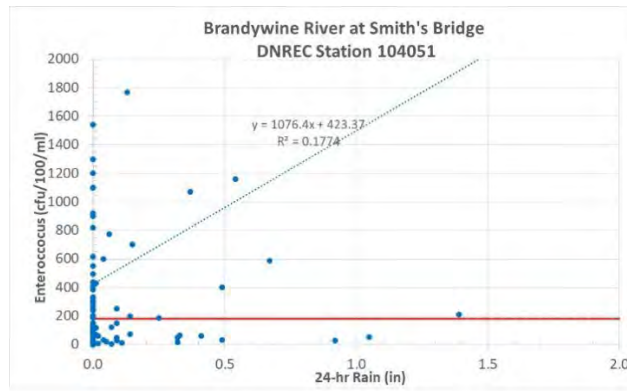


Figure 15. Enterococcus bacteria along Brandywine River at Smith's Bridge, Oct 18, 2005-Dec 18, 2022 (DNREC)

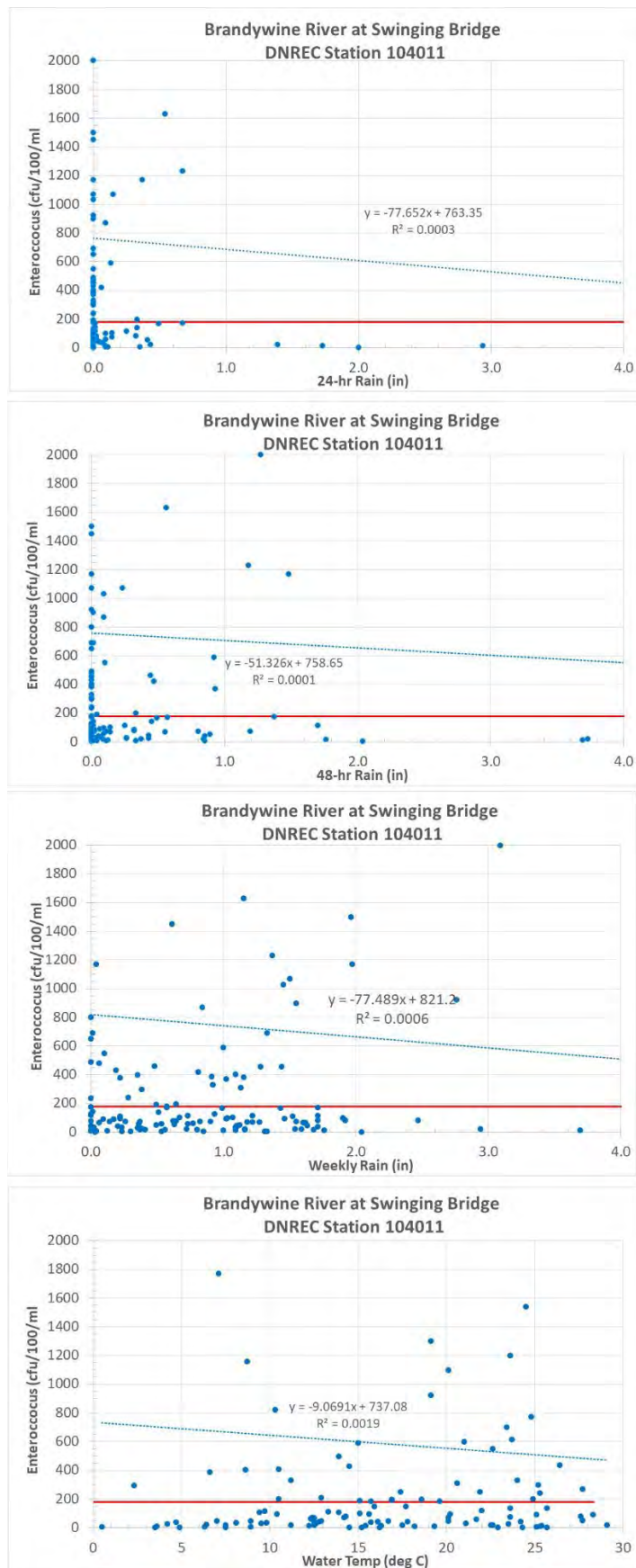


Figure 16. Enterococcus bacteria along Brandywine River at Swinging Bridge, Oct 18, 2005-Dec 18, 2022 (DNREC)

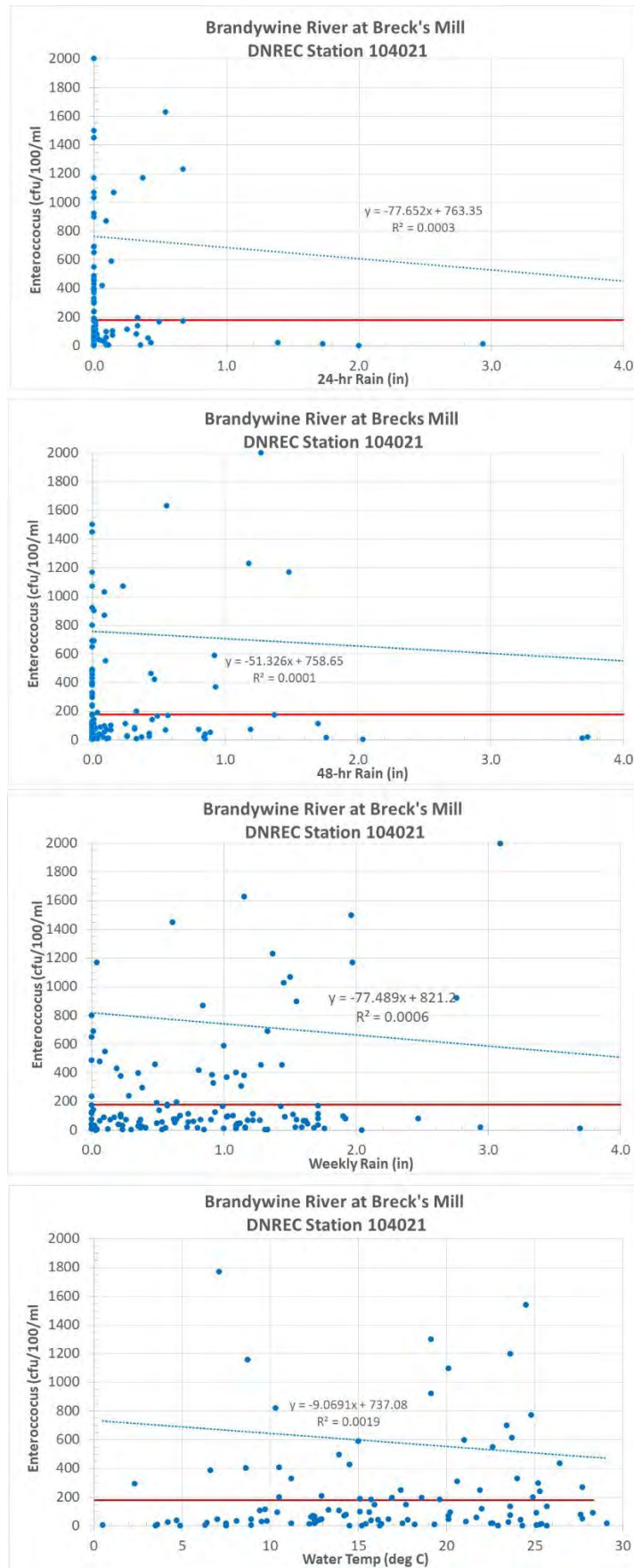


Figure 17. Enterococcus bacteria along the Brandywine River at Brecks Mill, Oct 18, 2005-Dec 18, 2022 (DNRE

Table 3. Enterococcus bacteria along the Brandywine River at Brandywine Park, Jul 2023-Sep 2023 (BRRT)

Station	Result (MPN#/100ml)	Date	24 hr Rain (in)	48 Hr Rain (in)	7 day Rain (in)	Water Temp. (Deg C)	Standard (MPN#/100m)
Brandywine Park	174	24-Jul-23	0.15	0.15	0.80	24.4	180
Brandywine Park	238	25-Jul-23	0.37	0.52	1.17	24.3	180
Brandywine Park	333	31-Jul-23	0.00	0.00	1.12	24.5	180
Brandywine Park	345	01-Aug-23	0.00	0.00	0.75	23.7	180
Brandywine Park	437	02-Aug-23	0.00	0.00	0.75	23.5	180
Brandywine Park	403	03-Aug-23	0.01	0.01	0.76	22.7	180
Brandywine Park	496	07-Aug-23	1.06	1.43	1.50	24.5	180
Brandywine Park	3970	08-Aug-23	0.00	1.06	1.50	23.8	180
Brandywine Park	413	09-Aug-23	0.00	0.00	1.50	24.1	180
Brandywine Park	358	10-Aug-23	0.73	0.73	2.22	23.6	180
Brandywine Park	476	14-Aug-23	0.14	0.14	1.47	24.9	180
Brandywine Park	420	15-Aug-23	0.13	0.27	1.60	25.9	180
Brandywine Park	731	16-Aug-23	0.13	0.26	1.73	26.0	180
Brandywine Park	731	17-Aug-23	0.00	0.13	1.00	25.6	180
Brandywine Park	821	21-Aug-23	0.00	0.00	0.40	24.2	180
Brandywine Park	731	22-Aug-23	0.00	0.00	0.27	24.8	180
Brandywine Park	1230	23-Aug-23	0.00	0.00	0.14	23.2	180
Brandywine Park	821	24-Aug-23	0.03	0.03	0.17	21.9	180
Brandywine Park	334	28-Aug-23	0.00	0.00	0.05	24.4	180
Brandywine Park	403	29-Aug-23	0.00	0.00	0.05	23.8	180
Brandywine Park	1100	30-Aug-23	0.08	0.08	0.13	25.1	180
Brandywine Park	267	31-Aug-23	0.00	0.08	0.10	24.3	180
Brandywine Park	275	05-Sep-23	0.00	0.00	0.08	26.0	180
Brandywine Park	275	06-Sep-23	0.00	0.00	0.00	27.0	180
Brandywine Park	252	07-Sep-23	0.00	0.00	0.00	26.9	180
Brandywine Park	387	11-Sep-23	0.24	0.68	1.08	23.4	180
Brandywine Park	437	12-Sep-23	0.00	0.24	1.08	23.6	180
Brandywine Park	582	13-Sep-23	0.13	0.13	1.21	23.6	180
Brandywine Park	212	14-Sep-23	0.00	0.13	1.21	23.3	180
Brandywine Park	271	18-Sep-23	0.37	0.86	0.99	18.9	180
Brandywine Park	102	19-Sep-23	0.00	0.37	0.99	19.5	180
Brandywine Park	123	20-Sep-23	0.00	0.00	0.86	19.1	180
Brandywine Park	241	21-Sep-23	0.00	0.00	0.86	19.4	180
Brandywine Park	17300	25-Sep-23	0.01	0.90	1.81	17.4	180
Brandywine Park	1050	26-Sep-23	0.05	0.06	1.86	17.0	180
Brandywine Park	257	27-Sep-23	0.00	0.05	1.86	17.1	180
Brandywine Park	225	28-Sep-23	0.00	0.00	1.86	16.3	180

Table 4. Enterococcus bacteria along the Brandywine River at Brecks Mill, Jul 2023-Sep 2023 (BRRT))

Station	Result (MPN#/100ml)	Date	24 hr Rain (in)	48 Hr Rain (in)	7 day Rain (in)	Water Temp. (Deg C)	Standard (MPN#/100m)
Brecks Mill	252	24-Jul-23	0.15	0.15	0.80	24.4	180
Brecks Mill	182	25-Jul-23	0.37	0.52	1.17	24.3	180
Brecks Mill	174	31-Jul-23	0.00	0.00	1.12	24.5	180
Brecks Mill	334	01-Aug-23	0.00	0.00	0.75	23.7	180
Brecks Mill	449	02-Aug-23	0.00	0.00	0.75	23.5	180
Brecks Mill	356	03-Aug-23	0.01	0.01	0.76	22.7	180
Brecks Mill	1230	07-Aug-23	1.06	1.43	1.50	24.5	180
Brecks Mill	4840	08-Aug-23	0.00	1.06	1.50	23.8	180
Brecks Mill	449	09-Aug-23	0.00	0.00	1.50	24.1	180
Brecks Mill	267	10-Aug-23	0.73	0.73	2.22	23.6	180
Brecks Mill	821	14-Aug-23	0.14	0.14	1.47	24.9	180
Brecks Mill	1200	15-Aug-23	0.13	0.27	1.60	25.9	180
Brecks Mill	1540	16-Aug-23	0.13	0.26	1.73	26.0	180
Brecks Mill	1030	17-Aug-23	0.00	0.13	1.00	25.6	180
Brecks Mill	1540	21-Aug-23	0.00	0.00	0.40	24.2	180
Brecks Mill	1540	22-Aug-23	0.00	0.00	0.27	24.8	180
Brecks Mill	1160	23-Aug-23	0.00	0.00	0.14	23.2	180
Brecks Mill	1540	24-Aug-23	0.03	0.03	0.17	21.9	180
Brecks Mill	334	28-Aug-23	0.00	0.00	0.05	24.4	180
Brecks Mill	570	29-Aug-23	0.00	0.00	0.05	23.8	180
Brecks Mill	1540	30-Aug-23	0.08	0.08	0.13	25.1	180
Brecks Mill	496	31-Aug-23	0.00	0.08	0.10	24.3	180
Brecks Mill	297	05-Sep-23	0.00	0.00	0.08	26.0	180
Brecks Mill	186	06-Sep-23	0.00	0.00	0.00	27.0	180
Brecks Mill	357	07-Sep-23	0.00	0.00	0.00	26.9	180
Brecks Mill	775	11-Sep-23	0.24	0.68	1.08	23.4	180
Brecks Mill	656	12-Sep-23	0.00	0.24	1.08	23.6	180
Brecks Mill	1100	13-Sep-23	0.13	0.13	1.21	23.6	180
Brecks Mill	220	14-Sep-23	0.00	0.13	1.21	23.3	180
Brecks Mill	615	18-Sep-23	0.37	0.86	0.99	18.9	180
Brecks Mill	99	19-Sep-23	0.00	0.37	0.99	19.5	180
Brecks Mill	237	20-Sep-23	0.00	0.00	0.86	19.1	180
Brecks Mill	165	21-Sep-23	0.00	0.00	0.86	19.4	180
Brecks Mill	14100	25-Sep-23	0.01	0.90	1.81	17.4	180
Brecks Mill	908	26-Sep-23	0.05	0.06	1.86	17.0	180
Brecks Mill	263	27-Sep-23	0.00	0.05	1.86	17.1	180
Brecks Mill	500	28-Sep-23	0.00	0.00	1.86	16.3	180

