SALEM SOUND COASTWATCH

Leading the Way to a Healthier Sea and Shore.

Salem Sound Clean Beaches and Streams Program Report for June through August 2024

The following report summarizes the water quality testing results from June through August 2024 in Salem Sound Coastwatch's Clean Beaches and Streams Program at coastal outfall pipes and streams. Salem Sound Coastwatch (SSCW) conducts water sampling following a Department of Environmental Protection-approved Quality Assurance Project Plan (QAPP last revised in 2024). All SSCW volunteer water technicians took the required training as spelled out in this QAPP. Sampling and chain of custody protocols were followed, and a completeness range of 90 to 100 percent of the samples for collection was met.

#213 – Brackenbury Beach, Beverly

US EPA National Water Quality Inventory reports runoff from urbanized areas is the leading source of water quality impairments to surveyed estuaries, harming fish and marine plants and animals, killing native vegetation, and making recreational areas unsafe and unpleasant.

(EPA 841-F-03-003)

Approach and Methods

While municipalities test bathing waters at public beaches, Salem Sound Coastwatch focuses on stormwater outfall pipes and coastal streams, many of which are located at bathing beaches and near boating areas. SSCW's samples are collected at sites of stormwater discharge at low tide, which means bacterial counts tend to be higher than beach samples taken at high tide in three feet of water where the ocean has diluted the discharge. Testing outfall pipes and streams shows whether bacterial contaminants are making their way from the land into our area waters.

EPA determined that *Enterococcus* is the best indicator organism in marine waters to show a correlation with adverse human health effects. Therefore, all states were mandated to use this standard by April 2004. Since 2004, all Salem Sound communities and SSCW have used *Enterococcus* as the indicator organism for marine water testing.

The EPA water quality standard for Class A, B, and C is met if the *Enterococcus* level of a single sample is less than 104 CFU/100mL or if the geometric mean of the most recent five (5) *Enterococcus* levels within the same bathing season does not exceed 35 colonies per 100mL (Massachusetts state sanitary code 105 CMR 445.000). The geometric mean is a statistical averaging method used to even out the average when dealing with a wide range of numbers.

Definition of Dry vs. Wet Conditions

Rain can cause temporary elevated bacterial counts at discharge sites and within nearshore coastal waters. Runoff from impervious surfaces (parking lots, roofs, streets) flushes contaminants through storm drains, bringing pollution onto the beaches and other coastal habitats. Therefore, testing under dry conditions gives a better picture of ongoing contamination problems.

SSCW defines "dry" conditions vs. "wet" differently than the municipalities. The municipalities define wet conditions, or a "storm" event, as any occurrence of precipitation during the sampling or within the 24 hours preceding the sampling. **Under SSCW's definition, dry conditions are less than 0.2" precipitation the day of sampling or less than 0.5" within the three days preceding sampling. Wet conditions are defined as more than 0.2" precipitation 24 hours before sampling or more than 0.5" within three days preceding sampling.** Protocols for wet weather sampling are the same as for dry weather sampling. Graphs 2 through 3 on pages 12-13 show the precipitation for the sampling period. Note, a graph may indicate rain when sampling was listed as "Dry"; this means the rain fell after the sample was taken.

Salem Sound Coastwatch Test Results

Table 11 on page 10 shows the results for all the samples taken between June 10 and August 21, 2024. Samples were taken every 2 weeks within two hours of low tide and driven to Gloucester where Biomarine tested all water samples. (16 East Main Street, Gloucester MA 01930).

Values above the EPA standard (EPA-823-R-03-008) are indicated in **bold**: ***Enterococcus* >104 CFU/100mL**. In addition, geometric means are included for all dates (n = 6) and only dry sampling dates (n = 2).

Two of the six test days were considered wet. On these dates, every site (except the outfall pipe at Dane Street Beach) had bacterial counts above the EPA standard: *Enterococcus* >104 CFU/100mL. Bacterial counts at most sites peaked on August 7th with a low count of 3.654 to over 24,196 CFU/100mL (beyond the detectable scale). Dry weather sampling ranged from 41 to 17,329 CFU/100mL.

Results Summary

Wet weather sampling events are removed to determine the bacterial hotspots, defined by Salem Sound Coastwatch as sites having Enterococcus counts greater than 1000 CFU/100mL.

HOTSPOTS:
According to SSCW testing results, every town has at least one hot spot in 2024.

