

**Draft Massachusetts Integrated List of Waters for the  
Clean Water Act 2024/2026 Reporting Cycles**

**Appendix 8**

**Boston Harbor: Mystic River Basin and Coastal Drainage Area  
Assessment and Listing Decision Summary**

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## **Watershed Planning Program**

The mission of the Watershed Planning Program (WPP) in the Massachusetts Department of Environmental Protection is to protect, enhance, and restore the quality and value of the waters of the Commonwealth. Guided by the federal Clean Water Act, WPP implements this mission statewide through five Sections that each have a different technical focus: (1) Surface Water Quality Standards; (2) Surface Water Quality Monitoring; (3) Data Management and Water Quality Assessment; (4) Total Maximum Daily Load; and (5) Nonpoint Source Management. Together with other MassDEP programs and state environmental agencies, WPP shares in the duty and responsibility to secure the environmental, recreational, and public health benefits of clean water for all people of the Commonwealth.

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## **Disclaimer**

References to trade names, commercial products, manufacturers, or distributors in this report constituted neither endorsement nor recommendation by MassDEP.

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## Overview of Appendix Contents

This Integrated Report (IR) Appendix functions as a watershed-based Assessment and Listing Decision Summary that catalogs the most recent assessment decisions for each assessment unit (AU) that was updated as part of the 2024/2026 IR cycle.

The appendix begins with 2024/26 Cycle Impairment Changes, a comprehensive table summarizing all impairments that were either added, removed, changed, or unchanged between the 2022 and 2024/2026 reporting cycles. This table presents the overall impairment status at the waterbody scale, across all designated uses. The table does not detail use-specific impairment changes; those details are provided in subsequent sections of the appendix.

Following 2024/26 Cycle Impairment Changes, the appendix provides an individual section for each AU updated during the 2024/2026 cycle. Each AU section details the supporting data and rationale for each designated use attainment determination, including any associated impairment removal decisions. Changes in impairment status at the designated use level are documented in full within the corresponding Designated Use Attainment Decision. AUs where no usable data were available for the 2024/2026 IR cycle are included, but with the assessment information from the 2022 cycle is carried forward.

The following abbreviations are used when referencing designated uses:

- ALU - Aquatic Life Use
- FC - Fish Consumption Use
- SH - Shellfish Harvesting Use
- AES - Aesthetic Use
- PCR - Primary Contact Recreation Use
- SCR - Secondary Contact Recreation Use

When listing an impairment, parentheses and an asterisk (\*) are utilized to denote “pollution” or non-pollutant impairments that do not require the development of a Total Maximum Daily Load (TMDL). Where applicable, further explanation of the ATTAINS impairment code is provided within square brackets [].

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## 2024/26 Cycle Impairment Changes

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Aberjona River	MA71-01	5	5	(Physical Substrate Habitat Alterations*)	--	Unchanged
Aberjona River	MA71-01	5	5	Ammonia, Un-ionized	--	Unchanged
Aberjona River	MA71-01	5	5	Arsenic in Sediment	--	Unchanged
Aberjona River	MA71-01	5	5	Benthic Macroinvertebrates	--	Unchanged
Aberjona River	MA71-01	5	5	Chloride	--	Unchanged
Aberjona River	MA71-01	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Aberjona River	MA71-01	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Aberjona River	MA71-01	5	5	Fish Bioassessments	--	Unchanged
Aberjona River	MA71-01	5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
Aberjona River	MA71-01	5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
Alewife Brook	MA71-20	5	5	(Debris*)	--	Unchanged
Alewife Brook	MA71-20	5	5	(Water Chestnut*)	--	Unchanged
Alewife Brook	MA71-20	5	5	Chloride	--	Unchanged
Alewife Brook	MA71-20	5	5	Copper in Sediment	--	Unchanged
Alewife Brook	MA71-20	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Alewife Brook	MA71-20	5	5	Enterococcus	--	Unchanged

<b>Waterbody</b>	<b>AU_ID</b>	<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
Alewife Brook	MA71-20	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Alewife Brook	MA71-20	5	5	Flocculant Masses	--	Removed
Alewife Brook	MA71-20	5	5	Lead in Sediment	--	Unchanged
Alewife Brook	MA71-20	5	5	Odor	--	Unchanged
Alewife Brook	MA71-20	5	5	Oil and Grease	--	Unchanged
Alewife Brook	MA71-20	5	5	PCBs in Fish Tissue	--	Unchanged
Alewife Brook	MA71-20	5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
Alewife Brook	MA71-20	5	5	Scum/Foam	--	Removed
Alewife Brook	MA71-20	5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
Alewife Brook	MA71-20	5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
Alewife Brook	MA71-20	5	5	Trash	--	Unchanged
Belle Isle Inlet	MA71-14	5	5	Cause Unknown [Contaminants in Fish and/or Shellfish]	--	Unchanged
Belle Isle Inlet	MA71-14	5	5	Enterococcus	R1_MA_2019_01	Unchanged
Belle Isle Inlet	MA71-14	5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
Belle Isle Inlet	MA71-14	5	5	PCBs in Fish Tissue	--	Unchanged
Bellevue Pond	MA71004	3	3	None	--	Unchanged
Blacks Nook	MA71005	5	5	(Water Chestnut*)	--	Unchanged
Blacks Nook	MA71005	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
Blacks Nook	MA71005	5	5	Transparency / Clarity	--	Unchanged
Chelsea River	MA71-06	5	5	(Debris*)	--	Unchanged

<b>Waterbody</b>	<b>AU_ID</b>	<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
Chelsea River	MA71-06	5	5	Ammonia, Un-ionized	--	Unchanged
Chelsea River	MA71-06	5	5	Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	--	Unchanged
Chelsea River	MA71-06	5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
Chelsea River	MA71-06	5	5	Odor	--	Unchanged
Chelsea River	MA71-06	5	5	PCBs in Fish Tissue	--	Unchanged
Chelsea River	MA71-06	5	5	Petroleum Hydrocarbons	--	Unchanged
Chelsea River	MA71-06	5	5	Trash	--	Unchanged
Chelsea River	MA71-06	5	5	Turbidity	--	Unchanged
Clay Pit Pond	MA71011	5	5	Chlordane in Fish Tissue	--	Unchanged
Cummings Brook	MA71-10	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Ell Pond	MA71014	5	5	Chlorophyll-a	--	Unchanged
Ell Pond	MA71014	5	5	Fecal Coliform	--	Unchanged
Ell Pond	MA71014	5	5	Harmful Algal Blooms	--	Unchanged
Ell Pond	MA71014	5	5	Phosphorus, Total	--	Unchanged
Ell Pond	MA71014	5	5	Total Suspended Solids (TSS)	--	Unchanged
Ell Pond	MA71014	5	5	Transparency / Clarity	--	Unchanged
Fellsmere Pond	MA71016	5	5	Harmful Algal Blooms	--	Unchanged



Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Hills Pond	MA71018	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Hills Pond	MA71018	5	5	Harmful Algal Blooms	--	Unchanged
Horn Pond	MA71019	5	5	(Curly-leaf Pondweed*)	--	Unchanged
Horn Pond	MA71019	5	5	(Fish Passage Barrier*)	--	Unchanged
Horn Pond	MA71019	5	5	DDT in Fish Tissue	--	Unchanged
Horn Pond	MA71019	5	5	Dissolved Oxygen	--	Unchanged
Horn Pond	MA71019	5	5	Harmful Algal Blooms	--	Unchanged
Horn Pond	MA71019	5	5	Phosphorus, Total	--	Unchanged
Little Pond	MA71024	5	5	(Water Chestnut*)	--	Unchanged
Little Pond	MA71024	5	5	Harmful Algal Blooms	--	Unchanged
Little River	MA71-21	5	5	(Debris*)	--	Unchanged
Little River	MA71-21	5	5	(Water Chestnut*)	--	Unchanged
Little River	MA71-21	5	5	Chloride	--	Unchanged
Little River	MA71-21	5	5	Copper in Sediment	--	Unchanged
Little River	MA71-21	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Little River	MA71-21	5	5	Enterococcus	--	Unchanged
Little River	MA71-21	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Little River	MA71-21	5	5	Flocculant Masses	--	Removed
Little River	MA71-21	5	5	Lead in Sediment	--	Unchanged
Little River	MA71-21	5	5	Odor	--	Unchanged
Little River	MA71-21	5	5	Oil and Grease	--	Unchanged
Little River	MA71-21	5	5	PCBs in Fish Tissue	--	Unchanged
Little River	MA71-21	5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Little River	MA71-21	5	5	Scum/Foam	--	Removed
Little River	MA71-21	5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
Little River	MA71-21	5	5	Trash	--	Unchanged
Little River	MA71-22	5	5	(Debris*)	--	Unchanged
Little River	MA71-22	5	5	Copper in Sediment	--	Unchanged
Little River	MA71-22	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Little River	MA71-22	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Little River	MA71-22	5	5	Flocculant Masses	--	Removed
Little River	MA71-22	5	5	Lead in Sediment	--	Unchanged
Little River	MA71-22	5	5	Odor	--	Unchanged
Little River	MA71-22	5	5	Oil and Grease	--	Unchanged
Little River	MA71-22	5	5	PCBs in Fish Tissue	--	Unchanged
Little River	MA71-22	5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
Little River	MA71-22	5	5	Scum/Foam	--	Removed
Little River	MA71-22	5	5	Transparency / Clarity	--	Unchanged
Little River	MA71-22	5	5	Trash	--	Unchanged
Lower Mystic Lake	MA71027	5	5	DDT in Fish Tissue	--	Unchanged
Lower Mystic Lake	MA71027	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Lower Mystic Lake	MA71027	5	5	Hydrogen Sulfide	--	Unchanged
Lower Mystic Lake	MA71027	5	5	PCBs in Fish Tissue	--	Unchanged
Lower Mystic Lake	MA71027	5	5	Salinity	--	Unchanged
Lower Mystic Lake	MA71027	5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
Malden River	MA71-05	5	5	(Debris*)	--	Unchanged

<b>Waterbody</b>	<b>AU_ID</b>	<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
Malden River	MA71-05	5	5	(Water Chestnut*)	--	Unchanged
Malden River	MA71-05	5	5	Chlordane in Fish Tissue	--	Unchanged
Malden River	MA71-05	5	5	DDT in Fish Tissue	--	Unchanged
Malden River	MA71-05	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Malden River	MA71-05	5	5	Dissolved Oxygen Supersaturation	R1_MA_2020_5a	Unchanged
Malden River	MA71-05	5	5	Enterococcus	R1_MA_2019_01	Changed
Malden River	MA71-05	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Malden River	MA71-05	5	5	Fecal Coliform	R1_MA_2019_01	Changed
Malden River	MA71-05	5	5	Flocculant Masses	--	Removed
Malden River	MA71-05	5	5	Odor	--	Unchanged
Malden River	MA71-05	5	5	Oil and Grease	--	Unchanged
Malden River	MA71-05	5	5	PCBs in Fish Tissue	--	Unchanged
Malden River	MA71-05	5	5	pH, High	--	Unchanged
Malden River	MA71-05	5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
Malden River	MA71-05	5	5	Scum/Foam	--	Removed
Malden River	MA71-05	5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
Malden River	MA71-05	5	5	Temperature	--	Unchanged
Malden River	MA71-05	5	5	Total Suspended Solids (TSS)	--	Unchanged
Malden River	MA71-05	5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
Malden River	MA71-05	5	5	Trash	--	Unchanged

<b>Waterbody</b>	<b>AU_ID</b>	<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
Mill Brook	MA71-07	5	5	(Physical Substrate Habitat Alterations*)	--	Unchanged
Mill Brook	MA71-07	5	5	Benthic Macroinvertebrates	--	Unchanged
Mill Brook	MA71-07	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Mill Brook	MA71-07	5	5	Fish Bioassessments	--	Unchanged
Mill Creek	MA71-08	5	5	Cause Unknown [Contaminants in Fish and/or Shellfish]	--	Unchanged
Mill Creek	MA71-08	5	5	Enterococcus	R1_MA_2019_01	Unchanged
Mill Creek	MA71-08	5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
Mill Creek	MA71-08	5	5	PCBs in Fish Tissue	--	Unchanged
Munroe Brook	MA71-15	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
Mystic River	MA71-02	5	5	(Aquatic Plants (Macrophytes)*)	--	Added
Mystic River	MA71-02	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Mystic River	MA71-02	5	5	(Water Chestnut*)	--	Unchanged
Mystic River	MA71-02	5	5	Arsenic	--	Unchanged
Mystic River	MA71-02	5	5	Chlordane in Fish Tissue	--	Unchanged
Mystic River	MA71-02	5	5	Chlorophyll-a	R1_MA_2020_5a	Unchanged
Mystic River	MA71-02	5	5	DDT in Fish Tissue	--	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Mystic River	MA71-02	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Mystic River	MA71-02	5	5	Dissolved Oxygen Supersaturation	R1_MA_2020_5a	Unchanged
Mystic River	MA71-02	5	5	Enterococcus	R1_MA_2019_01	Changed
Mystic River	MA71-02	5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Mystic River	MA71-02	5	5	Harmful Algal Blooms	--	Unchanged
Mystic River	MA71-02	5	5	PCBs in Fish Tissue	--	Unchanged
Mystic River	MA71-02	5	5	pH, High	--	Unchanged
Mystic River	MA71-02	5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
Mystic River	MA71-02	5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
Mystic River	MA71-02	5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
Mystic River	MA71-03	5	5	Ammonia, Un-ionized	--	Unchanged
Mystic River	MA71-03	5	5	Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	--	Unchanged
Mystic River	MA71-03	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Mystic River	MA71-03	5	5	Enterococcus	R1_MA_2019_01	Unchanged
Mystic River	MA71-03	5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
Mystic River	MA71-03	5	5	Flocculant Masses	--	Removed
Mystic River	MA71-03	5	5	Nutrient/Eutrophication Biological Indicators	R1_MA_2020_5a	Unchanged

Waterbody	AU_ID	AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
Mystic River	MA71-03	5	5	Odor	--	Unchanged
Mystic River	MA71-03	5	5	Oil and Grease	--	Unchanged
Mystic River	MA71-03	5	5	PCBs in Fish Tissue	--	Unchanged
Mystic River	MA71-03	5	5	Petroleum Hydrocarbons	--	Unchanged
Mystic River	MA71-03	5	5	Scum/Foam	--	Removed
Pond Brook	MA71-16	5	5	(Fish Passage Barrier*)	--	Unchanged
Pond Brook	MA71-16	5	5	Benthic Macroinvertebrates	--	Unchanged
Sales Creek	MA71-12	3	3	None	--	Unchanged
Shaker Glen Brook	MA71-11	5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed
South Reservoir	MA71038	--	2	None	--	Unchanged
Spot Pond	MA71039	3	3	None	--	Unchanged
Spot Pond Brook	MA71-17	3	5	Escherichia Coli (E. Coli)	--	Added
Spy Pond	MA71040	5	5	(Curly-leaf Pondweed*)	--	Unchanged
Spy Pond	MA71040	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
Spy Pond	MA71040	5	5	(Water Chestnut*)	--	Unchanged
Spy Pond	MA71040	5	5	Chlordane in Fish Tissue	--	Unchanged
Spy Pond	MA71040	5	5	DDT in Fish Tissue	--	Unchanged
Spy Pond	MA71040	5	5	Dissolved Oxygen	--	Unchanged
Spy Pond	MA71040	5	5	Harmful Algal Blooms	--	Unchanged

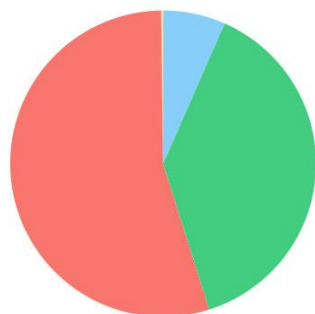
<b>Waterbody</b>	<b>AU_ID</b>	<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
Spy Pond	MA71040	5	5	Phosphorus, Total	--	Unchanged
Unnamed Tributary	MA71-13	4a	4a	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Unnamed Tributary	MA71-19	5	5	Benthic Macroinvertebrates	--	Unchanged
Unnamed Tributary	MA71-19	5	5	Escherichia Coli (E. Coli)	--	Added
Upper Mystic Lake	MA71043	5	5	(Curly-leaf Pondweed*)	--	Unchanged
Upper Mystic Lake	MA71043	5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
Upper Mystic Lake	MA71043	5	5	Dissolved Oxygen Supersaturation	R1_MA_2020_5a	Unchanged
Upper Mystic Lake	MA71043	5	5	Enterococcus	--	Unchanged
Upper Mystic Lake	MA71043	5	5	Harmful Algal Blooms	R1_MA_2020_5a	Added
Wedge Pond	MA71045	5	5	Dissolved Oxygen	--	Unchanged
Wedge Pond	MA71045	5	5	Harmful Algal Blooms	--	Unchanged
Wedge Pond	MA71045	5	5	Phosphorus, Total	--	Unchanged
Winn Brook	MA71-09	4a	4a	(Physical Substrate Habitat Alterations*)	--	Unchanged
Winn Brook	MA71-09	4a	4a	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
Winter Pond	MA71047	5	5	(Non-Native Aquatic Plants*)	--	Unchanged
Winter Pond	MA71047	5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged

## Aberjona River (MA71-01)

<b>Location:</b>	Source just south of Birch Meadow Drive, Reading to inlet Upper Mystic Lake at Mystic Valley Parkway, Winchester (portion culverted underground). (through former 2010 segments: Judkins Pond MA71021 and Mill Pond MA71031).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	9.2 MILES
<b>Classification/Qualifier:</b>	B: WWF

### Aberjona River (MA71-01)

Watershed Area: 25.58 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	25.58	11.41	6.46	3.56
Agriculture	0.2%	0.4%	0.2%	0.3%
Developed	54.7%	49%	41.6%	35.7%
Natural	38.5%	46.6%	43.1%	54%
Wetland	6.6%	4.1%	15.1%	10%
Impervious	35.8%	31.6%	26.9%	22%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Physical Substrate Habitat Alterations*)	--	Unchanged
5	5	Ammonia, Un-ionized	--	Unchanged
5	5	Arsenic in Sediment	--	Unchanged
5	5	Benthic Macroinvertebrates	--	Unchanged
5	5	Chloride	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
5	5	Fish Bioassessments	--	Unchanged
5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged



<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Physical Substrate Habitat Alterations*)	Channelization (Y)	X	--	--	--	--
Ammonia, Un-ionized	Municipal Point Source Discharges (Y)	X	--	--	--	--
Arsenic in Sediment	Source Unknown (N)	X	--	--	--	--
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--
Chloride	Source Unknown (N)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Fish Bioassessments	Source Unknown (N)	X	--	--	--	--
Phosphorus, Total	Source Unknown (N)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	CERCLA NPL (Superfund) Sites (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Contaminated Sediments (Y)	X	--	--	--	--

## Designated Use Attainment Decisions

### Fish Consumption

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Assessed	No

<b>2024/26 Use Attainment Summary</b>	
Fish toxics sampling has not been conducted in the Aberjona River (MA71-01), so the Fish Consumption Use is Not Assessed.	

## Aesthetic

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Assessed	NO

<b>2024/26 Use Attainment Summary</b>	
No aesthetics observation data are available, so the Aesthetics Use for the Aberjona River (MA71-01) is Not Assessed.	

## Primary Contact Recreation

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	NO

<b>2024/26 Use Attainment Summary</b>	
---------------------------------------	--

The Primary Contact Recreation Use for the Aberjona River (MA71-01) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA\_ABR049, MyRWA\_ABR028, and MyRWA\_ABR006.

MyRWA staff/volunteers collected *E. coli* bacteria samples in the Aberjona River (MA71-01) from 2011-2019 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: in the middle of the AU at MyRWA\_ABR049 [Aberjona River at Salem St in Woburn; downstream side of the bridge] from 2011-2019 (n=6-8/yr), MyRWA\_ABR036 [No description submitted by MyRWA] from Oct 2015 (n=1; data not of sufficient frequency to evaluate, per the 2024 CALM, or to discuss further), MyRWA\_ABR031 [No description submitted by MyRWA] from Oct 2015 (n=1; data not of sufficient frequency to evaluate, per the 2024 CALM, or to discuss further), MyRWA\_ABR028 [Aberjona River at Washington St in Winchester; upstream side of the bridge] from 2011-2019 (n=7-8/yr), and toward the downstream portion of the AU at MyRWA\_ABRJUP [Centerline site near former outfall in Judkin's Pond] from Aug 2013 (n=1; data not of sufficient frequency to evaluate, per the 2024 CALM, or to discuss further), and MyRWA\_ABR006 [Aberjona River at USGS Gaging Station in Winchester; the bank upstream of weir] from 2011-2019 (n=6-8/yr). Of the three stations with sufficient frequency samples, all indicate poor water quality conditions as follows. Analysis of the recent five years (2015-2019) of the multi-year moderate/limited frequency *E. coli* dataset from MyRWA\_ABR049 indicated that in all 5 data years 100% of intervals had GMs >126 CFU/100mL, in all 5 years ≥2 samples exceeded the 410 CFU/100mL STV (n=2-6), and cumulatively across these 5 years 100% of intervals had GMs >126 CFU/100mL. Analysis of the recent five years (2015-2019) of the multi-year moderate frequency *E. coli* dataset from MyRWA\_ABR028 indicated that in all 5 data years 100% of intervals had GMs >126 CFU/100mL, in all 5 years ≥2 samples exceeded the 410 CFU/100mL STV (n=3-7), and cumulatively across these 5 years 100% of intervals had GMs >126 CFU/100mL. Analysis of the recent five years (2015-2019) of the multi-year moderate frequency *E. coli* dataset from MyRWA\_ABR006 indicated that in all 5 data years 100% of intervals had GMs >126 CFU/100mL, 4 yrs had ≥2 samples exceed the 410 CFU/100mL STV (2015-2018, n=3-6), and cumulatively across these 5 years 100% of intervals had GMs >126 CFU/100mL. *E. coli* data from MyRWA\_ABR049, MyRWA\_ABR028, and MyRWA\_ABR006 are indicative of an Escherichia Coli (E. Coli) impairment, and as noted above, *E. coli* data from MyRWA\_ABR036, MyRWA\_ABR031, and MyRWA\_ABRJUP are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use of the Aberjona River.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_ABR006	Mystic River Watershed Association	Water Quality	Aberjona River	Aberjona River at USGS Gaging Station in Winchester; the bank upstream of weir	42.447347	-71.138722
MyRWA_ABR028	Mystic River Watershed Association	Water Quality	Aberjona River	Aberjona River at Washington Street in Winchester; upstream side of the bridge	42.469472	-71.124958

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_ABR031	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.474200	-71.119833
MyRWA_ABR036	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.479141	-71.117941
MyRWA_ABR049	Mystic River Watershed Association	Water Quality	Aberjona River	Aberjona River at Salem Street in Woburn; downstream side of the bridge	42.491475	-71.128875
MyRWA_ABRJUP	Mystic River Watershed Association	Water Quality	Aberjona River	Centerline site near former outfall in Judkin's Pond	42.454952	-71.134730

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

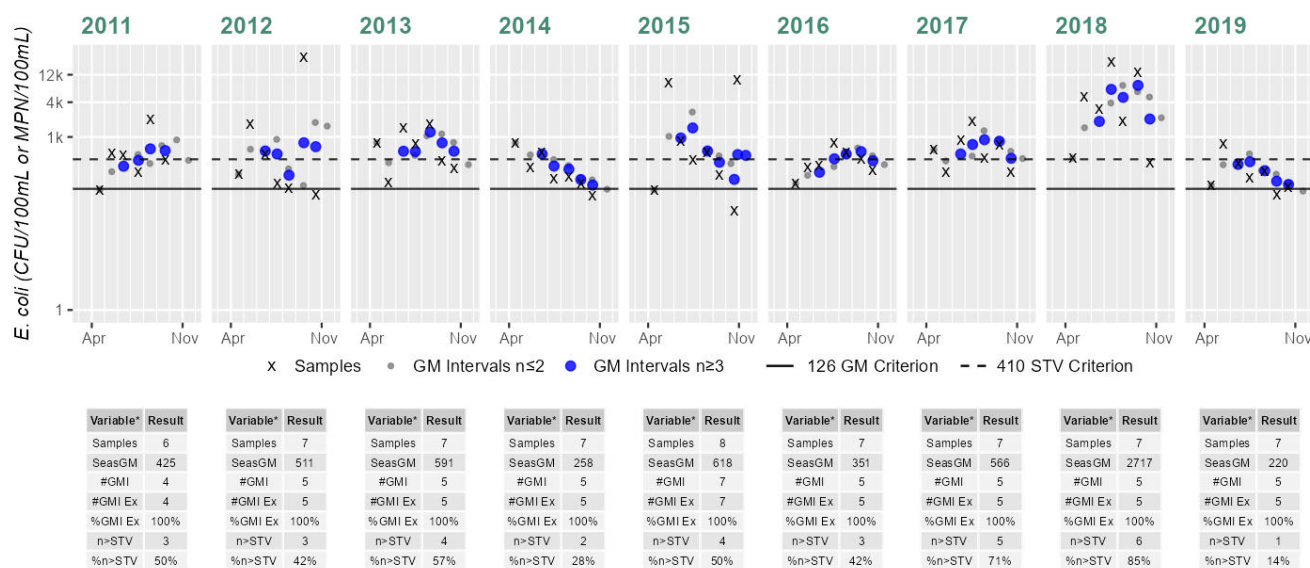
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/20/11	09/21/11	6	122	2010	425
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	98	24200	511
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	160	1660	591
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	97	794	258
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/15/15	10/29/15	8	52	9678	618
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	156	780	351
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	243	1870	566
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	354	19900	2717
MyRWA_ABR006	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	98	749	220
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	110	2990	482

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	173	14100	630
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	158	2280	463
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	41	1330	356
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/15/15	10/29/15	8	85	24200	1511
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	169	1150	550
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	288	1550	736
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	546	19900	2810
MyRWA_ABR028	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	63	906	271
MyRWA_ABR031	Mystic River Watershed Association	E. coli	10/29/15	10/29/15	1	9678	9678	9678
MyRWA_ABR036	Mystic River Watershed Association	E. coli	10/29/15	10/29/15	1	19890	19890	19890
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	145	8160	400
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	73	24200	545
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	10	1610	108
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	175	1600	453
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/15/15	10/29/15	8	84	27550	1142
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	31	933	296
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	6	63	909	385

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	384	24200	3421
MyRWA_ABR049	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	122	1070	305
MyRWA_ABRJUP	Mystic River Watershed Association	E. coli	08/15/13	08/15/13	1	1102	1102	1101