Table 5. Enterococcus bacteria along the Brandywine River at Market Street Bridge, Jul 2023-Sep 2023 (BRRT)

Station	Result (MPN#/100ml)	Date	24 hr Rain (in)	48 Hr Rain (in)	7 day Rain (in)	Water Temp. (Deg C)	Standard (MPN#/100m)
Market Street Bridge	570	24-Jul-23	0.15	0.15	0.80	24.4	180
Market Street Bridge	551	25-Jul-23	0.37	0.52	1.17	24.3	180
Market Street Bridge	> 24200	26-Jul-23	0.00	0.00	1.12	24.5	180
Market Street Bridge	381	31-Jul-23	0.00	0.00	0.75	23.7	180
Market Street Bridge	429	01-Aug-23	0.00	0.00	0.75	23.5	180
Market Street Bridge	456	02-Aug-23	0.01	0.01	0.76	22.7	180
Market Street Bridge	403	03-Aug-23	1.06	1.43	1.50	24.5	180
Market Street Bridge	1030	07-Aug-23	0.00	1.06	1.50	23.8	180
Market Street Bridge	3970	08-Aug-23	0.00	0.00	1.50	24.1	180
Market Street Bridge	651	09-Aug-23	0.73	0.73	2.22	23.6	180
Market Street Bridge	1370	10-Aug-23	0.14	0.14	1.47	24.9	180
Market Street Bridge	615	14-Aug-23	0.13	0.27	1.60	25.9	180
Market Street Bridge	794	15-Aug-23	0.13	0.26	1.73	26.0	180
Market Street Bridge	2090	16-Aug-23	0.00	0.13	1.00	25.6	180
Market Street Bridge	821	17-Aug-23	0.00	0.00	0.40	24.2	180
Market Street Bridge	1450	21-Aug-23	0.00	0.00	0.27	24.8	180
Market Street Bridge	977	22-Aug-23	0.00	0.00	0.14	23.2	180
Market Street Bridge	2090	23-Aug-23	0.03	0.03	0.17	21.9	180
Market Street Bridge	2410	24-Aug-23	0.00	0.00	0.05	24.4	180
Market Street Bridge	690	28-Aug-23	0.00	0.00	0.05	23.8	180
Market Street Bridge	731	29-Aug-23	0.08	0.08	0.13	25.1	180
Market Street Bridge	> 4840	30-Aug-23	0.00	0.08	0.10	24.3	180
Market Street Bridge	615	31-Aug-23	0.00	0.00	0.08	26.0	180
Market Street Bridge	496	05-Sep-23	0.00	0.00	0.00	27.0	180
Market Street Bridge	870	06-Sep-23	0.00	0.00	0.00	26.9	180
Market Street Bridge	357	07-Sep-23	0.24	0.68	1.08	23.4	180
Market Street Bridge	775	11-Sep-23	0.00	0.24	1.08	23.6	180
Market Street Bridge	957	12-Sep-23	0.13	0.13	1.21	23.6	180
Market Street Bridge	794	13-Sep-23	0.00	0.13	1.21	23.3	180
Market Street Bridge	177	14-Sep-23	0.37	0.86	0.99	18.9	180
Market Street Bridge	403	18-Sep-23	0.00	0.37	0.99	19.5	180
Market Street Bridge	192	19-Sep-23	0.00	0.00	0.86	19.1	180
Market Street Bridge	158	20-Sep-23	0.00	0.00	0.86	19.4	180
Market Street Bridge	163	21-Sep-23	0.01	0.90	1.81	17.4	180
Market Street Bridge	15500	25-Sep-23	0.05	0.06	1.86	17.0	180
Market Street Bridge	987	26-Sep-23	0.00	0.05	1.86	17.1	180
Market Street Bridge	407	27-Sep-23	0.00	0.00	1.86	16.3	180
Market Street Bridge	209	28-Sep-23	0.9	1.7	3.2	18	180

Table 6. Enterococcus bacteria along the Brandywine River at Northeast Blvd Bridge, Jul 2023-Sep 2023 (BRRT)

Station	Result (MPN#/100ml)	Date	24 hr Rain (in)	48 Hr Rain (in)	7 day Rain (in)	Water Temp. (Deg C)	Standard (MPN#/100m)
Northeast Blvd Bridge	1300	24-Jul-23	0.15	0.15	0.80	24.4	180
Northeast Blvd Bridge	403	25-Jul-23	0.37	0.52	1.17	24.3	180
Northeast Blvd Bridge	6910	26-Jul-23	0.00	0.00	1.12	24.5	180
Northeast Blvd Bridge	157	31-Jul-23	0.00	0.00	0.75	23.7	180
Northeast Blvd Bridge	582	01-Aug-23	0.00	0.00	0.75	23.5	180
Northeast Blvd Bridge	922	02-Aug-23	0.01	0.01	0.76	22.7	180
Northeast Blvd Bridge	551	03-Aug-23	1.06	1.43	1.50	24.5	180
Northeast Blvd Bridge	2240	07-Aug-23	0.00	1.06	1.50	23.8	180
Northeast Blvd Bridge	3970	08-Aug-23	0.00	0.00	1.50	24.1	180
Northeast Blvd Bridge	403	09-Aug-23	0.73	0.73	2.22	23.6	180
Northeast Blvd Bridge	1370	10-Aug-23	0.14	0.14	1.47	24.9	180
Northeast Blvd Bridge	323	14-Aug-23	0.13	0.27	1.60	25.9	180
Northeast Blvd Bridge	521	15-Aug-23	0.13	0.26	1.73	26.0	180
Northeast Blvd Bridge	775	16-Aug-23	0.00	0.13	1.00	25.6	180
Northeast Blvd Bridge	302	17-Aug-23	0.00	0.00	0.40	24.2	180
Northeast Blvd Bridge	1540	21-Aug-23	0.00	0.00	0.27	24.8	180
Northeast Blvd Bridge	1630	22-Aug-23	0.00	0.00	0.14	23.2	180
Northeast Blvd Bridge	1730	23-Aug-23	0.03	0.03	0.17	21.9	180
Northeast Blvd Bridge	1540	24-Aug-23	0.00	0.00	0.05	24.4	180
Northeast Blvd Bridge	181	29-Aug-23	0.00	0.00	0.05	23.8	180
Northeast Blvd Bridge	68	30-Aug-23	0.08	0.08	0.13	25.1	180
Northeast Blvd Bridge	472	31-Aug-23	0.00	0.08	0.10	24.3	180
Northeast Blvd Bridge	372	05-Sep-23	0.00	0.00	0.08	26.0	180
Northeast Blvd Bridge	163	06-Sep-23	0.00	0.00	0.00	27.0	180
Northeast Blvd Bridge	236	07-Sep-23	0.00	0.00	0.00	26.9	180
Northeast Blvd Bridge	597	11-Sep-23	0.24	0.68	1.08	23.4	180
Northeast Blvd Bridge	234	12-Sep-23	0.00	0.24	1.08	23.6	180
Northeast Blvd Bridge	4840	13-Sep-23	0.13	0.13	1.21	23.6	180
Northeast Blvd Bridge	231	14-Sep-23	0.00	0.13	1.21	23.3	180
Northeast Blvd Bridge	821	18-Sep-23	0.37	0.86	0.99	18.9	180
Northeast Blvd Bridge	163	19-Sep-23	0.00	0.37	0.99	19.5	180
Northeast Blvd Bridge	54	20-Sep-23	0.00	0.00	0.86	19.1	180
Northeast Blvd Bridge	775	21-Sep-23	0.00	0.00	0.86	19.4	180
Northeast Blvd Bridge	8660	25-Sep-23	0.01	0.90	1.81	17.4	180
Northeast Blvd Bridge	1860	26-Sep-23	0.05	0.06	1.86	17.0	180
Northeast Blvd Bridge	271	27-Sep-23	0.00	0.05	1.86	17.1	180
Northeast Blvd Bridge	299	28-Sep-23	0.00	0.00	1.86	16.3	180

Table 7. Enterococcus bacteria along the Brandywine River at Smith Bridge, Jul 2023-Sep 2023 (BRRT)

Station	Result (MPN#/100ml)	Date	24 hr Rain (in)	48 Hr Rain (in)	7 day Rain (in)	Water Temp. (Deg C)	Standard (MPN#/100m)
Smith Bridge	656	24-Jul-23	0.15	0.15	0.80	24.4	180
Smith Bridge	300	25-Jul-23	0.37	0.52	1.17	24.3	180
Smith Bridge	690	31-Jul-23	0.00	0.00	1.12	24.5	180
Smith Bridge	428	01-Aug-23	0.00	0.00	0.75	23.7	180
Smith Bridge	615	02-Aug-23	0.00	0.00	0.75	23.5	180
Smith Bridge	235	03-Aug-23	0.01	0.01	0.76	22.7	180
Smith Bridge	1630	07-Aug-23	1.06	1.43	1.50	24.5	180
Smith Bridge	> 4840	08-Aug-23	0.00	1.06	1.50	23.8	180
Smith Bridge	821	09-Aug-23	0.00	0.00	1.50	24.1	180
Smith Bridge	1030	10-Aug-23	0.73	0.73	2.22	23.6	180
Smith Bridge	1160	14-Aug-23	0.14	0.14	1.47	24.9	180
Smith Bridge	1540	15-Aug-23	0.13	0.27	1.60	25.9	180
Smith Bridge	2240	06-Sep-23	0.13	0.26	1.73	26.0	180
Smith Bridge	2240	07-Sep-23	0.00	0.13	1.00	25.6	180
Smith Bridge	1540	11-Sep-23	0.00	0.00	0.40	24.2	180
Smith Bridge	1960	12-Sep-23	0.00	0.00	0.27	24.8	180
Smith Bridge	957	13-Sep-23	0.00	0.00	0.14	23.2	180
Smith Bridge	1450	14-Sep-23	0.03	0.03	0.17	21.9	180
Smith Bridge	3470	18-Sep-23	0.00	0.00	0.05	24.4	180
Smith Bridge	914	19-Sep-23	0.00	0.00	0.05	23.8	180
Smith Bridge	977	20-Sep-23	0.08	0.08	0.13	25.1	180
Smith Bridge	428	21-Sep-23	0.00	0.08	0.10	24.3	180
Smith Bridge	9210	25-Sep-23	0.00	0.00	0.08	26.0	180
Smith Bridge	1140	26-Sep-23	0.00	0.00	0.00	27.0	180
Smith Bridge	275	27-Sep-23	0.00	0.00	0.00	26.9	180
Smith Bridge	356	28-Sep-23	0.24	0.68	1.08	23.4	180

Table 8. Enterococcus bacteria along the Brandywine River at Thompson Bridge, Jul 2023-Sep 2023 (BRRT))

Station	Result (MPN#/100ml)	Date	24 hr Rain (in)	48 Hr Rain (in)	7 day Rain (in)	Water Temp. (Deg C)	Standard (MPN#/100m)
Thompsons Bridge	242	24-Jul-23	0.15	0.15	0.80	24.4	180
Thompsons Bridge	119	25-Jul-23	0.37	0.52	1.17	24.3	180
Thompsons Bridge	325	31-Jul-23	0.00	0.00	1.12	24.5	180
Thompsons Bridge	476	02-Aug-23	0.00	0.00	0.75	23.7	180
Thompsons Bridge	288	03-Aug-23	0.00	0.00	0.75	23.5	180
Thompsons Bridge	922	07-Aug-23	0.01	0.01	0.76	22.7	180
Thompsons Bridge	4840	08-Aug-23	1.06	1.43	1.50	24.5	180
Thompsons Bridge	498	09-Aug-23	0.00	1.06	1.50	23.8	180
Thompsons Bridge	821	10-Aug-23	0.00	0.00	1.50	24.1	180
Thompsons Bridge	570	14-Aug-23	0.73	0.73	2.22	23.6	180
Thompsons Bridge	977	15-Aug-23	0.14	0.14	1.47	24.9	180
Thompsons Bridge	3970	16-Aug-23	0.13	0.27	1.60	25.9	180
Thompsons Bridge	1540	17-Aug-23	0.13	0.26	1.73	26.0	180
Thompsons Bridge	1200	21-Aug-23	0.00	0.13	1.00	25.6	180
Thompsons Bridge	2090	22-Aug-23	0.00	0.00	0.40	24.2	180
Thompsons Bridge	1730	23-Aug-23	0.00	0.00	0.27	24.8	180
Thompsons Bridge	3470	24-Aug-23	0.00	0.00	0.14	23.2	180
Thompsons Bridge	1450	28-Aug-23	0.03	0.03	0.17	21.9	180
Thompsons Bridge	870	29-Aug-23	0.00	0.00	0.05	24.4	180
Thompsons Bridge	2410	30-Aug-23	0.00	0.00	0.05	23.8	180
Thompsons Bridge	1540	31-Aug-23	0.08	0.08	0.13	25.1	180
Thompsons Bridge	870	05-Sep-23	0.00	0.08	0.10	24.3	180
Thompsons Bridge	1450	06-Sep-23	0.00	0.00	0.08	26.0	180
Thompsons Bridge	1450	07-Sep-23	0.00	0.00	0.00	27.0	180
Thompsons Bridge	2830	11-Sep-23	0.00	0.00	0.00	26.9	180
Thompsons Bridge	977	12-Sep-23	0.24	0.68	1.08	23.4	180
Thompsons Bridge	722	13-Sep-23	0.00	0.24	1.08	23.6	180
Thompsons Bridge	398	14-Sep-23	0.13	0.13	1.21	23.6	180
Thompsons Bridge	1230	18-Sep-23	0.00	0.13	1.21	23.3	180
Thompsons Bridge	421	19-Sep-23	0.37	0.86	0.99	18.9	180
Thompsons Bridge	775	20-Sep-23	0.00	0.37	0.99	19.5	180
Thompsons Bridge	297	21-Sep-23	0.00	0.00	0.86	19.1	180
Thompsons Bridge	19900	25-Sep-23	0.00	0.00	0.86	19.4	180
Thompsons Bridge	1170	26-Sep-23	0.01	0.90	1.81	17.4	180
Thompsons Bridge	356	27-Sep-23	0.05	0.06	1.86	17.0	180
Thompsons Bridge	977	28-Sep-23	0.00	0.05	1.86	17.1	180

Table 9. Enterococcus bacteria along the Brandywine River at Northeast Wilmington, Jan 2013-Jun 2023 (COW)