Table 1: **Hotspots are defined as the Geometric Mean for ONLY DRY weather sampling (n=5) for Enterococcus > 1000 CFU/100mL.**

2024 Monitoring Results		WET	WET	DRY	DRY	WET	WET	Dry Days
Location	**Site ID**	**6/10**	**6/24**	**7/10**	**7/24**	**8/7**	**8/21**	**Geometric Mean**
Manchester								
Black Beach off 127	161	**842**	**2,489**	**1,553**	**2,909**	**14,136**	**3,076**	**2,125.48**
Wolf Trap Estuary at bridge	161-E	**3,556**	**7,701**	**2,224**	**12,033**	**3,654**	**6,488**	**5,173.14**
Wolf Trap Estuary from marsh	161-M	**2,987**	**7,701**	**987**	**14,136**	**4,884**	**4,884**	**3,735.27**
Wolf Trap Estuary from East upper marsh	161-EUM	**1,050**	**3,448**	**2,282**	**17,329**	**4,611**	**2,333**	**6,288.46**
Wolf Trap Estuary from West upper marsh	161-	**2,036**	**684**	**1,153**	**6,488**	**>24,196**	**5,172**	**2,735.08**
Beverly								
East End Brackenbury Beach (Stream)	213	**873**	**988**	**934**	**1,414**	**17,329**	**1,850**	**1,149.21**
West End Brackenbury Beach (outfall pipe)	222	**1,060**	**6,488**	**861**	**7,270**	**24,196**	**2,723**	**2,501.89**
Dane St Beach and Lawrence Brook	321	**1,467**	**5,475**	**1,026**	**2,909**	**19,863**	**1,757**	**1,727.61**
Danvers								
Frost Fish Brook at Poplar St	400	**2,382**	**3,076**	**2,120**	**3,654**	**19,863**	**4,352**	**2,783.25**
Peaody								
North River Downstream of Howley St	500	**1,071**	**1,106**	**2,120**	**581**	**>24,196**	**512**	**1,109.83**
Salem								
Juniper Beach	620	**638**	**2,905**	**5,101**	**1,317**	**12,033**	**7,701**	**2,591.91**
Marblehead								
Grace Oliver	700	**1,467**	**1,187**	**487**	**2,753**	**9,804**	**985**	**1,157.89**

Manchester

Refer to the separate report of findings for Manchester, *CBS Final Report 2024 Manchester*.

Beverly

Beverly had three hotspots in 2024: East End Brackenbury Beach stream (213), West End Brackenbury Beach outfall pipe (214), and Lawrence Brook at Dane St Beach (321). Several Beverly's beaches were closed this summer due to high bacterial counts in the swimming water.

Table 2: **2024 Beverly Water Quality Monitoring Results from Outfall Pipes and Streams**

								DRY	WET
Location	**Site ID**	**6/10**	**6/24**	**7/10**	**7/24**	**8/7**	**8/21**	**Geometric Mean**	**Geometric Mean**
Beverly									
East End Brackenbury Beach (Stream)	213	**873**	**988**	**934**	**1,414**	**17,329**	**1,850**	**1,821.46**	**1,149.21**
Rice's Beach	214	73	NO FLOW	NO FLOW	NO FLOW	**15,531**	NO FLOW	1,064.78	NO FLOW
West End Brackenbury Beach (outfall pipe)	222	**1,060**	**6,488**	**861**	**7,270**	**24,196**	**2,723**	**3,762.34**	**2,501.89**
Dane St Beach and Lawrence Brook	321	**1,467**	**5,475**	**1,026**	**2,909**	**19,863**	**1,757**	**3,069.64**	**1,727.61**
Dane St Beach Outfall Pipe to East	323	**341**	**813**	41	98	**>24,196**	**5,794**	364.73	**63.39**

When high levels of bacteria were detected at the Patch / Brackenbury Beach (213) outfall in 2003, SSCW worked with EPA Region 1 to undertake a Sanitary Beach Survey in 2004 and 2005. No direct source was detected, but there seems to be a relationship between high bacterial counts and full and new moons. The thought was that the marsh was not well flushed so bacteria remained in the marsh heating up until the higher tides could cleanse the area. In addition, SSCW worked with an upstream abutter to reduce the feeding of

ducks that wintered over in a pond created by a small dam. The dam was removed and the feeding stopped. The counts in 2016 were the lowest of any year since 2003; Massachusetts experienced a record drought in 2016, which may have been a factor in the lower bacterial levels. The 2017 results were slightly higher than 2016 but within normal variability and continued improvement from years ago when the ducks were fed. The outfall pipe #222 generally did not flow and was blocked by sand. However, with the increased precipitation in the summer of 2023, the pipe reopened in July and August and continued to flow throughout the Summer of 2025. Since its bacterial counts are increasing, the wetland area from which the outfall pipe drains should be investigated.