### Station MASSDEP\_W1965 & MyRWA\_ABR006 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



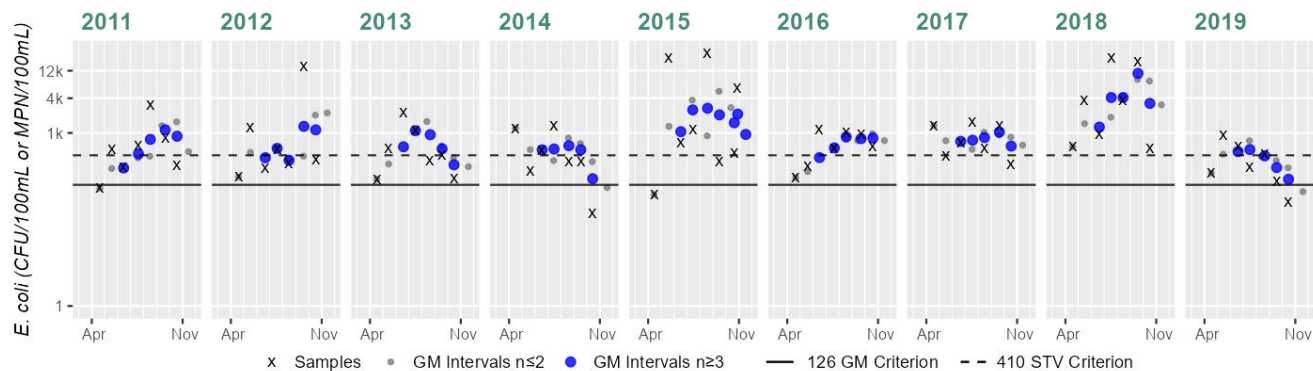
Cumulative %GMI Exceedance  
Current (2011-2022)  
100%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MASSDEP\_W1964 & MyRWA\_ABR028 & USGS-01102474 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	7	Samples	7	Samples	7	Samples	8	Samples	7	Samples	7	Samples	7
SeasGM	462	SeasGM	630	SeasGM	463	SeasGM	356	SeasGM	1511	SeasGM	550	SeasGM	736	SeasGM	2810
#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	7	#GMI	5	#GMI	5	#GMI	5
#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	7	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%
n>STV	4	n>STV	3	n>STV	4	n>STV	3	n>STV	6	n>STV	5	n>STV	5	n>STV	7
%n>STV	57%	%n>STV	42%	%n>STV	57%	%n>STV	42%	%n>STV	75%	%n>STV	71%	%n>STV	71%	%n>STV	100%

Cumulative %GMI Exceedance

Current (2011-2022)

100%

Cumulative %GMI Exceedance

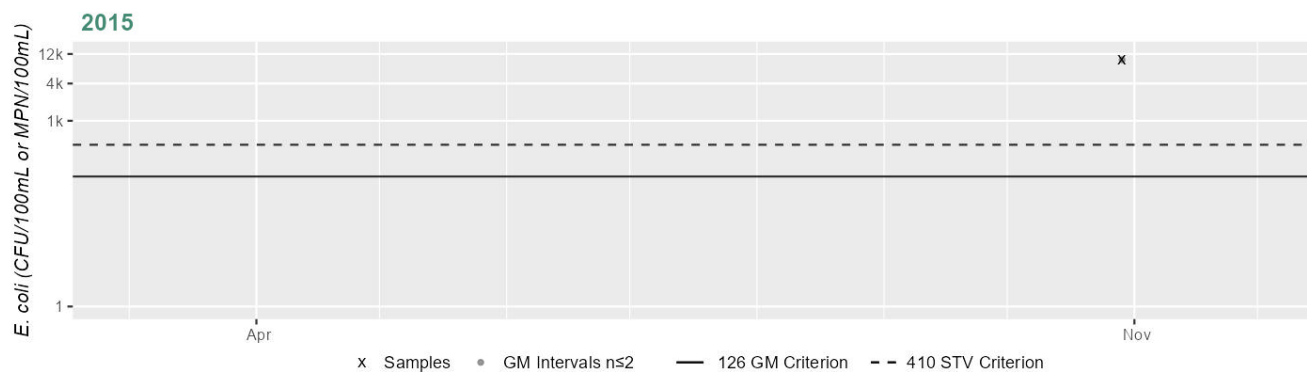
Current (Recent 5 Years)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_ABR031 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	9678
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

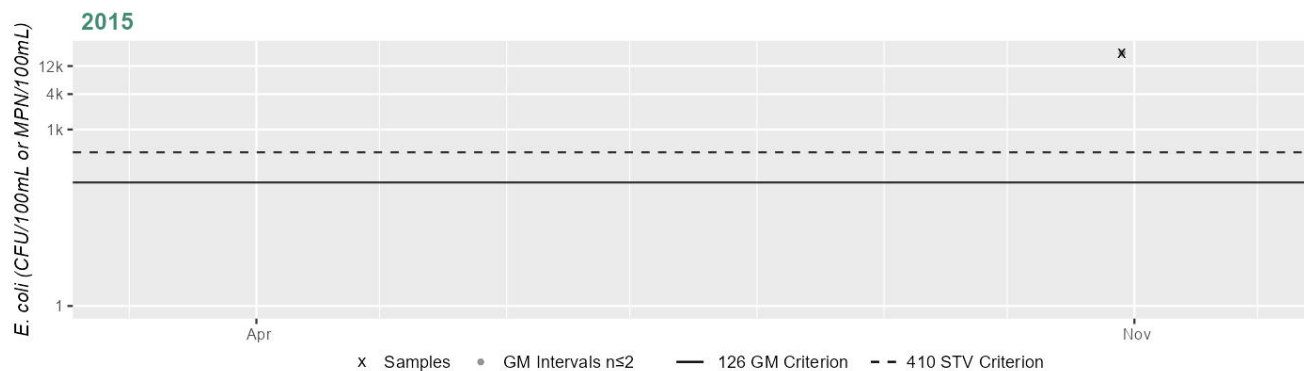
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_ABR036 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	19890
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

### Cumulative %GMI Exceedance

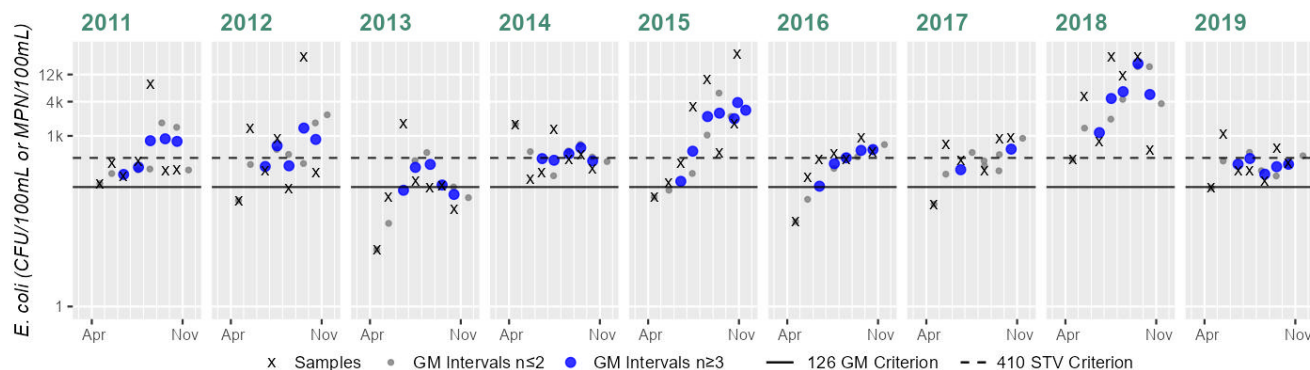
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_ABR049 & USGS-01102460 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	7	Samples	7	Samples	7	Samples	8	Samples	7	Samples	6	Samples	7	Samples	7	Samples	7
SeasGM	400	SeasGM	545	SeasGM	108	SeasGM	453	SeasGM	1142	SeasGM	296	SeasGM	385	SeasGM	3421	SeasGM	305	SeasGM	305
#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	7	#GMI	5	#GMI	2	#GMI	5	#GMI	5	#GMI	5
#GMI Ex	5	#GMI Ex	5	#GMI Ex	3	#GMI Ex	5	#GMI Ex	7	#GMI Ex	5	#GMI Ex	2	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	60%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%
n>STV	1	n>STV	3	n>STV	1	n>STV	3	n>STV	5	n>STV	3	n>STV	3	n>STV	6	n>STV	2	n>STV	2
%n>STV	14%	%n>STV	42%	%n>STV	14%	%n>STV	42%	%n>STV	62%	%n>STV	42%	%n>STV	50%	%n>STV	85%	%n>STV	28%	%n>STV	28%

### Cumulative %GMI Exceedance

Current (2011-2022)

95%

### Cumulative %GMI Exceedance

Current (Recent 5 Years)

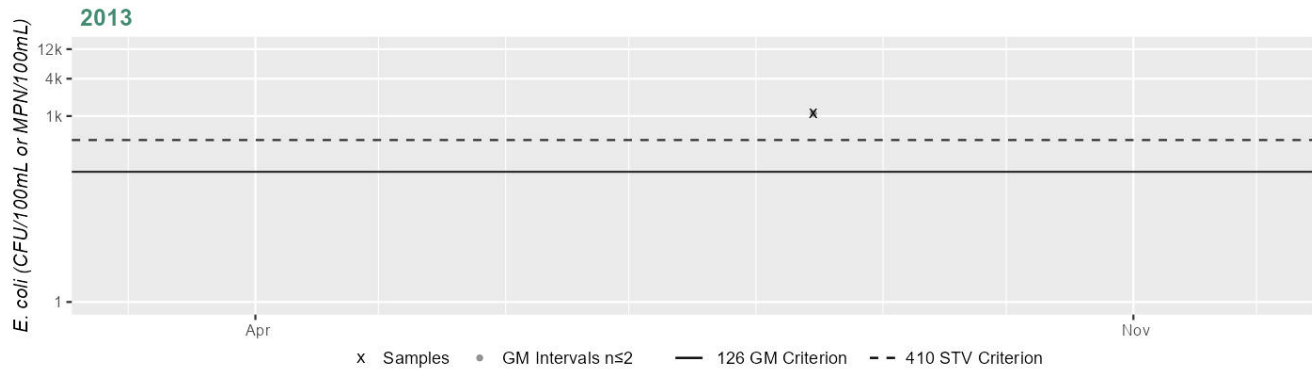
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_ABRJUP - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	1102
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for the Aberjona River (MA71-01) continues to be assessed as Not Supporting. The prior *Escherichia Coli* (*E. Coli*) impairment is being carried forward based on bacteria data collected during the current IR window (2011-2022) not meeting the threshold at MyRWA\_ABR049, MyRWA\_ABR028, and MyRWA\_ABR006.

MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in the Aberjona River (MA71-01) from 2011-2019 mainly at 3 stations. Samples were collected from the three following stations and sample years from upstream to downstream: in the middle of the AU at MyRWA\_ABR049 [Aberjona River at Salem St in Woburn; downstream side of the bridge] from 2011-2019 (current n=10-12/yr) and at MyRWA\_ABR028 [Aberjona River at Washington St in Winchester; upstream side of the bridge] from 2011-2019 (current n=10-12/yr), and toward the downstream end of the AU at MyRWA\_ABR006 [Aberjona River at USGS Gaging Station in Winchester; the bank upstream of weir] from 2011-2019 (current n=10-12/yr). Note that *E. coli* data were collected by MyRWA, MassDEP, and USGS at numerous stations in the historic IR window (1997-2010), or in a few instances data were collected in the current IR window but the data were of insufficient frequency to be evaluated according to the 2024 CALM (e.g., MyRWA\_ABR036). These data will not be discussed for the sake of brevity since there are current data indicating poor water quality conditions. Analysis of the recent five years of the multi-year moderate frequency *E. coli* dataset from MyRWA\_ABR049 indicated that in all 5 sufficient data years >20% of the intervals had GMs >244 CFU/100mL (2015-2019, 57-72%), 4 years had ≥2 samples exceed the 794 CFU/100mL STV (2015-2018, n=2-5), and cumulatively across these 5 years 66% of intervals had GMs >244 CFU/100mL. Analysis of the recent five years of the multi-year moderate frequency *E. coli* dataset from MyRWA\_ABR028 indicated that in all 5 sufficient data years >20% of the intervals had GMs >244 CFU/100mL (2015-2019, 66-100%), 4 years had ≥2 samples exceed the 794 CFU/100mL STV (2015-2018, n=4-6), and cumulatively across these 5 years 90% of intervals had GMs >244 CFU/100mL. Analysis of the recent five years of the multi-year moderate frequency *E. coli* dataset from MyRWA\_ABR006 indicated that in all 5 sufficient data years >20% of the intervals had GMs >244 CFU/100mL (2015-2019, 55-100%), 3 years had ≥2 samples exceed the 794 CFU/100mL STV (2015 and 2017-2018, n=2-5), and cumulatively across these 5 years 81% of intervals had GMs >244 CFU/100mL. *E. coli* data from MyRWA\_ABR049, MyRWA\_ABR028, and MyRWA\_ABR006 are indicative of an *Escherichia Coli* (*E. Coli*) impairment. Note that *E. coli* data from MyRWA\_ABR036, MyRWA\_ABR031, MyRWA\_ABRUTA001, MyRWA\_UPLUTBWBC, and MyRWA\_ABRJUP, collected during the current IR window, are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1964	MassDEP	Water Quality	Aberjona River	[Washington Street, Winchester]	42.469411	-71.125104

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1965	MassDEP	Water Quality	Aberjona River	[at USGS gaging station (0110250) upstream of low head dam, west of Mystic Valley Parkway across from Mystic Avenue, Winchester]	42.447309	-71.138713
W1979	MassDEP	Water Quality	Aberjona River	[approximately 450 feet downstream of Olympia Avenue, Woburn]	42.497729	-71.133486
MyRWA_ABR001	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.442828	-71.142558
MyRWA_ABR006	Mystic River Watershed Association	Water Quality	Aberjona River	Aberjona River at USGS Gaging Station in Winchester; the bank upstream of weir	42.447347	-71.138722
MyRWA_ABR011	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.453036	-71.135344
MyRWA_ABR013	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.456374	-71.136359
MyRWA_ABR016	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.459769	-71.137719
MyRWA_ABR017	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.460860	-71.137150
MyRWA_ABR023	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.467269	-71.130686
MyRWA_ABR028	Mystic River Watershed Association	Water Quality	Aberjona River	Aberjona River at Washington Street in Winchester; upstream side of the bridge	42.469472	-71.124958
MyRWA_ABR031	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.474200	-71.119833
MyRWA_ABR036	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.479141	-71.117941
MyRWA_ABR041	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.485900	-71.120889
MyRWA_ABR049	Mystic River Watershed Association	Water Quality	Aberjona River	Aberjona River at Salem Street in Woburn; downstream side of the bridge	42.491475	-71.128875
MyRWA_ABR056	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.501083	-71.134917
MyRWA_ABR058	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.503600	-71.135233

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_ABR061	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.507200	-71.137433
MyRWA_ABRBY128	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.501960	-71.135000
MyRWA_ABRJUP	Mystic River Watershed Association	Water Quality	Aberjona River	Centerline site near former outfall in Judkin's Pond	42.454952	-71.134730
MyRWA_ABRUTA001	Mystic River Watershed Association	Water Quality	Aberjona River	No description submitted by MyRWA	42.468100	-71.130872
MyRWA_UPLUTBWBC	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.464230	-71.133680
USGS-01102460	USGS Massachusetts Water Science Center	Water Quality	Aberjona River	Aberjona River Near Woburn, MA	42.491484	-71.128943
USGS-01102474	USGS Massachusetts Water Science Center	Water Quality	Aberjona River	Aberjona @ Washington St Nr Winchester, MA	42.469540	-71.125054

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1) (USGS 2024) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1964	MassDEP	E. coli	04/21/09	09/08/09	6	440	1000	608
W1965	MassDEP	E. coli	04/21/09	09/08/09	6	200	1500	578
W1979	MassDEP	E. coli	04/21/09	09/08/09	6	75	430	188
MyRWA_ABR001	Mystic River Watershed Association	E. coli	03/28/06	04/25/06	2	58	269	124
MyRWA_ABR001	Mystic River Watershed Association	E. coli	08/26/09	08/26/09	1	448	448	447
MyRWA_ABR006	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	4	168	2747	450
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	12	10	1780	166

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR006	Mystic River Watershed Association	E. coli	08/26/09	12/03/09	2	461	1379	797
MyRWA_ABR006	Mystic River Watershed Association	E. coli	03/15/10	03/30/10	2	430	6000	1606
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	11	52	2010	295
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	63	24200	457
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/16/13	11/20/13	11	109	1660	407
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	11	97	1330	354
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	12	10	9678	386
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	156	3650	404
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	156	1870	436
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	265	19900	1283
MyRWA_ABR006	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	98	749	215
MyRWA_ABR011	Mystic River Watershed Association	E. coli	03/28/06	03/28/06	1	49	49	48
MyRWA_ABR011	Mystic River Watershed Association	E. coli	12/11/07	12/11/07	1	183	183	183
MyRWA_ABR013	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	74	74	74
MyRWA_ABR016	Mystic River Watershed Association	E. coli	03/28/06	04/25/06	2	53	318	129
MyRWA_ABR017	Mystic River Watershed Association	E. coli	12/11/07	12/11/07	1	329	329	329
MyRWA_ABR023	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	187	187	187

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR028	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	3	98	369	228
MyRWA_ABR028	Mystic River Watershed Association	E. coli	02/20/07	12/11/07	2	195	362	265
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	12	86	2220	388
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	12	63	2990	367
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	52	14100	585
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/16/13	12/18/13	12	158	2280	345
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	12	41	2500	494
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	12	52	24200	790
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	169	3450	523
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	201	1550	533
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	135	19900	1294
MyRWA_ABR028	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	63	906	248
MyRWA_ABR031	Mystic River Watershed Association	E. coli	02/20/07	02/20/07	1	468	468	468
MyRWA_ABR031	Mystic River Watershed Association	E. coli	10/29/15	10/29/15	1	9678	9678	9678
MyRWA_ABR036	Mystic River Watershed Association	E. coli	03/28/06	04/25/06	2	59	109	80
MyRWA_ABR036	Mystic River Watershed Association	E. coli	11/10/14	11/10/14	1	58	58	57
MyRWA_ABR036	Mystic River Watershed Association	E. coli	10/29/15	10/29/15	1	19890	19890	19890

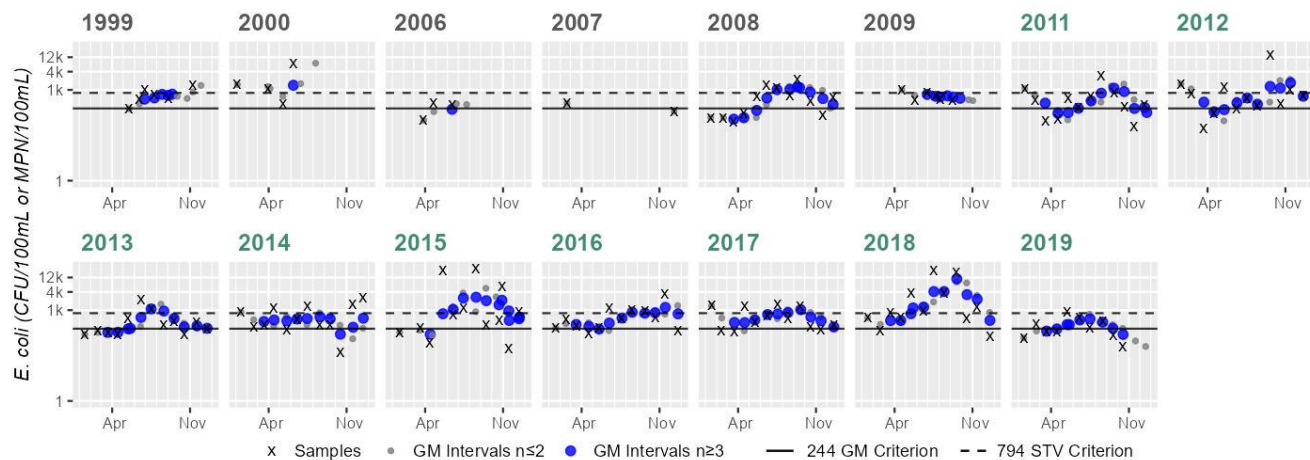
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR041	Mystic River Watershed Association	E. coli	03/28/06	04/25/06	2	109	132	119
MyRWA_ABR041	Mystic River Watershed Association	E. coli	02/20/07	12/11/07	2	64	186	109
MyRWA_ABR049	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	3	39	538	145
MyRWA_ABR049	Mystic River Watershed Association	E. coli	02/20/07	12/11/07	2	124	233	169
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	11	41	4880	238
MyRWA_ABR049	Mystic River Watershed Association	E. coli	02/25/09	02/25/09	1	475	475	475
MyRWA_ABR049	Mystic River Watershed Association	E. coli	02/16/11	12/14/11	11	20	8160	227
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	31	24200	374
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/16/13	11/20/13	10	10	1610	119
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	11	160	1600	487
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/21/15	11/18/15	11	63	27550	654
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	31	3450	307
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	11	63	909	234
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	31	24200	961
MyRWA_ABR049	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	119	1070	250
MyRWA_ABR056	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	243	243	242
MyRWA_ABR056	Mystic River Watershed Association	E. coli	02/20/07	12/11/07	2	342	560	437

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ABR058	Mystic River Watershed Association	E. coli	02/20/07	02/20/07	1	8	8	7
MyRWA_ABR061	Mystic River Watershed Association	E. coli	02/20/07	02/20/07	1	79	79	79
MyRWA_ABRBY128	Mystic River Watershed Association	E. coli	02/27/08	02/27/08	1	1	1	1
MyRWA_ABRJUP	Mystic River Watershed Association	E. coli	08/15/13	08/15/13	1	1102	1102	1101
MyRWA_ABRUTA001	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	96	96	95
MyRWA_ABRUTA001	Mystic River Watershed Association	E. coli	02/20/07	02/20/07	1	93	93	93
MyRWA_ABRUTA001	Mystic River Watershed Association	E. coli	02/22/11	02/22/11	1	8	8	7
MyRWA_UPLUTBWBC	Mystic River Watershed Association	E. coli	02/27/08	02/27/08	1	219	219	219
MyRWA_UPLUTBWBC	Mystic River Watershed Association	E. coli	02/22/11	02/22/11	1	21	21	21
USGS-01102460	USGS Massachusetts Water Science Center	E. coli	05/18/99	11/08/99	5	180	660	385
USGS-01102460	USGS Massachusetts Water Science Center	E. coli	01/05/00	06/07/00	4	520	46000	2019
USGS-01102474	USGS Massachusetts Water Science Center	E. coli	05/18/99	11/09/99	6	240	1400	630
USGS-01102474	USGS Massachusetts Water Science Center	E. coli	01/05/00	06/07/00	4	340	7600	1436



# Station MASSDEP\_W1964 & MyRWA\_ABR028 & USGS-01102474 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	6	Samples	4	Samples	3	Samples	2	Samples	12	Samples	6	Samples	12	Samples	12	Samples	12
SeasGM	630	SeasGM	1436	SeasGM	228	SeasGM	265	SeasGM	388	SeasGM	608	SeasGM	367	SeasGM	585	SeasGM	585
#GMI	5	#GMI	1	#GMI	1	#GMI	0	#GMI	11	#GMI	6	#GMI	11	#GMI	10	#GMI	10
#GMI Ex	5	#GMI Ex	1	#GMI Ex	0	#GMI Ex	0	#GMI Ex	8	#GMI Ex	6	#GMI Ex	7	#GMI Ex	8	#GMI Ex	8
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	72%	%GMI Ex	100%	%GMI Ex	63%	%GMI Ex	80%	%GMI Ex	80%
n>STV	2	n>STV	3	n>STV	0	n>STV	0	n>STV	3	n>STV	1	n>STV	3	n>STV	4	n>STV	4
%n>STV	33%	%n>STV	75%	%n>STV	0%	%n>STV	0%	%n>STV	25%	%n>STV	16%	%n>STV	25%	%n>STV	33%	%n>STV	33%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	12	Samples	12	Samples	12	Samples	12	Samples	12	Samples	12	Samples	10
SeasGM	345	SeasGM	494	SeasGM	790	SeasGM	523	SeasGM	533	SeasGM	1294	SeasGM	248
#GMI	11	#GMI	10	#GMI	13	#GMI	10	#GMI	10	#GMI	11	#GMI	9
#GMI Ex	8	#GMI Ex	9	#GMI Ex	12	#GMI Ex	9	#GMI Ex	10	#GMI Ex	11	#GMI Ex	6
%GMI Ex	72%	%GMI Ex	90%	%GMI Ex	92%	%GMI Ex	90%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	66%
n>STV	2	n>STV	5	n>STV	5	n>STV	4	n>STV	4	n>STV	6	n>STV	1
%n>STV	16%	%n>STV	41%	%n>STV	41%	%n>STV	33%	%n>STV	33%	%n>STV	50%	%n>STV	10%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
83%

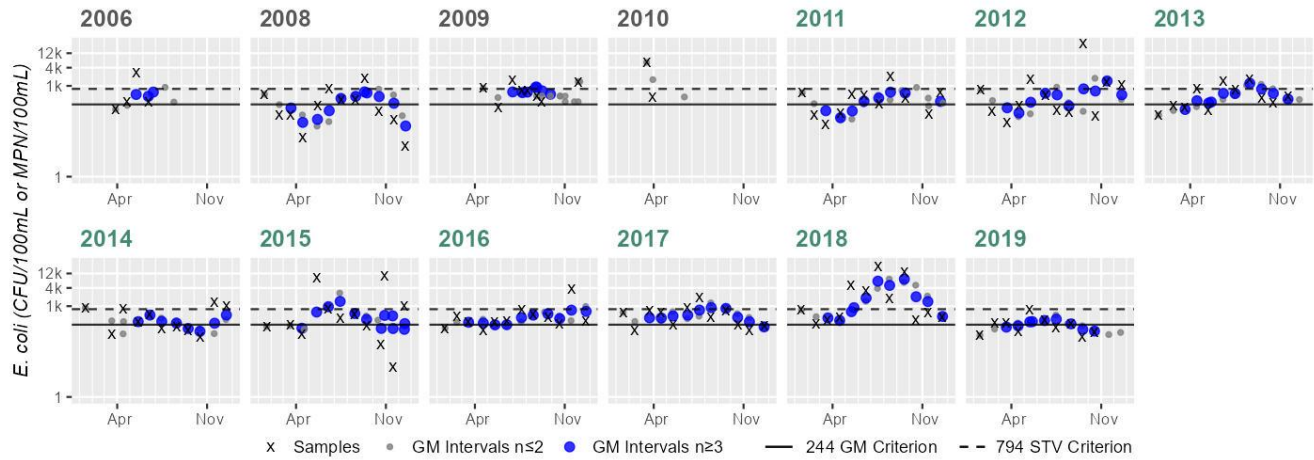
Cumulative %GMI Exceedance  
Current (2011-2022)  
84%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
90%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MASSDEP\_W1965 & MyRWA\_ABR006 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	4
SeasGM	450
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	1
%n>STV	25%

Variable*	Result
Samples	12
SeasGM	166
#GMI	11
#GMI Ex	6
%GMI Ex	54%
n>STV	2
%n>STV	16%

Variable*	Result
Samples	8
SeasGM	627
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	3
%n>STV	37%

Variable*	Result
Samples	2
SeasGM	1606
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	11
SeasGM	295
#GMI	8
#GMI Ex	5
%GMI Ex	62%
n>STV	1
%n>STV	9%