Station	Date	24 hr Rain (in)	48 hr Rain (in)	Week Rain (in)	Swim Standard	Enterococci (MPN #/100mL)	Water Temp (Deg C)
Brandywine Creek at Northeast	1/16/2013	0.78	1.14	1.94	180	2420	6
Brandywine Creek at Northeast	2/20/2013	0.11	0.11	0.34	180	7	3.3
Brandywine Creek at Northeast	3/20/2013	0.19	0.62	0.65	180	12	5.7
Brandywine Creek at Northeast	5/15/2013	0.05	0.05	0.96	180	26	16.6
Brandywine Creek at Northeast	8/21/2013	0.00	0	3.41	180	365	24.3
Brandywine Creek at Northeast	9/18/2013	0.00	0.01	0.01	180	75	18.2
Brandywine Creek at Northeast	10/16/2013	0.00	0	0	180	411	17
Brandywine Creek at Northeast	11/20/2013	0.20	0.2	0.22	180	22	8.4
Brandywine Creek at Northeast	1/15/2014	0.01	0.2	1.03	180	201	16.9
Brandywine Creek at Northeast	2/19/2014	0.34	0.51	1.59	180	48	21.5
Brandywine Creek at Northeast	3/19/2014	0.62	0.06	0.36	180	10	7.1
Brandywine Creek at Northeast	4/16/2014	0.00	0.86	0.86	180	2420	11.1
Brandywine Creek at Northeast	5/14/2014	0.00	0	0.36	180	236	17.7
Brandywine Creek at Northeast	6/18/2014	0.00	0	0	180	78	
Brandywine Creek at Northeast	8/20/2014	0.00	0	0.08	180	123	25.7
Brandywine Creek at Northeast	9/18/2014	0.00	0.11	0.54	180	68	19.1
Brandywine Creek at Northeast	10/15/2014	0.23	0.27	0.65	180	79	18.5
Brandywine Creek at Northeast	11/19/2014	0.00	1.13	1.2	180	2420	3.4
Brandywine Creek at Northeast	12/17/2014	0.00	0.10	0.11	180	23	6.8
Brandywine Creek at Northeast	4/15/2015	0.00	0.08	0.14	180	7	13.7
Brandywine Creek at Northeast	5/20/2015	0.00	0.11	0.15	180	365	19.8
Brandywine Creek at Northeast	6/17/2015	0.00	0.32	0.59	180	44	25.7
Brandywine Creek at Northeast	7/15/2015	1.02	0.22	1.01	180	2420	24.4
Brandywine Creek at Northeast	8/19/2015	0.00	0.00	0.00	180	921	27.7
Brandywine Creek at Northeast	9/21/2015	0.00	0.00	0.00	180	272	21.2
Brandywine Creek at Northeast	10/21/2015	0.00	0.00	0.00	180	20	10.9
Brandywine Creek at Northeast	11/18/2015	0.00	0.00	0.11	180	18	9.3
Brandywine Creek at Northeast	12/16/2015	0.00	0.15	0.15	180	17	10.8
Brandywine Creek at Northeast	1/20/2016	0.00	0.00	0.38	180	N/A	N/A
Brandywine Creek at Northeast	2/17/2016	0.00	0.97	1.16	180	1046	3.3
Brandywine Creek at Northeast	3/16/2016	0.00	0.79	0.90	180	142	9.4
Brandywine Creek at Northeast	4/20/2016	0.00	0.00	0.00	180	13	16.9
Brandywine Creek at Northeast	5/18/2016	0.00	0.14	0.36	180	25	14.2
Brandywine Creek at Northeast	6/22/2016	0.00	0.13	0.98	180	26	24.4
Brandywine Creek at Northeast	7/20/2016	0.00	0.00	0.63	180	687	24.4
Brandywine Creek at Northeast	8/17/2016	0.07	0.13	0.13	180	457	31.0
Brandywine Creek at Northeast	9/21/2016	0.00	1.25	1.25	180	816	22.0
Brandywine Creek at Northeast	10/19/2016	0.00	0.00	0.00	180	49	18.5
Brandywine Creek at Northeast	11/16/2016	0.00	0.00	0.23	180	93	9.40
Brandywine Creek at Northeast	12/21/2016	0.00	0.00	1.01	180	19	1.5
Brandywine Creek at Northeast	1/18/2017	0.08	0.25	0.36	180	122	6.5
Brandywine Creek at Northeast	2/15/2017	0.00	0.00	0.71	180	6	5.4
Brandywine Creek at Northeast	4/19/2017	0.00	0.11	0.11	180	12	16.5
Brandywine Creek at Northeast	5/17/2017	0.00	0.00	1.74	180	50	N/A
Brandywine Creek at Northeast	6/21/2017	0.00	0.00	1.74	180	52	N/A
Brandywine Creek at Northeast	7/19/2017	0.00	0.05	0.36	180	980	27.6
Brandywine Creek at Northeast	8/16/2017	0.00	0.47	0.63	180	248	23.7
Brandywine Creek at Northeast	9/27/2017	0.00	0.00	0.00	180	196	24.3
Brandywine Creek at Northeast	10/25/2017	0.00	0.16	0.16	180	488	17.4
Brandywine Creek at Northeast	11/15/2017	0.00	0.18	0.18	180	236	6.9
Brandywine Creek at Northeast	12/20/2017	0.00	0.00	0.24	180	65	4.0
Brandywine Creek at Northeast	2/21/2018	0.03	0.49	0.91	180	231	11.3
Brandywine Creek at Northeast	4/18/2018	0.00	1.62	1.93	180	345	8.1
Brandywine Creek at Northeast	5/16/2018	0.65	1.51	3.05	180	866	19.7
Brandywine Creek at Northeast	6/20/2018	0.00	0.00	0.00	180	47	24.1

Brandywine Creek at Northeast	7/18/2018	0.00	0.08	0.08	180	2420	24.1
Brandywine Creek at Northeast	8/15/2018	0.59	1.32	1.32	180	2420	23.1
Brandywine Creek at Northeast	9/19/2018	0.00	0.65	0.79	180	2420	21.6
Brandywine Creek at Northeast	10/17/2018	0.00	0.14	1.17	180	56	14.3
Brandywine Creek at Northeast	11/19/2018	0.00	0.00	2.04	180	150	7.6
Brandywine Creek at Northeast	12/19/2018	0.00	0.00	2.12	180	58	4.9
Brandywine Creek at Northeast	1/16/2019	0.00	0.08	0.09	180	19	2.4
Brandywine Creek at Northeast	2/28/2019	0.00	0.00	0.87	180	31	5.1
Brandywine Creek at Northeast	3/20/2019	0.00	0.00	0.02	180	613	7.7
Brandywine Creek at Northeast	4/16/2019	0.00	0.67	0.94	180	1120	13.6
Brandywine Creek at Northeast	5/15/2019	0.00	0.92	2.14	180	2420	13.8
Brandywine Creek at Northeast	6/20/2019	1.32	1.88	3.60	180	2420	23
Brandywine Creek at Northeast	7/17/2019	0.00	0.00	2.15	180	816	26.8
Brandywine Creek at Northeast	8/28/2019	0.00	0.00	0.42	180	230	20.4
Brandywine Creek at Northeast	9/18/2019	0.00	0.00	0.44	180	143	21.2
Brandywine Creek at Northeast	10/31/2019	0.12	0.12	0.91	180	2420	17.2
Brandywine Creek at Northeast	11/20/2019	0.00	0.00	0.00	180	154	7.5
Brandywine Creek at Northeast	12/18/2019	0.57	1.03	1.54	180	2420	3.8
Brandywine Creek at Northeast	1/15/2020	0.02	0.22	0.23	180	161	8.0
Brandywine Creek at Northeast	2/19/2020	0.00	0.00	0.24	180	1120	6.6
Brandywine Creek at Northeast	9/16/2020	0.00	0.00	0.35	180	792	20.4
Brandywine Creek at Northeast	10/21/2020	0.02	0.02	0.92	180	303	15.8
Brandywine Creek at Northeast	11/19/2020	0.00	0.00	0.41	180	980	6.1
Brandywine Creek at Northeast	1/13/2021	0.00	0.00	0.00	180	198	3.4
Brandywine Creek at Northeast	2/24/2021	0.00	0.47	1.61	180	4	5
Brandywine Creek at Northeast	3/17/2021	0.00	0.01	0.01	180	13	5.8
Brandywine Creek at Northeast	4/21/2021	0.00	0.00	0.02	180	6	16.3
Brandywine Creek at Northeast	5/19/2021	0.00	0.00	0.00	180	23	21.2
Brandywine Creek at Northeast	7/28/2021	0.00	0.00	0.11	180	261	26.2
Brandywine Creek at Northeast	8/18/2021	0.54	0.57	0.58	180	201	25.4
Brandywine Creek at Northeast	9/15/2021	0.00	0.00	0.58	180	219	23.8
Brandywine Creek at Northeast	10/20/2021	0.00	0.00	0.44	180	201	14.8
Brandywine Creek at Northeast	11/17/2021	0.00	0.01	0.27	180	201	14.8
Brandywine Creek at Northeast	12/20/2021	0.11	0.21	0.21	180	11	5.5
Brandywine Creek at Northeast	1/12/2022	0.00	0.00	0.21	180	214	0.9
Brandywine Creek at Northeast	2/24/2022	0.00	0.08	0.52	180	3	7.4
Brandywine Creek at Northeast	4/20/2022	0.19	1.57	1.73	180	127	9.8
Brandywine Creek at Northeast	5/18/2022	0.04	0.04	0.18	180	184	18.8
Brandywine Creek at Northeast	6/29/2022	0.00	0.13	0.73	180	184	24.7
Brandywine Creek at Northeast	7/27/2022	0.00	0.03	0.17	180	129	26.2
Brandywine Creek at Northeast	8/24/2022	0.00	0.56	0.73	180	73	25.4
Brandywine Creek at Northeast	9/28/2022	0.00	0.01	0.31	180	32	18.4
Brandywine Creek at Northeast	10/19/2022	0.00	0.18	0.36	180	91	12.2
Brandywine Creek at Northeast	11/16/2022	1.01	1.01	1.79	180	2420	8.6
Brandywine Creek at Northeast	12/21/2022	0.00	0.00	2.18	180	38	3.3
Brandywine Creek at Northeast	1/18/2023	0.00	0.00	0.07	180	6	5.0
Brandywine Creek at Northeast	2/15/2023	0.00	0.00	0.14	180	13	7.8
Brandywine Creek at Northeast	3/22/2023	0.00	0.00	0.02	180	14	9.1
Brandywine Creek at Northeast	4/19/2023	0.00	0.03	0.13	180	9	15.5
Brandywine Creek at Northeast	5/31/2023	0.00	0.00	0.00	180	26	20.8
Brandywine Creek at Northeast	6/21/2023	0.28	0.00	0.02	180	411	21.2

Table 10. Enterococcus bacteria along the Brandywine River at Smiths Bridge, Jan 2013-Jun 2023 (COW)

Station	Date	24 hr Rain (in)	48 hr Rain (in)	Week Rain (in)	Swim Standard	Enterococci (MPN #/100mL)	Water Temp (Deg C)
Brandywine Creek at Smith Bridge	1/16/2013	0.78	1.14	1.94	180	1986	6.9
Brandywine Creek at Smith Bridge	2/20/2013	0.11	0.11	0.34	180	15	2.8
Brandywine Creek at Smith Bridge	3/20/2013	0.19	0.62	0.65	180	18	6.5
Brandywine Creek at Smith Bridge	5/15/2013	0.05	0.05	0.96	180	27	15.8
Brandywine Creek at Smith Bridge	9/18/2013	0.00	0.01	0.01	180	138	15.5
Brandywine Creek at Smith Bridge	10/16/2013	0.00	0	0	180	119	14.8
Brandywine Creek at Smith Bridge	11/20/2013	0.20	0.2	0.22	180	12	7
Brandywine Creek at Smith Bridge	1/15/2014	0.01	0.2	1.03	180	178	16.1
Brandywine Creek at Smith Bridge	2/19/2014	0.34	0.51	1.59	180	2	19.1
Brandywine Creek at Smith Bridge	3/19/2014	0.62	0.06	0.36	180	4	8.1
Brandywine Creek at Smith Bridge	4/16/2014	0.00	0.86	0.86	180	2420	9.8
Brandywine Creek at Smith Bridge	5/14/2014	0.00	0	0.36	180	816	16.8
Brandywine Creek at Smith Bridge	6/18/2014	0.00	0	0	180	260	
Brandywine Creek at Smith Bridge	8/20/2014	0.00	0	0.08	180	192	21.9
Brandywine Creek at Smith Bridge	9/18/2014	0.00	0.11	0.54	180	980	16.5
Brandywine Creek at Smith Bridge	10/15/2014	0.23	0.27	0.65	180	139	18.4
Brandywine Creek at Smith Bridge	11/19/2014	0.00	1.13	1.2	180	2420	2.7
Brandywine Creek at Smith Bridge	12/17/2014	0.00	0.10	0.11	180	14	6.1
Brandywine Creek at Smith Bridge	4/15/2015	0.00	0.08	0.14	180	8	12.6
Brandywine Creek at Smith Bridge	5/20/2015	0.00	0.11	0.15	180	687	19.1
Brandywine Creek at Smith Bridge	6/17/2015	0.00	0.32	0.59	180	313	23.7
Brandywine Creek at Smith Bridge	7/15/2015	1.02	0.22	1.01	180	2420	22.8
Brandywine Creek at Smith Bridge	8/19/2015	0.00	0.00	0.00	180	2420	25.7
Brandywine Creek at Smith Bridge	9/21/2015	0.00	0.00	0.00	180	2120	19.3
Brandywine Creek at Smith Bridge	10/21/2015	0.00	0.00	0.00	180	53	10.1
Brandywine Creek at Smith Bridge	11/18/2015	0.00	0.00	0.11	180	56	8.9
Brandywine Creek at Smith Bridge	12/16/2015	0.00	0.15	0.15	180	61	11.1
Brandywine Creek at Smith Bridge	1/20/2016	0.00	0.00	0.38	180	19	-0.1
Brandywine Creek at Smith Bridge	2/17/2016	0.00	0.97	1.16	180	1733	3.4
Brandywine Creek at Smith Bridge	3/16/2016	0.00	0.79	0.90	180	91	8.9
Brandywine Creek at Smith Bridge	4/20/2016	0.00	0.00	0.00	180	6	15
Brandywine Creek at Smith Bridge	5/18/2016	0.00	0.14	0.36	180	18	13.4
Brandywine Creek at Smith Bridge	6/22/2016	0.00	0.13	0.98	180	11	23.5
Brandywine Creek at Smith Bridge	7/20/2016	0.00	0.00	0.63	180	248	23.3
Brandywine Creek at Smith Bridge	8/17/2016	0.07	0.13	0.13	180	461	27.3
Brandywine Creek at Smith Bridge	9/21/2016	0.00	1.25	1.25	180	649	21.6
Brandywine Creek at Smith Bridge	10/19/2016	0.00	0.00	0.00	180	37	17.7
Brandywine Creek at Smith Bridge	11/16/2016	0.00	0.00	0.23	180	12	7.70
Brandywine Creek at Smith Bridge	12/21/2016	0.00	0.00	1.01	180	25	0.6
Brandywine Creek at Smith Bridge	1/18/2017	0.08	0.25	0.36	180	29	6.6
Brandywine Creek at Smith Bridge	2/15/2017	0.00	0.00	0.71	180	5	5.2
Brandywine Creek at Smith Bridge	4/19/2017	0.00	0.11	0.11	180	14	15.2
Brandywine Creek at Smith Bridge	5/17/2017	0.00	0.00	1.74	180	24	18.7
Brandywine Creek at Smith Bridge	6/21/2017	0.00	0.00	1.74	180	66	N/A
Brandywine Creek at Smith Bridge	7/19/2017	0.00	0.05	0.36	180	548	25.1
Brandywine Creek at Smith Bridge	8/16/2017	0.00	0.47	0.63	180	517	21.9
Brandywine Creek at Smith Bridge	9/27/2017	0.00	0.00	0.00	180	2420	22.3
Brandywine Creek at Smith Bridge	10/25/2017	0.00	0.16	0.16	180	687	16.1
Brandywine Creek at Smith Bridge	11/15/2017	0.00	0.18	0.18	180	53	7.1
Brandywine Creek at Smith Bridge	12/20/2017	0.00	0.00	0.24	180	21	5.1
Brandywine Creek at Smith Bridge	2/21/2018	0.03	0.49	0.91	180	17	10.5
Brandywine Creek at Smith Bridge	4/18/2018	0.00	1.62	1.93	180	261	7.1
Brandywine Creek at Smith Bridge	5/16/2018	0.65	1.51	3.05	180	1553	19.3
Brandywine Creek at Smith Bridge	6/20/2018	0.00	0.00	0.00	180	35	22.2
Brandywine Creek at Smith Bridge	7/18/2018	0.00	0.08	0.08	180	2420	23.2
Brandywine Creek at Smith Bridge	8/15/2018	0.59	1.32	1.32	180	1986	22.0
Brandywine Creek at Smith Bridge	9/19/2018	0.00	0.65	0.79	180	2420	20.6
Brandywine Creek at Smith Bridge	10/17/2018	0.00	0.14	1.17	180	98	13.4
Brandywine Creek at Smith Bridge	11/19/2018	0.00	0.00	2.04	180	84	7.5
Brandywine Creek at Smith Bridge	12/19/2018	0.00	0.00	2.12	180	27	4.4
Brandywine Creek at Smith Bridge	1/16/2019	0.00	0.08	0.09	180	6	2.9
Brandywine Creek at Smith Bridge	2/28/2019	0.00	0.00	0.87	180	11	5.2