Lawrence Brook (321) flows onto Dane Street Beach in the northeast corner and receives stormwater from its watershed. It is important to monitor because it is adjacent to a heavily used public beach. Rain events increase bacteria levels carried by the brook onto the beach. It was brought to our attention at the end of July 2017 by the City of Beverly Public Service Department that several catch basins around Kelleher's Pond had become receptacles for dog waste bags. The catch basins in the Essex St/Pond View Lane/Colon St area drain to Beverly's outfall #510 (SSCW #321) that exits onto the Dane St Beach via Lawrence Brook. The City cleaned the catch basins and SSCW stenciled the area's catch basins. These actions resulted in August bacterial levels that met the Class A, B, and C standards as specified by the EPA (EPA-823-R-03-008): Enterococci > 104 CFU/100mL. This shows the importance of catch basin maintenance and continued public education. This was a hotspot in 2020, 2022, and 2024 so SSCW will continue to work with Beverly to reduce sources in the Lawrence Brook watershed. Lawrence Brook will be investigated in the SSCW Tributaries and WQ Monitoring Program in the Fall of 2024.

Table 3: **2007-2024 West End Brackenbury Beach (222) and Lawrence Brook (321), Beverly**
Annual Dry Geometric Means

Salem Sound Coastwatch Testing Sites	SITE	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beverly																			
West End Brackenbury Beach (outfall pipe)	222	340	~	~	~	~	~	~	~	~	~	~	137	512	164	621	761	4,066	2,502
Dane St Beach and Lawrence Brook	321	701	501	242	426	432	376	494	419	282	64	124	249	154	2,294	575	1,671	528	1,728

Danvers

Danvers had one hot spot in 2024: Frost Fish Brook at Poplar St (400) which has been a hot spot in the past.

Table 4: **2024 Danvers Water Quality Monitoring Results from Outfall Pipes and Streams**

2024 Monitoring Results		WET	WET	DRY	DRY	WET	WET	Dry Days
Location	Site ID	6/10	6/24	7/10	7/24	8/7	8/21	Geometric Mean
Danvers								
Frost Fish Brook at Poplar St	400	2,382	3,076	2,120	3,654	19,863	4,352	2,783
Waters River at Sylvan St	404	2,359	1,081	934	860	24,196	2,481	896

Reviewing the sampling results over the past few years indicates that both sites 400 and 404 have recurring elevated levels of bacteria.

Table 5: **2019-2024 Danvers Water Quality Monitoring Results – Dry Annual Geometric Means**

Location	Site ID	2019	2020	2021	2022	2023	2024
Danvers							
Frost Fish Brook at Poplar St	400	**857**	**1350**	**298**	**1,649**	**816**	**2,783**
Waters River at Sylvan St	404	**-**	**924**	**948**	**-**	**1,541**	**896**

In 2023, SSCW met with the Danvers officials to review results and discuss potential pollution sources at these sites. The source of pollution at Waters River at Sylvan St (#404) may be due to a nearby pet shop with training and pet care. SSCW delivered pamphlets to the Board of Health for distribution to the pet shop for client education. They also suggested the installation of animal waste bags and receptacles. Another factor may be the stagnant water behind the pet shop fed by intermittent stormwater overflow from Rte. 114. This site still has problems during wet weather sampling (see Table 11, pg. 10).

Danvers found high levels of bacteria in the swimming water at Sandy Beach, Porter River, resulting in its closure numerous times during the summer of 2024. Geese are a suspected source of contamination of both Frost Fish Brook at Poplar St and Sandy Beach. Geese prefer a clear area for take-off so the introduction of taller grass, shrubs, and/or benches may deter them. The BOH will remind the Harbormaster and the Danversport Yacht Club of the pump-out requirement for all boaters. Signage to educate boaters may be necessary.

After meeting with Danvers officials in September 2024, SSCW tested upstream along the Frost Fish Brook in the Donegal Ln and Colgate St area under its Tributaries and Water Quality Program.