Variable*	Result
Samples	12
SeasGM	457
#GMI	10
#GMI Ex	7
%GMI Ex	70%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	11
SeasGM	407
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	3
%n>STV	27%

Variable*	Result
Samples	11
SeasGM	354
#GMI	8
#GMI Ex	6
%GMI Ex	75%
n>STV	3
%n>STV	27%

Variable*	Result
Samples	12
SeasGM	386
#GMI	13
#GMI Ex	9
%GMI Ex	69%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	12
SeasGM	404
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	1
%n>STV	8%

Variable*	Result
Samples	12
SeasGM	436
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	2
%n>STV	16%

Variable*	Result
Samples	12
SeasGM	1283
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	10
SeasGM	215
#GMI	9
#GMI Ex	5
%GMI Ex	55%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 76%

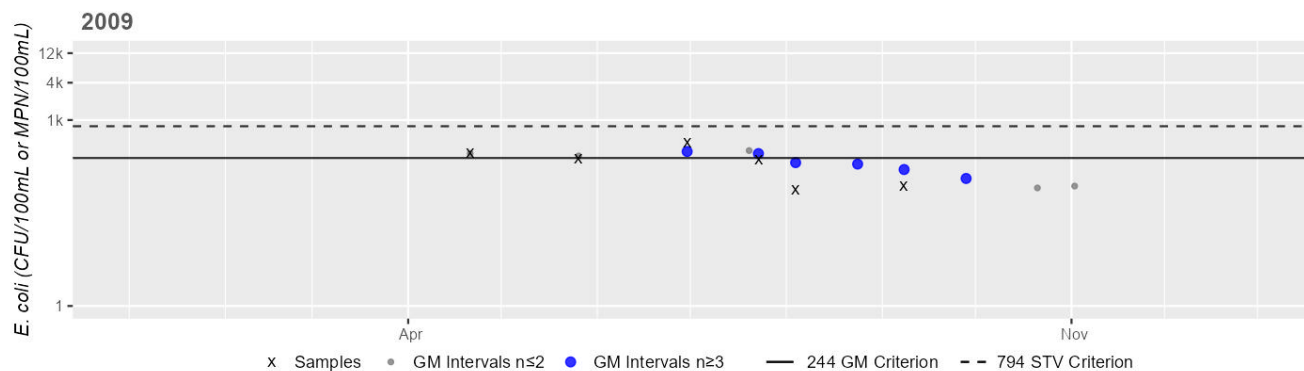
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 78%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 81%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MASSDEP\_W1979 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



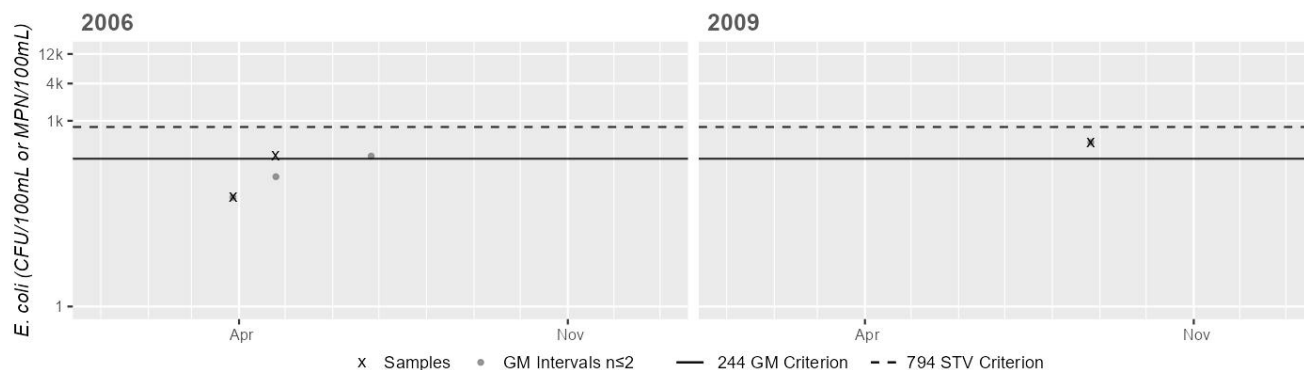
Variable*	Result
Samples	6
SeasGM	188
#GMI	6
#GMI Ex	2
%GMI Ex	33%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
33%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	124
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

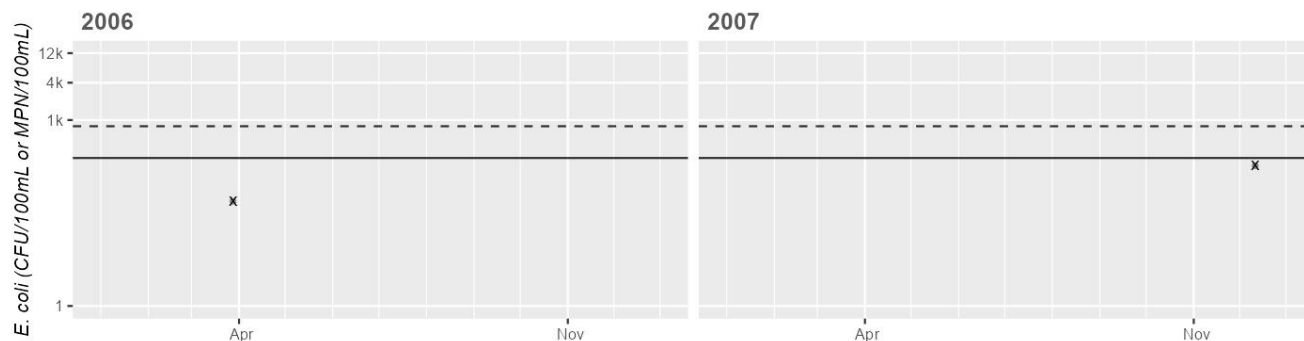
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

Variable*	Result
Samples	1
SeasGM	448
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

### Station MyRWA\_ABR011 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	49
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	183
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

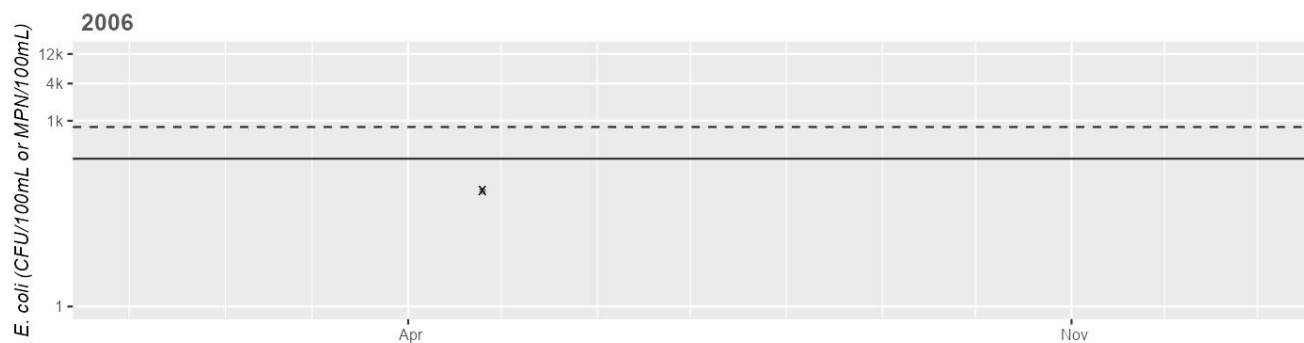
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR013 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	74
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

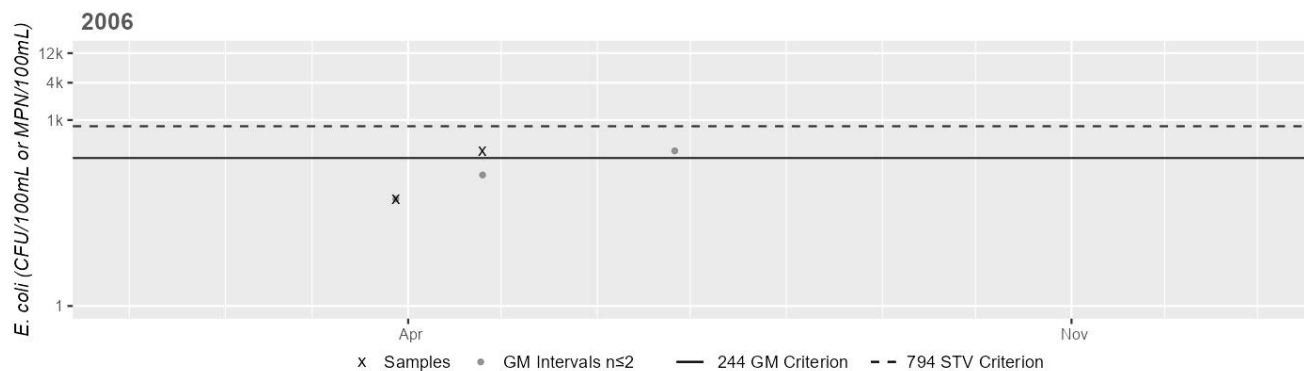
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR016 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



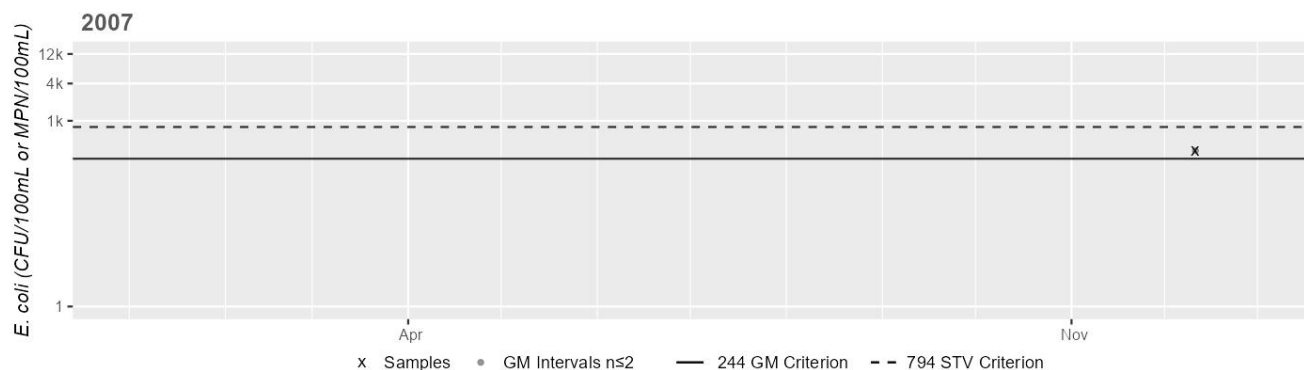
Variable*	Result
Samples	2
SeasGM	129
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR017 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



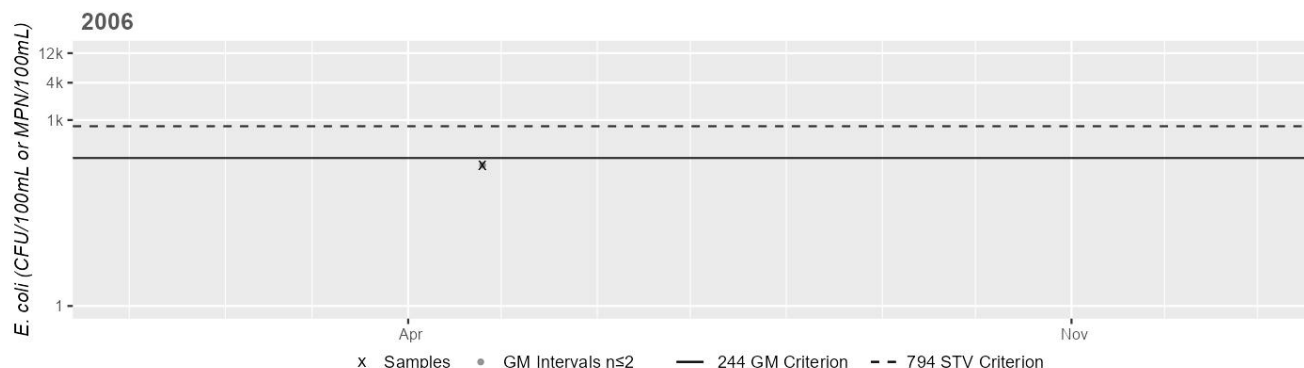
Variable*	Result
Samples	1
SeasGM	329
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR023 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



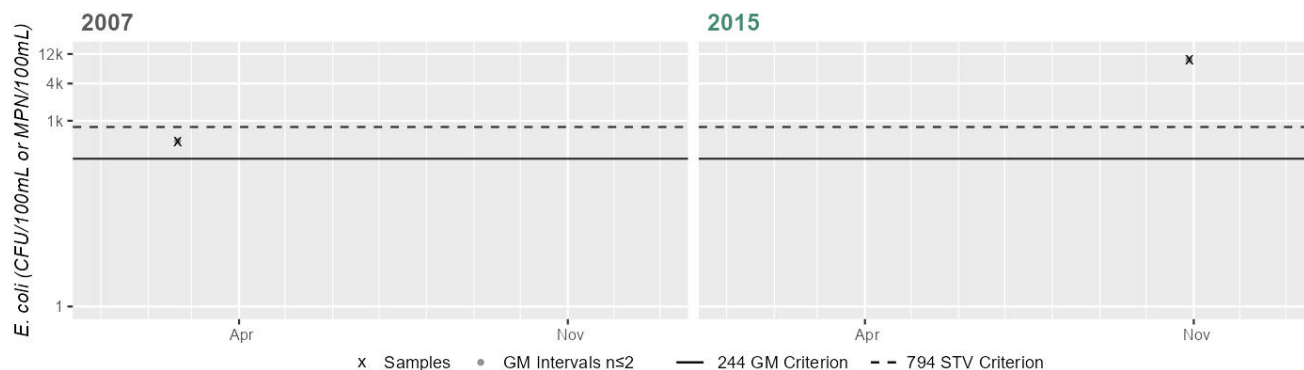
Variable*	Result
Samples	1
SeasGM	187
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR031 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	468
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

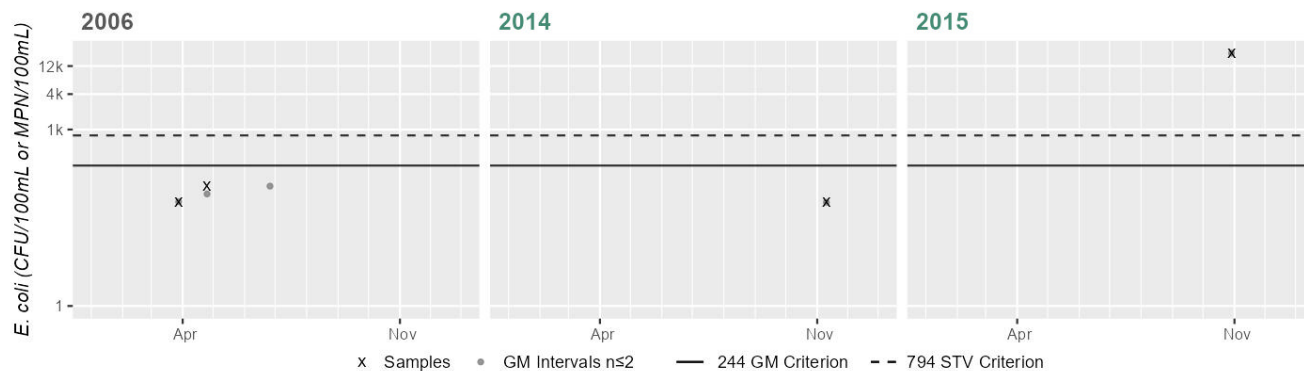
Variable*	Result
Samples	1
SeasGM	9678
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR036 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	80
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	58
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	19890
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

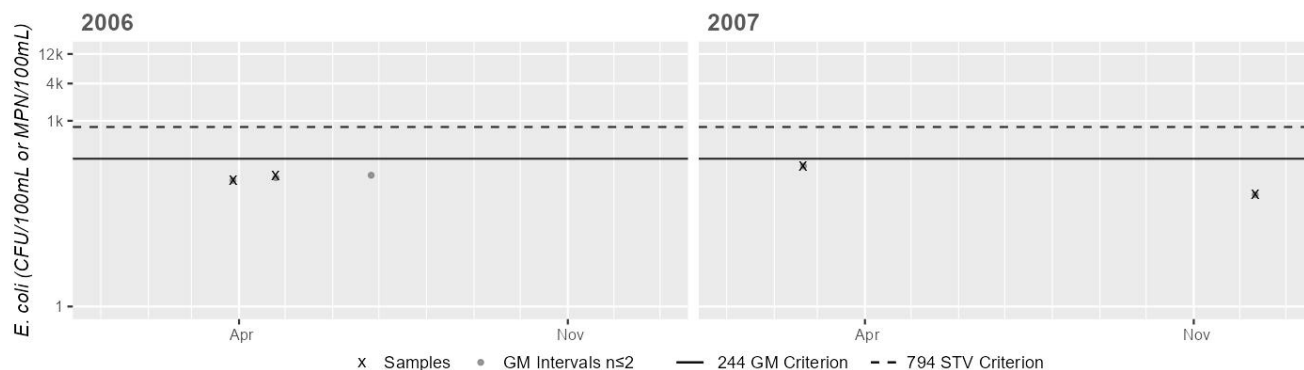
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR041 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	119
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	109
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

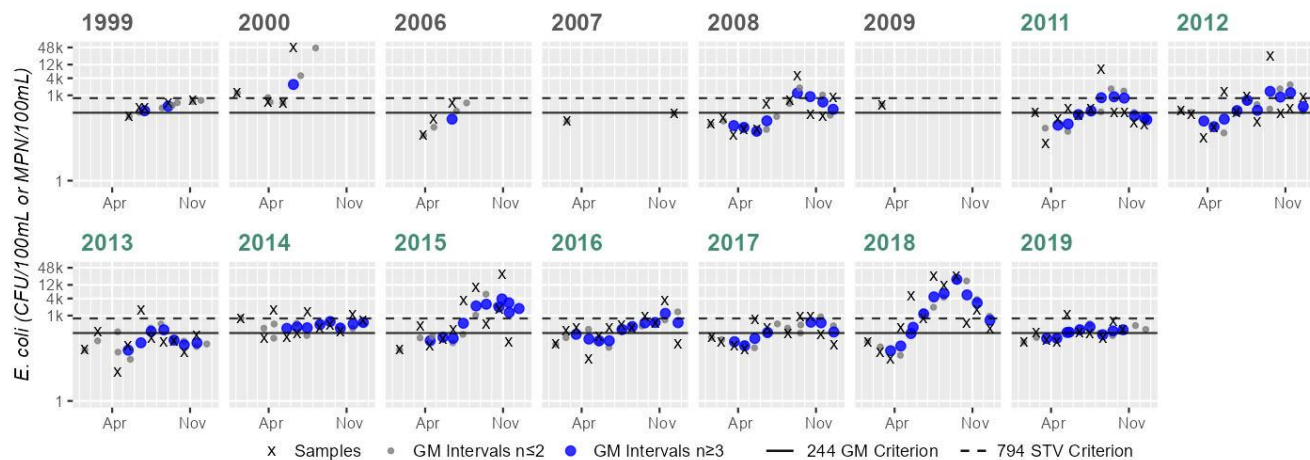
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



# Station MyRWA\_ABR049 & USGS-01102460 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	385
#GMI	2
#GMI Ex	2
%GMI Ex	100%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	4
SeasGM	2019
#GMI	1
#GMI Ex	1
%GMI Ex	100%
n>STV	2
%n>STV	50%

Variable*	Result
Samples	3
SeasGM	145
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	169
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	11
SeasGM	238
#GMI	8
#GMI Ex	4
%GMI Ex	50%
n>STV	2
%n>STV	18%

Variable*	Result
Samples	1
SeasGM	475
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	11
SeasGM	227
#GMI	10
#GMI Ex	4
%GMI Ex	40%
n>STV	1
%n>STV	9%

Variable*	Result
Samples	12
SeasGM	374
#GMI	10
#GMI Ex	7
%GMI Ex	70%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	10
SeasGM	119
#GMI	7
#GMI Ex	2
%GMI Ex	28%
n>STV	1
%n>STV	10%

Variable*	Result
Samples	11
SeasGM	487
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	4
%n>STV	36%

Variable*	Result
Samples	11
SeasGM	654
#GMI	11
#GMI Ex	8
%GMI Ex	72%
n>STV	4
%n>STV	36%

Variable*	Result
Samples	12
SeasGM	307
#GMI	10
#GMI Ex	6
%GMI Ex	60%
n>STV	2
%n>STV	16%

Variable*	Result
Samples	11
SeasGM	234
#GMI	7
#GMI Ex	4
%GMI Ex	57%
n>STV	2
%n>STV	18%

Variable*	Result
Samples	12
SeasGM	961
#GMI	11
#GMI Ex	8
%GMI Ex	72%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	10
SeasGM	250
#GMI	9
#GMI Ex	6
%GMI Ex	66%
n>STV	1
%n>STV	10%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
58%

Cumulative %GMI Exceedance  
Current (2011-2022)  
63%

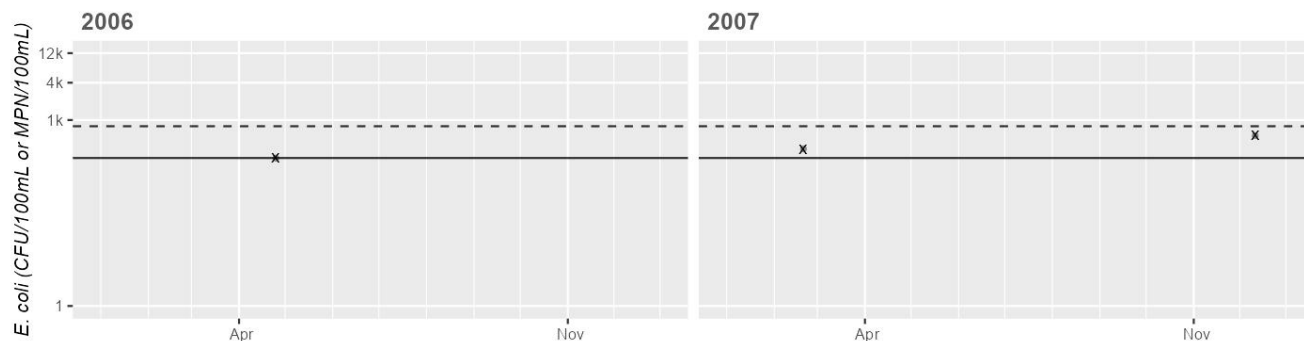
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
66%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_ABR056 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	243
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	437
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

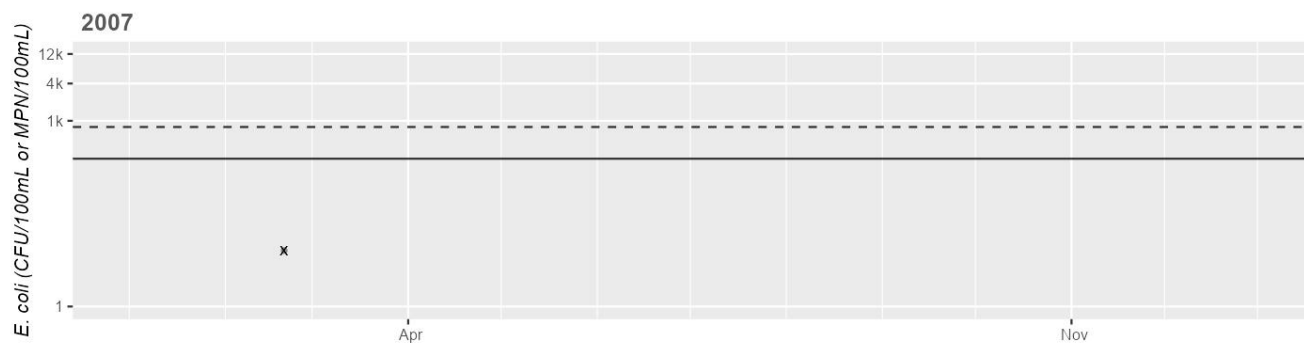
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR058 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	8
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

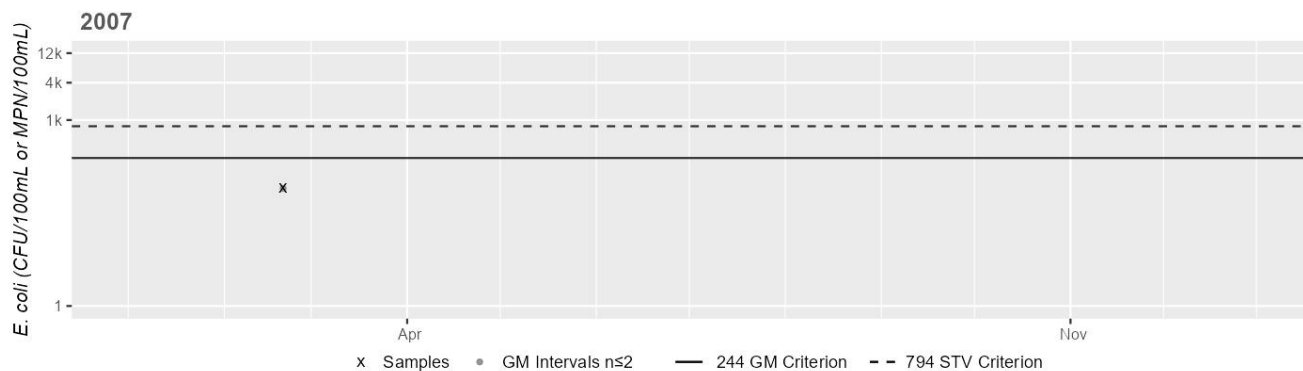
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABR061 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



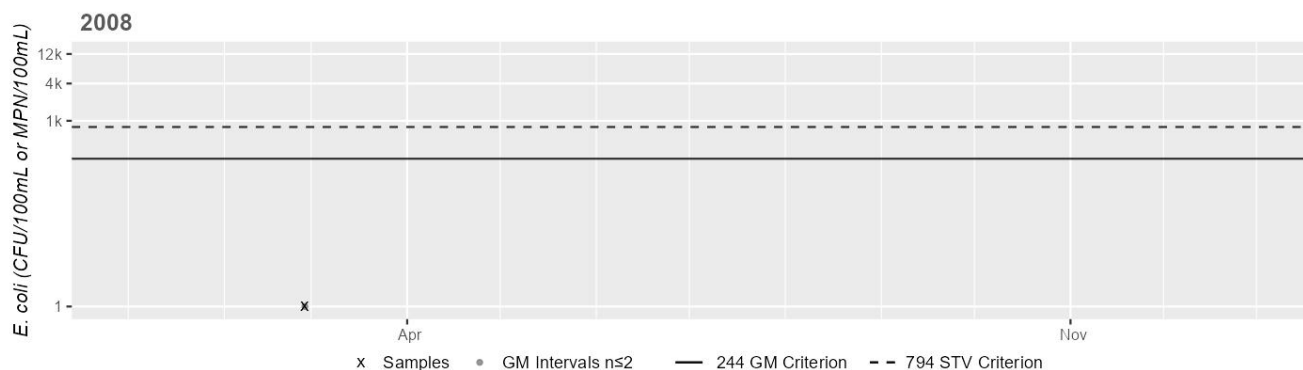
Variable*	Result
Samples	1
SeasGM	79
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABRBY128 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