Brandywine Creek at Smith Bridge	3/20/2019	0.00	0.00	0.02	180	2	6.9
Brandywine Creek at Smith Bridge	4/16/2019	0.00	0.67	0.94	180	980	11.9
Brandywine Creek at Smith Bridge	5/15/2019	0.00	0.92	2.14	180	1120	12.6
Brandywine Creek at Smith Bridge	6/20/2019	1.32	1.88	3.60	180	2420	22.2
Brandywine Creek at Smith Bridge	7/17/2019	0.00	0.00	2.15	180	2420	24.2
Brandywine Creek at Smith Bridge	8/28/2019	0.00	0.00	0.42	180	266	19.5
Brandywine Creek at Smith Bridge	9/18/2019	0.00	0.00	0.44	180	1553	19.3
Brandywine Creek at Smith Bridge	10/31/2019	0.12	0.12	0.91	180	2420	16.6
Brandywine Creek at Smith Bridge	11/20/2019	0.00	0.00	0.00	180	74	7.5
Brandywine Creek at Smith Bridge	12/18/2019	0.57	1.03	1.54	180	2420	3.4
Brandywine Creek at Smith Bridge	1/15/2020	0.02	0.22	0.23	180	5	7.5
Brandywine Creek at Smith Bridge	2/19/2020	0.00	0.00	0.24	180	980	7.1
Brandywine Creek at Smith Bridge	9/16/2020	0.00	0.00	0.35	180	1120	16.5
Brandywine Creek at Smith Bridge	10/21/2020	0.02	0.02	0.92	180	1986	15.7
Brandywine Creek at Smith Bridge	11/19/2020	0.00	0.00	0.41	180	376	4.6
Brandywine Creek at Smith Bridge	1/13/2021	0.00	0.00	0.00	180	152	3.1
Brandywine Creek at Smith Bridge	2/24/2021	0.00	0.47	1.61	180	25	4.8
Brandywine Creek at Smith Bridge	3/17/2021	0.00	0.01	0.01	180	7	5.6
Brandywine Creek at Smith Bridge	4/21/2021	0.00	0.00	0.02	180	6	15
Brandywine Creek at Smith Bridge	5/19/2021	0.00	0.00	0.00	180	31	17.6
Brandywine Creek at Smith Bridge	7/28/2021	0.00	0.00	0.11	180	1986	24.3
Brandywine Creek at Smith Bridge	8/18/2021	0.54	0.57	0.58	180	105	24.5
Brandywine Creek at Smith Bridge	9/15/2021	0.00	0.00	0.58	180	189	22.0
Brandywine Creek at Smith Bridge	10/20/2021	0.00	0.00	0.44	180	78	12.7
Brandywine Creek at Smith Bridge	11/17/2021	0.00	0.01	0.27	180	78	12.7
Brandywine Creek at Smith Bridge	12/20/2021	0.11	0.21	0.21	180	6	4.3
Brandywine Creek at Smith Bridge	1/12/2022	0.00	0.00	0.21	180	131	0.9
Brandywine Creek at Smith Bridge	2/24/2022	0.00	0.08	0.52	180	5	7.0
Brandywine Creek at Smith Bridge	4/20/2022	0.19	1.57	1.73	180	55	8.3
Brandywine Creek at Smith Bridge	5/18/2022	0.04	0.04	0.18	180	94	16.8
Brandywine Creek at Smith Bridge	6/29/2022	0.00	0.13	0.73	180	261	21.3
Brandywine Creek at Smith Bridge	7/27/2022	0.00	0.03	0.17	180	140	24.1
Brandywine Creek at Smith Bridge	8/24/2022	0.00	0.56	0.73	180	649	23.7
Brandywine Creek at Smith Bridge	9/28/2022	0.00	0.01	0.31	180	20	16.0
Brandywine Creek at Smith Bridge	10/19/2022	0.00	0.18	0.36	180	78	11.1
Brandywine Creek at Smith Bridge	11/16/2022	1.01	1.01	1.79	180	2420	8.0
Brandywine Creek at Smith Bridge	12/21/2022	0.00	0.00	2.18	180	30	2.9
Brandywine Creek at Smith Bridge	1/18/2023	0.00	0.00	0.07	180	24	5.0
Brandywine Creek at Smith Bridge	2/15/2023	0.00	0.00	0.14	180	6	7.5
Brandywine Creek at Smith Bridge	3/22/2023	0.00	0.00	0.02	180	5	7.7
Brandywine Creek at Smith Bridge	4/19/2023	0.00	0.03	0.13	180	13	13.6
Brandywine Creek at Smith Bridge	5/31/2023	0.00	0.00	0.00	180	31	18.2
Brandywine Creek at Smith Bridge	6/21/2023	0.28	0.00	0.02	180	22	21.0

Table 11. Enterococcus bacteria along the Christine River at 7th Street Peninsula, Jan 2013-Oct 2016 (COW)

Station	Date	24 hr Rain (in)	48 hr Rain (in)	Week Rain (in)	Swim Standard	Enterococci (MPN #/100mL)	Water Temp (Deg C)
Christina River - 7th St. Peninsula	1/16/2013	0.78	1.14	1.94	180	1553	6
Christina River - 7th St. Peninsula	2/20/2013	0.11	0.11	0.34	180	22	2.4
Christina River - 7th St. Peninsula	3/20/2013	0.19	0.62	0.65	180	148	5.8
Christina River - 7th St. Peninsula	5/15/2013	0.05	0.05	0.96	180	50	19
Christina River - 7th St. Peninsula	8/21/2013	0.00	0	3.41	180	99	26.6
Christina River - 7th St. Peninsula	9/18/2013	0.00	0.01	0.01	180	152	22.2
Christina River - 7th St. Peninsula	10/16/2013	0.00	0	0	180	345	18.3
Christina River - 7th St. Peninsula	11/20/2013	0.20	0.2	0.22	180	88	9.8
Christina River - 7th St. Peninsula	1/15/2014	0.01	0.2	1.03	180	737	15.8
Christina River - 7th St. Peninsula	2/19/2014	0.34	0.51	1.59	180	135	20.5
Christina River - 7th St. Peninsula	3/19/2014	0.62	0.06	0.36	180	43	7.5
Christina River - 7th St. Peninsula	4/16/2014	0.00	0.86	0.86	180	2420	6.7
Christina River - 7th St. Peninsula	5/14/2014	0.00	0	0.36	180	150	19
Christina River - 7th St. Peninsula	6/18/2014	0.00	0	0	180	387	
Christina River - 7th St. Peninsula	8/20/2014	0.00	0	0.08	180	120	25.4
Christina River - 7th St. Peninsula	9/18/2014	0.00	0.11	0.54	180	308	23.2
Christina River - 7th St. Peninsula	10/15/2014	0.23	0.27	0.65	180	135	19.9
Christina River - 7th St. Peninsula	11/19/2014	0.00	1.13	1.2	180	1414	7.3
Christina River - 7th St. Peninsula	12/17/2014	0.00	0.10	0.11	180	84	6.7
Christina River - 7th St. Peninsula	4/15/2015	0.00	0.08	0.14	180	21	13.3
Christina River - 7th St. Peninsula	5/20/2015	0.00	0.11	0.15	180	308	21.5
Christina River - 7th St. Peninsula	6/17/2015	0.00	0.32	0.59	180	461	27.1
Christina River - 7th St. Peninsula	7/15/2015	1.02	0.22	1.01	180	687	25.5
Christina River - 7th St. Peninsula	8/19/2015	0.00	0.00	0.00	180	40	28.2
Christina River - 7th St. Peninsula	9/21/2016	0.00	1.25	1.25	180	1414	24.3
Christina River - 7th St. Peninsula	10/19/2016	0.00	0.00	0.00	180	28	13.8

Table 12. Enterococcus bacteria along the Christina River at 3rd Street Bridge, Jan 2013-May 2023 (COW)

Station	Date	24 hr Rain (in)	48 hr Rain (in)	Week Rain (in)	Swim Standard	Enterococci (MPN (#/100mL))	Water Temp (Deg C)
Christina River at 3rd St. Bridge	1/16/2013	0.78	1.14	1.94	180	1203	5.9
Christina River at 3rd St. Bridge	2/20/2013	0.11	0.11	0.34	180	47	2.1
Christina River at 3rd St. Bridge	3/20/2013	0.19	0.62	0.65	180	178	7.6
Christina River at 3rd St. Bridge	5/15/2013	0.05	0.05	0.96	180	48	19.4
Christina River at 3rd St. Bridge	8/21/2013	0.00	0	3.41	180	84	27.2
Christina River at 3rd St. Bridge	9/18/2013	0.00	0.01	0.01	180	144	22.2
Christina River at 3rd St. Bridge	10/16/2013	0.00	0	0	180	249	19.5
Christina River at 3rd St. Bridge	11/20/2013	0.20	0.2	0.22	180	96	9.9
Christina River at 3rd St. Bridge	1/15/2014	0.01	0.2	1.03	180	1733	15.1
Christina River at 3rd St. Bridge	2/19/2014	0.34	0.51	1.59	180	91	19.6
Christina River at 3rd St. Bridge	3/19/2014	0.62	0.06	0.36	180	29	7.9
Christina River at 3rd St. Bridge	4/16/2014	0.00	0.86	0.86	180	2420	12.3
Christina River at 3rd St. Bridge	5/14/2014	0.00	0	0.36	180	270	18.8
Christina River at 3rd St. Bridge	6/18/2014	0.00	0	0	180	980	
Christina River at 3rd St. Bridge	8/20/2014	0.00	0	0.08	180	99	25.7
Christina River at 3rd St. Bridge	9/18/2014	0.00	0.11	0.54	180	179	23.4
Christina River at 3rd St. Bridge	10/15/2014	0.23	0.27	0.65	180	210	19.5
Christina River at 3rd St. Bridge	11/19/2014	0.00	1.13	1.2	180	2420	6.8
Christina River at 3rd St. Bridge	12/17/2014	0.00	0.10	0.11	180	225	6.5
Christina River at 3rd St. Bridge	4/15/2015	0.00	0.08	0.14	180	24	13.3
Christina River at 3rd St. Bridge	6/17/2015	0.00	0.32	0.59	180	219	27.3
Christina River at 3rd St. Bridge	7/15/2015	1.02	0.22	1.01	180	770	26
Christina River at 3rd St. Bridge	9/21/2015	0.00	0.00	0.00	180	142	23
Christina River at 3rd St. Bridge	12/16/2015	0.00	0.15	0.15	180	248	10.5
Christina River at 3rd St. Bridge	1/20/2016	0.00	0.00	0.38	180	104	0.7
Christina River at 3rd St. Bridge	2/17/2016	0.00	0.97	1.16	180	2420	3.2
Christina River at 3rd St. Bridge	3/16/2016	0.00	0.79	0.90	180	308	10.4
Christina River at 3rd St. Bridge	4/20/2016	0.00	0.00	0.00	180	20	16.2
Christina River at 3rd St. Bridge	5/18/2016	0.00	0.14	0.36	180	53	16
Christina River at 3rd St. Bridge	6/22/2016	0.00	0.13	0.98	180	206	25.5
Christina River at 3rd St. Bridge	7/20/2016	0.00	0.00	0.63	180	242	27.5
Christina River at 3rd St. Bridge	8/17/2016	0.07	0.13	0.13	180	1120	31.0
Christina River at 3rd St. Bridge	9/21/2016	0.00	1.25	1.25	180	1120	24.1
Christina River at 3rd St. Bridge	10/19/2016	0.00	0.00	0.00	180	41	13.8
Christina River at 3rd St. Bridge	11/16/2016	0.00	0.00	0.23	180	72	12.0
Christina River at 3rd St. Bridge	12/21/2016	0.00	0.00	1.01	180	105	3.2
Christina River at 3rd St. Bridge	1/18/2017	0.08	0.25	0.36	180	199	6.8
Christina River at 3rd St. Bridge	2/15/2017	0.00	0.00	0.71	180	34	6.1
Christina River at 3rd St. Bridge	4/19/2017	0.00	0.11	0.11	180	31	15.9
Christina River at 3rd St. Bridge	5/17/2017	0.00	0.00	1.74	180	157	N/A
Christina River at 3rd St. Bridge	6/21/2017	0.00	0.00	1.74	180	32	N/A
Christina River at 3rd St. Bridge	7/19/2017	0.00	0.05	0.36	180	141	29.0
Christina River at 3rd St. Bridge	8/16/2017	0.00	0.47	0.63	180	326	26.2
Christina River at 3rd St. Bridge	9/27/2017	0.00	0.00	0.00	180	99	25.9
Christina River at 3rd St. Bridge	10/25/2017	0.00	0.16	0.16	180	461	18.7
Christina River at 3rd St. Bridge	11/15/2017	0.00	0.18	0.18	180	54	11.5
Christina River at 3rd St. Bridge	12/20/2017	0.00	0.00	0.24	180	56	4.2
Christina River at 3rd St. Bridge	2/21/2018	0.03	0.49	0.91	180	150	9.9
Christina River at 3rd St. Bridge	4/18/2018	0.00	1.62	1.93	180	1553	9.6
Christina River at 3rd St. Bridge	5/16/2018	0.65	1.51	3.05	180	2420	19.9
Christina River at 3rd St. Bridge	6/20/2018	0.00	0.00	0.00	180	185	26.1
Christina River at 3rd St. Bridge	7/18/2018	0.00	0.08	0.08	180	687	27.4
Christina River at 3rd St. Bridge	8/15/2018	0.59	1.32	1.32	180	980	24.8
Christina River at 3rd St. Bridge	9/19/2018	0.00	0.65	0.79	180	2420	22.7
Christina River at 3rd St. Bridge	10/17/2018	0.00	0.14	1.17	180	73	16.7