Peabody

Table 6: **2024 Peabody Water Quality Monitoring Results from Outfall Pipes and Streams**

Location	Site ID	6/10	6/24	7/10	7/24	8/7	8/21	Geometric Mean All	Geometric Mean Dry
Peaody									
North River Downstream of Howley St	500	**1,071**	**1,106**	**2,120**	**581**	**>24,196**	**512**	943.33	**1,109.83**

In the Fall of 2024 SSCW continued testing upstream brooks in Peabody under its Tributaries and Water Quality Program to identify pollution sources contributing to the North River.

Salem

The improvement the City of Salem made under an EPA Administrative Order (2011) continues to pay off. For the second year in a row Salem had only one outfall on the Hotspot List. Salem continues to discover illicit connections which are repaired and redirected to the sanitary sewer system. Although it will always be a given that work remains to improve the sewer and stormwater infrastructure, the City of Salem's thorough evaluations have resulted in cleaner water entering Salem Harbor and the North River.

Table 7: **2024 Salem Water Quality Monitoring Results from Outfall Pipes and Streams**

Location	Site ID	6/10	6/24	7/10	7/24	8/7	8/21	Geometric Mean All	Geometric Mean Dry
Salem									
Collins Cove	525	**>24,196**	~	**166**	**2,755**	**17,329**	**4,482**	**2,441.29**	**676.26**
North River Franklin & Foster St	532	**602**	**2,878**	**719**	**140**	**>24,196**	**14,136**	**1,196.92**	**316.70**
Juniper Beach	620	**638**	**2,905**	**5,101**	**1,317**	**12,033**	**7,701**	**3,238.58**	**2,591.91**
Shetland Park	629-SP	**>24,196**	**1,664**	**162**	**2,023**	~	**624**	763.77	**572.47**
South River Congress St Dock	673	**10,462**	**1,248**	**272**	**420**	**24,196**	**305**	**1,491.47**	**337.99**

Shetland Park (#629-SP – Formerly known as New Salem) became a hot spot in 2022 and intensified in 2023. In 2024, the City of Salem conducted work in this area and fixed leaking sanitary sewers. Further initiatives appear to have helped as the outfall was removed from the list of hotspots in 2024.

Levels at the outfall located at Furlong Park (532) had significantly lower bacterial levels during dry days and therefore, the outfall was also removed from the hotspot list for 2024.

#620 – Juniper Beach, Salem

In 2006, after record-high numbers in 2005 – see Table 8, the Juniper Beach outfall (#620) pipe was cleaned, and a TideFlex "duckbill" tide restrictor was installed. Bacterial results dropped for several years, but by 2010, bacterial levels had risen to a geometric mean of 7,267 CFU/100mL. The City continued inspections and remediation including the replacement of 100 feet of sanitary mainline and service laterals. In 2015, an additional 338-foot section of sewer pipe was lined to prevent exfiltration to the drain system, and in 2016 approximately 330 feet of sanitary sewer pipe were relined near the Juniper Beach outfall to address indirect discharge. In the Spring of 2023, all the sewer pipes were lined throughout the Willows neighborhood. Sewer manhole covers are scheduled for sealing to prevent contamination next year.

The 2023 geometric mean was 465 CFU/100mL, which removed it from the hotspot list for the eighth year in a row. However, in 2024 bacterial counts were much higher, and it has returned to the hotspot list. This neighborhood experienced significant flooding during the Winter of 2023-24 which may have damaged infrastructure and warrants investigation.

Table 8: **Juniper Beach Outfall #620 Water Quality Monitoring Results 2004 – 2024**