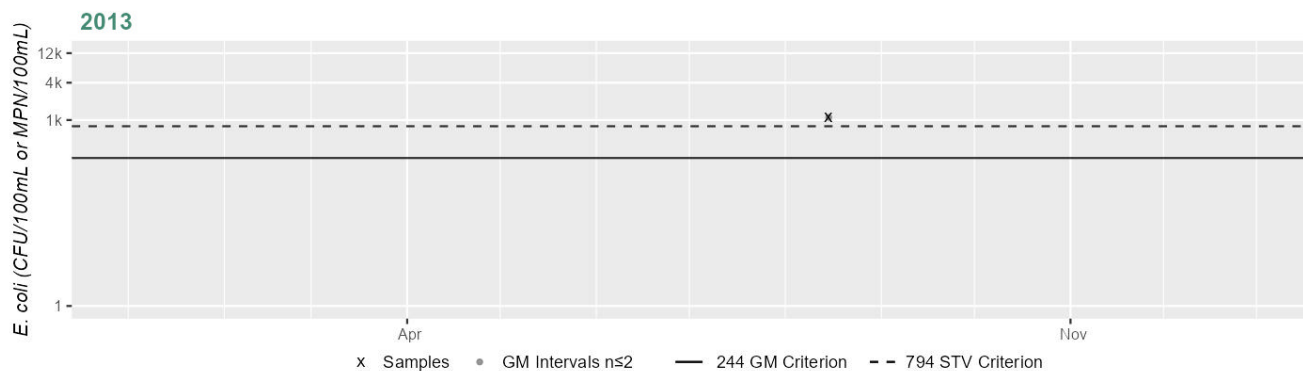
Variable*	Result
Samples	1
SeasGM	1
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABRJUP - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	1102
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

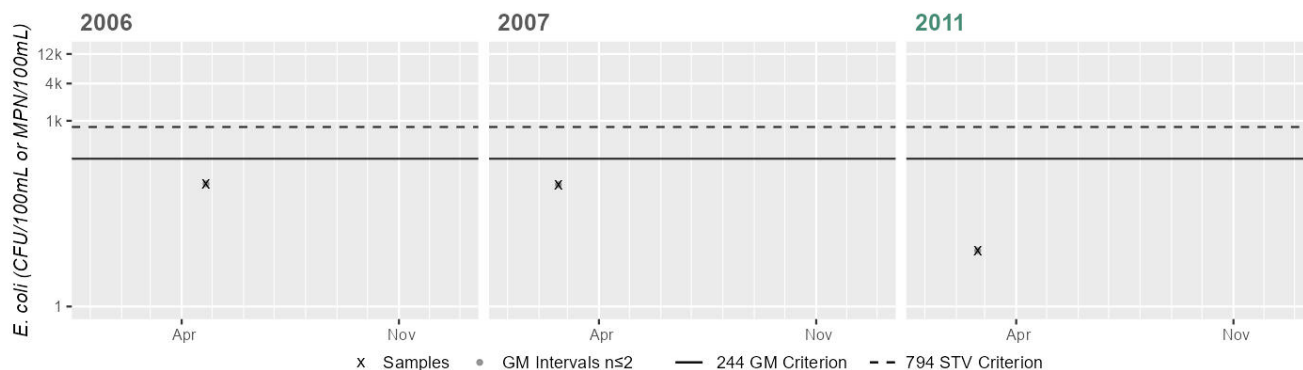
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ABRUTA001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	96
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

Historic (1997-2010)

0%

Variable*	Result
Samples	1
SeasGM	93
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

Current (2011-2022)

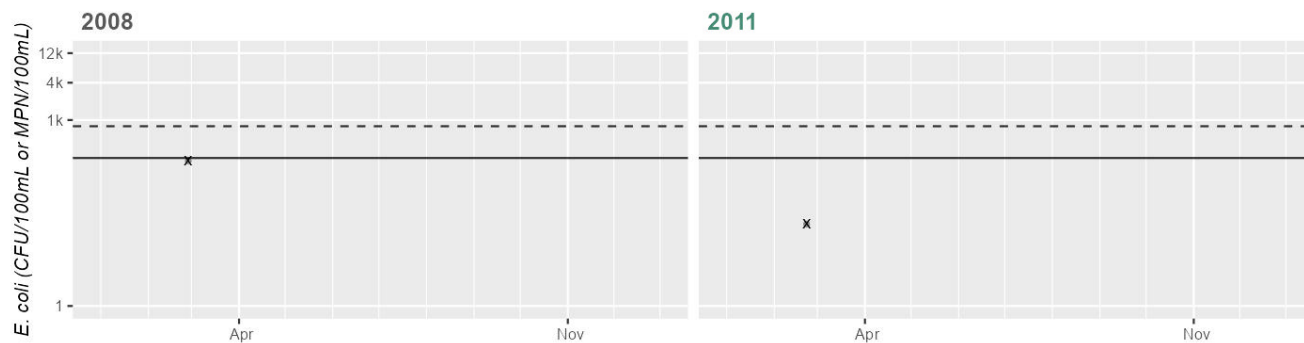
0%

Variable*	Result
Samples	1
SeasGM	8
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MyRWA\_UPLUTBWBC - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



x Samples • GM Intervals n≤2 — 244 GM Criterion - - 794 STV Criterion

Variable*	Result
Samples	1
SeasGM	219
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	21
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

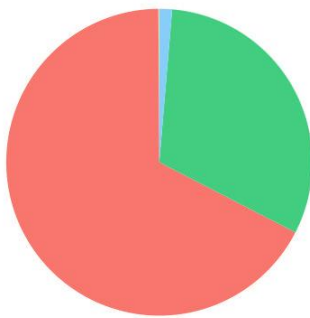
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Alewife Brook (MA71-20)

<b>Location:</b>	From emergence north of Cambridgepark Drive, Cambridge to mouth at confluence with Mystic River, Arlington/Somerville (formerly part of 2016 segment: Alewife Brook MA71-04).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	1.6 MILES
<b>Classification/Qualifier:</b>	B: WWF, CSO

### Alewife Brook (MA71-20)

Watershed Area: 8.87 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	8.87	8.00	1.85	1.71
Agriculture	0.1%	0.1%	0%	0%
Developed	67.3%	66.3%	45.8%	42.6%
Natural	31.2%	32.1%	49.9%	52.8%
Wetland	1.3%	1.5%	4.3%	4.6%
Impervious	51.8%	51.4%	29.9%	26.5%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	(Water Chestnut*)	--	Unchanged
5	5	Chloride	--	Unchanged
5	5	Copper in Sediment	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Enterococcus	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
5	5	Flocculant Masses	--	Removed
5	5	Lead in Sediment	--	Unchanged
5	5	Odor	--	Unchanged
5	5	Oil and Grease	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged
5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Scum/Foam	--	Removed
5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
5	5	Trash	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Debris*)	Combined Sewer Overflows (Y)	--	--	X	X	X
(Debris*)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Chloride	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Chloride	Highway/Road/Bridge Runoff (Non-construction Related) (Y)	X	--	--	--	--
Chloride	Impervious Surface/Parking Lot Runoff (Y)	X	--	--	--	--
Copper in Sediment	Combined Sewer Overflows (Y)	X	--	--	--	--
Copper in Sediment	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Dissolved Oxygen	Combined Sewer Overflows (Y)	X	--	--	--	--
Dissolved Oxygen	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Enterococcus	Combined Sewer Overflows (Y)	--	--	--	X	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Escherichia Coli (E. Coli)	Combined Sewer Overflows (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X
Lead in Sediment	Combined Sewer Overflows (Y)	X	--	--	--	--
Lead in Sediment	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Odor	Combined Sewer Overflows (Y)	--	--	X	X	X
Odor	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Oil and Grease	Combined Sewer Overflows (Y)	--	--	X	X	X
Oil and Grease	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Phosphorus, Total	Combined Sewer Overflows (Y)	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Combined Sewer Overflows (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Contaminated Sediments (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Transparency / Clarity	Combined Sewer Overflows (Y)	--	--	--	X	--
Transparency / Clarity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Trash	Combined Sewer Overflows (Y)	--	--	X	X	X
Trash	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X



## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Flocculant Masses	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	<p>The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to Alewife Brook (MA71-20, at that time part of AU MA71-04) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations from various volunteer groups of “oily sheens” and an “oil spill” along the shoreline between 1995-2000 (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU, these impairments are being removed but the impairment for “Oil and Grease” is being carried forward.</p>
Scum/Foam	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	<p>The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to Alewife Brook (MA71-20, at that time part of AU MA71-04) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations from various volunteer groups of “oily sheens” and an “oil spill” along the shoreline between 1995-2000 (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU, these impairments are being removed but the</p>

2022 Removed Impairment	Removal Reason	Removal Comment
		impairment for “Oil and Grease” is being carried forward.

## Flocculant Masses

See removal comment.

## Scum/Foam

See removal comment.

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Alewife Brook (MA71-20) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue impairment is being carried forward. MA DPH included a site-specific advisory for Alewife Brook (referred to by MA DPH as "Alewife Brook and Little River") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No new aesthetics observation data are available to evaluate the Aesthetics Use for Alewife Brook (MA71-20) so it continues to be assessed as Not Supporting with the Oil and Grease, Debris, Trash and Odor impairments being carried forward. Since the Transparency/Clarity impairment was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. The Flocculant Masses and Scum/Foam impairments are being removed (see supporting information for removed impairments).

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Primary Contact Recreation Use for Alewife Brook (MA71-20) continues to be assessed as Not Supporting. The prior Transparency / Clarity impairment is being carried forward based on Secchi data not meeting the threshold at MWRA\_070. The Enterococcus and Escherichia Coli (E. Coli) impairments are being carried forward based on bacteria data not meeting the threshold at MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070. The prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Flocculant Masses and Scum/Foam impairments were removed from the Aesthetics Use, they are also being removed from the recreational uses. MWRA collected Secchi data in Alewife Brook at MWRA\_070 from 2011-2012 and 2014-2017. Note that station depths were available on all dates Secchi depth was measured and all station depths were less than the 1.2 m (4 ft) threshold. Most Secchi depth measurements were less than the station depth at MWRA\_070 and are indicative of a Transparency / Clarity impairment: 2011 (n=18/20, 0.3-1m), 2012 (n=7/7, 0.4-0.8m), 2014 (n=6/8, 0.4-0.7m), and 2015 (n=7/10, 0.5-0.8m). There was insufficient information to assess water clarity in 2016 & 2017. MWRA and MyRWA staff/volunteers collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in Alewife Brook from 2011-2022 at 7 stations, from upstream to downstream as follows: at the upstream end of the AU at MyRWA\_ALBBOOM [None submitted by MyRWA] in 2013 (Ent n=1) and MWRA\_074 [Alewife Brook, offramp to Alewife MBTA station, downstr. of MWR003 & CAM401A] from 2011-2022 (EC & Ent n=17-59/yr), in the middle of the AU at MWRA\_277 [Alewife Brook, 50 yds upstr. of CAM401B] from 2017-2022 (EC & Ent n=5-58/yr), MWRA\_172 [Alewife Brook, upstr. side of Mass. Ave bridge, midchannel, downstr. of CAM401B] from 2011-2022 (EC & Ent n=17-59/yr), MWRA\_276 [Alewife Brook, 10 yards downstr. of SOM001A] from 2017-2022 (EC & Ent n=5-60/yr), and MyRWA\_ALB006 [Alewife Brook at Broadway Bridge in Somerville; downstr. of the bridge on the bank] from 2011-2019 (EC n=7-45/yr & Ent n=3-41/yr), and at the downstream end of the AU at MWRA\_070 [Alewife Brook, mouth, off S (upstream) side of Mystic Valley Pkwy Bridge] from 2011-2022 (EC & Ent n=17-60/yr).

Analysis of the most recent 5 years of mostly high frequency *E. coli* data (2018-2022 for MWRA stations & 2015-2019 for the MyRWA station) from all six stations with data for this indicator (MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070) indicated clearly poor water quality: in all 5 years of data at all stations >10% of intervals had GMs >126 CFU/100mL (88-100%), all 5 years at all stations had >10% of samples exceed the 410 CFU/100mL STV (29-88%) [Note: 4 of 5 years at MyRWA\_ALB006 had moderate frequency sampling as opposed to high frequency sampling and in those years 2-7 samples exceeded the STV threshold, constituting a violation for this condition], and cumulatively across the 5 years 98-100% of intervals at each station had GMs >126 CFU/100mL.

The available Ent data at MyRWA\_ALBBOOM are too limited to assess according to the 2024 CALM. Analysis of the most recent 5 years of high frequency Ent data (2018-2022) from the 5 MWRA stations (MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070) indicated clearly poor water quality: in all 5 years of data at all stations >10% of intervals had GMs >35 CFU/100mL (81-100%), all 5 years at all stations had >10% of samples exceed the 130 CFU/100mL STV (47-88%), and cumulatively across the 5 years 96-99% of intervals at each station had GMs >35 CFU/100mL. While MyRWA\_ALB006 only had 2 years of low/high frequency Ent data, the data were similarly indicative of poor water quality (100% of

intervals had GM exceedances & most samples > STV). *E. coli* and *Enterococcus* data from MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070 are indicative of *E. coli* and *Enterococcus* impairments.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_070	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, mouth, off south (upstream) side of Mystic Valley Pkwy Bridge	42.414428	-71.132413
MWRA_074	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, offramp to Alewife MBTA station, downstream of MWR003 and CAM401A	42.397422	-71.143511
MWRA_172	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, upstream side of Mass. Ave. bridge, midchannel, downstream of CAM401B	42.400918	-71.136386
MWRA_276	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, 10 yards downstream of SOM001A	42.402258	-71.135170
MWRA_277	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, 50 yards upstream of CAM401B	42.400650	-71.137138
MyRWA_ALB006	Mystic River Watershed Association	Water Quality	Alewife Brook	Alewife Brook at Broadway Bridge in Somerville; downstream of the bridge on the bank	42.407133	-71.133767
MyRWA_ALBBOOM	Mystic River Watershed Association	Water Quality	Alewife Brook	No description submitted by MyRWA	42.395696	-71.143992

### Bacteria Data

#### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 2) (MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/14/11	11/11/11	29	228	44100	1358
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/14/11	11/11/11	29	98	13000	707
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/17/12	10/30/12	21	97	19900	472
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/30/12	21	30	19900	232

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	26	110	24200	1115
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	26	20	19900	492
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/08/14	10/24/14	28	185	727000	1847
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/08/14	10/24/14	28	20	24200	409
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/13/15	10/05/15	25	52	79800	786
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/05/15	25	20	13000	297
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	30	86	9210	411
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	30	20	1920	129
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/03/17	11/17/17	49	41	13000	631
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/03/17	11/17/17	49	10	12000	272
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	52	14100	690
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	53	20	3080	290
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	60	10	24200	919
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	60	20	9800	438
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	98	19900	613
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	20	19900	255
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	148	24200	1267

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	20	17300	416
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	228	4880	850
MWRA_070	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	86	1120	307
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/14/11	11/11/11	29	146	27800	1220
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/14/11	11/11/11	29	10	26900	250
MWRA_074	Massachusetts Water Resources Authority	E. coli	05/17/12	10/30/12	21	96	19900	688
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/30/12	21	10	11200	99
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	26	250	13000	1204
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	26	20	9210	248
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/08/14	10/24/14	27	96	62700	1674
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/08/14	10/24/14	27	10	3260	188
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/13/15	10/05/15	25	10	24200	406
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/05/15	25	10	6870	119
MWRA_074	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	30	110	14100	445
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	30	10	4350	96
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/03/17	11/17/17	49	84	24200	555
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/03/17	11/17/17	49	10	9210	108

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	20	17300	716
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	53	10	4350	226
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	59	74	72700	683
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	59	10	7700	259
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	85	5170	469
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	6130	121
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	145	39300	1407
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	31	12000	320
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	109	2140	570
MWRA_074	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	20	1070	137
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/14/11	11/11/11	29	156	41300	1075
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/14/11	11/11/11	29	41	45700	468
MWRA_172	Massachusetts Water Resources Authority	E. coli	05/17/12	10/30/12	21	148	50400	543
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/30/12	21	52	19900	222
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	26	135	19900	1093
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	26	10	8660	406
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/08/14	10/24/14	27	119	68900	1927



Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/08/14	10/24/14	27	20	5790	406
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/13/15	10/05/15	25	52	17300	402
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/05/15	25	10	11200	157
MWRA_172	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	30	108	24200	475
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	30	20	839	134
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/03/17	11/17/17	49	41	24200	541
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/03/17	11/17/17	49	10	5170	159
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	52	24200	716
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	53	30	4610	287
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	59	98	40800	596
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	59	20	12000	307
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	110	12000	554
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	6490	144
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	145	17300	855
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	31	24200	287
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	86	1520	294
MWRA_172	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	906	131

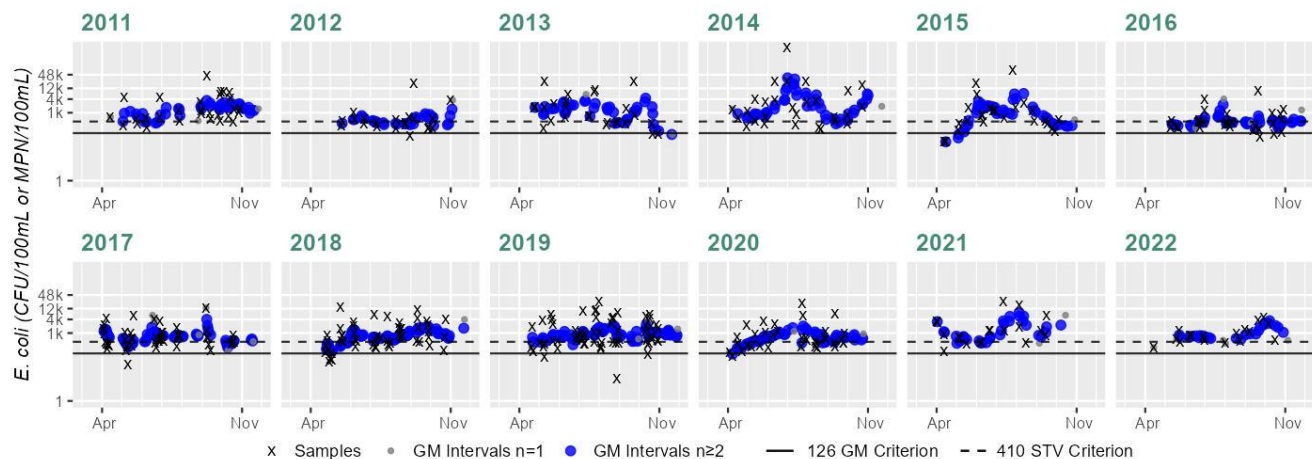
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_276	Massachusetts Water Resources Authority	E. coli	10/16/17	11/17/17	5	272	1400	435
MWRA_276	Massachusetts Water Resources Authority	Enterococcus	10/16/17	11/17/17	5	63	228	149
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	41	15500	657
MWRA_276	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	53	10	4110	294
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	60	98	155000	626
MWRA_276	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	60	10	41000	294
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	132	19900	548
MWRA_276	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	8160	157
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	86	15500	775
MWRA_276	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	31	24200	317
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	74	2490	280
MWRA_276	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	20	1210	141
MWRA_277	Massachusetts Water Resources Authority	E. coli	10/16/17	11/17/17	5	262	1550	507
MWRA_277	Massachusetts Water Resources Authority	Enterococcus	10/16/17	11/17/17	5	121	199	166
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	52	17300	785
MWRA_277	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	53	10	5170	357
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	58	74	112000	699

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_277	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	58	30	9800	335
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	74	13000	578
MWRA_277	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	5790	157
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	122	24900	1138
MWRA_277	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	10	14100	375
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	85	1940	387
MWRA_277	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	1370	129
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	218	1110	470
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	211	24200	638
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	160	2040	527
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	97	1110	223
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	10	134	24196	698
MyRWA_ALB006	Mystic River Watershed Association	Enterococcus	09/30/15	10/02/15	3	650	24196	3450
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	45	24	4040	395
MyRWA_ALB006	Mystic River Watershed Association	Enterococcus	04/26/16	09/21/16	41	35	2850	253
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	107	13000	579
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	243	24200	1853

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ALB006	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	691	9210	1513
MyRWA_ALBBOOM	Mystic River Watershed Association	Enterococcus	09/13/13	09/13/13	1	14000	14000	14000

### Station MWRA\_070 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	1358
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	25
%n>STV	86%

Variable*	Result
Samples	21
SeasGM	472
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	10
%n>STV	47%

Variable*	Result
Samples	26
SeasGM	1115
#GMI	45
#GMI Ex	44
%GMI Ex	97%
n>STV	18
%n>STV	69%

Variable*	Result
Samples	28
SeasGM	1847
#GMI	49
#GMI Ex	49
%GMI Ex	100%
n>STV	22
%n>STV	78%

Variable*	Result
Samples	25
SeasGM	786
#GMI	44
#GMI Ex	41
%GMI Ex	93%
n>STV	18
%n>STV	72%

Variable*	Result
Samples	30
SeasGM	411
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	10
%n>STV	33%

Variable*	Result
Samples	49
SeasGM	631
#GMI	78
#GMI Ex	78
%GMI Ex	100%
n>STV	32
%n>STV	65%

Variable*	Result
Samples	53
SeasGM	690
#GMI	94
#GMI Ex	94
%GMI Ex	100%
n>STV	35
%n>STV	66%

Variable*	Result
Samples	60
SeasGM	919
#GMI	101
#GMI Ex	101
%GMI Ex	100%
n>STV	40
%n>STV	66%

Variable*	Result
Samples	36
SeasGM	613
#GMI	62
#GMI Ex	61
%GMI Ex	98%
n>STV	20
%n>STV	55%

Variable*	Result
Samples	19
SeasGM	1267
#GMI	32
#GMI Ex	32
%GMI Ex	100%
n>STV	14
%n>STV	73%

Variable*	Result
Samples	17
SeasGM	850
#GMI	25
#GMI Ex	25
%GMI Ex	100%
n>STV	15
%n>STV	88%

Cumulative %GMI Exceedance

Current (2011-2022)

99%

Cumulative %GMI Exceedance

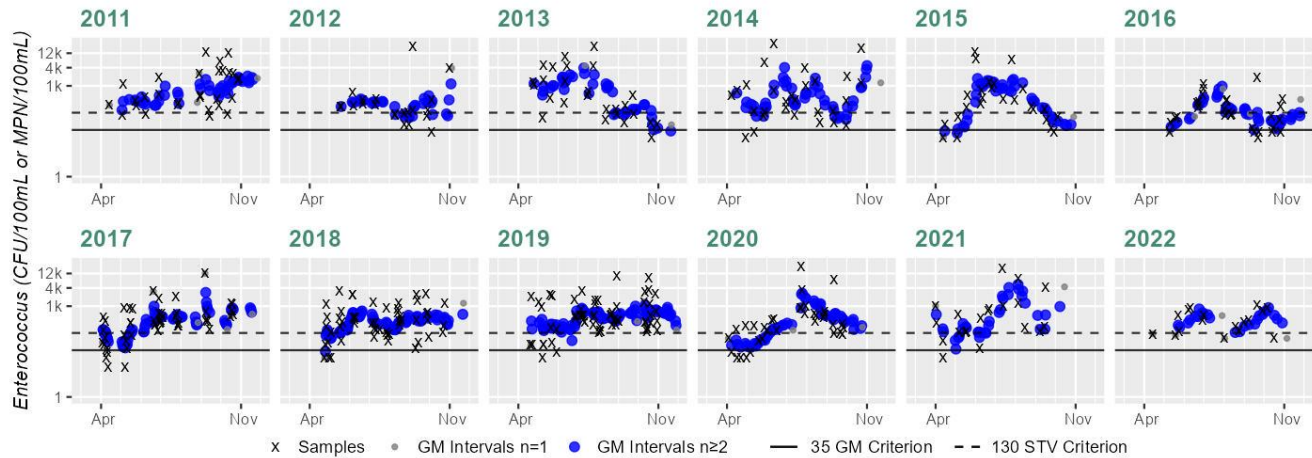
Current (Recent 5 Years)

99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_070 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	707
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	25
%n>STV	86%

Variable*	Result
Samples	21
SeasGM	232
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	14
%n>STV	66%

Variable*	Result
Samples	26
SeasGM	492
#GMI	45
#GMI Ex	44
%GMI Ex	97%
n>STV	18
%n>STV	69%

Variable*	Result
Samples	28
SeasGM	409
#GMI	49
#GMI Ex	49
%GMI Ex	100%
n>STV	21
%n>STV	75%

Variable*	Result
Samples	25
SeasGM	297
#GMI	44
#GMI Ex	42
%GMI Ex	95%
n>STV	17
%n>STV	68%

Variable*	Result
Samples	30
SeasGM	129
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	14
%n>STV	46%

Variable*	Result
Samples	49
SeasGM	272
#GMI	78
#GMI Ex	78
%GMI Ex	100%
n>STV	37
%n>STV	75%

Variable*	Result
Samples	53
SeasGM	290
#GMI	94
#GMI Ex	93
%GMI Ex	98%
n>STV	40
%n>STV	75%

Variable*	Result
Samples	60
SeasGM	438
#GMI	101
#GMI Ex	101
%GMI Ex	100%
n>STV	53
%n>STV	88%

Variable*	Result
Samples	35
SeasGM	255
#GMI	61
#GMI Ex	61
%GMI Ex	100%
n>STV	25
%n>STV	71%

Variable*	Result
Samples	20
SeasGM	416
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	17
%n>STV	85%

Variable*	Result
Samples	17
SeasGM	307
#GMI	25
#GMI Ex	25
%GMI Ex	100%
n>STV	13
%n>STV	76%