Christina River at 3rd St. Bridge	11/19/2018	0.00	0.00	2.04	180	727	7.2
Christina River at 3rd St. Bridge	12/19/2018	0.00	0.00	2.12	180	1553	6.2
Christina River at 3rd St. Bridge	1/16/2019	0.00	0.08	0.09	180	24	2.6
Christina River at 3rd St. Bridge	2/28/2019	0.00	0.00	0.87	180	53	5.5
Christina River at 3rd St. Bridge	3/20/2019	0.00	0.00	0.02	180	214	9.1
Christina River at 3rd St. Bridge	4/16/2019	0.00	0.67	0.94	180	205	14.4
Christina River at 3rd St. Bridge	5/15/2019	0.00	0.92	2.14	180	2420	15.3
Christina River at 3rd St. Bridge	6/20/2019	1.32	1.88	3.60	180	2420	24.4
Christina River at 3rd St. Bridge	7/17/2019	0.00	0.00	2.15	180	1046	29.1
Christina River at 3rd St. Bridge	8/28/2019	0.00	0.00	0.42	180	2420	24.4
Christina River at 3rd St. Bridge	9/18/2019	0.00	0.00	0.44	180	91	23.6
Christina River at 3rd St. Bridge	10/31/2019	0.12	0.12	0.91	180	649	17.5
Christina River at 3rd St. Bridge	11/20/2019	0.00	0.00	0.00	180	63	9.0
Christina River at 3rd St. Bridge	12/18/2019	0.57	1.03	1.54	180	2420	4.0
Christina River at 3rd St. Bridge	1/15/2020	0.02	0.22	0.23	180	63	8.6
Christina River at 3rd St. Bridge	2/19/2020	0.00	0.00	0.24	180	205	5.5
Christina River at 3rd St. Bridge	9/16/2020	0.00	0.00	0.35	180	2420	23.4
Christina River at 3rd St. Bridge	10/21/2020	0.02	0.02	0.92	180	2420	16.9
Christina River at 3rd St. Bridge	11/19/2020	0.00	0.00	0.41	180	2420	8.6
Christina River at 3rd St. Bridge	1/13/2021	0.00	0.00	0.00	180	315	4.0
Christina River at 3rd St. Bridge	2/24/2021	0.00	0.47	1.61	180	32	3.7
Christina River at 3rd St. Bridge	3/17/2021	0.00	0.01	0.01	180	1300	7.5
Christina River at 3rd St. Bridge	4/21/2021	0.00	0.00	0.02	180	248	16.9
Christina River at 3rd St. Bridge	5/19/2021	0.00	0.00	0.00	180	7	21.1
Christina River at 3rd St. Bridge	7/28/2021	0.00	0.00	0.11	180	63	27.9
Christina River at 3rd St. Bridge	8/18/2021	0.54	0.57	0.58	180	99	27.2
Christina River at 3rd St. Bridge	9/15/2021	0.00	0.00	0.58	180	173	24.0
Christina River at 3rd St. Bridge	10/20/2021	0.00	0.00	0.44	180	260	18.4
Christina River at 3rd St. Bridge	11/17/2021	0.00	0.01	0.27	180	260	18.4
Christina River at 3rd St. Bridge	12/20/2021	0.11	0.21	0.21	180	21	6.5
Christina River at 3rd St. Bridge	1/12/2022	0.00	0.00	0.21	180	155	2.9
Christina River at 3rd St. Bridge	2/24/2022	0.00	0.08	0.52	180	19	6.3
Christina River at 3rd St. Bridge	4/20/2022	0.19	1.57	1.73	180	189	10.3
Christina River at 3rd St. Bridge	5/18/2022	0.04	0.04	0.18	180	222	20.0
Christina River at 3rd St. Bridge	6/29/2022	0.00	0.13	0.73	180	345	25.0
Christina River at 3rd St. Bridge	7/27/2022	0.00	0.03	0.17	180	204	28.1
Christina River at 3rd St. Bridge	8/24/2022	0.00	0.56	0.73	180	57	27.6
Christina River at 3rd St. Bridge	9/28/2022	0.00	0.01	0.31	180	308	21.6
Christina River at 3rd St. Bridge	10/19/2022	0.00	0.18	0.36	180	162	15.2
Christina River at 3rd St. Bridge	11/16/2022	1.01	1.01	1.79	180	1120	12.6
Christina River at 3rd St. Bridge	12/21/2022	0.00	0.00	2.18	180	345	5.1
Christina River at 3rd St. Bridge	1/18/2023	0.00	0.00	0.07	180	31	5.8
Christina River at 3rd St. Bridge	2/15/2023	0.00	0.00	0.14	180	26	7.1
Christina River at 3rd St. Bridge	3/22/2023	0.00	0.00	0.02	180	25	9.3
Christina River at 3rd St. Bridge	4/19/2023	0.00	0.03	0.13	180	36	16.1
Christina River at 3rd St. Bridge	5/31/2023	0.00	0.00	0.00	180	42	21.0

Table 13. Enterococcus bacteria along the Christina River at Kalmar Nyckel Dock, , Jan 2013-Jun 2023 (COW)

Station	Date	24 hr Rain (in)	48 hr Rain (in)	Week Rain (in)	Swim Standard	Enterococci (MPN #/100mL)	Water Temp (Deg C)
Kalmar Nyckel Dock	1/18/2017	0.08	0.25	0.36	180	24	6.4
Kalmar Nyckel Dock	2/15/2017	0.00	0.00	0.71	180	39	5.5
Kalmar Nyckel Dock	4/19/2017	0.00	0.11	0.11	180	20	15.3
Kalmar Nyckel Dock	5/17/2017	0.00	0.00	1.74	180	42	N/A
Kalmar Nyckel Dock	6/21/2017	0.00	0.00	1.74	180	26	N/A
Kalmar Nyckel Dock	7/19/2017	0.00	0.05	0.36	180	236	28.6
Kalmar Nyckel Dock	8/16/2017	0.00	0.47	0.63	180	461	26.0
Kalmar Nyckel Dock	9/27/2017	0.00	0.00	0.00	180	41	25.4
Kalmar Nyckel Dock	10/25/2017	0.00	0.16	0.16	180	687	18.8
Kalmar Nyckel Dock	11/15/2017	0.00	0.18	0.18	180	52	11.3
Kalmar Nyckel Dock	12/20/2017	0.00	0.00	0.24	180	57	4.6
Kalmar Nyckel Dock	2/21/2018	0.03	0.49	0.91	180	141	9.9
Kalmar Nyckel Dock	4/18/2018	0.00	1.62	1.93	180	1553	9.4
Kalmar Nyckel Dock	5/16/2018	0.65	1.51	3.05	180	1733	19.7
Kalmar Nyckel Dock	6/20/2018	0.00	0.00	0.00	180	47	25.2
Kalmar Nyckel Dock	7/18/2018	0.00	0.08	0.08	180	387	26.8
Kalmar Nyckel Dock	8/15/2018	0.59	1.32	1.32	180	866	24.6
Kalmar Nyckel Dock	9/19/2018	0.00	0.65	0.79	180	2420	22.8
Kalmar Nyckel Dock	10/17/2018	0.00	0.14	1.17	180	64	16.5
Kalmar Nyckel Dock	11/19/2018	0.00	0.00	2.04	180	345	7.3
Kalmar Nyckel Dock	12/19/2018	0.00	0.00	2.12	180	727	6.0
Kalmar Nyckel Dock	1/16/2019	0.00	0.08	0.09	180	33	2.6
Kalmar Nyckel Dock	2/28/2019	0.00	0.00	0.87	180	60	5.3
Kalmar Nyckel Dock	3/20/2019	0.00	0.00	0.02	180	238	9.1
Kalmar Nyckel Dock	4/16/2019	0.00	0.67	0.94	180	756	15.1
Kalmar Nyckel Dock	5/15/2019	0.00	0.92	2.14	180	2420	15.4
Kalmar Nyckel Dock	6/20/2019	1.32	1.88	3.60	180	2420	23.4
Kalmar Nyckel Dock	7/17/2019	0.00	0.00	2.15	180	727	28.1
Kalmar Nyckel Dock	8/28/2019	0.00	0.00	0.42	180	1203	24.6
Kalmar Nyckel Dock	9/18/2019	0.00	0.00	0.44	180	78	23.7
Kalmar Nyckel Dock	10/31/2019	0.12	0.12	0.91	180	870	17.1
Kalmar Nyckel Dock	11/20/2019	0.00	0.00	0.00	180	78	8.7
Kalmar Nyckel Dock	12/18/2019	0.57	1.03	1.54	180	2420	3.9
Kalmar Nyckel Dock	1/15/2020	0.02	0.22	0.23	180	72	8.4
Kalmar Nyckel Dock	2/19/2020	0.00	0.00	0.24	180	756	5.5
Kalmar Nyckel Dock	9/16/2020	0.00	0.00	0.35	180	2420	23.8
Kalmar Nyckel Dock	10/21/2020	0.02	0.02	0.92	180	2420	17
Kalmar Nyckel Dock	2/24/2021	0.00	0.47	1.61	180	26	3.8
Kalmar Nyckel Dock	3/17/2021	0.00	0.01	0.01	180	17	7.6
Kalmar Nyckel Dock	4/21/2021	0.00	0.00	0.02	180	21	16.2
Kalmar Nyckel Dock	5/19/2021	0.00	0.00	0.00	180	8	21.1
Kalmar Nyckel Dock	7/28/2021	0.00	0.00	0.11	180	57	27.6
Kalmar Nyckel Dock	8/18/2021	0.54	0.57	0.58	180	96	27.3
Kalmar Nyckel Dock	9/15/2021	0.00	0.00	0.58	180	249	23.7
Kalmar Nyckel Dock	10/20/2021	0.00	0.00	0.44	180	313	18.7
Kalmar Nyckel Dock	11/17/2021	0.00	0.01	0.27	180	313	18.7
Kalmar Nyckel Dock	12/20/2021	0.11	0.21	0.21	180	23	6.6
Kalmar Nyckel Dock	1/12/2022	0.00	0.00	0.21	180	111	3.0
Kalmar Nyckel Dock	2/24/2022	0.00	0.08	0.52	180	3	6.2
Kalmar Nyckel Dock	4/20/2022	0.19	1.57	1.73	180	159	10.6
Kalmar Nyckel Dock	5/18/2022	0.04	0.04	0.18	180	192	19.7
Kalmar Nyckel Dock	6/29/2022	0.00	0.13	0.73	180	276	25.0
Kalmar Nyckel Dock	7/27/2022	0.00	0.03	0.17	180	345	28.2
Kalmar Nyckel Dock	8/24/2022	0.00	0.56	0.73	180	57	27.5

Kalmar Nyckel Dock	9/28/2022	0.00	0.01	0.31	180	162	21.5
Kalmar Nyckel Dock	10/19/2022	0.00	0.18	0.36	180	153	15.2
Kalmar Nyckel Dock	11/16/2022	1.01	1.01	1.79	180	727	11.9
Kalmar Nyckel Dock	12/21/2022	0.00	0.00	2.18	180	249	5.1
Kalmar Nyckel Dock	1/18/2023	0.00	0.00	0.07	180	15	6.1
Kalmar Nyckel Dock	2/15/2023	0.00	0.00	0.14	180	20	6.9
Kalmar Nyckel Dock	3/22/2023	0.00	0.00	0.02	180	16	9.1
Kalmar Nyckel Dock	4/19/2023	0.00	0.03	0.13	180	26	15.7
Kalmar Nyckel Dock	5/31/2023	0.00	0.00	0.00	180	35	20.6
Kalmar Nyckel Dock	6/21/2023	0.28	0.00	0.02	180	866	21.8

Table 14. Enterococcus bacteria along the Brandywine River at Smiths Bridge, Oct 18, 2005-Dec 18, 2022 (DNREC)