Years	June	June	July	July	Aug	Aug	Geomean (Dry Days)
2004	**600**	**900**	**17,000**	**200**	**9,400**	**600**	**1,476**
2005	**198,630**	**81,640**	**8,390**	**30,760**	**4,814**	**14,210**	**25,672**
2006	**16,740**	**173**	**156**	**316**	**3,266**	**124**	**622**
2007	**3,600**	20	**680**	40	**290**	**7,000**	**358**
2008	NS	30	**920**	70	**2,100**	**120**	**152**
2009	**520**	**1,200**	**370**	**680**	**160**	10	94
2010	**3,450**	**24,200**	**24,000**	**1,100**	**24,200**	**2,760**	**6,852**
2011	**24,200**	**410**	**2,250**	**6,490**	**1,900**	**3,090**	**3,076**
2012	**554**	97	520	**4,350**	110	**144**	**213**
2013	**24,000**	504	**173**	**754**	**880**	**295**	**959**
2014	**8,660**	**24,000**	**842**	**11,200**	**24,200**	**1,990**	**10,002**
2015	**9,210**	**6,130**	**11,200**	**13,000**	**2,480**	**539**	**3,966**
2016	**933**	**404**	**471**	41	**146**	**450**	**189**
2017	20	10	**8,660**	**602**	**563**	**676**	93
2018	10	**17,300**	NS	**183**	**1,630**	**337**	85
2019	**368**	**148**	**556**	**272**	**717**	**327**	**353**
2020	10	31	30	**15,531**	**3,076**	**15,531**	73
2021	98	**341**	**763**	**2,064**	**246**	**305**	**398**
2022	**414**	**12,997**	**12,033**	**298**	**7,701**	97	**551**
2023	**171**	**278**	**474**	**450**	**538**	**1,895**	**465**
2024	**638**	**2,905**	**5,101**	**1,317**	**12,033**	**7,701**	**2,591.91**

Wet Days

Marblehead

Table 9: **2024 Marblehead Water Quality Monitoring Results from Outfall Pipes and Streams**

2024 Monitoring Results		WET	WET	DRY	DRY	WET	WET	Dry Days
Location	**Site ID**	**6/10**	**6/24**	**7/10**	**7/24**	**8/7**	**8/21**	**Geometric Mean**
Marblehead								
Grace Oliver	700	**1,467**	**1,187**	**487**	**2,753**	**9,804**	**985**	**1,157.89**
Riverhead Beach	701	**1,043**	**1,789**	**388**	**1,354**	**17,085**	**3,873**	**724.81**
Village St Pier	721	**934**	**2,481**	**602**	**364**	**3,673**	**4,106**	**468.11**
Stramski Beach	722	**1,046**	**1,081**	**984**	~	**8,164**	**2,481**	**984.00**
Red Steps	735	**335**	**325**	**428**	**189**	~	~	**284.42**

History of Sampling

Table 10: **2007-2024 Marblehead Water Quality Monitoring Results – Dry Annual Geometric Means**

Marblehead	Grace Oliver	Riverhead	Village St Pier	Stramski	Red Steps
Year / Site #	**700**	**701**	**721**	**722**	**735**
2007	635	~	~	446	~
2008	1,212	~	200	2,112	~
2009	241	~	~	~	~
2010	308	~	592	667	~
2011	542	~	714	1,070	~
2012	122	~	259	458	~
2013	409	~	226	548	~
2014	720	~	337	672	~
2015	~	259	1,199	1,139	~
2016	~	122	7,340	210	~
2017	~	156	497	640	~
2018	~	565	2,377	662	~
2019	~	194	311	470	~
2020	~	920	311	989	~
2021	~	433	2,507	454	~
2022	~	1,042	551	108	215
2023	456	748	168	487	1,086
2024	1,158	725	468	984	284

Due to recent beach closures, bacterial sampling was resumed at Grace Oliver # 700 after 8 years. A Sanitary Beach Survey was conducted by EPA New England in 2007, and results indicated that the bacteria are not human-related. The high ammonia and bacteria levels indicated that Steer Swamp is the source. However, Grace Oliver Beach (700) was closed to swimming three times in the summer of 2024 – twice in July and once in August, and its bacterial counts have risen. This summer was the first time it has been on the hot spot list since 2008. SSCW will continue to monitor this outfall.

Red Steps #735 sampling began in 2022. This outfall drains an urban watershed, and the bacterial counts have varied, but the numbers are lower, and the site is dangerous for volunteers so SSCW will no longer sample this outfall.

In 2015 and 2016, SSCW returned to the Riverhead Beach culvert (#701) which drains much of the downtown area and the neighborhood around the Goldthwait salt marsh after the Marblehead Water and Sewer Commission completed a large stormwater project in the downtown area, 2013 – 2014. Table 11 shows a decrease in bacterial levels during dry weather sampling except for 2022 when it was a hotspot. Due to the large urban watershed and the age of the pipe system, this culvert will continue to be monitored. Additionally, cleaning storm drains is very important.