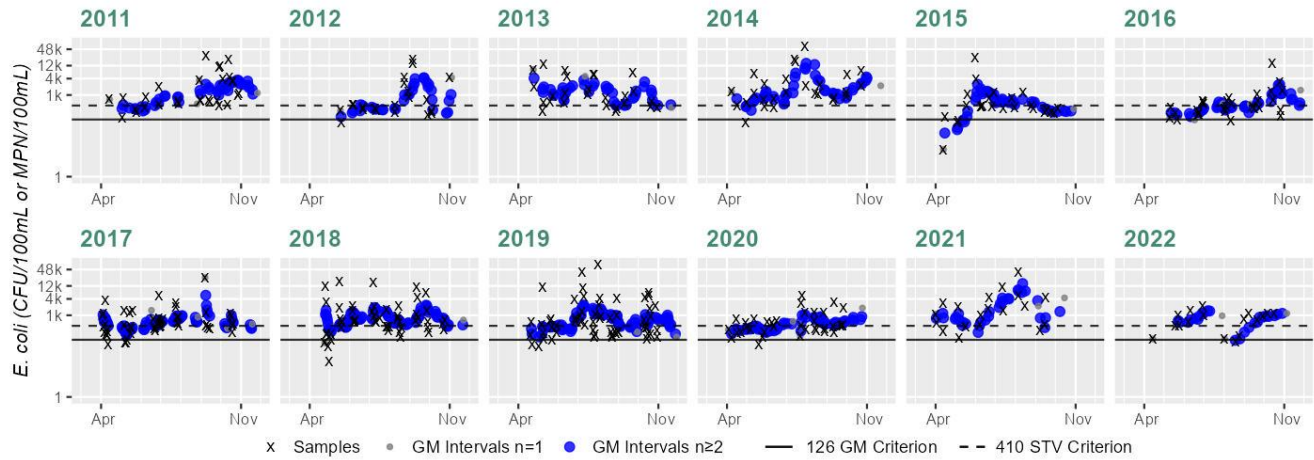
Cumulative %GMI Exceedance  
Current (2011-2022)  
99%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_074 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	1220
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	24
%n>STV	82%

Variable*	Result
Samples	21
SeasGM	688
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	10
%n>STV	47%

Variable*	Result
Samples	26
SeasGM	1204
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	20
%n>STV	76%

Variable*	Result
Samples	27
SeasGM	1674
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	24
%n>STV	88%

Variable*	Result
Samples	25
SeasGM	406
#GMI	44
#GMI Ex	39
%GMI Ex	88%
n>STV	7
%n>STV	28%

Variable*	Result
Samples	30
SeasGM	445
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	13
%n>STV	43%

Variable*	Result
Samples	49
SeasGM	555
#GMI	78
#GMI Ex	78
%GMI Ex	100%
n>STV	28
%n>STV	57%

Variable*	Result
Samples	53
SeasGM	716
#GMI	94
#GMI Ex	94
%GMI Ex	100%
n>STV	35
%n>STV	66%

Variable*	Result
Samples	59
SeasGM	683
#GMI	99
#GMI Ex	99
%GMI Ex	100%
n>STV	34
%n>STV	57%

Variable*	Result
Samples	36
SeasGM	469
#GMI	62
#GMI Ex	62
%GMI Ex	100%
n>STV	16
%n>STV	44%

Variable*	Result
Samples	19
SeasGM	1407
#GMI	32
#GMI Ex	32
%GMI Ex	100%
n>STV	15
%n>STV	78%

Variable*	Result
Samples	17
SeasGM	570
#GMI	25
#GMI Ex	24
%GMI Ex	96%
n>STV	13
%n>STV	76%

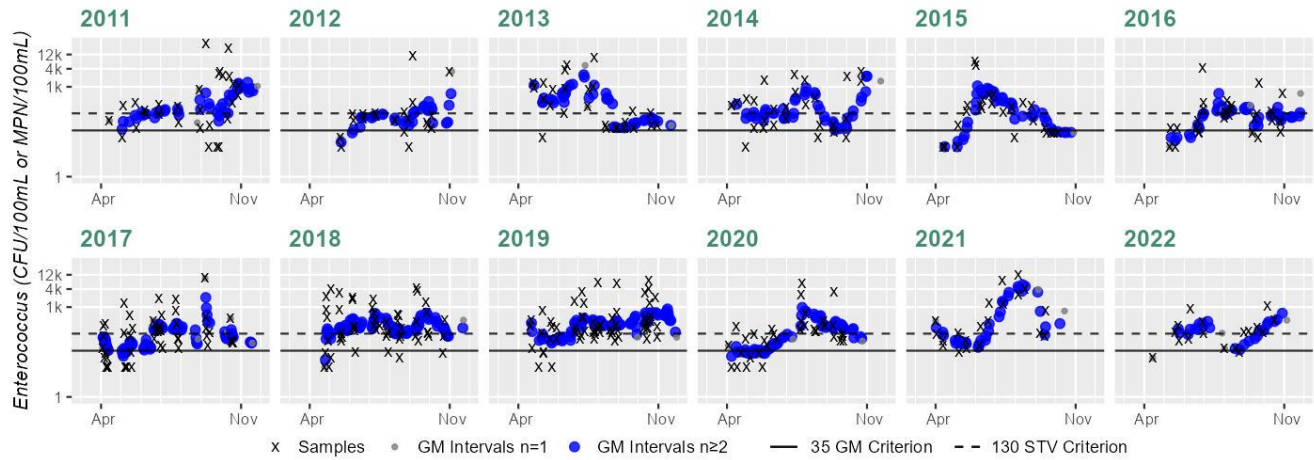
Cumulative %GMI Exceedance  
Current (2011-2022)  
99%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_074 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	250
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	17
%n>STV	58%

Variable*	Result
Samples	21
SeasGM	99
#GMI	35
#GMI Ex	33
%GMI Ex	94%
n>STV	5
%n>STV	23%

Variable*	Result
Samples	26
SeasGM	248
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	16
%n>STV	61%

Variable*	Result
Samples	27
SeasGM	188
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	15
%n>STV	55%

Variable*	Result
Samples	25
SeasGM	119
#GMI	44
#GMI Ex	33
%GMI Ex	75%
n>STV	14
%n>STV	56%

Variable*	Result
Samples	30
SeasGM	96
#GMI	47
#GMI Ex	42
%GMI Ex	89%
n>STV	11
%n>STV	36%

Variable*	Result
Samples	49
SeasGM	108
#GMI	78
#GMI Ex	72
%GMI Ex	92%
n>STV	23
%n>STV	46%

Variable*	Result
Samples	53
SeasGM	226
#GMI	94
#GMI Ex	93
%GMI Ex	98%
n>STV	34
%n>STV	64%

Variable*	Result
Samples	59
SeasGM	259
#GMI	99
#GMI Ex	99
%GMI Ex	100%
n>STV	43
%n>STV	72%

Variable*	Result
Samples	35
SeasGM	121
#GMI	61
#GMI Ex	50
%GMI Ex	81%
n>STV	17
%n>STV	48%

Variable*	Result
Samples	20
SeasGM	320
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	12
%n>STV	60%

Variable*	Result
Samples	17
SeasGM	137
#GMI	25
#GMI Ex	25
%GMI Ex	100%
n>STV	11
%n>STV	64%

Cumulative %GMI Exceedance  
Current (2011-2022)  
94%

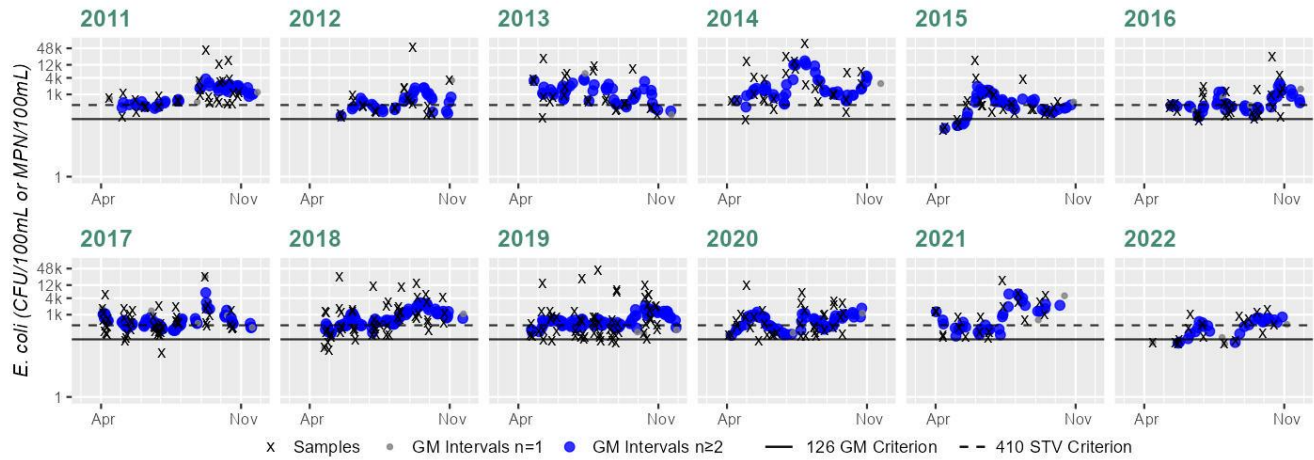
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
96%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_172 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	1075
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	24
%n>STV	82%

Variable*	Result
Samples	21
SeasGM	543
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	9
%n>STV	42%

Variable*	Result
Samples	26
SeasGM	1093
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	20
%n>STV	76%

Variable*	Result
Samples	27
SeasGM	1927
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	24
%n>STV	88%

Variable*	Result
Samples	25
SeasGM	402
#GMI	44
#GMI Ex	39
%GMI Ex	88%
n>STV	9
%n>STV	36%

Variable*	Result
Samples	30
SeasGM	475
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	14
%n>STV	46%

Variable*	Result
Samples	49
SeasGM	541
#GMI	78
#GMI Ex	78
%GMI Ex	100%
n>STV	27
%n>STV	55%

Variable*	Result
Samples	53
SeasGM	716
#GMI	94
#GMI Ex	94
%GMI Ex	100%
n>STV	31
%n>STV	58%

Variable*	Result
Samples	59
SeasGM	596
#GMI	99
#GMI Ex	99
%GMI Ex	100%
n>STV	33
%n>STV	55%

Variable*	Result
Samples	36
SeasGM	554
#GMI	62
#GMI Ex	62
%GMI Ex	100%
n>STV	18
%n>STV	50%

Variable*	Result
Samples	19
SeasGM	855
#GMI	32
#GMI Ex	32
%GMI Ex	100%
n>STV	12
%n>STV	63%

Variable*	Result
Samples	17
SeasGM	294
#GMI	25
#GMI Ex	22
%GMI Ex	88%
n>STV	8
%n>STV	47%

Cumulative %GMI Exceedance  
 Current (2011-2022)  
 98%

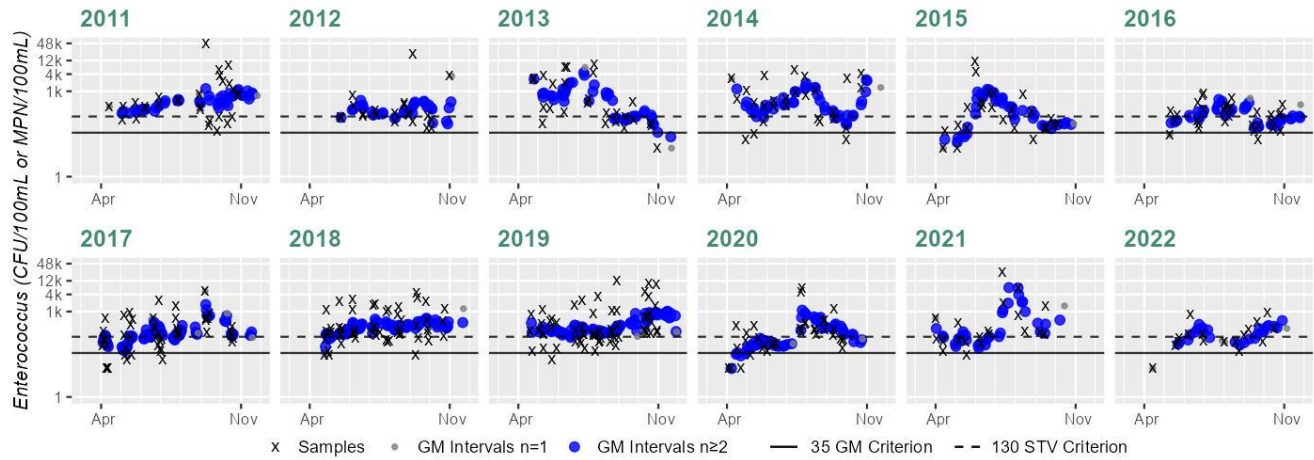
Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_172 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	468
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	21
%n>STV	72%

Variable*	Result
Samples	21
SeasGM	222
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	14
%n>STV	66%

Variable*	Result
Samples	26
SeasGM	406
#GMI	45
#GMI Ex	44
%GMI Ex	97%
n>STV	17
%n>STV	65%

Variable*	Result
Samples	27
SeasGM	406
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	19
%n>STV	70%

Variable*	Result
Samples	25
SeasGM	157
#GMI	44
#GMI Ex	38
%GMI Ex	86%
n>STV	12
%n>STV	48%

Variable*	Result
Samples	30
SeasGM	134
#GMI	47
#GMI Ex	47
%GMI Ex	100%
n>STV	17
%n>STV	56%

Variable*	Result
Samples	49
SeasGM	159
#GMI	78
#GMI Ex	78
%GMI Ex	100%
n>STV	27
%n>STV	55%

Variable*	Result
Samples	53
SeasGM	287
#GMI	94
#GMI Ex	94
%GMI Ex	100%
n>STV	41
%n>STV	77%

Variable*	Result
Samples	59
SeasGM	307
#GMI	99
#GMI Ex	99
%GMI Ex	100%
n>STV	44
%n>STV	74%

Variable*	Result
Samples	35
SeasGM	144
#GMI	61
#GMI Ex	57
%GMI Ex	93%
n>STV	18
%n>STV	51%

Variable*	Result
Samples	20
SeasGM	287
#GMI	35
#GMI Ex	35
%GMI Ex	100%
n>STV	13
%n>STV	65%

Variable*	Result
Samples	17
SeasGM	131
#GMI	25
#GMI Ex	25
%GMI Ex	100%
n>STV	8
%n>STV	47%

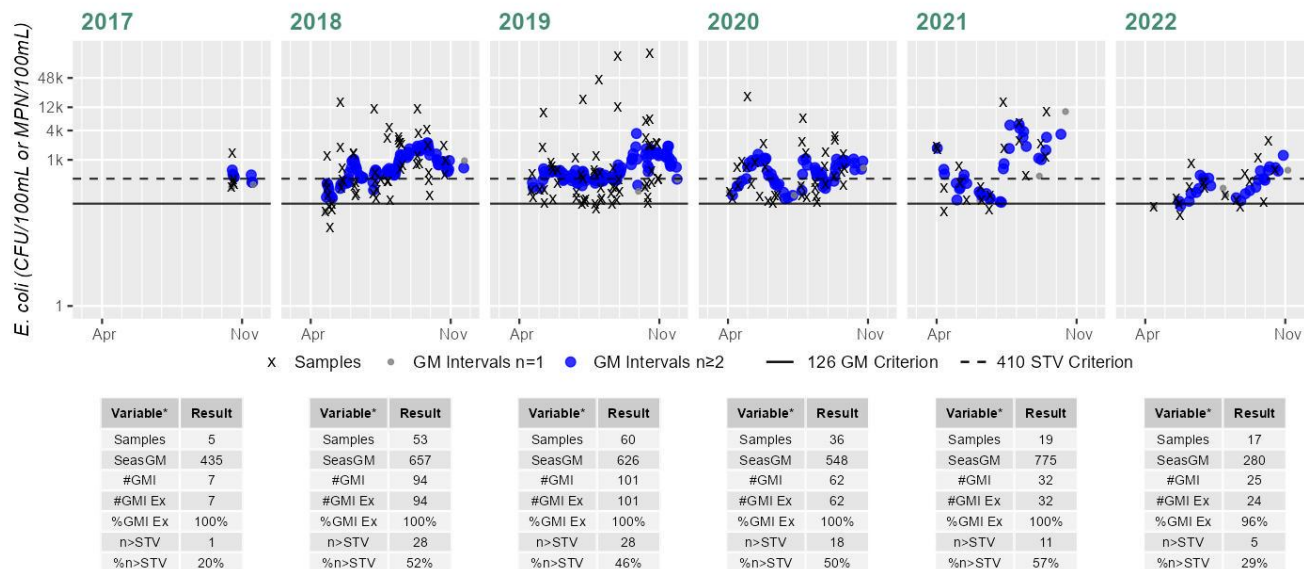
Cumulative %GMI Exceedance  
Current (2011-2022)  
98%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
98%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_276 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

99%

Cumulative %GMI Exceedance

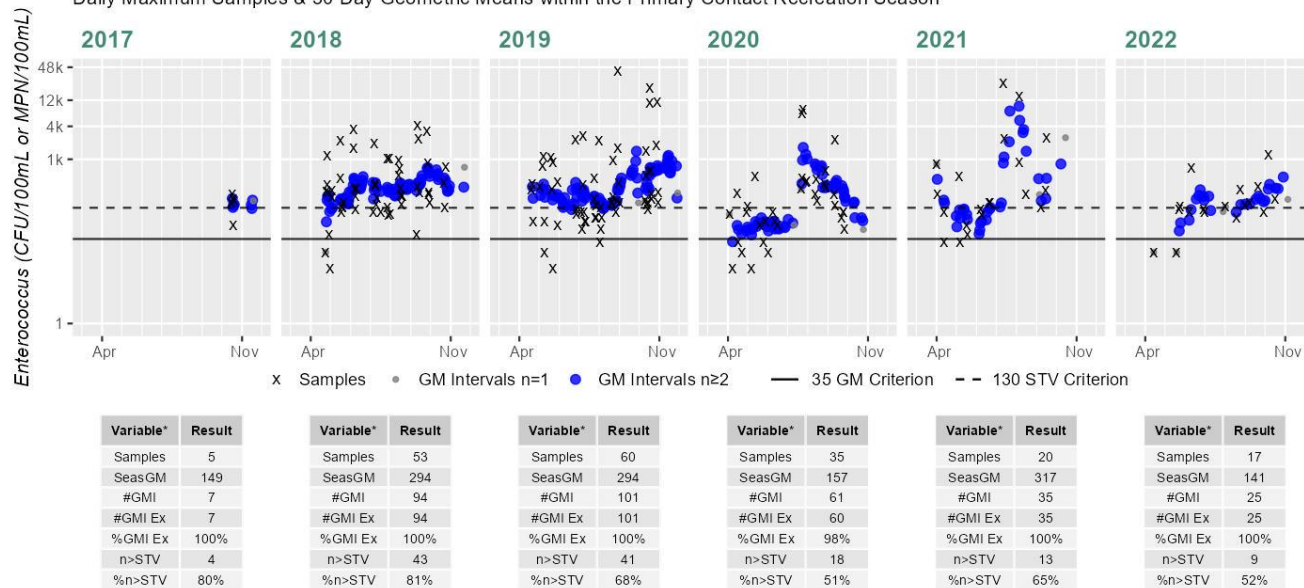
Current (Recent 5 Years)

99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_276 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

99%

Cumulative %GMI Exceedance

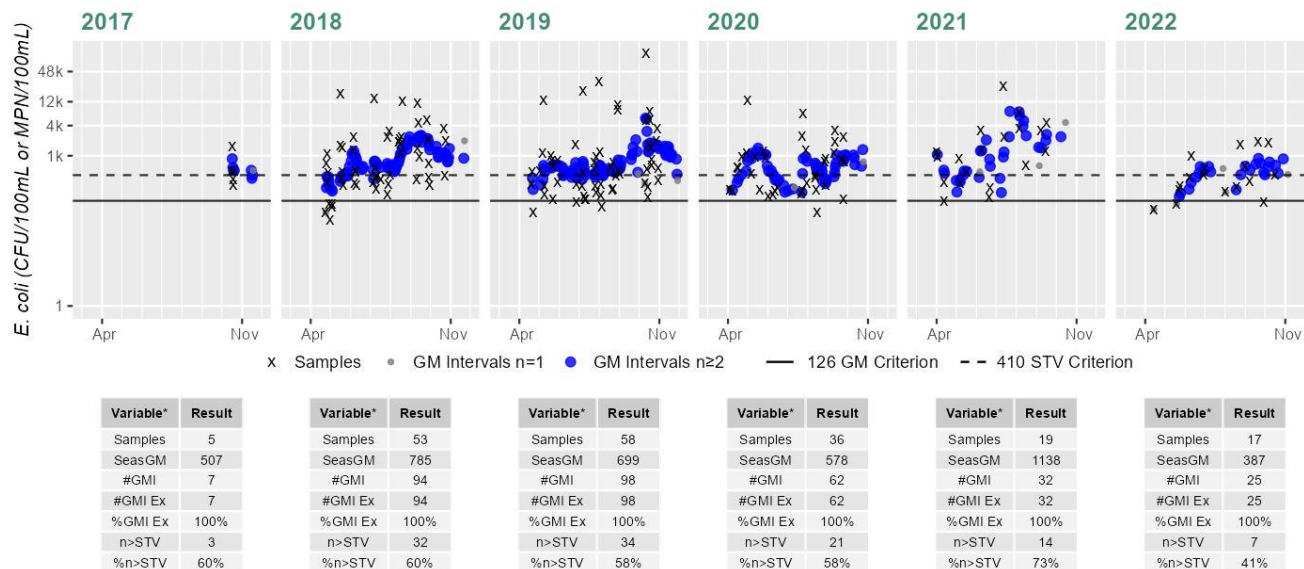
Current (Recent 5 Years)

99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_277 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

100%

Cumulative %GMI Exceedance

Current (Recent 5 Years)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_277 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

99%

Cumulative %GMI Exceedance

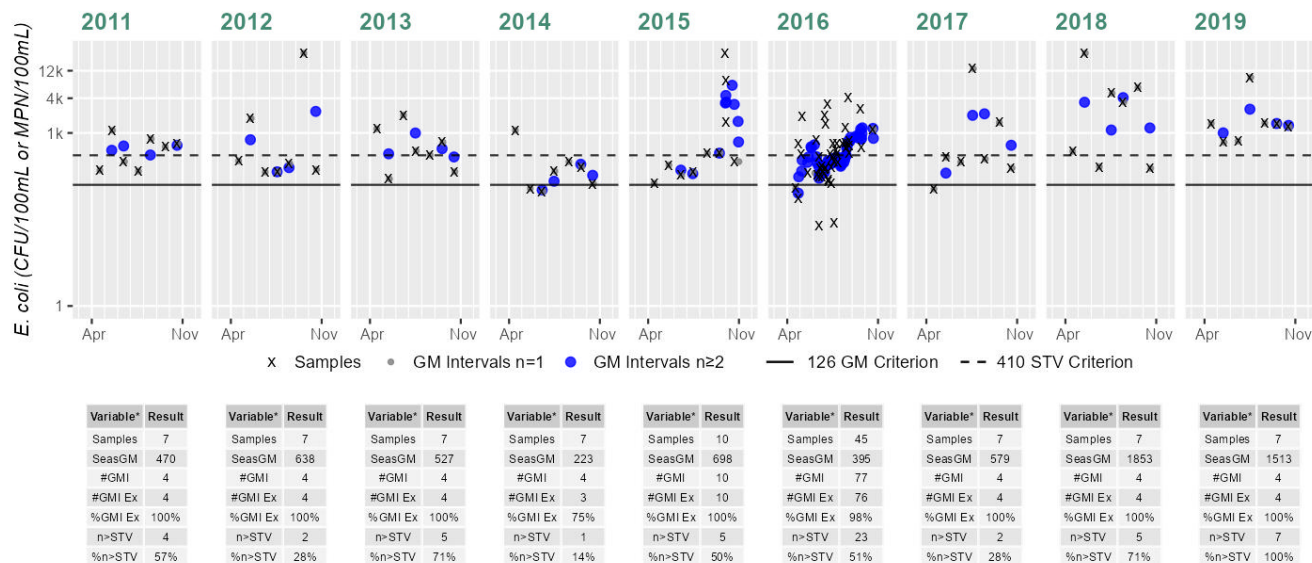
Current (Recent 5 Years)

99%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MASSDEP\_W1969 & MyRWA\_ALB006 & USGS-01103025 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

98%

Cumulative %GMI Exceedance

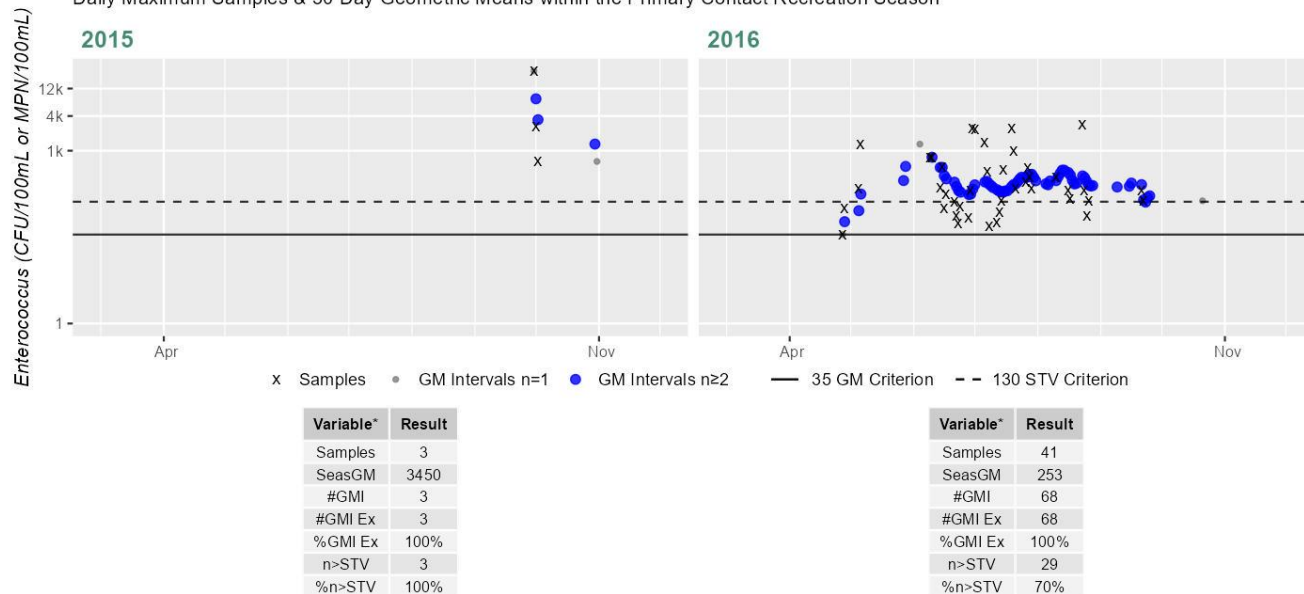
Current (Recent 5 Years)

98%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_ALB006 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

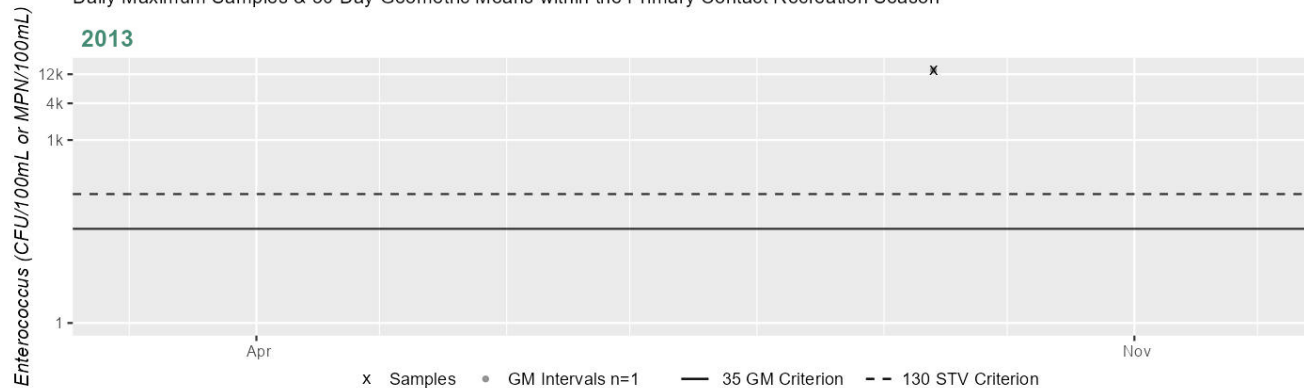
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MyRWA\_ALBBOOM - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	14000
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Other Indicators

**Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data**  
 (MWRA 2025) (MassDEP Undated 2)

<b>Data Year(s)</b>	<b>Summary</b>
2011-2012, 2014-2017	<p>In Alewife Brook (MA71-20), MWRA collected Secchi data at MWRA_070 from 2011-2012 and from 2014-2017. Note that station depths were available on all dates Secchi depth was measured and all station depths were less than the 1.2 m (4 ft) threshold. In 2011 at station MWRA_070 (max station depth=1 m) the Secchi depth measurements ranged from 0.3-1 m (n=20) with 18 measurements in Apr, May, Jun, Aug, Sep, and Oct that were less than the corresponding station depth. In 2012 at station MWRA_070 (max station depth=0.9 m) the Secchi depth measurements ranged from 0.4-0.8 m (n=7) with 7 measurements in May, Jun, Aug, and Sep that were less than the corresponding station depth. In 2014 at station MWRA_070 (max station depth=1 m) the Secchi depth measurements ranged from 0.4-0.7 m (n=8) with 6 measurements in Apr, May, Jun, Jul, and Aug that were less than the corresponding station depth. In 2015 at station MWRA_070 (max station depth=1 m) the Secchi depth measurements ranged from 0.5-0.8 m (n=10) with 7 measurements in May, Jul, and Sep that were less than the corresponding station depth. In 2016 at station MWRA_070 (max station depth=0.6 m) the Secchi depth measurements ranged from 0.4-0.6 m (n=2) with 1 measurement in Jul that was less than the corresponding station depth. There was insufficient information to assess water clarity in 2016 since there were only two measurements and one of them equaled the station depth (which was less than 1.2 m). In 2017 at station MWRA_070 (max station depth=0.5 m) the Secchi depth measurements were all 0.5 m (n=3). There was insufficient information to assess water clarity in 2017 because the station depth was less than 1.2 m and the Secchi depth was the same as the station depth. The Secchi depth measurements in 2011, 2012, 2014, and 2015 at MWRA_070 are indicative of a Transparency / Clarity impairment for Alewife Brook (MA71-20).</p>

## Secondary Contact Recreation

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	NO
<b>2024/26 Use Attainment Summary</b>	

The Secondary Contact Recreation Use for Alewife Brook (MA71-20) continues to be assessed as Not Supporting. The prior *Escherichia Coli* (*E. Coli*) impairment is being carried forward based on bacteria data not meeting the threshold at MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070, as well as the presence of active CSOs. The prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Transparency / Clarity, Flocculant Masses, and Scum/Foam impairments are being removed from the Aesthetics Use this cycle, they are also being removed from the Secondary Contact Recreation Use.