Station	Date	24-hr Rain (in)	48-hr Rain (in)	Week Rain (in)	Water Temp. (Deg C)	Enterococci (MPN #/100mL)	Standard
Smiths Bridge	10/18/2005	0	0	0.67	15.1	100	180
Smiths Bridge	1/3/2006	0.37	1.48	1.97		1070	180
Smiths Bridge	2/6/2006	0	0	0.99		120	180
Smiths Bridge	2/28/2006	0	0	0.03	3.6	10	180
Smiths Bridge	4/4/2006	0.01	0.8	0.82	12.5	67	180
Smiths Bridge	5/1/2006		0	0.04	16.2	2	180
Smiths Bridge	6/5/2006	0	0	4.78		1100	180
Smiths Bridge	7/5/2006	0.15	0.23	1.5	23.4	700	180
Smiths Bridge	8/1/2006	0	0	0.92	27.7	270	180
Smiths Bridge	9/6/2006	0	1.27	3.09	20.1	1100	180
Smiths Bridge	10/3/2006	0	0	1.09	17.4	250	180
Smiths Bridge	10/30/2006	0	0	2.53		900	180
Smiths Bridge	1/8/2007	0.67	1.18	1.37		4840	180
Smiths Bridge	3/5/2007	0	0	1.92	4.7	37	180
Smiths Bridge	4/3/2007	0	0.12	0.12	14.5	3	180
Smiths Bridge	5/1/2007	0	0	1.59	16.3	13	180
Smiths Bridge	7/9/2007	0	0	1.13	25.2	300	180
Smiths Bridge	2007-10-02	0	0	0.06	18.6	197	180
Smiths Bridge	2007-11-05	0.01	0.01	0.01	9.7	117	180
Smiths Bridge	2008-01-07	0	0.06	0.09		23	180
Smiths Bridge	2008-02-05	0	0.02	1.55		20	180
Smiths Bridge	2008-03-03	0	0	0.14	7.5	3	180
Smiths Bridge	2008-04-01	0.33	0.45	0.51	12.3	63	180
Smiths Bridge	2008-05-06	0	0	0	17.8	43	180
Smiths Bridge	2008-06-03	0.09	0.09	0.36	21.1	30	180
Smiths Bridge	2008-07-01	0	0	0.19	24	330	180
Smiths Bridge	2008-08-05	0	0	0.04	25.3	240	180
Smiths Bridge	2008-09-02	0	0	0.22	23.6	137	180
Smiths Bridge	2008-10-07	0	0	0.22	15.1	190	180
Smiths Bridge	2008-11-03	0	0	0.63	10.4	97	180
Smiths Bridge	2008-12-01	0.13	0.92	1	7.1	1770	180
Smiths Bridge	2009-01-05	0	0	0		33	180
Smiths Bridge	2009-02-03	0.09	0.09	1.02		150	180
Smiths Bridge	2009-03-09	0	0	0.2	11.2	17	180
Smiths Bridge	2009-04-06	0.32	0.32	1.71	12.9	47	180
Smiths Bridge	2009-05-04	0.67	1.37	1.71	15	590	180
Smiths Bridge	2009-06-02	0.14	0.14	1.07	20.1	73	180
Smiths Bridge	2009-07-06	0	0	0.56	22.6	20	180
Smiths Bridge	2009-08-03	0	2.02	4.05	23.9	4840	180
Smiths Bridge	2009-09-01	0	0	1.96	20.2	97	180
Smiths Bridge	2009-10-05	0	0	0.17	15.7	187	180
Smiths Bridge	2009-11-02		0	0.11	0.26	73	180
Smiths Bridge	2009-12-01	0	0.26	0.35	8.1	43	180
Smiths Bridge	2010-01-04	0	0	0		33	180
Smiths Bridge	2010-02-02	0.09	0.09	1.02		47	180
Smiths Bridge	2010-04-05	0.32	0.32	1.71	12.9	17	180
Smiths Bridge	2010-05-03	0.67	1.37	1.71	15	4840	180
Smiths Bridge	2010-06-01	0.14	0.14	1.07	20.1	200	180
Smiths Bridge	2010-07-06	0	0	0.56	22.6	150	180
Smiths Bridge	2010-09-07	0	0	1.96	20.2	1200	180
Smiths Bridge	2010-11-01	0	0.11	0.26	12.8	90	180
Smiths Bridge	2011-01-04	0	0	0.35		2	180
Smiths Bridge	2011-03-01	0	0	0.02		2	180
Smiths Bridge	2011-05-02	0	0	0.8	15.9	47	180
Smiths Bridge	2011-07-05	0	0	0	25.7	43	180

Smiths Bridge	2011-09-06	2.94	3.69	3.69	21.9	4840	180
Smiths Bridge	2011-11-01	0	0	1.46	9.5	300	180
Smiths Bridge	2012-01-03	0.92	1.38	1.38		30	180
Smiths Bridge	2012-03-06	0	0	1.48	6.3	3	180
Smiths Bridge	2012-05-01	0	0	0.03	27.6	17	180
Smiths Bridge	2012-07-09	1.39	3.73	4.03	23.5	210	180
Smiths Bridge	2012-09-04	0	0	0.73	10.3	10000	180
Smiths Bridge	2012-11-05	0	0.01	0.52	8.7	193	180
Smiths Bridge	2013-01-07	0	0.06	0.06		13	180
Smiths Bridge	2013-03-04	0	0	0.57	5.1	2	180
Smiths Bridge	2013-05-01	0	0.02	0.38	16.7	17	180
Smiths Bridge	2013-07-08	0.04	1.06	2.81	22.5	600	180
Smiths Bridge	2013-08-05	0.09	0.33	0.53	25.3	250	180
Smiths Bridge	2013-09-03	0	0	1.16	21.7	310	180
Smiths Bridge	2013-10-01	0	0.01	1.55	23.6	70	180
Smiths Bridge	2013-11-05	0	0	0	16.9	30	180
Smiths Bridge	2013-12-02	0	0	0.22	8.9	42	180
Smiths Bridge	2014-01-06	0	0	2.94	4.9	2600	180
Smiths Bridge	2014-02-04	0.02	1.19	1.22	2.3	59	180
Smiths Bridge	2014-03-10	0	0.01	0.01	6.6	19	180
Smiths Bridge	2014-04-02	0.02	0.02	1.92	9.8	8	180
Smiths Bridge	2014-05-05	0	0	5.29	14.3	37	180
Smiths Bridge	2014-06-02	0	0	0.85	19.3	30	180
Smiths Bridge	2014-07-01	0	0	0.77	25.1	37	180
Smiths Bridge	2014-08-05	0	0	0.41	23.7	1300	180
Smiths Bridge	2014-09-03	0	0.26	1.54	24.5	80	180
Smiths Bridge	2014-10-01	0	0	0.72	19.6	51	180
Smiths Bridge	2014-11-03	0	0	0.53	8.6	26	180
Smiths Bridge	2014-12-01	0.05	0.05	1.1	7	20	180
Smiths Bridge	2015-01-05	0	0.43	1.16		332	180
Smiths Bridge	2015-02-03	0	0.93	1.02		821	180
Smiths Bridge	2015-03-03	0.54	0.56	1.15	0.5	1160	180
Smiths Bridge	2015-04-07	0.07	0.07	0.17	13.9	2	180
Smiths Bridge	2015-05-04	0	0	0	19.1	4	180
Smiths Bridge	2015-06-01	2	2.04	2.04	25.1	4840	180
Smiths Bridge	2015-07-06	0	0.1	0.35	26.4	106	180
Smiths Bridge	2015-09-01	0	0	0	25.7	49	180
Smiths Bridge	2015-11-02	0	0	2.76	12.2	42	180
Smiths Bridge	2016-01-04	0	0	0.93		17	180
Smiths Bridge	2016-03-01	0	0.02	1.68	8.4	10	180
Smiths Bridge	2016-05-02	0.41	0.89	1.12	13.3	61	180
Smiths Bridge	2016-07-11	0	0	1.18	24.8	74	180
Smiths Bridge	2016-08-30	0	0.92	0.92	22	196	180
Smiths Bridge	2016-11-01	0	0	0.73	12.5	13	180
Smiths Bridge	2017-01-03	0	0	1.15	1	49	180
Smiths Bridge	2017-03-06	0	0	1.33	6.8	2	180
Smiths Bridge	2017-05-01	0	0	0.62	15.8	1	180
Smiths Bridge	2017-07-17	0	0.37	0.37	26	294	180
Smiths Bridge	2017-09-05	0	0	1.09	24.9	387	180
Smiths Bridge	2017-11-07	0.49	0.49	1.43	11.4	34	180
Smiths Bridge	2018-01-16	0	0	1.15	1	80	180
Smiths Bridge	2018-03-05	0	0	1.33	6.8	10	180
Smiths Bridge	2018-05-01	0	0	0.62	15.8	6	180
Smiths Bridge	2018-07-16	0	0.37	0.37	26	615	180
Smiths Bridge	2018-08-06	0	0	1.44	26.1	551	180
Smiths Bridge	2018-09-04	0	0	1.09	24.9	1540	180
Smiths Bridge	2018-10-02	0.25	0.25	1.22	19	187	180
Smiths Bridge	2018-11-05	0.49	0.49	1.43	11.4	403	180
Smiths Bridge	2018-12-04	0	0	0.61	9.3	47	180

Smiths Bridge	2019-01-07	0	0	0.49	6.3	24	180
Smiths Bridge	2019-02-05	0	0	0	5.7	8	180
Smiths Bridge	2019-03-04	0.04	0.85	1.71	5.2	32	180
Smiths Bridge	2019-04-01	0	0.1	0.1	10.3	6	180
Smiths Bridge	2019-05-01	0	0	1	16.4	26	180
Smiths Bridge	2019-06-03	0	0.43	1.63	20.6	496	180
Smiths Bridge	2019-07-01	0	0	0.23	23.6	96	180
Smiths Bridge	2019-08-05	0	0	0	24.9	922	180
Smiths Bridge	2019-09-03	0	0.44	0.48	22.8	3470	180
Smiths Bridge	2019-10-01	0	0	0.01	20.9	437	180
Smiths Bridge	2019-11-05	0	0	1.28	9.8	137	180
Smiths Bridge	2019-12-02	0.01	0.57	0.57	5.3	428	180
Smiths Bridge	2020-01-06	0	0	0.38	5.7	1	180
Smiths Bridge	2020-02-04	0.11	0.11	0.23	7.5	13	180
Smiths Bridge	2020-03-11	0	0.04	0.49	10.8	8	180
Smiths Bridge	2020-04-01	0	0.04	1.31	11.3	27	180
Smiths Bridge	2020-05-05	0	0	1.09	16.4	22	180
Smiths Bridge	2020-06-09	0	0	1.1	22.8	142	180
Smiths Bridge	2020-07-07	0	1.7	1.71	25.7	4840	180
Smiths Bridge	2020-09-01	0	0.09	1.45	20.9	409	180
Smiths Bridge	2020-11-04	0	0	2.47	9.3	114	180
Smiths Bridge	2021-01-05	0	0	1.27	6.3	110	180
Smiths Bridge	2021-03-02	0	0.14	1.6	4.5	203	180
Smiths Bridge	2021-05-04	0.06	0.47	0.81	19.4	775	180
Smiths Bridge	2021-07-06	0	0	1.9	25.7	93	180
Smiths Bridge	2021-09-01	5.12	5.12	5.16	23.6	4840	180
Smiths Bridge	2021-11-02	0.07	0.07	1.68	12.4	121	180
Smiths Bridge	2022-01-05	0	0	1.03	3.7	149	180
Smiths Bridge	2022-03-01	0	0	0.91	5.8	10	180
Smiths Bridge	2022-05-03	0	0.01	0.04	18.1	19	180
Smiths Bridge	2022-10-04	0	0	0.22	13.1	4840	180
Smiths Bridge	2022-12-06	1.05	1.05	1.96	5.9	51	180

Table 15. Enterococcus bacteria along Brandywine River at Swinging Bridge, Oct 18, 2005-Dec 18, 2022 (DNREC)

Station	Date	24-hr Rain (in)	48-hr Rain (in)	Week Rain (in)	Water Temp. (Deg C)	Enterococci (MPN #/100mL)	Standard
Swinging Bridge	2005-10-18	0	0	0.67	15.1	103	180
Swinging Bridge	2006-01-03	0.37	1.48	1.97		1170	180
Swinging Bridge	2006-02-06	0	0	0.99		170	180
Swinging Bridge	2006-02-28	0	0	0.03	3.6	3	180
Swinging Bridge	2006-04-04	0.01	0.8	0.82	12.5	73	180
Swinging Bridge	2006-05-01		0	0.04	16.2	10	180
Swinging Bridge	2006-06-05	0	0	4.78		1070	180
Swinging Bridge	2006-07-05	0.15	0.23	1.5	23.4	1070	180
Swinging Bridge	2006-08-01	0	0	0.92	27.7	330	180
Swinging Bridge	2006-09-06	0	1.27	3.09	20.1	2000	180
Swinging Bridge	2006-10-03	0	0	1.09	17.4	33	180
Swinging Bridge	2006-10-30	0	0	2.53		4840	180
Swinging Bridge	2007-01-08	0.67	1.18	1.37		1230	180
Swinging Bridge	2007-03-05	0	0	1.92	4.7	83	180
Swinging Bridge	2007-04-03	0	0.12	0.12	14.5	10	180
Swinging Bridge	2007-05-01	0	0	1.59	16.3	23	180
Swinging Bridge	2007-07-09	0	0	1.13	25.2	310	180
Swinging Bridge	2007-10-02	0	0	0.06	18.6	67	180
Swinging Bridge	2007-11-05	0.01	0.01	0.01	9.7	143	180
Swinging Bridge	2008-01-07	0	0.06	0.09		90	180
Swinging Bridge	2008-02-05	0	0.02	1.55		73	180
Swinging Bridge	2008-03-03	0	0	0.14	7.5	73	180
Swinging Bridge	2008-04-01	0.33	0.45	0.51	12.3	140	180
Swinging Bridge	2008-05-06	0	0	0	17.8	120	180
Swinging Bridge	2008-06-03	0.09	0.09	0.36	21.1	57	180
Swinging Bridge	2008-07-01	0	0	0.19	24	430	180
Swinging Bridge	2008-08-05	0	0	0.04	25.3	1170	180
Swinging Bridge	2008-09-02	0	0	0.22	23.6	97	180
Swinging Bridge	2008-10-07	0	0	0.22	15.1	380	180
Swinging Bridge	2008-11-03	0	0	0.63	10.4	53	180
Swinging Bridge	2008-12-01	0.13	0.92	1	7.1	590	180
Swinging Bridge	2009-01-05	0	0	0		43	180
Swinging Bridge	2009-02-03	0.09	0.09	1.02		97	180
Swinging Bridge	2009-03-09	0	0	0.2	11.2	43	180
Swinging Bridge	2009-04-06	0.32	0.32	1.71	12.9	83	180
Swinging Bridge	2009-05-04	0.67	1.37	1.71	15	173	180
Swinging Bridge	2009-06-02	0.14	0.14	1.07	20.1	103	180
Swinging Bridge	2009-07-06	0	0	0.56	22.6	4840	180
Swinging Bridge	2009-08-03	0	2.02	4.05	23.9	4840	180
Swinging Bridge	2009-09-01	0	0	1.96	20.2	1500	180
Swinging Bridge	2009-10-05	0	0	0.17	15.7	90	180
Swinging Bridge	2009-11-02	0	0.11	0.26	12.8	73	180
Swinging Bridge	2009-12-01	0	0.26	0.35	8.1	30	180
Swinging Bridge	2010-01-04	0	0	0.35		400	180
Swinging Bridge	2010-02-02	0	0	0.02		33	180
Swinging Bridge	2010-04-05	0	0	0.8	15.9	20	180
Swinging Bridge	2010-06-01	0.08	0.08	0.56	23.6	20	180
Swinging Bridge	2010-07-06	0	0	0	28.3	127	180
Swinging Bridge	2010-09-07	0	0	0	22.9	13	180
Swinging Bridge	2010-11-01	0	0	0.64	10.2	77	180
Swinging Bridge	2011-01-04	0	0	0.06	3	480	180
Swinging Bridge	2011-03-01	0	0.55	1.62	7.5	67	180
Swinging Bridge	2011-05-02	0	0	0.3	16	7	180
Swinging Bridge	2011-07-05	0	0	0	25.7	10	180
Swinging Bridge	2011-09-06	2.94	3.69	3.69	21.9	13	180