The stream flowing onto Stramski Beach (722) has been a trouble spot for many years. From 2003 to 2011, the beach was closed due to contamination fifteen times; with 53% (8 times) of the closures associated with rain events. In 2007, working with SSCW, the Marblehead Water and Sewer Department inspected the stormwater infrastructure in this watershed. Storm drains were cleaned and sampled. It was concluded at that time that the presence of raccoons and the low flow, which creates stagnant conditions, may be contributing factors to this persistent watershed problem. Despite the wet summer, Stramski Beach was not closed in 2023 or 2024.

Over the years, a bacterial spike (> 24,000 CFU/100 mL - not wet weather) has been noticed in August at the Village Road outfall (721). Marblehead Water & Sewer investigations discovered raccoons living in the upstream catch basin. Once they were removed and the basin cleaned, counts dropped. Dog waste bags in the catch basins have been another neighborhood problem. SSCW continues to work with Marblehead to provide public education and monitoring.

For Additional Information about SSCW's Clean Beaches & Streams Program, including how to become a volunteer in this important environmental monitoring program, please call Salem Sound Coastwatch at 978-741-7900 or email susan.marsh@salemsound.org

Table 11: **Salem Sound Coastwatch Water Quality Monitoring Results June through August 2024 from Outfall Pipes and Streams (ALL TOWNS)**

Full Moon – June 21, July 21, August 19 New Moon – June 6, July 5, August 4

Note: ~ designates site not sampled. Wet Days

2024 Monitoring Results		WET	WET	DRY	DRY	WET	WET	ALL Days	Dry Days
Location	**Site ID**	**6/10**	**6/24**	**7/10**	**7/24**	**8/7**	**8/21**	**Geometric Mean**	**Geometric Mean**
Manchester									
Black Beach off 127	161	**842**	**2,489**	**1,553**	**2,909**	**14,136**	**3,076**	**2,727.48**	**2,125.48**
Wolf Trap Estuary at bridge	161-E	**3,556**	**7,701**	**2,224**	**12,033**	**3,654**	**6,488**	**5,089.20**	**5,173.14**
Wolf Trap Estuary from marsh	161-M	**2,987**	**7,701**	**987**	**14,136**	**4,884**	**4,884**	**4,439.45**	**3,735.27**
Wolf Trap Estuary from East upper marsh	161-EUM	**1,050**	**3,448**	**2,282**	**17,329**	**4,611**	**2,333**	**3,398.28**	**6,288.46**
Wolf Trap Estuary from West upper marsh	161-WUM	**2,036**	**684**	**1,153**	**6,488**	**>24,196**	**5,172**	**2,219.66**	**2,735.08**
Beverly									
East End Brackenbury Beach (Stream)	213	**873**	**988**	**934**	**1,414**	**17,329**	**1,850**	**1,821.46**	**1,149.21**
Rice's Beach	214	73	NO FLOW	NO FLOW	NO FLOW	**15,531**	NO FLOW	1,064.78	NO FLOW
West End Brackenbury Beach (outfall pipe)	222	**1,060**	**6,488**	**861**	**7,270**	**24,196**	**2,723**	**3,762.34**	**2,501.89**
Dane St Beach and Lawrence Brook	321	**1,467**	**5,475**	**1,026**	**2,909**	**19,863**	**1,757**	**3,069.64**	**1,727.61**
Dane St Beach Outfall Pipe to East	323	**341**	**813**	41	98	**>24,196**	**5,794**	364.73	**63.39**
Danvers									
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Waters River at Sylvan St	404	**2,359**	**1,081**	**934**	**860**	**24,196**	**2,481**	**2,229.95**	**896.24**
Peaody									
North River Downstream of Howley St	500	**1,071**	**1,106**	**2,120**	**581**	**>24,196**	**512**	943.33	**1,109.83**
Salem									
Collins Cove	525	**>24,196**	~	166	**2,755**	**17,329**	**4,482**	**2,441.29**	**676.26**
North River Franklin & Foster St	532	**602**	**2,878**	**719**	**140**	**>24,196**	**14,136**	**1,196.92**	**316.70**
Juniper Beach	620	**638**	**2,905**	**5,101**	**1,317**	**12,033**	**7,701**	**3,238.58**	**2,591.91**
Shetland Park	629-SP	**>24,196**	**1,664**	**162**	**2,023**	~	**624**	763.77	**572.47**
South River Congress St Dock	673	**10,462**	**1,248**	**272**	**420**	**24,196**	**305**	**1,491.47**	**337.99**
Marblehead									
Grace Oliver	700	**1,467**	**1,187**	**487**	**2,753**	**9,804**	**985**	**1,680.77**	**1,157.89**
Riverhead Beach	701	**1,043**	**1,789**	**388**	**1,354**	**17,085**	**3,873**	**2,004.48**	**724.81**
Village St Pier	721	**934**	**2,481**	**602**	**364**	**3,673**	**4,106**	**1,403.95**	**468.11**
Stramski Beach	722	**1,046**	**1,081**	**984**	~	**8,164**	**2,481**	**1,864.56**	**984.00**
Red Steps	735	**335**	**325**	**428**	**189**	~	~	306.34	**284.42**