MWRA and MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in Alewife Brook (MA71-20) from 2011-2022 at 6 stations. Samples were collected from the following stations/sample years from upstream to downstream: at the upstream end of the AU at MWRA\_074 [Alewife Brook, offramp to Alewife MBTA station, downstr. of MWR003 & CAM401A] from 2011-2022 (current n=20-63/yr), in the middle of the AU at MWRA\_277 [Alewife Brook, 50 yds upstr. of CAM401B] from 2017-2022 (n=13-62/yr), MWRA\_172 [Alewife Brook, upstr. side of Mass. Ave bridge, midchannel, downstr. of CAM401B] from 2011-2022 (current n=20-63/yr), MWRA\_276 [Alewife Brook, 10 yds downstr. of SOM001A] from 2017-2022 (n=13-64/yr), and MyRWA\_ALB006 [Alewife Brook at Broadway Bridge in Somerville; downstr. of the bridge on the bank] from 2011-2019 (current n=10-49/yr), and at the downstream end of the AU at MWRA\_070 [Alewife Brook, mouth, off S (upstream) side of Mystic Valley Pkwy Bridge] from 2011-2022 (current n=20-64/yr).

Analysis of the most recent five years of mostly high frequency *E. coli* data (2018-2022 for MWRA stations & 2015-2019 for the MyRWA station) from all six stations (MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070) indicated clearly poor water quality: in all 5 years of data at all stations >10% of intervals had GMs >244 CFU/100mL (48-100%), all 5 years at all stations had >10% of samples exceed the 794 CFU/100mL STV (15-61%) [Note: 4 of 5 years at MyRWA\_ALB006 had moderate frequency sampling as opposed to high frequency sampling and in those years 3-9 samples exceeded the STV threshold, constituting a violation for this condition], and cumulatively across the 5 years 91-97% of intervals at each station had GMs >244 CFU/100mL. *E. coli* data from MWRA\_074, MWRA\_277, MWRA\_172, MWRA\_276, MyRWA\_ALB006, and MWRA\_070 are indicative of an *Escherichia Coli* (*E. Coli*) impairment.

MassDEP, MWRA, MyRWA, and USGS staff/volunteers also collected *E. coli* bacteria samples in the historic IR window (1997-2010) in Alewife Brook (MA71-20) from 1999-2010 at 8 stations. Samples were collected from the following stations/sample years from upstream to downstream: MyRWA\_ALB016 [None submitted by MyRWA] in 2006 and 2008 (n=1/yr), MWRA\_074 [Alewife Brook, offramp to Alewife MBTA station, downstr. of MWR003 & CAM401A] from 2002-2010 (historic n=20-42/yr), MyRWA\_ALB012 [None submitted by MyRWA] in Dec 2009 (n=1), MWRA\_172 [Alewife Brook, upstr. side of Mass. Ave bridge, midchannel, downstr. of CAM401B] from 2002-2010 (historic n=20-32/yr), MyRWA\_ALB011 [None submitted by MyRWA] in 2006 and 2008 (n=1/yr), the combined W1969 & MyRWA\_ALB006 & USGS-01103025 station [upstr. at Broadway bridge, Arlington/Somerville & Alewife Brook at Broadway Bridge in Somerville; downstr. of the bridge on the bank & ALEWIFE BROOK NEAR ARLINGTON, MA] from 1999-2000, in 2006, and from 2008-2010 (historic n=2-13/yr), MWRA\_070 [Alewife Brook, mouth, off S (upstream) side of Mystic Valley Pkwy Bridge] from 2002-2010 (historic n=20-42/yr),

and MyRWA\_ALB001 [None submitted by MyRWA] from 2006-2008 and in 2010 (n=1/yr). These data, when of sufficient frequency to be evaluated, indicated generally similar poor water quality. However, they are superseded by the data from the current IR window.

### **Monitoring Stations**

<b>Station Code</b>	<b>Organization</b>	<b>Type</b>	<b>Water Body</b>	<b>Station Description</b>	<b>Latitude</b>	<b>Longitude</b>
MWRA_070	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, mouth, off south (upstream) side of Mystic Valley Pkwy Bridge	42.414428	-71.132413
MWRA_074	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, offramp to Alewife MBTA station, downstream of MWR003 and CAM401A	42.397422	-71.143511
MWRA_172	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, upstream side of Mass. Ave. bridge, midchannel, downstream of CAM401B	42.400918	-71.136386
MWRA_276	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, 10 yards downstream of SOM001A	42.402258	-71.135170
MWRA_277	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, 50 yards upstream of CAM401B	42.400650	-71.137138
W1969	MassDEP	Water Quality	Alewife Brook	[upstream at Broadway bridge, Arlington/Somerville]	42.406928	-71.133997
MyRWA_ALB001	Mystic River Watershed Association	Water Quality	Alewife Brook	No description submitted by MyRWA	42.415000	-71.132333
MyRWA_ALB006	Mystic River Watershed Association	Water Quality	Alewife Brook	Alewife Brook at Broadway Bridge in Somerville; downstream of the bridge on the bank	42.407133	-71.133767
MyRWA_ALB011	Mystic River Watershed Association	Water Quality	Alewife Brook	No description submitted by MyRWA	42.401167	-71.136167
MyRWA_ALB012	Mystic River Watershed Association	Water Quality	Alewife Brook	No description submitted by MyRWA	42.400333	-71.137667
MyRWA_ALB016	Mystic River Watershed Association	Water Quality	Alewife Brook	No description submitted by MyRWA	42.397167	-71.143667
USGS-01103025	USGS Massachusetts Water Science Center	Water Quality	Alewife Brook	Alewife Brook Near Arlington, MA	42.407041	-71.133942



## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 1) (MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

(USGS 2024) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/01/02	12/17/02	21	10	146000	600
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/08/03	12/25/03	22	90	7300	780
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/14/04	11/23/04	20	100	1490	419
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/04/05	12/27/05	31	90	25000	600
MWRA_070	Massachusetts Water Resources Authority	E. coli	01/12/06	12/20/06	42	45	17600	820
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/09/07	12/13/07	22	41	12000	361
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	63	2480	273
MWRA_070	Massachusetts Water Resources Authority	E. coli	01/07/09	10/28/09	23	63	839	278
MWRA_070	Massachusetts Water Resources Authority	E. coli	05/05/10	12/08/10	26	110	4350	622
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/14/11	12/22/11	35	228	44100	1673
MWRA_070	Massachusetts Water Resources Authority	E. coli	01/13/12	12/28/12	27	97	19900	600
MWRA_070	Massachusetts Water Resources Authority	E. coli	01/31/13	12/30/13	31	110	24200	1090
MWRA_070	Massachusetts Water Resources Authority	E. coli	01/15/14	12/18/14	31	185	727000	1836
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/13/15	11/12/15	26	52	79800	766
MWRA_070	Massachusetts Water Resources Authority	E. coli	01/11/16	12/02/16	39	63	9210	518

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/03/17	12/13/17	57	41	24200	660
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	52	14100	694
MWRA_070	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	64	10	24200	941
MWRA_070	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	98	19900	604
MWRA_070	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	86	24200	1014
MWRA_070	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	74	4880	787
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/01/02	12/17/02	21	10	5200	442
MWRA_074	Massachusetts Water Resources Authority	E. coli	02/24/03	12/18/03	20	250	4800	1013
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/14/04	11/23/04	20	250	2500	568
MWRA_074	Massachusetts Water Resources Authority	E. coli	05/04/05	12/27/05	32	80	15000	610
MWRA_074	Massachusetts Water Resources Authority	E. coli	01/12/06	12/20/06	42	90	33100	849
MWRA_074	Massachusetts Water Resources Authority	E. coli	05/09/07	12/13/07	22	160	12000	575
MWRA_074	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	10	17300	182
MWRA_074	Massachusetts Water Resources Authority	E. coli	01/07/09	10/28/09	23	74	1610	233
MWRA_074	Massachusetts Water Resources Authority	E. coli	05/05/10	12/08/10	26	10	8160	574
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/14/11	12/22/11	35	146	27800	1388
MWRA_074	Massachusetts Water Resources Authority	E. coli	01/13/12	12/28/12	27	96	19900	767

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_074	Massachusetts Water Resources Authority	E. coli	01/31/13	12/30/13	31	250	13000	1131
MWRA_074	Massachusetts Water Resources Authority	E. coli	01/15/14	12/18/14	30	96	62700	1437
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/13/15	11/12/15	26	10	24200	398
MWRA_074	Massachusetts Water Resources Authority	E. coli	01/11/16	12/02/16	39	52	14100	527
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/03/17	12/13/17	57	84	24200	560
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	20	17300	710
MWRA_074	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	63	74	74800	714
MWRA_074	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	85	5170	462
MWRA_074	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	108	39300	1403
MWRA_074	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	109	2140	493
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/01/02	12/17/02	21	70	2300	625
MWRA_172	Massachusetts Water Resources Authority	E. coli	02/24/03	12/18/03	21	350	8500	1111
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/14/04	11/23/04	20	200	3600	751
MWRA_172	Massachusetts Water Resources Authority	E. coli	05/04/05	12/27/05	32	50	36000	726
MWRA_172	Massachusetts Water Resources Authority	E. coli	01/12/06	12/20/06	25	170	17700	732
MWRA_172	Massachusetts Water Resources Authority	E. coli	05/09/07	12/13/07	22	109	8660	403
MWRA_172	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	31	15500	235

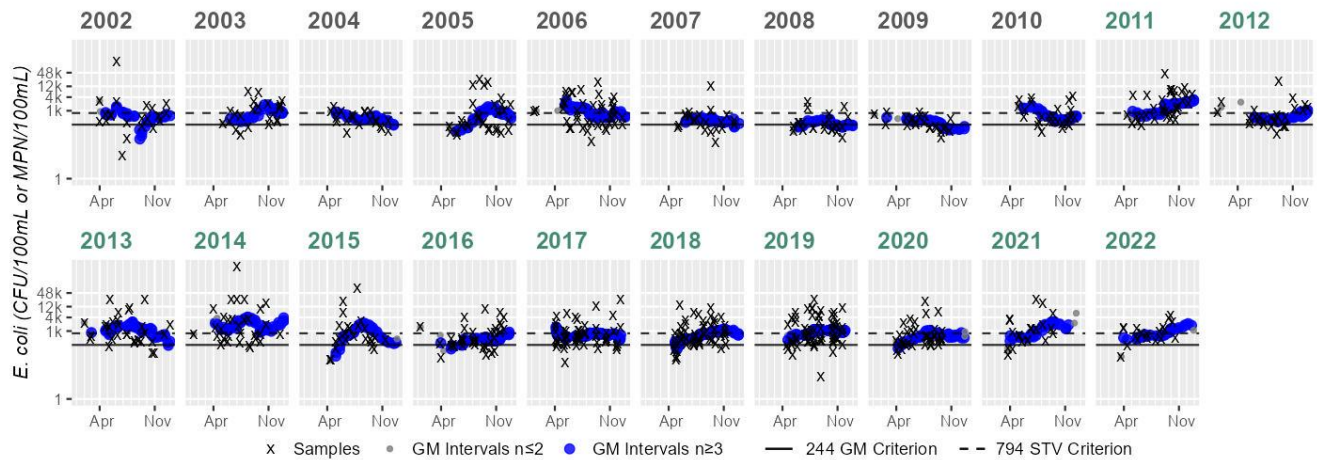
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_172	Massachusetts Water Resources Authority	E. coli	01/07/09	10/28/09	23	52	552	168
MWRA_172	Massachusetts Water Resources Authority	E. coli	05/05/10	12/08/10	26	97	17300	551
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/14/11	12/22/11	35	156	41300	1403
MWRA_172	Massachusetts Water Resources Authority	E. coli	01/13/12	12/28/12	27	148	50400	669
MWRA_172	Massachusetts Water Resources Authority	E. coli	01/31/13	12/30/13	31	135	19900	1056
MWRA_172	Massachusetts Water Resources Authority	E. coli	01/15/14	12/18/14	30	119	68900	1698
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/13/15	11/12/15	26	52	17300	396
MWRA_172	Massachusetts Water Resources Authority	E. coli	01/11/16	12/02/16	39	86	24200	547
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/03/17	12/13/17	57	41	24200	586
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	52	24200	700
MWRA_172	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	63	98	40800	616
MWRA_172	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	110	12000	555
MWRA_172	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	145	19900	937
MWRA_172	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	86	1520	285
MWRA_276	Massachusetts Water Resources Authority	E. coli	10/16/17	12/13/17	13	171	24200	772
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	41	15500	643
MWRA_276	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	64	98	155000	656

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_276	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	132	19900	546
MWRA_276	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	86	24200	860
MWRA_276	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	74	2490	280
MWRA_277	Massachusetts Water Resources Authority	E. coli	10/16/17	12/13/17	13	185	24200	756
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	52	17300	764
MWRA_277	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	62	74	112000	723
MWRA_277	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	74	13000	582
MWRA_277	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	122	24900	1225
MWRA_277	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	85	1940	367
W1969	MassDEP	E. coli	04/21/09	09/08/09	6	97	1500	252
MyRWA_ALB001	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	3448	3448	3448
MyRWA_ALB001	Mystic River Watershed Association	E. coli	08/22/07	08/22/07	1	84	84	83
MyRWA_ALB001	Mystic River Watershed Association	E. coli	07/24/08	07/24/08	1	5475	5475	5474
MyRWA_ALB001	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	3922	3922	3922
MyRWA_ALB006	Mystic River Watershed Association	E. coli	06/07/06	06/14/06	2	279	1187	575
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	13	52	2603	253
MyRWA_ALB006	Mystic River Watershed Association	E. coli	03/15/10	08/11/10	2	186	9000	1293
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	12	197	12000	595

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	211	24200	633
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/16/13	12/18/13	12	160	2040	543
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	14	97	2300	397
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	14	134	24196	569
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	49	24	4040	409
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	107	13000	535
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	243	24200	1236
MyRWA_ALB006	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	399	24200	1589
MyRWA_ALB011	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	2481	2481	2481
MyRWA_ALB011	Mystic River Watershed Association	E. coli	07/24/08	07/24/08	1	3654	3654	3653
MyRWA_ALB012	Mystic River Watershed Association	E. coli	12/09/09	12/09/09	1	465	465	464
MyRWA_ALB016	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	8164	8164	8163
MyRWA_ALB016	Mystic River Watershed Association	E. coli	07/24/08	07/24/08	1	19863	19863	19862
USGS-01103025	USGS Massachusetts Water Science Center	E. coli	05/20/99	09/02/99	5	700	14000	3030
USGS-01103025	USGS Massachusetts Water Science Center	E. coli	01/04/00	06/08/00	4	680	7900	1890

## Station MWRA\_070 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	22	Samples	20	Samples	31	Samples	42	Samples	22	Samples	22	Samples	23	Samples	26
SeasGM	600	SeasGM	780	SeasGM	419	SeasGM	600	SeasGM	820	SeasGM	361	SeasGM	273	SeasGM	278	SeasGM	622
#GMI	37	#GMI	37	#GMI	30	#GMI	53	#GMI	71	#GMI	38	#GMI	38	#GMI	38	#GMI	47
#GMI Ex	32	#GMI Ex	37	#GMI Ex	26	#GMI Ex	47	#GMI Ex	71	#GMI Ex	36	#GMI Ex	21	#GMI Ex	22	#GMI Ex	47
%GMI Ex	86%	%GMI Ex	100%	%GMI Ex	86%	%GMI Ex	88%	%GMI Ex	100%	%GMI Ex	94%	%GMI Ex	55%	%GMI Ex	57%	%GMI Ex	100%
n>STV	7	n>STV	11	n>STV	6	n>STV	11	n>STV	21	n>STV	3	n>STV	3	n>STV	2	n>STV	9
%n>STV	33%	%n>STV	50%	%n>STV	30%	%n>STV	35%	%n>STV	50%	%n>STV	13%	%n>STV	13%	%n>STV	8%	%n>STV	34%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	31	Samples	31	Samples	26	Samples	39	Samples	57	Samples	58	Samples	64	Samples	37	Samples	21
SeasGM	1090	SeasGM	1836	SeasGM	766	SeasGM	518	SeasGM	660	SeasGM	694	SeasGM	941	SeasGM	604	SeasGM	1014
#GMI	53	#GMI	52	#GMI	47	#GMI	69	#GMI	105	#GMI	102	#GMI	112	#GMI	69	#GMI	33
#GMI Ex	52	#GMI Ex	52	#GMI Ex	43	#GMI Ex	64	#GMI Ex	105	#GMI Ex	98	#GMI Ex	112	#GMI Ex	66	#GMI Ex	33
%GMI Ex	98%	%GMI Ex	100%	%GMI Ex	91%	%GMI Ex	92%	%GMI Ex	100%	%GMI Ex	96%	%GMI Ex	100%	%GMI Ex	95%	%GMI Ex	100%
n>STV	15	n>STV	17	n>STV	10	n>STV	14	n>STV	21	n>STV	23	n>STV	32	n>STV	12	n>STV	12
%n>STV	48%	%n>STV	54%	%n>STV	38%	%n>STV	35%	%n>STV	36%	%n>STV	39%	%n>STV	50%	%n>STV	32%	%n>STV	57%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
87%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
84%

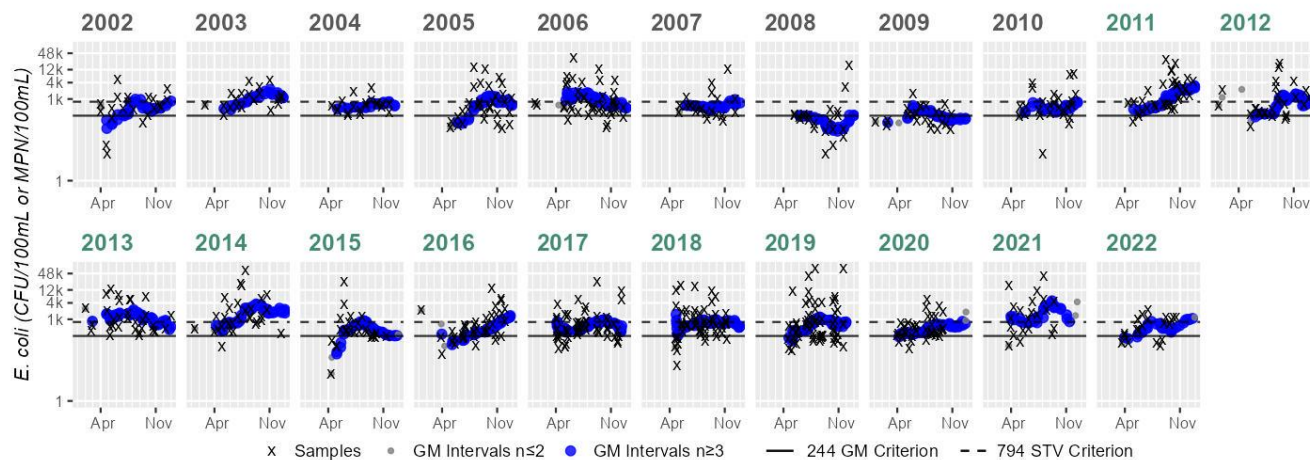
Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
97%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_074 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	20	Samples	20	Samples	32	Samples	42	Samples	22	Samples	22	Samples	23	Samples	26	Samples	35	Samples	27	Samples	27
SeasGM	442	SeasGM	1013	SeasGM	568	SeasGM	610	SeasGM	849	SeasGM	575	SeasGM	182	SeasGM	233	SeasGM	574	SeasGM	1388	SeasGM	767	SeasGM	767
#GMI	37	#GMI	32	#GMI	30	#GMI	55	#GMI	71	#GMI	38	#GMI	38	#GMI	38	#GMI	47	#GMI	64	#GMI	44	#GMI	44
#GMI Ex	31	#GMI Ex	32	#GMI Ex	30	#GMI Ex	49	#GMI Ex	71	#GMI Ex	38	#GMI Ex	8	#GMI Ex	15	#GMI Ex	47	#GMI Ex	64	#GMI Ex	43	#GMI Ex	43
%GMI Ex	83%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	89%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	21%	%GMI Ex	39%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	97%
n>STV	7	n>STV	12	n>STV	4	n>STV	12	n>STV	16	n>STV	6	n>STV	2	n>STV	1	n>STV	8	n>STV	19	n>STV	11	n>STV	11
%n>STV	33%	%n>STV	60%	%n>STV	20%	%n>STV	37%	%n>STV	38%	%n>STV	27%	%n>STV	9%	%n>STV	4%	%n>STV	30%	%n>STV	54%	%n>STV	40%	%n>STV	40%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	31	Samples	30	Samples	26	Samples	39	Samples	57	Samples	58	Samples	63	Samples	37	Samples	21	Samples	20	Samples	20	Samples	20
SeasGM	1131	SeasGM	1437	SeasGM	398	SeasGM	527	SeasGM	560	SeasGM	710	SeasGM	714	SeasGM	462	SeasGM	1403	SeasGM	493	SeasGM	493	SeasGM	493
#GMI	53	#GMI	50	#GMI	47	#GMI	69	#GMI	105	#GMI	102	#GMI	110	#GMI	69	#GMI	33	#GMI	33	#GMI	33	#GMI	33
#GMI Ex	53	#GMI Ex	50	#GMI Ex	43	#GMI Ex	59	#GMI Ex	105	#GMI Ex	102	#GMI Ex	107	#GMI Ex	68	#GMI Ex	33	#GMI Ex	30	#GMI Ex	30	#GMI Ex	30
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	91%	%GMI Ex	85%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	97%	%GMI Ex	98%	%GMI Ex	100%	%GMI Ex	90%	%GMI Ex	90%	%GMI Ex	90%
n>STV	16	n>STV	18	n>STV	5	n>STV	11	n>STV	17	n>STV	20	n>STV	21	n>STV	7	n>STV	13	n>STV	8	n>STV	8	n>STV	8
%n>STV	51%	%n>STV	60%	%n>STV	19%	%n>STV	28%	%n>STV	29%	%n>STV	34%	%n>STV	33%	%n>STV	18%	%n>STV	61%	%n>STV	40%	%n>STV	40%	%n>STV	40%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
83%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
77%

Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

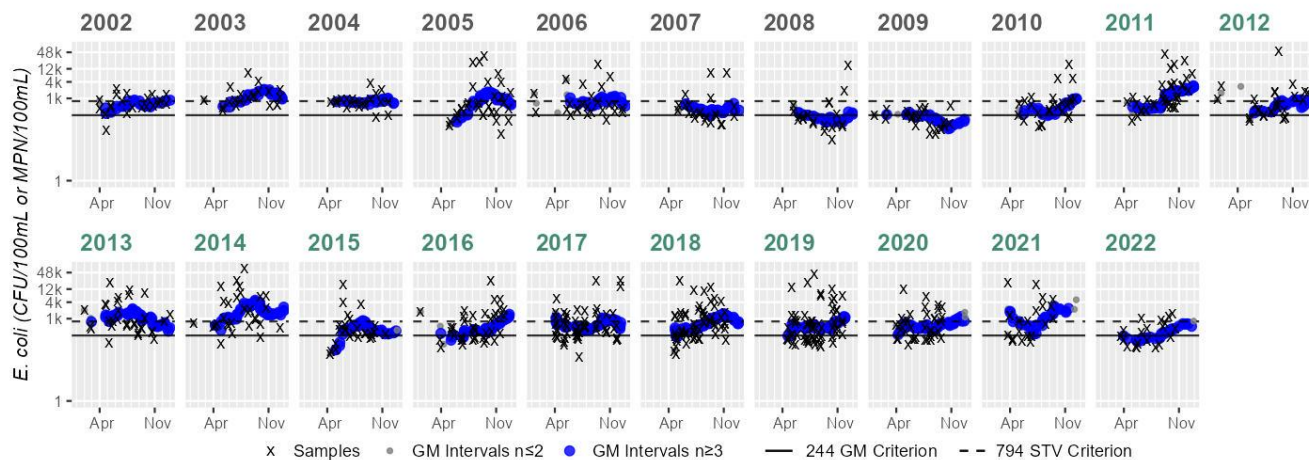
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
97%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_172 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	21	Samples	20	Samples	32	Samples	25	Samples	22	Samples	22	Samples	23	Samples	26
SeasGM	625	SeasGM	1111	SeasGM	751	SeasGM	726	SeasGM	732	SeasGM	403	SeasGM	235	SeasGM	168	SeasGM	551
#GMI	37	#GMI	34	#GMI	30	#GMI	55	#GMI	39	#GMI	38	#GMI	38	#GMI	38	#GMI	47
#GMI Ex	37	#GMI Ex	34	#GMI Ex	30	#GMI Ex	51	#GMI Ex	39	#GMI Ex	37	#GMI Ex	12	#GMI Ex	7	#GMI Ex	46
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	92%	%GMI Ex	100%	%GMI Ex	97%	%GMI Ex	31%	%GMI Ex	18%	%GMI Ex	97%
n>STV	8	n>STV	14	n>STV	8	n>STV	10	n>STV	7	n>STV	4	n>STV	2	n>STV	0	n>STV	7
%n>STV	38%	%n>STV	66%	%n>STV	40%	%n>STV	31%	%n>STV	28%	%n>STV	18%	%n>STV	9%	%n>STV	0%	%n>STV	26%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	31	Samples	30	Samples	26	Samples	39	Samples	57	Samples	58	Samples	63	Samples	37	Samples	21
SeasGM	1056	SeasGM	1698	SeasGM	396	SeasGM	547	SeasGM	586	SeasGM	700	SeasGM	616	SeasGM	555	SeasGM	937
#GMI	53	#GMI	50	#GMI	47	#GMI	69	#GMI	105	#GMI	102	#GMI	110	#GMI	69	#GMI	33
#GMI Ex	53	#GMI Ex	50	#GMI Ex	43	#GMI Ex	62	#GMI Ex	105	#GMI Ex	99	#GMI Ex	108	#GMI Ex	69	#GMI Ex	33
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	91%	%GMI Ex	89%	%GMI Ex	100%	%GMI Ex	97%	%GMI Ex	98%	%GMI Ex	100%	%GMI Ex	100%
n>STV	14	n>STV	17	n>STV	5	n>STV	15	n>STV	18	n>STV	25	n>STV	22	n>STV	14	n>STV	11
%n>STV	45%	%n>STV	56%	%n>STV	19%	%n>STV	38%	%n>STV	31%	%n>STV	43%	%n>STV	34%	%n>STV	37%	%n>STV	52%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
82%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
70%

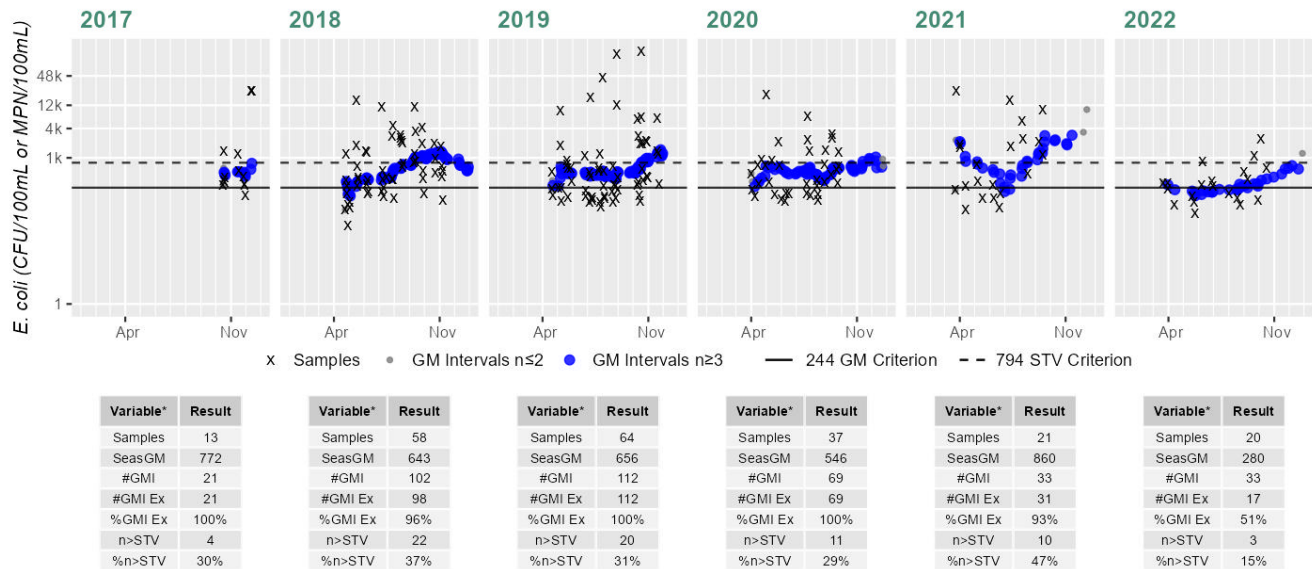
Cumulative %GMI Exceedance  
Current (2011-2022)  
95%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
93%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MWRA\_276 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



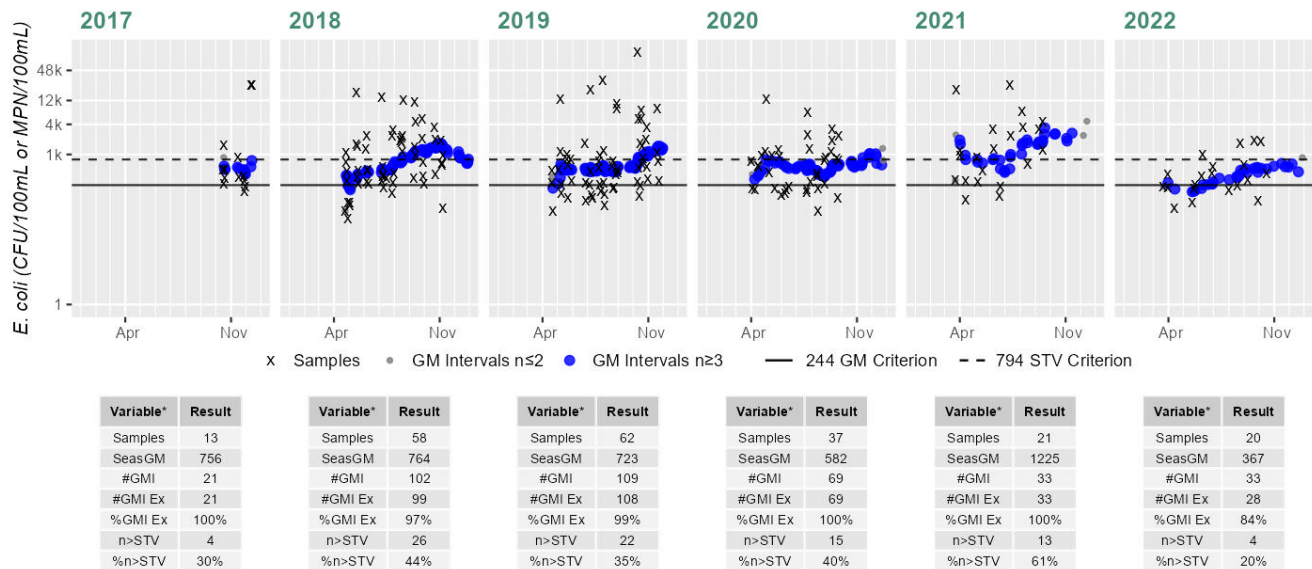
Cumulative %GMI Exceedance  
Current (2011-2022)  
94%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
93%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MWRA\_277 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



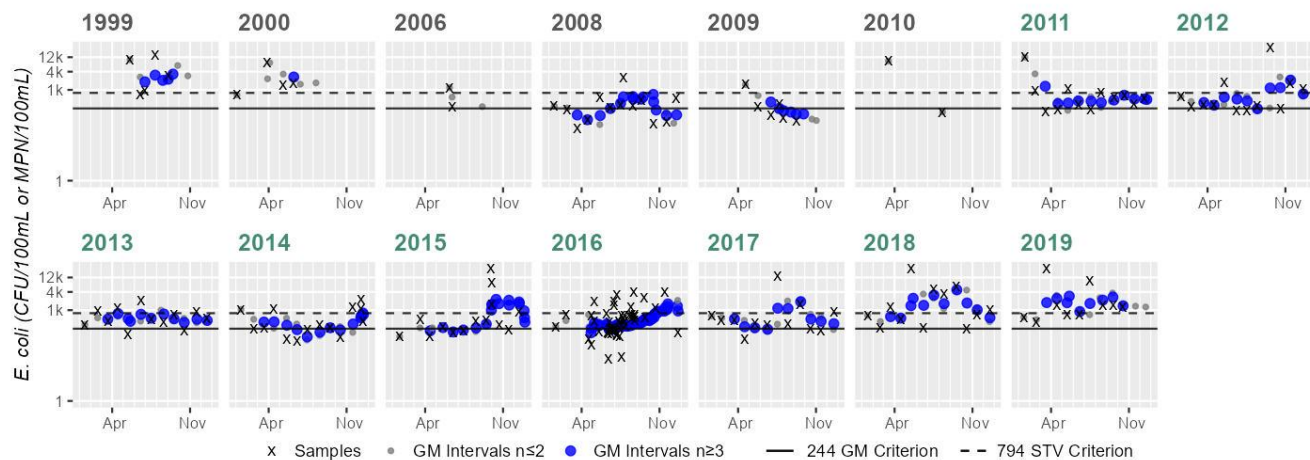
Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
97%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MASSDEP\_W1969 & MyRWA\_ALB006 & USGS-01103025 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	3030
#GMI	5
#GMI Ex	5
%GMI Ex	100%
n>STV	4
%n>STV	80%

Variable*	Result
Samples	4
SeasGM	1890
#GMI	1
#GMI Ex	1
%GMI Ex	100%
n>STV	3
%n>STV	75%

Variable*	Result
Samples	2
SeasGM	575
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	13
SeasGM	253
#GMI	15
#GMI Ex	8
%GMI Ex	53%
n>STV	1
%n>STV	7%

Variable*	Result
Samples	6
SeasGM	252
#GMI	6
#GMI Ex	2
%GMI Ex	33%
n>STV	1
%n>STV	16%

Variable*	Result
Samples	2
SeasGM	1293
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	12
SeasGM	595
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	12
SeasGM	633
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	12
SeasGM	543
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	14
SeasGM	397
#GMI	15
#GMI Ex	11
%GMI Ex	73%
n>STV	5
%n>STV	35%

Variable*	Result
Samples	14
SeasGM	569
#GMI	18
#GMI Ex	15
%GMI Ex	83%
n>STV	4
%n>STV	28%

Variable*	Result
Samples	49
SeasGM	409
#GMI	84
#GMI Ex	77
%GMI Ex	91%
n>STV	9
%n>STV	18%

Variable*	Result
Samples	12
SeasGM	535
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	12
SeasGM	1236
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	6
%n>STV	50%

Variable*	Result
Samples	10
SeasGM	1589
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	6
%n>STV	60%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 59%

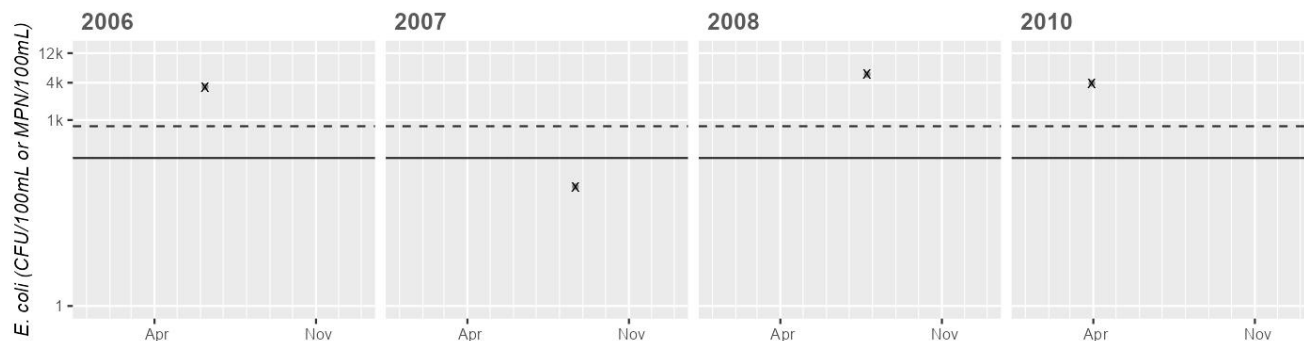
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 91%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 91%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ALB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	3448
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	84
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	5475
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	3922
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

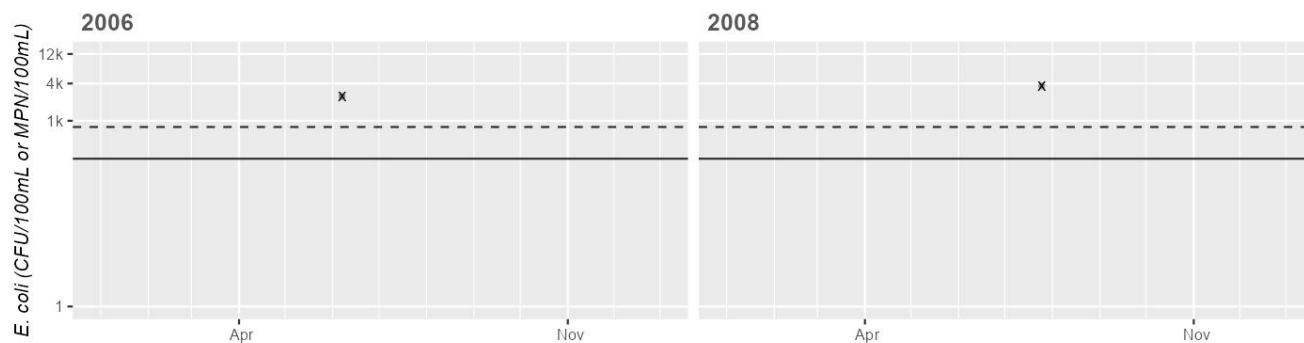
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ALB011 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	2481
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	3654
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

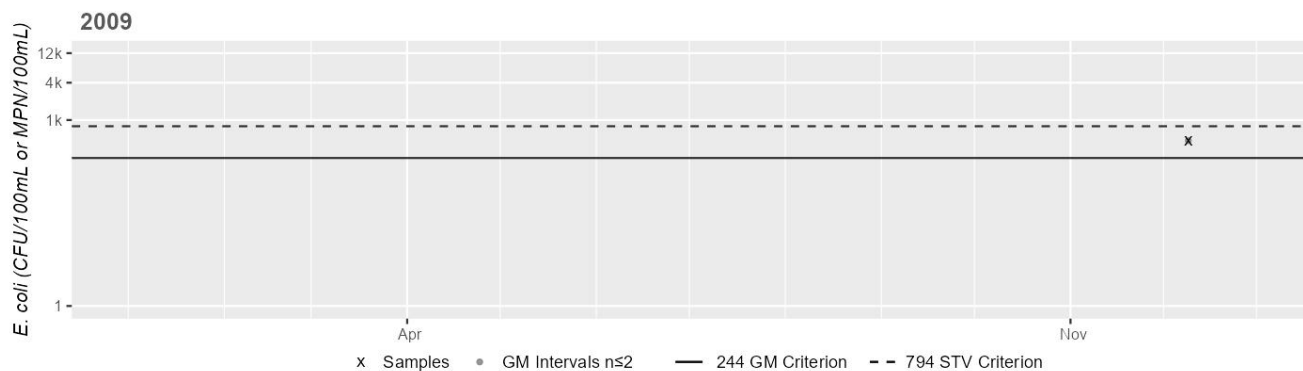
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ALB012 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



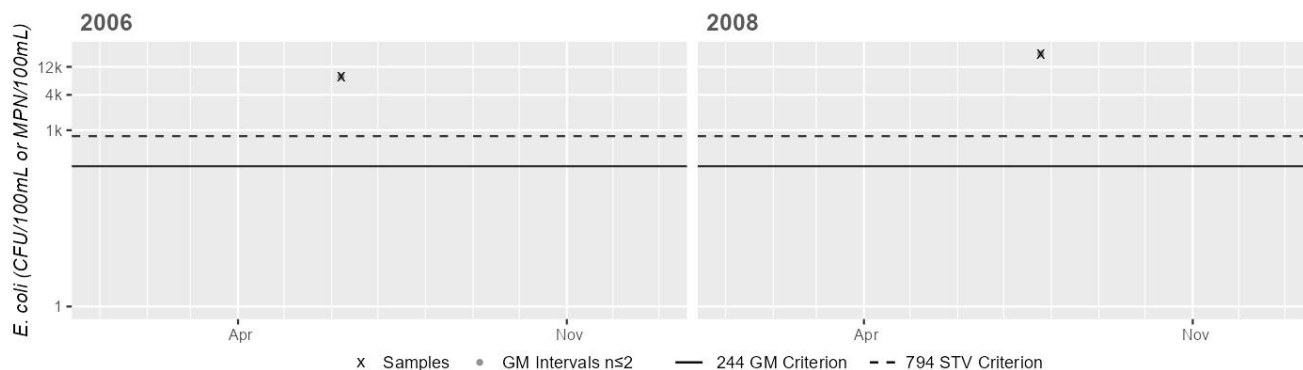
Variable*	Result
Samples	1
SeasGM	465
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_ALB016 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	8163
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	19863
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Belle Isle Inlet (MA71-14)

<b>Location:</b>	From tidegate at Bennington Street, Boston/Revere to confluence with Winthrop Bay, Boston/Winthrop.
<b>AU Type:</b>	ESTUARY
<b>AU Size:</b>	0.12 SQUARE MILES
<b>Classification/Qualifier:</b>	SA: ORW, SFO

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Cause Unknown [Contaminants in Fish and/or Shellfish]	--	Unchanged
5	5	Enterococcus	R1_MA_2019_01	Unchanged
5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
Cause Unknown [Contaminants in Fish and/or Shellfish]	Source Unknown (N)	--	X	--	--	--	--
Enterococcus	Source Unknown (N)	--	--	--	--	X	X
Fecal Coliform	Source Unknown (N)	--	--	X	--	--	--
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--	--

## Recommendations

2024/26 Recommendations
2016 IR [Fecal Coliform, medium priority] Identify the cause of the prohibited shellfish growing areas in Belle Isle Inlet (MA71-14). {Belle Isle Inlet (MA71-14) shellfishing beds}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Belle Isle Inlet (MA71-14) continues to be assessed as Not Supporting and the prior Cause Unknown [Contaminants in Fish and/or Shellfish] and PCBs in Fish Tissue impairments are being carried forward. MA DPH included a site-specific advisory for Belle Isle Inlet (referred to by MA DPH as "Boston Harbor") in their 2017 Guide to Eating Fish Safely in Massachusetts. The public should refer to the most recent DPH information for the most up to date meal advice for sensitive and general populations.

### Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
Belle Isle Inlet (MA71-14): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.1111 sq mi (91%). The approved shellfish growing area represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.1111 sq mi (91%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of approved and prohibited. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting. The prior Alert from the 2016 IR cycle, recommending an investigation of the cause of the prohibited shellfish growing area, is being carried forward.

### Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 5)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
GBH5.8	Belle Isle Creek	Prohibited	0.11110	91.5%



## Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
No aesthetics observation data are available, so the Aesthetics Use for Belle Isle Inlet (MA71-14) is Not Assessed.	

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
<p>The Primary Contact Recreation Use for Belle Isle Inlet (MA71-14) continues to be assessed as Not Supporting. The prior <i>Enterococcus</i> impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA_BEI093 and MyRWA_BEI001. The shellfish growing areas (0.1111 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Primary Contact Recreation Use of Belle Isle Inlet (MA71-14).</p> <p>MyRWA staff/volunteers collected <i>Enterococcus</i> bacteria samples in Belle Isle Inlet (MA71-14) from 2012-2019 at 2 stations. Samples were collected from the following stations/sample years: in the upstream 1/3 of the AU at MyRWA_BEI093 [Belle Isle Inlet at Crystal Avenue in Revere; sampled from end of private dock or by walking across mud to channel] from 2012-2014 (n=6-7/yr) and at the downstream end of the AU at MyRWA_BEI001 [No description submitted by MyRWA] from 2015-2019 (n=6-7/yr). Analysis of the multi-year moderate/limited frequency <i>Enterococcus</i> dataset from MyRWA_BEI093 indicated that in all 3 sufficient data years &gt;20% of intervals had GMs &gt;35 CFU/100mL (2012-2014, 40-100%), 2 years had ≥2 samples exceed the 130 CFU/100mL STV (2012 and 2013, n=2 &amp; 2), and cumulatively across years 82% of intervals had GMs &gt;35 CFU/100mL. Analysis of the multi-year moderate/limited frequency <i>Enterococcus</i> dataset from MyRWA_BEI001 indicated that in all 5 sufficient data years &gt;20% of intervals had GMs &gt;35 CFU/100mL (2015-2019, 42-80%), 3 years had ≥2 samples exceed the 130 CFU/100mL STV (2016 and 2018-2019, n=2 ea. yr), and cumulatively across years 57% of intervals had GMs &gt;35 CFU/100mL. <i>Enterococcus</i> data from MyRWA_BEI093 and MyRWA_BEI001 are indicative of an <i>Enterococcus</i> impairment.</p>	

## Monitoring Stations



Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_BEI001	Mystic River Watershed Association	Water Quality	Belle Isle Inlet	No description submitted by MyRWA	42.382833	-70.994333
MyRWA_BEI093	Mystic River Watershed Association	Water Quality	Belle Isle Inlet	Belle Isle Inlet at Crystal Avenue in Revere; sampled from end of private dock or by walking across mud to channel	42.392070	-70.986760

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)**

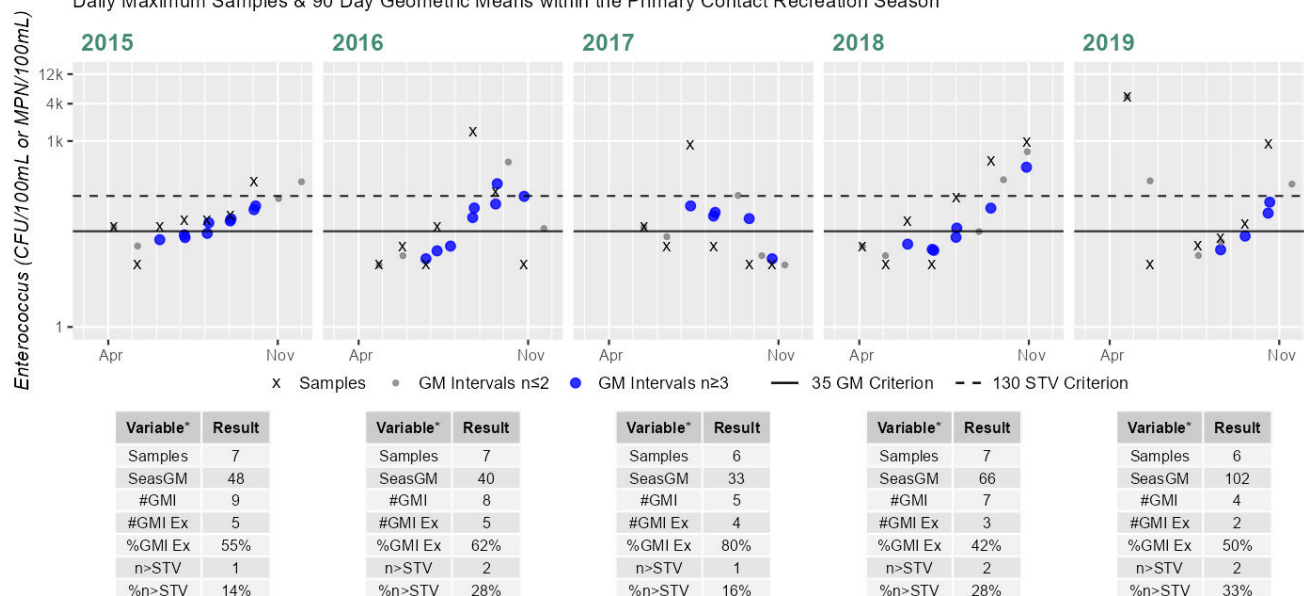
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	04/08/15	10/02/15	7	10	220	48
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	04/26/16	10/26/16	7	10	1400	40
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	05/15/17	11/09/17	6	10	880	33
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	04/05/18	12/13/18	7	10	959	66
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	04/23/19	10/18/19	6	10	5172	102
MyRWA_BEI093	Mystic River Watershed Association	Enterococci	04/10/12	12/04/12	7	63	34000	270
MyRWA_BEI093	Mystic River Watershed Association	Enterococci	04/29/13	11/07/13	6	10	1600	90
MyRWA_BEI093	Mystic River Watershed Association	Enterococci	04/03/14	11/12/14	7	10	150	35

### Station MyRWA\_BEI001 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

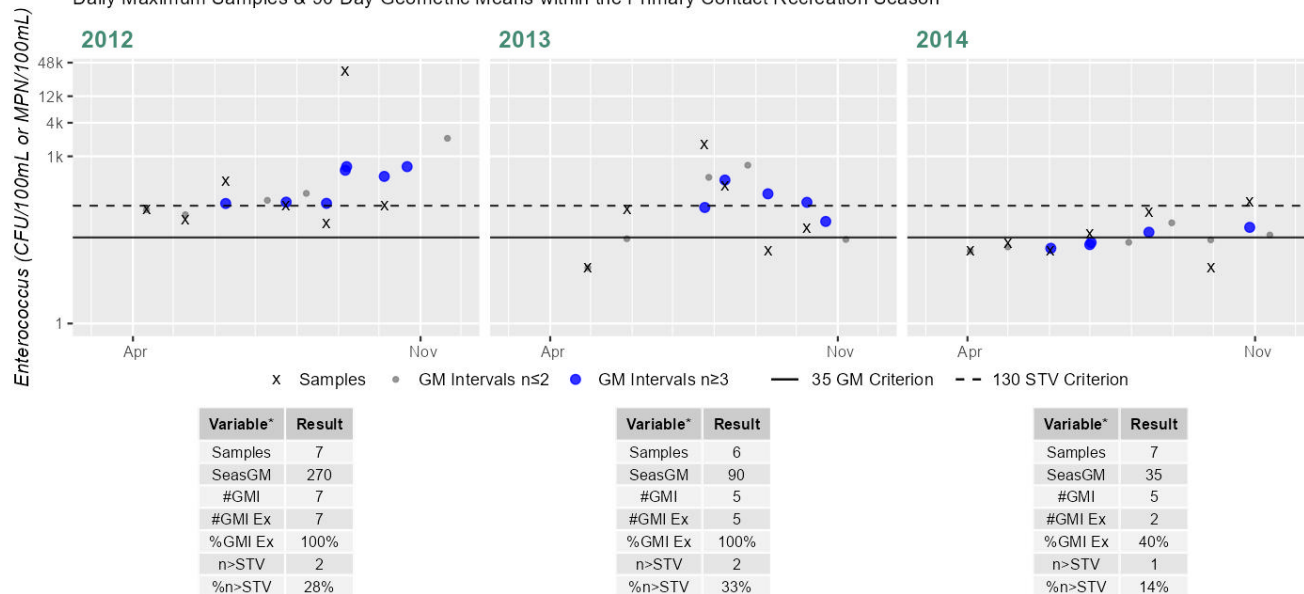
Current (2011-2022)