Swinging Bridge	2011-11-01	0	0	1.46	9.5	97	180
Swinging Bridge	2012-01-03	0	0	0	0.04	4840	180
Swinging Bridge	2012-03-06	6.3	0	0	1.48	800	180
Swinging Bridge	2012-05-01	0.07	0.07	0.23	15.7	33	180
Swinging Bridge	2012-07-09	0	0	0.03	27.6	3	180
Swinging Bridge	2012-09-04	1.39	3.73	4.03	23.5	20	180
Swinging Bridge	2012-11-05	0	0	0.73	10.3	117	180
Swinging Bridge	2013-01-07	0	0.06	0.06		36000	180
Swinging Bridge	2013-03-04	0	0	0.57	5.1	180	180
Swinging Bridge	2013-05-01	0	0.02	0.38	16.7	27	180
Swinging Bridge	2013-07-08	0.09	0.33	0.53	25.3	7	180
Swinging Bridge	2013-08-05	0	0	1.16	21.7	20	180
Swinging Bridge	2013-09-03	0	0.01	1.55	23.6	900	180
Swinging Bridge	2013-10-01	0	0	0	16.9	490	180
Swinging Bridge	2013-11-05	0	0	0.22	8.9	113	180
Swinging Bridge	2013-12-02	0	0	2.94	4.9	24	180
Swinging Bridge	2014-01-06	0.35	0.85	1.33	3.5	6	180
Swinging Bridge	2014-02-04	0.02	1.19	1.22	2.3	71	180
Swinging Bridge	2014-03-10	0	0.01	0.01	6.6	690	180
Swinging Bridge	2014-04-02	0.02	0.02	1.92	9.8	83	180
Swinging Bridge	2014-05-05	0	0	5.29	14.3	13	180
Swinging Bridge	2014-06-02	0	0	0.85	19.3	6	180
Swinging Bridge	2014-07-01	0	0	0.77	25.1	63	180
Swinging Bridge	2014-08-05	0	0	0.41	23.7	20	180
Swinging Bridge	2014-09-03	0	0.26	1.54	24.5	24	180
Swinging Bridge	2014-10-01	0	0	0.72	19.6	21	180
Swinging Bridge	2014-11-03	0	0	0.53	8.6	60	180
Swinging Bridge	2014-12-01	0.05	0.05	1.1	7	39	180
Swinging Bridge	2015-01-05	0.14	0.32	0.37	6.4	76	180
Swinging Bridge	2015-02-03	0	0.43	1.16		24	180
Swinging Bridge	2015-03-03	0	0.93	1.02		370	180
Swinging Bridge	2015-04-07	0.54	0.56	1.15	0.5	1630	180
Swinging Bridge	2015-05-04	0	0	0	19.1	651	180
Swinging Bridge	2015-06-01	2	2.04	2.04	25.1	2	180
Swinging Bridge	2015-07-06	0	0.1	0.35	26.4	2090	180
Swinging Bridge	2015-09-01	0	0	0	25.7	43	180
Swinging Bridge	2015-11-02	0	0	2.76	12.2	922	180
Swinging Bridge	2016-01-04	0	0	0.93		129	180
Swinging Bridge	2016-03-01	0	0.02	1.68	8.4	17	180
Swinging Bridge	2016-05-02	0.41	0.89	1.12	13.3	52	180
Swinging Bridge	2016-07-11	0	0	1.18	24.8	69	180
Swinging Bridge	2016-08-30	0	0	0	26.4	177	180
Swinging Bridge	2016-11-01	0	0	0.73	12.5	60	180
Swinging Bridge	2017-01-03	0.43	0.84	1.16		20	180
Swinging Bridge	2017-03-06	0	0	0.28	5	242	180
Swinging Bridge	2017-05-01	0	0	0.9	19.2	76	180
Swinging Bridge	2017-07-17	0.01	0.01	1.52	26.4	113	180
Swinging Bridge	2017-09-05	0.09	0.09	0.84	21.7	870	180
Swinging Bridge	2017-11-07	0.33	0.33	0.64	14	197	180
Swinging Bridge	2018-01-16	0	0	1.15	1	384	180
Swinging Bridge	2018-03-05	0	0	1.33	6.8	690	180
Swinging Bridge	2018-05-01	0	0	0.62	15.8	80	180
Swinging Bridge	2018-07-16	0	0.37	0.37	26	19	180
Swinging Bridge	2018-08-06	0	0	1.44	26.1	456	180
Swinging Bridge	2018-09-04	0	0	1.09	24.9	403	180
Swinging Bridge	2018-10-02	0.25	0.25	1.22	19	114	180
Swinging Bridge	2018-11-05	0.49	0.49	1.43	11.4	167	180
Swinging Bridge	2018-12-04	0	0	0.61	9.3	1450	180
Swinging Bridge	2019-01-07	0	0	0.49	6.3	51	180

Swinging Bridge	2019-02-05	0	0	0	5.7	79	180
Swinging Bridge	2019-03-04	0.04	0.85	1.71	5.2	40	180
Swinging Bridge	2019-04-01	0	0.1	0.1	10.3	551	180
Swinging Bridge	2019-05-01	0	0	1	16.4	13	180
Swinging Bridge	2019-06-03	0	0.43	1.63	20.6	45	180
Swinging Bridge	2019-07-01	0	0	0.23	23.6	2600	180
Swinging Bridge	2019-08-05	0	0	0	24.9	237	180
Swinging Bridge	2019-09-03	0	0.44	0.48	22.8	462	180
Swinging Bridge	2019-10-01	0	0	0.01	20.9	4840	180
Swinging Bridge	2019-11-05	0	0	1.28	9.8	456	180
Swinging Bridge	2019-12-02	0.01	0.57	0.57	5.3	172	180
Swinging Bridge	2020-01-06	0	0	0.38	5.7	297	180
Swinging Bridge	2020-02-04	0.11	0.11	0.23	7.5	6	180
Swinging Bridge	2020-03-11	0	0.04	0.49	10.8	192	180
Swinging Bridge	2020-04-01	0	0.04	1.31	11.3	6	180
Swinging Bridge	2020-05-05	0	0	1.09	16.4	15	180
Swinging Bridge	2020-06-09	0	0	1.1	22.8	45	180
Swinging Bridge	2020-07-07	0	1.7	1.71	25.7	114	180
Swinging Bridge	2020-09-01	0	0.09	1.45	20.9	1030	180
Swinging Bridge	2020-11-04	0	0	2.47	9.3	83	180
Swinging Bridge	2021-01-05	0	0	1.27	6.3	69	180
Swinging Bridge	2021-03-02	0	0.14	1.6	4.5	67	180
Swinging Bridge	2021-05-04	0.06	0.47	0.81	19.4	420	180
Swinging Bridge	2021-07-06	0	0	1.9	25.7	98	180
Swinging Bridge	2021-09-01	5.12	5.12	5.16	23.6	95	180
Swinging Bridge	2021-11-02	0.07	0.07	1.68	12.4	4840	180
Swinging Bridge	2022-01-05	0	0	1.03	3.7	98	180
Swinging Bridge	2022-03-01	0	0	0.91	5.8	387	180
Swinging Bridge	2022-05-03	0	0.01	0.04	18.1	6	180
Swinging Bridge	2022-10-04	1.73	1.76	1.76	23.9	15	180
Swinging Bridge	2022-12-06	1.05	1.05	1.96	5.9	4840	180

Table 16. Enterococcus bacteria along the Brandywine River at Brecks Mill, Oct 18, 2005-Dec 18, 2022 (DNREC)

Station	Date	24-hr Rain (in)	48-hr Rain (in)	Week Rain (in)	Water Temp. (Deg C)	Enterococci (MPN #/100mL)	Standard
Brecks Mill	2005-10-18 09:17:00	0.0	0.0	0.7	15.1	130	180
Brecks Mill	2006-01-03 09:57:00	0.4	1.5	2.0		967	180
Brecks Mill	2006-02-06 09:58:00	0.0	0.0	1.0		147	180
Brecks Mill	2006-02-28 09:04:00	0.0	0.0	0.0	3.6	2	180
Brecks Mill	2006-04-04 08:49:00	0.0	0.8	0.8	12.5	110	180
Brecks Mill	2006-05-01 09:04:00		0.0	0.0	16.2	7	180
Brecks Mill	2006-06-05 09:31:00	0.0	0.0	4.8		1,000	180
Brecks Mill	2006-07-05 09:17:00	0.2	0.2	1.5	23.4	767	180
Brecks Mill	2006-08-01 09:29:00	0.0	0.0	0.9	27.7	667	180
Brecks Mill	2006-09-06 09:40:00	0.0	1.3	3.1	20.1	1,530	180
Brecks Mill	2006-10-03 09:37:00	0.0	0.0	1.1	17.4	47	180
Brecks Mill	2006-10-30 10:15:00	0.0	0.0	2.5		4,840	180
Brecks Mill	2007-01-08 10:10:00	0.7	1.2	1.4		4,840	180
Brecks Mill	2007-03-05 09:52:00	0.0	0.0	1.9	4.7	40	180
Brecks Mill	2007-04-03 10:10:00	0.0	0.1	0.1	14.5	2	180
Brecks Mill	2007-05-01 10:35:00	0.0	0.0	1.6	16.3	23	180
Brecks Mill	2007-07-09 10:03:00	0.0	0.0	1.1	25.2	110	180
Brecks Mill	2007-10-02 09:37:00	0.0	0.0	0.1	18.6	53	180
Brecks Mill	2007-11-05 09:20:00	0.0	0.0	0.0	9.7	130	180
Brecks Mill	2008-01-07 09:20:00	0.0	0.1	0.1		30	180
Brecks Mill	2008-02-05 09:09:00	0.0	0.0	1.6		47	180
Brecks Mill	2008-03-03 09:14:00	0.0	0.0	0.1	7.5	3	180
Brecks Mill	2008-04-01 09:58:00	0.3	0.5	0.5	12.3	17	180
Brecks Mill	2008-05-06 09:39:00	0.0	0.0	0.0	17.8	10	180
Brecks Mill	2008-06-03 09:25:00	0.1	0.1	0.4	21.1	7	180
Brecks Mill	2008-07-01 09:36:00	0.0	0.0	0.2	24.0	110	180
Brecks Mill	2008-08-05 10:37:00	0.0	0.0	0.0	25.3	50	180
Brecks Mill	2008-09-02 09:29:00	0.0	0.0	0.2	23.6	43	180
Brecks Mill	2008-10-07 10:14:00	0.0	0.0	0.2	15.1	127	180
Brecks Mill	2008-11-03 10:28:00	0.0	0.0	0.6	10.4	97	180
Brecks Mill	2008-12-01 09:55:00	0.1	0.9	1.0	7.1	1,470	180
Brecks Mill	2009-01-05 09:33:00	0.0	0.0	0.0		30	180
Brecks Mill	2009-02-03 11:33:00	0.1	0.1	1.0		167	180
Brecks Mill	2009-03-09 10:23:00	0.0	0.0	0.2	11.2	3	180
Brecks Mill	2009-04-06 09:21:00	0.3	0.3	1.7	12.9	77	180
Brecks Mill	2009-05-04 10:21:00	0.7	1.4	1.7	15.0	200	180
Brecks Mill	2009-06-02 10:43:00	0.1	0.1	1.1	20.1	57	180
Brecks Mill	2009-07-06 10:25:00	0.0	0.0	0.6	22.6	120	180
Brecks Mill	2009-08-03 08:44:00	0.0	2.0	4.1	23.9	4,840	180
Brecks Mill	2009-09-01 10:01:00	0.0	0.0	2.0	20.2	1,370	180
Brecks Mill	2009-10-05 10:07:00	0.0	0.0	0.2	15.7	80	180
Brecks Mill	2009-10-27 10:09:00		0.0	0.0	12.4	4,840	180
Brecks Mill	2009-11-02 09:58:00	0.0	0.1	0.3	12.8	73	180
Brecks Mill	2009-12-01 09:54:00	0.0	0.3	0.4	8.1	53	180
Brecks Mill	2010-01-04 10:26:00	0.0	0.0	0.4		47	180
Brecks Mill	2010-02-02 09:25:00	0.0	0.0	0.0		3	180
Brecks Mill	2010-03-01 10:06:00	0.0	0.0	1.1	5.7	20	180
Brecks Mill	2010-03-30 08:51:00	0.8	1.7	2.9	10.5	187	180
Brecks Mill	2010-04-05 08:23:00	0.0	0.0	0.8	15.9	10	180
Brecks Mill	2010-06-01 10:20:00	0.1	0.1	0.6	23.6	590	180
Brecks Mill	2010-07-06 09:48:00	0.0	0.0	0.0	28.3	87	180
Brecks Mill	2010-08-02 09:09:00	0.0	0.0	0.0	24.3	87	180
Brecks Mill	2010-09-07 10:10:00	0.0	0.0	0.0	22.9	933	180
Brecks Mill	2010-09-30 09:23:00	4.0	4.0	5.7	20.1	14,000	180
Brecks Mill	2010-10-04 10:14:00	0.6	0.7	11.0	16.1	1,000	180