Times with ** were taken outside the two-hour window of sampling at low tide

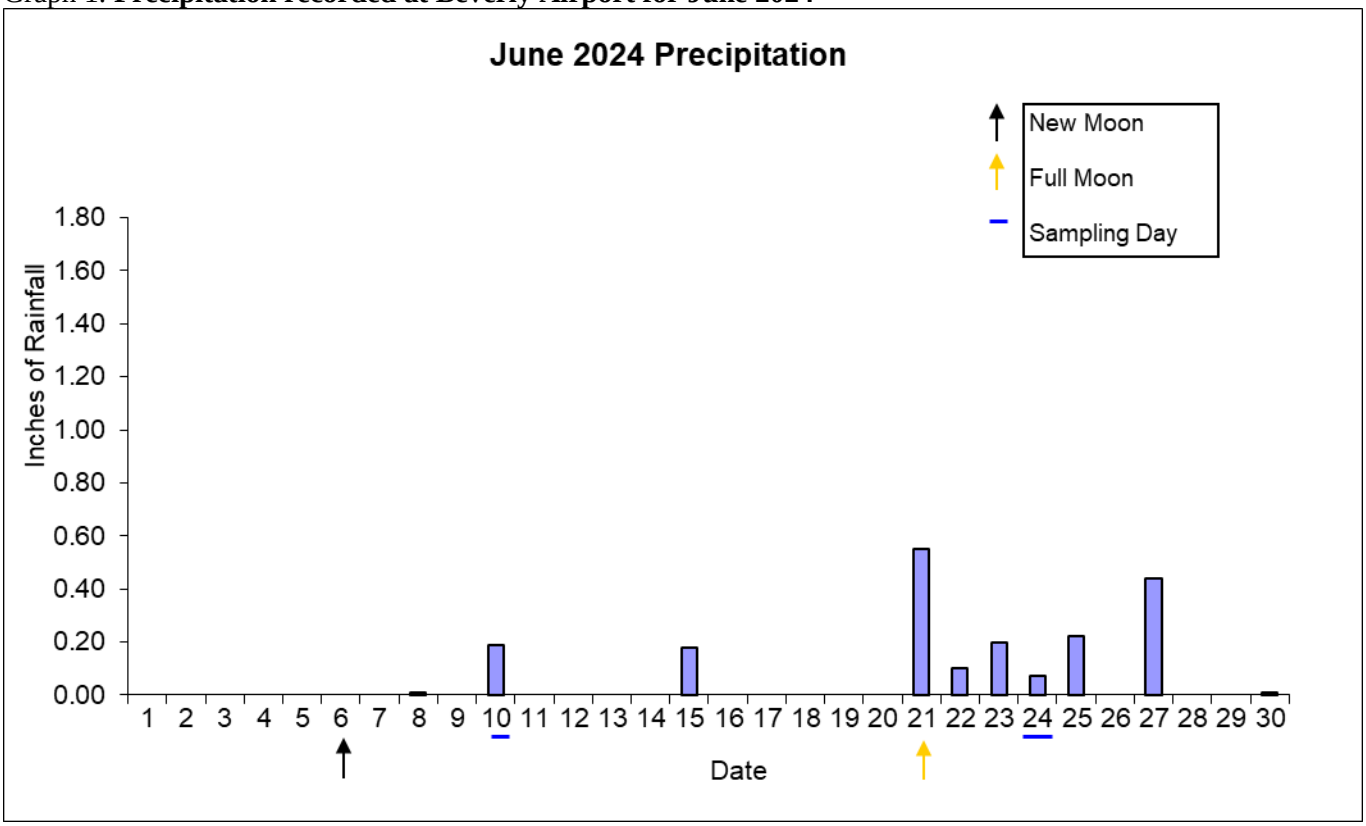
Numbers in bold exceed Class A, B, and C Standards as specified by EPA (823-R-03-008): Enterococci >104 CFL/mL