Brecks Mill	2010-11-01 10:08:00	0.0	0.0	0.6	10.2	87	180
Brecks Mill	2010-12-06 10:09:00	0.0	0.0	2.2		90	180
Brecks Mill	2011-01-04 10:47:00	0.0	0.0	0.1		30	180
Brecks Mill	2011-02-01 10:33:00	0.0	0.1	0.3		13	180
Brecks Mill	2011-03-01 09:59:00	0.0	0.6	1.6	7.5	37	180
Brecks Mill	2011-04-04 10:42:00	0.0	0.0	0.5	12.9	10	180
Brecks Mill	2011-05-02 10:12:00	0.0	0.0	0.3	16.0	60	180
Brecks Mill	2011-05-18 09:46:00	0.2	1.1	3.3	16.9	4,840	180
Brecks Mill	2011-06-01 10:03:00	0.0	0.0	0.0	25.4	37	180
Brecks Mill	2011-07-05 10:43:00	0.0	0.0	0.0	25.7	43	180
Brecks Mill	2011-08-01 10:23:00	0.0	0.0	0.1	29.1	470	180
Brecks Mill	2011-08-29 10:03:00	0.0	2.4	8.1	21.0	25,000	180
Brecks Mill	2011-09-06 10:15:00	2.9	3.7	3.7	21.9	4,840	180
Brecks Mill	2011-09-08 09:29:00	0.2	1.0	4.7	20.6	52,000	180
Brecks Mill	2011-10-03 10:25:00	0.0	0.5	1.3	14.2	1,100	180
Brecks Mill	2011-11-01 10:19:00	0.0	0.0	1.5	9.5	550	180
Brecks Mill	2011-11-29 10:35:00	1.1	1.1	2.1	12.5	1,800	180
Brecks Mill	2012-01-03 10:10:00	0.0	0.0	0.0		47	180
Brecks Mill	2012-01-12 12:21:00	0.9	1.4	1.4		2,900	180
Brecks Mill	2012-02-01 10:42:00	0.0	0.0	0.3		50	180
Brecks Mill	2012-03-06 10:25:00	0.0	0.0	1.5	6.3	3	180
Brecks Mill	2012-04-02 11:16:00	0.2	0.3	0.5	12.5	7	180
Brecks Mill	2012-04-24 10:30:00	0.0	0.3	2.6	12.6	3,800	180
Brecks Mill	2012-05-01 10:09:00	0.1	0.1	0.2	15.7	20	180
Brecks Mill	2012-06-04 10:35:00	0.2	0.3	1.7	19.1	2,000	180
Brecks Mill	2012-07-09 10:11:00	0.0	0.0	0.0	27.6	57	180
Brecks Mill	2012-08-06 10:39:00	0.0	0.3	1.5	27.7	600	180
Brecks Mill	2012-09-04 10:06:00	1.4	3.7	4.0	23.5	24,000	180
Brecks Mill	2012-10-01 10:15:00	0.0	0.0	0.3	17.5	270	180
Brecks Mill	2012-10-31 09:56:00	0.0	0.7	5.1	11.2	12,000	180
Brecks Mill	2012-11-05 10:11:00	0.0	0.0	0.7	10.3	187	180
Brecks Mill	2012-12-03 10:23:00	0.0	0.0	0.5	8.7	37	180
Brecks Mill	2013-01-07 10:33:00	0.0	0.1	0.1		27	180
Brecks Mill	2013-02-04 10:26:00	0.0	0.0	1.7		17	180
Brecks Mill	2013-03-04 10:51:00	0.0	0.0	0.6	5.1	2	180
Brecks Mill	2013-04-02 10:05:00	0.0	0.0	0.1	9.4	17	180
Brecks Mill	2013-05-01 10:06:00	0.0	0.0	0.4	16.7	13	180
Brecks Mill	2013-06-03 10:28:00	0.5	0.6	0.8	24.2	4,840	180
Brecks Mill	2013-07-02 09:52:00	0.0	1.1	2.8	22.5	4,840	180
Brecks Mill	2013-07-08 10:50:00	0.1	0.3	0.5	25.3	500	180
Brecks Mill	2013-08-05 11:04:00	0.0	0.0	1.2	21.7	10	180
Brecks Mill	2013-09-03 10:11:00	0.0	0.0	1.6	23.6	180	180
Brecks Mill	2013-10-01 10:20:00	0.0	0.0	0.0	16.9	40	180
Brecks Mill	2013-10-11 09:51:00	2.9	3.5	4.0	15.4	14,100	180
Brecks Mill	2013-11-05 09:52:00	0.0	0.0	0.2	8.9	46	180
Brecks Mill	2013-12-02 10:35:00	0.0	0.0	2.9	4.9	31	180
Brecks Mill	2014-01-06 10:20:00	0.4	0.9	1.3	3.5	1,450	180
Brecks Mill	2014-02-04 10:30:00	0.0	1.2	1.2	2.3	113	180
Brecks Mill	2014-03-10 10:17:00	0.0	0.0	0.0	6.6	8	180
Brecks Mill	2014-04-02 10:29:00	0.0	0.0	1.9	9.8	24	180
Brecks Mill	2014-05-05 10:25:00	0.0	0.0	5.3	14.3	178	180
Brecks Mill	2014-06-02 10:47:00	0.0	0.0	0.9	19.3	37	180
Brecks Mill	2014-07-01 10:33:00	0.0	0.0	0.8	25.1	26	180
Brecks Mill	2014-08-05 10:43:00	0.0	0.0	0.4	23.7	42	180
Brecks Mill	2014-08-13 10:55:00	0.0	1.7	1.7	22.6	1,230	180
Brecks Mill	2014-09-03 10:32:00	0.0	0.3	1.5	24.5	143	180
Brecks Mill	2014-10-01 10:53:00	0.0	0.0	0.7	19.6	79	180
Brecks Mill	2014-11-03 10:29:00	0.0	0.0	0.5	8.6	24	180
Brecks Mill	2014-12-01 10:39:00	0.1	0.1	1.1	7.0	34	180

Brecks Mill	2014-12-03 10:42:00	0.1	0.3	0.4	6.4	41	180
Brecks Mill	2015-01-05 10:07:00	0.0	0.4	1.2		300	180
Brecks Mill	2015-02-03 10:07:00	0.0	0.9	1.0		1,450	180
Brecks Mill	2015-03-03 10:39:00	0.5	0.6	1.2	0.5	413	180
Brecks Mill	2015-03-11 10:23:00	0.0	0.7	1.6	4.2	1,850	180
Brecks Mill	2015-04-07 11:21:00	0.1	0.1	0.2	13.9	6	180
Brecks Mill	2015-04-22 10:58:00	0.1	0.5	2.3	15.6	105	180
Brecks Mill	2015-05-04 10:23:00	0.0	0.0	0.0	19.1	15	180
Brecks Mill	2015-06-01 10:30:00	2.0	2.0	2.0	25.1	2,830	180
Brecks Mill	2015-08-05 10:52:00	0.0	0.1	0.4	26.4	15	180
Brecks Mill	2015-09-01 10:09:00	0.0	0.0	0.0	25.7	107	180
Brecks Mill	2015-10-05 10:11:00	0.0	0.0	4.0	14.5	30	180
Brecks Mill	2015-10-06 10:12:00	0.0	0.0	2.7	15.2	66	180
Brecks Mill	2015-11-02 10:19:00	0.0	0.0	2.8	12.2	30	180
Brecks Mill	2015-12-01 10:05:00	1.0	1.0	1.1	8.9	46	180
Brecks Mill	2016-01-04 10:23:00	0.0	0.0	0.9		22	180
Brecks Mill	2016-02-02 10:14:00	0.0	0.1	0.1		78	180
Brecks Mill	2016-02-24 10:17:00	1.6	2.0	2.0		115	180
Brecks Mill	2016-03-01 10:09:00	0.0	0.0	1.7	8.4	27	180
Brecks Mill	2016-04-04 09:46:00	0.2	0.2	0.8	10.5	8	180
Brecks Mill	2016-05-02 10:14:00	0.4	0.9	1.1	13.3	71	180
Brecks Mill	2016-05-03 09:57:00	0.2	0.6	1.2	13.9	1,730	180
Brecks Mill	2016-06-01 10:04:00	0.0	0.0	0.9	24.9	86	180
Brecks Mill	2016-07-11 10:32:00	0.0	0.0	1.2	24.8	58	180
Brecks Mill	2016-08-01 10:02:00	0.0	0.1	2.7	25.1	110	180
Brecks Mill	2016-08-30 10:59:00	0.0	0.0	0.0	26.4	319	180
Brecks Mill	2016-09-20 10:08:00	0.0	0.9	0.9	22.0	4,840	180
Brecks Mill	2016-09-29 10:43:00	1.1	1.1	1.2	17.7	236	180
Brecks Mill	2016-10-03 09:26:00	0.0	0.0	3.2	18.2	688	180
Brecks Mill	2016-11-01 09:50:00	0.0	0.0	0.7	12.5	10	180
Brecks Mill	2016-12-01 09:57:00	0.0	1.2	2.3	11.4	4,840	180
Brecks Mill	2017-01-03 10:11:00	0.4	0.8	1.2		22	180
Brecks Mill	2017-02-01 10:30:00	0.0	0.0	0.0		2	180
Brecks Mill	2017-03-06 10:19:00	0.0	0.0	0.3	5.0	2	180
Brecks Mill	2017-04-03 09:37:00	0.3	0.3	3.3	11.7	34	180
Brecks Mill	2017-05-01 09:58:00	0.0	0.0	0.9	19.2	2	180
Brecks Mill	2017-06-05 10:04:00	0.1	0.1	0.2	19.2	4	180
Brecks Mill	2017-07-17 10:06:00	0.0	0.0	1.5	26.4	977	180
Brecks Mill	2017-08-01 10:09:00	0.0	0.0	0.3	25.1	472	180
Brecks Mill	2017-08-08 10:12:00	0.0	0.7	1.3	21.6	192	180
Brecks Mill	2017-09-05 10:17:00	0.1	0.1	0.8	21.7	334	180
Brecks Mill	2017-10-02 10:00:00	0.0	0.0	0.0	16.8	155	180
Brecks Mill	2017-10-30 10:32:00	0.5	2.4	2.9	14.4	4,840	180
Brecks Mill	2017-11-07 10:02:00	0.3	0.3	0.6	14.0	58	180
Brecks Mill	2017-12-04 10:10:00	0.0	0.0	0.0	5.0	4	180
Brecks Mill	2018-01-16 10:05:00	0.0	0.0	1.2	1.0	651	180
Brecks Mill	2018-02-06 10:05:00	0.0	0.0	1.2	1.5	545	180
Brecks Mill	2018-02-12 09:47:00	0.0	1.2	2.5	6.3	3,450	180
Brecks Mill	2018-03-05 09:53:00	0.0	0.0	1.3	6.8	8	180
Brecks Mill	2018-04-03 10:19:00	0.1	0.4	0.6	9.1	19	180
Brecks Mill	2018-05-01 09:59:00	0.0	0.0	0.6	15.8	1	180
Brecks Mill	2018-06-04 10:01:00	0.1	0.9	2.3	18.7	4,840	180
Brecks Mill	2018-07-16 09:41:00	0.0	0.4	0.4	26.0	229	180
Brecks Mill	2018-08-06 10:22:00	0.0	0.0	1.4	26.1	299	180
Brecks Mill	2018-09-04 10:44:00	0.0	0.0	1.1	24.9	54	180
Brecks Mill	2018-09-10 10:48:00	0.1	2.1	3.3	17.4	5,790	180
Brecks Mill	2018-10-02 09:57:00	0.3	0.3	1.2	19.0	69	180
Brecks Mill	2018-11-05 10:11:00	0.5	0.5	1.4	11.4	1,160	180
Brecks Mill	2018-12-04 09:47:00	0.0	0.0	0.6	9.3	52	180

Brecks Mill	2019-01-07 09:38:00	0.0	0.0	0.5	6.3	29	180
Brecks Mill	2019-02-05 09:57:00	0.0	0.0	0.0	5.7	22	180
Brecks Mill	2019-03-04 10:09:00	0.0	0.9	1.7	5.2	181	180
Brecks Mill	2019-04-01 10:16:00	0.0	0.1	0.1	10.3	2	180
Brecks Mill	2019-05-01 09:34:00	0.0	0.0	1.0	16.4	24	180
Brecks Mill	2019-05-13 09:35:00	1.1	2.2	4.3	12.9	4,840	180
Brecks Mill	2019-06-03 09:48:00	0.0	0.4	1.6	20.6	1,630	180
Brecks Mill	2019-07-01 09:21:00	0.0	0.0	0.2	23.6	65	180
Brecks Mill	2019-08-05 09:47:00	0.0	0.0	0.0	24.9	197	180
Brecks Mill	2019-09-03 09:26:00	0.0	0.4	0.5	22.8	3,470	180
Brecks Mill	2019-10-01 09:59:00	0.0	0.0	0.0	20.9	141	180
Brecks Mill	2019-10-17 09:21:00	0.0	1.7	1.8	13.8	4,840	180
Brecks Mill	2019-11-05 09:25:00	0.0	0.0	1.3	9.8	120	180
Brecks Mill	2019-12-02 09:16:00	0.0	0.6	0.6	5.3	138	180
Brecks Mill	2020-01-06 08:56:00	0.0	0.0	0.4	5.7	1	180
Brecks Mill	2020-02-04 09:28:00	0.1	0.1	0.2	7.5	4	180
Brecks Mill	2020-03-11 09:19:00	0.0	0.0	0.5	10.8	2	180
Brecks Mill	2020-04-01 09:32:00	0.0	0.0	1.3	11.3	24	180
Brecks Mill	2020-05-05 08:33:00	0.0	0.0	1.1	16.4	8	180
Brecks Mill	2020-06-09 09:55:00	0.0	0.0	1.1	22.8	53	180
Brecks Mill	2020-07-07 08:51:00	0.0	1.7	1.7	25.7	4,840	180
Brecks Mill	2020-08-11 09:29:00	0.0	0.0	3.5	26.0	551	180
Brecks Mill	2020-09-01 08:27:00	0.0	0.1	1.5	20.9	48	180
Brecks Mill	2020-11-04 09:48:00	0.0	0.0	2.5	9.3	53	180
Brecks Mill	2020-12-01 10:18:00	0.0	2.9	3.2	11.6	4,840	180
Brecks Mill	2021-01-05 09:50:00	0.0	0.0	1.3	6.3	58	180
Brecks Mill	2021-02-16 08:44:00	0.7	0.8	1.1	5.0	1,300	180
Brecks Mill	2021-03-01 08:03:00	0.1	1.2	1.6	4.5	3,450	180
Brecks Mill	2021-03-02 08:15:00	0.0	0.1	1.6	4.5	523	180
Brecks Mill	2021-04-06 08:40:00	0.0	0.0	0.5	14.5	6	180
Brecks Mill	2021-05-04 08:29:00	0.1	0.5	0.8	19.4	169	180
Brecks Mill	2021-06-01 08:06:00	0.0	0.0	2.1	18.2	545	180
Brecks Mill	2021-07-06 09:35:00	0.0	0.0	1.9	25.7	66	180
Brecks Mill	2021-08-03 08:13:00	0.0	0.0	0.4	21.9	476	180
Brecks Mill	2021-09-01 08:17:00	5.1	5.1	5.2	23.6	4,840	180
Brecks Mill	2021-10-05 08:26:00	1.3	1.4	1.4	19.5	4,840	180
Brecks Mill	2021-11-02 09:43:00	0.1	0.1	1.7	12.4	107	180
Brecks Mill	2021-12-01 08:13:00	0.0	0.0	0.2	5.6	4	180
Brecks Mill	2022-01-05 08:56:00	0.0	0.0	1.0	3.7	263	180
Brecks Mill	2022-03-01 08:36:00	0.0	0.0	0.9	5.8	8	180
Brecks Mill	2022-05-03 08:26:00	0.0	0.0	0.0	18.1	10	180
Brecks Mill	2022-09-06 08:26:00	1.7	1.8	1.8	23.9	4,840	180
Brecks Mill	2022-11-01 08:54:00	0.0	0.2	0.3	14.2	172	180
Brecks Mill	2022-11-01 08:54:00	0.0	0.0	0.2	13.1	172	180
Brecks Mill	2022-12-06 08:54:00	1.1	1.1	2.0	5.9	126	180
Brecks Mill	2023-01-04 08:06:00	0.0	0.1	0.4	8.7	85	180