Weather Ratings:

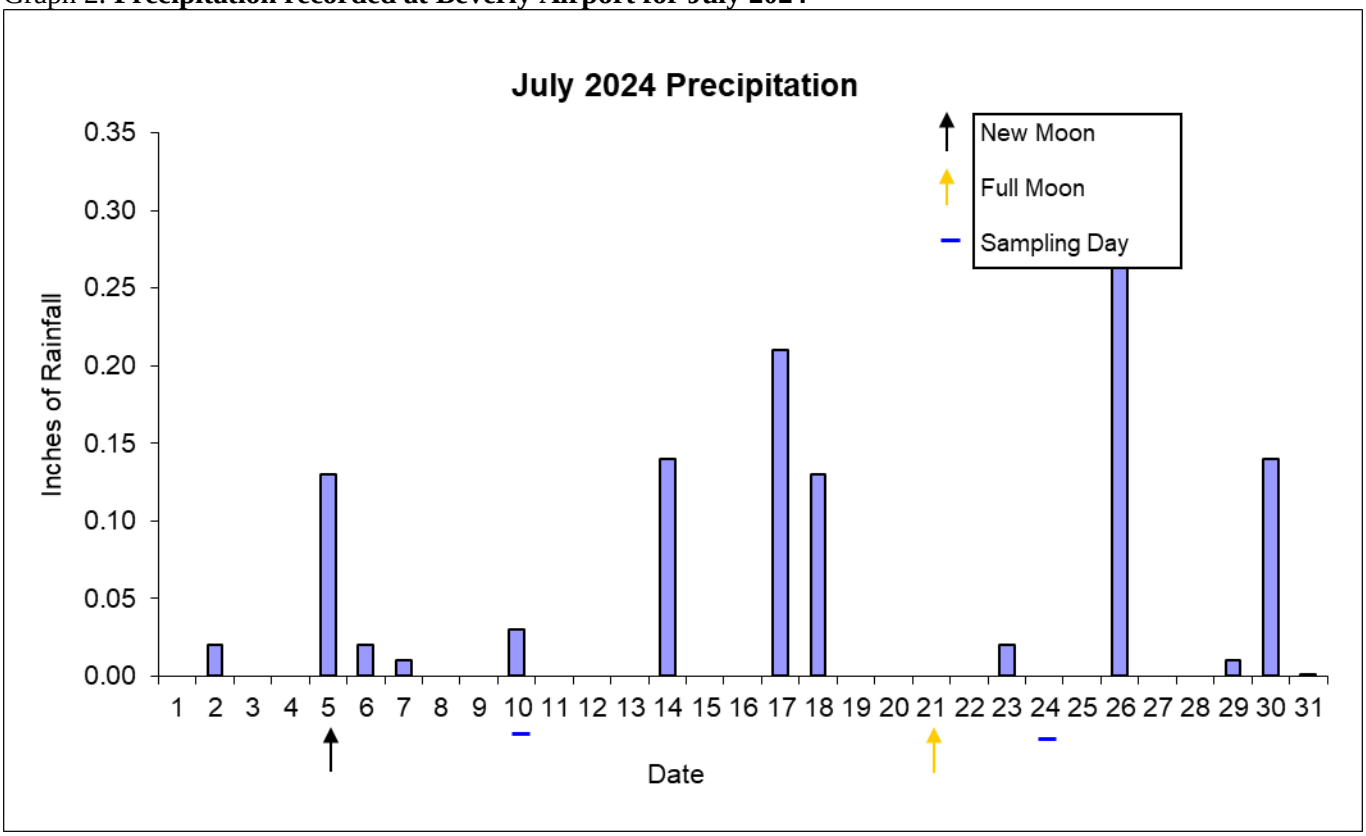
Dry less than 0.2" the day of sampling or less than 0.5" within 3 days preceding sampling

Wet greater than 0.2" the day of sampling or less than 0.5" within 3 days preceding sampling

Graph 1: **Precipitation recorded at Beverly Airport for June 2024**



Graph 2: **Precipitation recorded at Beverly Airport for July 2024**



Graph 3: **Precipitation recorded at Beverly Airport for August 2024**