57%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_BEI093 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

82%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Shellfish Growing Area Classifications

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Belle Isle Inlet (MA71-14): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.1111 sq mi (91%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Secondary Contact Recreation Use for Belle Isle Inlet (MA71-14) is assessed as Not Supporting. An <i>Enterococcus</i> impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at MyRWA_BEI093 and MyRWA_BEI001. The shellfish growing areas (0.1111 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Secondary Contact Recreation Use of Belle Isle Inlet (MA71-14).</p> <p>MyRWA staff/volunteers collected <i>Enterococcus</i> bacteria samples in Belle Isle Inlet (MA71-14) from 2012-2019 at 2 stations. Samples were collected from the following stations/sample years: in the upstream 1/3 of the AU at MyRWA_BEI093 [Belle Isle Inlet at Crystal Avenue in Revere; sampled from end of private dock or by walking across mud to channel] from 2012-2014 (n=11-12/yr) and at the downstream end of the AU at MyRWA_BEI001 [No description submitted by MyRWA] from 2015-2019 (n=9-12/yr). Analysis of the multi-year moderate frequency <i>Enterococcus</i> dataset from MyRWA_BEI093 indicated that in all 3 sufficient data years &gt;20% of intervals had GMs &gt;68 CFU/100mL (2012-2014, 28-93%), 2 years had ≥2 samples exceed the 252 CFU/100mL STV (2012 and 2013, n=4 &amp; 4), and cumulatively across years 64% of intervals had GMs &gt;68 CFU/100mL. Analysis of the multi-year moderate frequency <i>Enterococcus</i> dataset from MyRWA_BEI001 indicated that in 3 of 5 sufficient data years &gt;20% of intervals had GMs &gt;68 CFU/100mL (2016 and 2018-2019, 26-77%), 2 years had ≥2 samples exceed the 252 CFU/100mL STV (2018 and 2019, n=3 &amp; 3), and cumulatively across years 30% of intervals had GMs &gt;68 CFU/100mL. <i>Enterococcus</i> data from MyRWA_BEI093 and MyRWA_BEI001 are indicative of an <i>Enterococcus</i> impairment.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_BEI001	Mystic River Watershed Association	Water Quality	Belle Isle Inlet	No description submitted by MyRWA	42.382833	-70.994333
MyRWA_BEI093	Mystic River Watershed Association	Water Quality	Belle Isle Inlet	Belle Isle Inlet at Crystal Avenue in Revere; sampled from end of private dock or by walking across mud to channel	42.392070	-70.986760

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

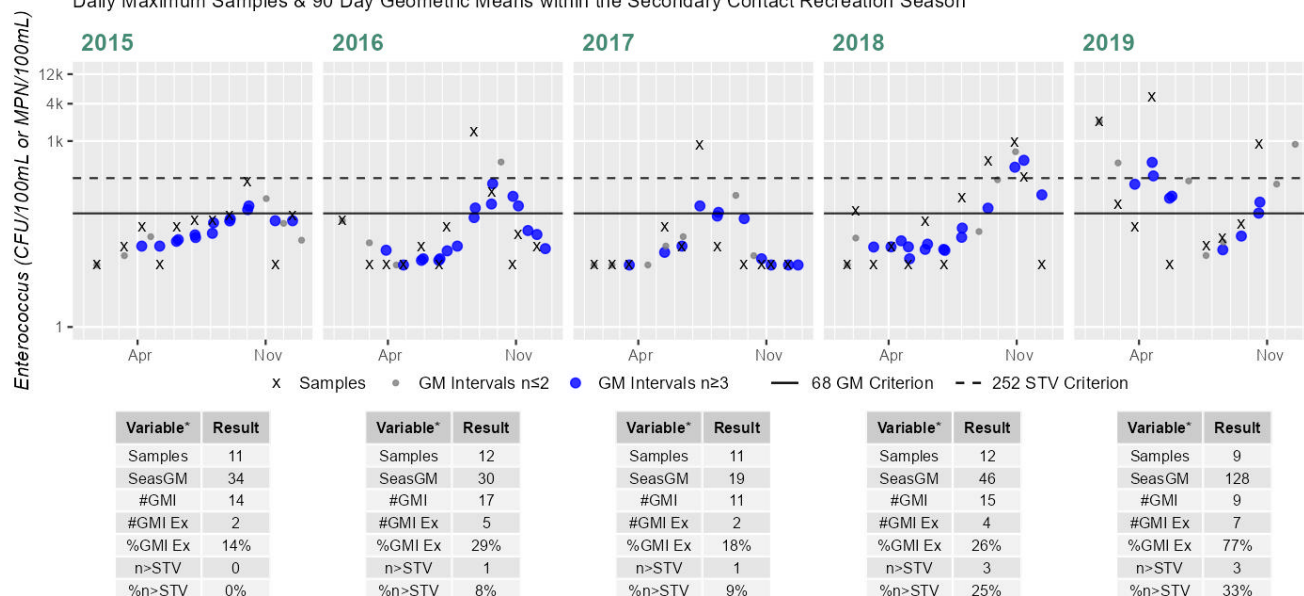
(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	01/23/15	12/16/15	11	10	220	34
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	01/15/16	12/05/16	12	10	1400	30
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	01/17/17	12/08/17	11	10	880	19
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	01/22/18	12/13/18	12	10	959	46
MyRWA_BEI001	Mystic River Watershed Association	Enterococci	01/25/19	10/18/19	9	10	5172	128
MyRWA_BEI093	Mystic River Watershed Association	Enterococci	01/13/12	12/04/12	12	10	34000	230
MyRWA_BEI093	Mystic River Watershed Association	Enterococci	01/31/13	12/06/13	11	10	1600	113
MyRWA_BEI093	Mystic River Watershed Association	Enterococci	01/06/14	12/12/14	12	10	240	56

### Station MyRWA\_BEI001 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Cumulative %GMI Exceedance

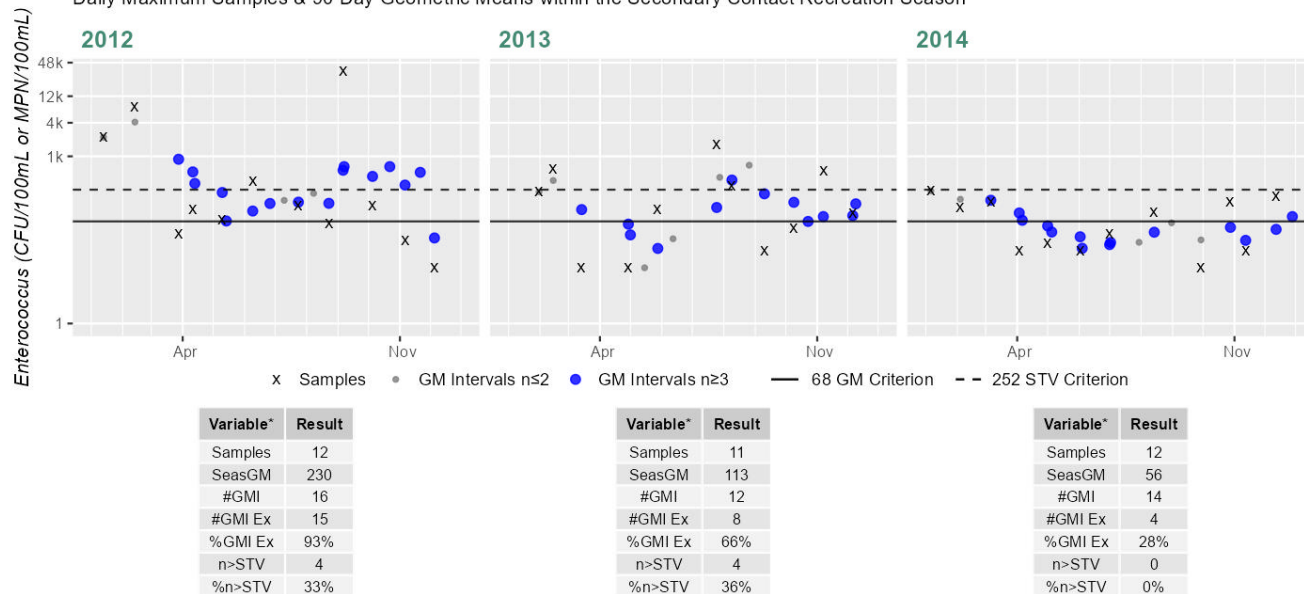
Current (2011-2022)

30%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_BEI093 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

64%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### ***Shellfish Growing Area Classifications***

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Belle Isle Inlet (MA71-14): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.1111 sq mi (91%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Bellevue Pond (MA71004)

<b>Location:</b>	Medford.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	2 ACRES
<b>Classification/Qualifier:</b>	B

No usable data were available for Bellevue Pond (MA71004) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
3	3	None	--	Unchanged

## Blacks Nook (MA71005)

<b>Location:</b>	Cambridge.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	2 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Water Chestnut*)	--	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged
5	5	Transparency / Clarity	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X	--	X	X	X
Nutrient/Eutrophication Biological Indicators	Unspecified Urban Stormwater (Y)	X	--	X	X	X
Transparency / Clarity	Source Unknown (N)	--	--	--	X	--



## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Blacks Nook (MA71005), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
The Aesthetics Use for Blacks Nook (MA71005) continues to be assessed as Not Supporting with the Nutrient/Eutrophication Biological Indicators impairment being carried forward. Since the impairment for Transparency/Clarity was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
No bacteria or other indicator data for Blacks Nook (MA71005) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Transparency / Clarity impairment is being carried forward and the prior Nutrient/Eutrophication Biological Indicators impairment (from the Aesthetics Use) is being carried forward.	

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

No bacteria or other indicator data for Blacks Nook (MA71005) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Nutrient/Eutrophication Biological Indicators impairment (from the Aesthetics Use) is being carried forward. Since the Transparency / Clarity impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use.

## Chelsea River (MA71-06)

<b>Location:</b>	From confluence with Mill Creek, Chelsea/Revere to confluence with Boston Inner Harbor, Chelsea/East Boston.
<b>AU Type:</b>	ESTUARY
<b>AU Size:</b>	0.37 SQUARE MILES
<b>Classification/Qualifier:</b>	SB(CSO)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	Ammonia, Un-ionized	--	Unchanged
5	5	Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	--	Unchanged
5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
5	5	Odor	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged
5	5	Petroleum Hydrocarbons	--	Unchanged
5	5	Trash	--	Unchanged
5	5	Turbidity	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	SH	AES	PCR	SCR
(Debris*)	Combined Sewer Overflows (Y)	--	--	--	X	X	X

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>SH</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Debris*)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X	X
(Debris*)	Industrial Point Source Discharge (Y)	--	--	--	X	X	X
Ammonia, Un-ionized	Combined Sewer Overflows (Y)	X	--	--	--	--	--
Ammonia, Un-ionized	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--	--
Ammonia, Un-ionized	Industrial Point Source Discharge (Y)	X	--	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Above Ground Storage Tank Leaks (Tank Farms) (Y)	X	X	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Accidental Release/Spill (Y)	X	X	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Cargo Loading/Unloading (Y)	X	X	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Contaminated Sediments (Y)	X	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>SH</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	X	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Municipal (Urbanized High Density Area) (Y)	X	X	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Source Unknown (N)	X	X	--	--	--	--
Fecal Coliform	Combined Sewer Overflows (Y)	--	--	X	--	--	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	--	--	--
Fecal Coliform	Source Unknown (N)	--	--	X	--	--	--
Odor	Combined Sewer Overflows (Y)	--	--	--	X	X	X
Odor	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X	X
Odor	Industrial Point Source Discharge (Y)	--	--	--	X	X	X
PCBs in Fish Tissue	Contaminated Sediments (Y)	--	X	--	--	--	--
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>SH</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Petroleum Hydrocarbons	Above Ground Storage Tank Leaks (Tank Farms) (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Accidental Release/Spill (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Cargo Loading/Unloading (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Combined Sewer Overflows (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Contaminated Sediments (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Industrial Point Source Discharge (Y)	X	--	--	--	--	--
Petroleum Hydrocarbons	Municipal (Urbanized High Density Area) (Y)	X	--	--	--	--	--
Trash	Combined Sewer Overflows (Y)	--	--	--	X	X	X
Trash	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X	X
Trash	Industrial Point Source Discharge (Y)	--	--	--	X	X	X
Turbidity	Combined Sewer Overflows (Y)	--	--	--	X	X	X
Turbidity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X	X
Turbidity	Industrial Point Source Discharge (Y)	--	--	--	X	X	X

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Fecal Coliform	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds (Report CN 157.1, approved 11/21/2018, ATTAINS Action ID: R1_MA_2019_01)

## Recommendations

2024/26 Recommendations
2016 IR [Fecal Coliform, medium priority] Identify the cause of the prohibited shellfish growing areas in the Chelsea River (MA71-06). {Chelsea River (MA71-06) shellfishing beds}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for the Chelsea River (MA71-06) continues to be assessed as Not Supporting and the prior Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)] and PCBs in Fish Tissue impairments are being carried forward. MA DPH included a site-specific advisory for the Chelsea River (referred to by MA DPH as "Boston Harbor") in their 2017 Guide to Eating Fish Safely in Massachusetts. The public should refer to the most recent DPH information for the most up to date meal advice for sensitive and general populations.

### Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
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Chelsea River (MA71-06): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.3591 sq mi (96%). The sum of the approved, conditionally approved, and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.3591 sq mi (96%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved, and/or restricted. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting. The prior Alert from the 2016 IR cycle, recommending an investigation of the cause of the prohibited shellfish growing area, is being carried forward

### Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 5)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
GBH4.0	Boston Inner Harbor	Prohibited	0.35907	96.0%

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for the Chelsea River (MA71-06) continues to be assessed as Not Supporting with the Debris, Odor, Trash and Turbidity impairments being carried forward. Since the Petroleum Hydrocarbon impairment was redundantly duplicated across multiple uses for this waterbody, the Petroleum Hydrocarbon impairment is being removed from the Aesthetics Use, but will continue to be maintained under the Aquatic Life Use. No new data are available to evaluate the Aesthetics Use for this Chelsea River AU.

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
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The Primary Contact Recreation Use for the Chelsea River (MA71-06) continues to be assessed as Not Supporting. The prior Debris, Odor, Trash, and Turbidity impairments (from the Aesthetics Use) are being carried forward. The prior Alert for *Enterococcus* (due to exceedances in the moderate/limited frequency data from MyRWA\_CHR95S) is being carried forward. Since the Petroleum Hydrocarbons impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use. The shellfish growing areas (0.3591 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Primary Contact Recreation Use of the Chelsea River (MA71-06).

MWRA and MyRWA staff/volunteers collected *Enterococcus* bacteria samples in the Chelsea River (MA71-06) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years: in the downstream 1/3 of the AU but from the southern bank at MyRWA\_CHR95S [Chelsea River in E Boston at Condor St; sampled at E side of Urban Wild] from 2012-2019 (n=6-7/yr), a very short distance downstream but mid-channel at MWRA\_027 [Inner Harbor, Chelsea Creek, midchannel] from 2011-2022 (n=17-31/yr), and a very short distance downstream but from the northern bank at MyRWA\_CHRWHIGH [Marginal St, near Highland St, sampled from W (downstream) side of Highland outfall, slightly higher elevation] in Sep 2012 (n=1).

Analysis of the recent five years of the multi-year moderate/limited frequency *Enterococcus* dataset from MyRWA\_CHR95S indicated that in 3 of 5 sufficient data years >20% of intervals had GMs >35 CFU/100mL (2016-2017 and 2019, 33-66%), only 1 year had ≥2 samples exceed the 130 CFU/100mL STV (2019, n=3), and cumulatively across these 5 years 28% of intervals had GMs >35 CFU/100mL. Analysis of the recent five years of the multi-year high frequency *Enterococcus* dataset from MWRA\_027 indicated that in only 1 of 5 sufficient data years >10% of intervals had GMs >35 CFU/100mL (2021, 12%), no years had >10% of samples exceed the 130 CFU/100mL STV, and cumulatively across these 5 years only 2% of intervals had GMs >35 CFU/100mL. The available *Enterococcus* data from MyRWA\_CHRWHIGH are too limited to assess according to the 2024 CALM.

While the moderate/limited frequency *Enterococcus* data from MyRWA\_CHR95S are indicative of an *Enterococcus* impairment, these data were collected from the shore of the condor Street Urban Wild. The high frequency *Enterococcus* data collected nearby but mid-stream at MWRA\_027 meet 2024 CALM guidance and are considered to better represent the AU in frequency, timing (several years of data are more current), and location. At this time, the prior Alert for *Enterococcus* is being carried forward and a recommendation is being made to update the analysis when new data becomes available.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_027	Massachusetts Water Resources Authority	Water Quality	Chelsea Creek	Inner Harbor, Chelsea Creek, midchannel	42.384000	-71.029833
MyRWA_CHR95S	Mystic River Watershed Association	Water Quality	Chelsea River	Chelsea River in East Boston at Condor Street; sampled at east side of Urban Wild	42.383570	-71.029060

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_CHRWHIGH	Mystic River Watershed Association	Water Quality	Chelsea River	Marginal St, near Highland St, sampled from west (downstream) side of Highland outfall, slightly higher elevation	42.385944	-71.031390

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 2) (MyRWA 2019) (MassDEP Undated 2)

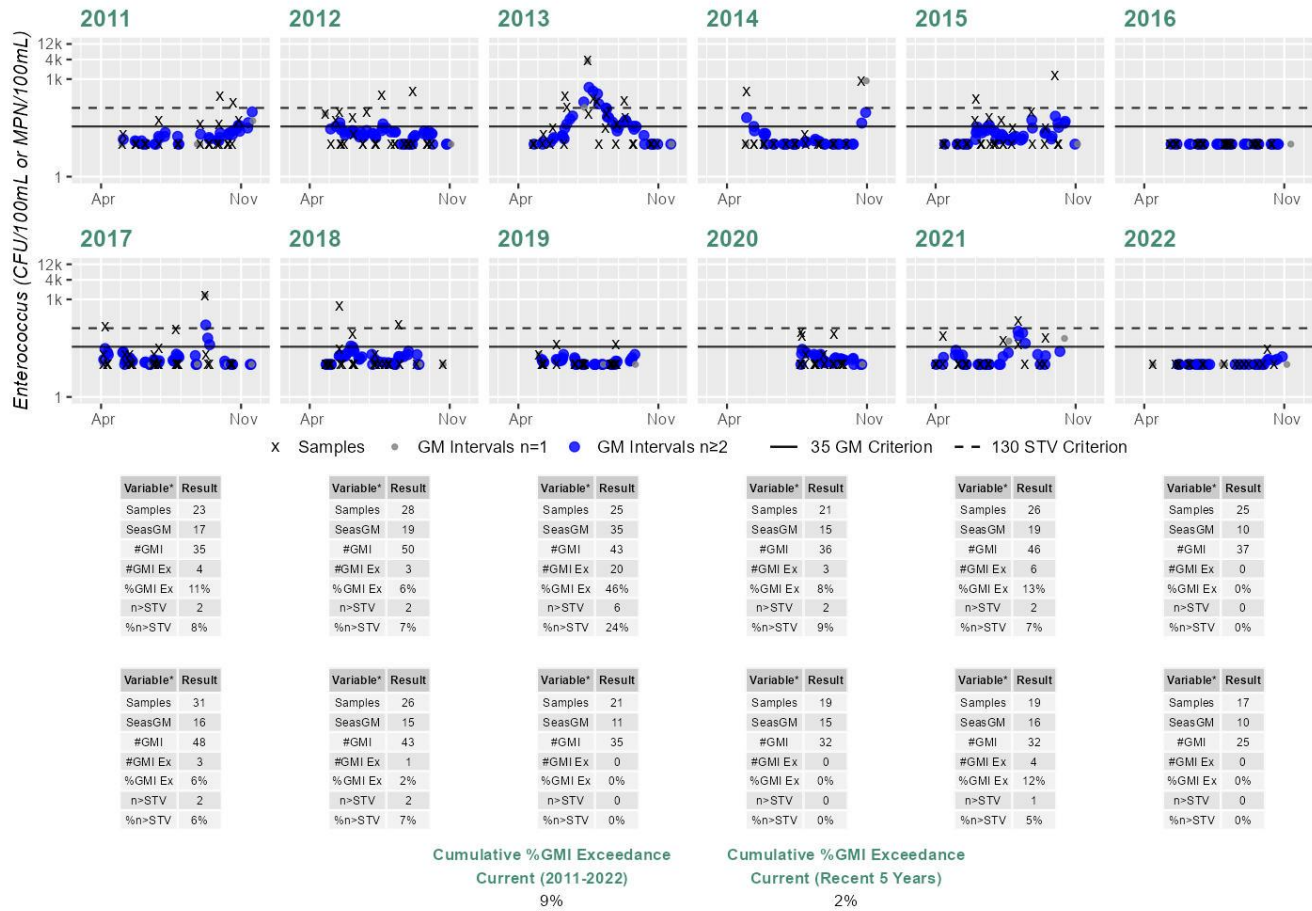
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	05/03/11	10/28/11	23	10	288	17
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/24/12	10/04/12	28	10	404	19
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	25	10	3650	35
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/30/14	10/24/14	21	10	882	15
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/06/15	26	10	1260	19
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/12/16	25	10	10	10
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/04/17	10/19/17	31	10	1330	16
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/25/18	10/22/18	26	10	613	15
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	05/03/19	08/30/19	21	10	41	11
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	07/21/20	09/25/20	19	10	97	15
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	19	10	213	16
MWRA_027	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	30	10
MyRWA_CHR955	Mystic River Watershed Association	Enterococcus	04/10/12	10/04/12	7	10	2600	54

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	04/29/13	10/09/13	6	10	110	34
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	04/03/14	10/28/14	7	1	200	12
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	04/08/15	10/02/15	7	10	41	17
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	04/26/16	10/26/16	7	10	220	28
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	05/15/17	10/24/17	6	10	4600	31
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	04/05/18	10/29/18	7	10	320	22
MyRWA_CHR95S	Mystic River Watershed Association	Enterococcus	04/23/19	10/18/19	7	5	364	40
MyRWA_CHRWHIGH	Mystic River Watershed Association	Enterococcus	09/18/12	09/18/12	1	100	100	100

## Station MWRA\_027 - Enterococcus

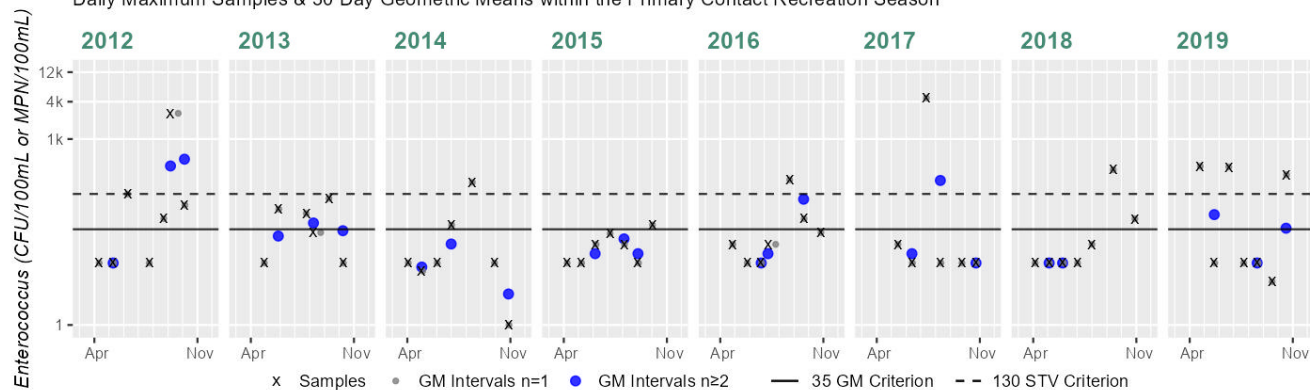
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_CHR95S - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	6	Samples	7	Samples	7	Samples	7	Samples	6	Samples	7	Samples	7
SeasGM	54	SeasGM	34	SeasGM	12	SeasGM	17	SeasGM	28	SeasGM	31	SeasGM	22	SeasGM	40
#GMI	3	#GMI	3	#GMI	3	#GMI	3	#GMI	3	#GMI	3	#GMI	2	#GMI	3
#GMI Ex	2	#GMI Ex	1	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1	#GMI Ex	1	#GMI Ex	0	#GMI Ex	2
%GMI Ex	66%	%GMI Ex	33%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	33%	%GMI Ex	33%	%GMI Ex	0%	%GMI Ex	66%
n>STV	1	n>STV	0	n>STV	1	n>STV	0	n>STV	1	n>STV	1	n>STV	1	n>STV	3
%n>STV	14%	%n>STV	0%	%n>STV	14%	%n>STV	0%	%n>STV	14%	%n>STV	16%	%n>STV	14%	%n>STV	42%

Cumulative %GMI Exceedance

Current (2011-2022)

30%

Cumulative %GMI Exceedance

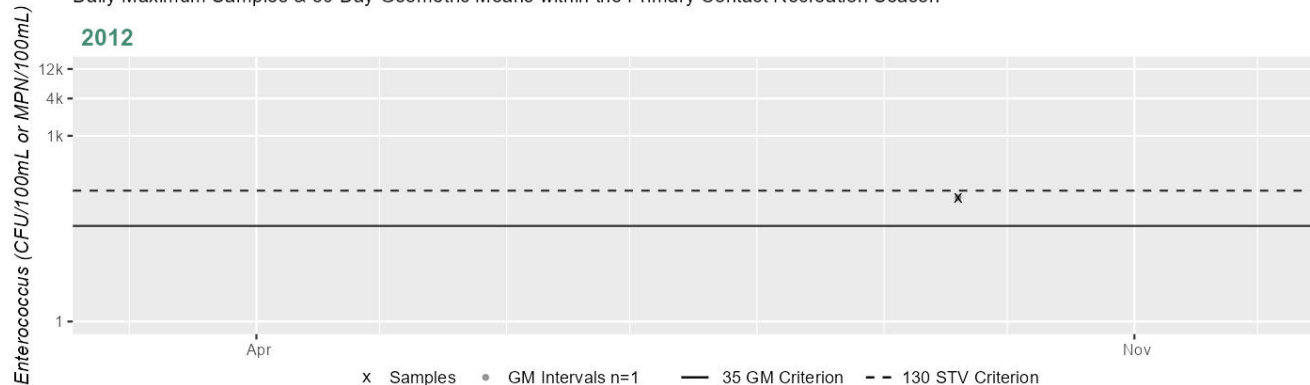
Current (Recent 5 Years)

28%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_CHRWHIGH - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	100
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

**Shellfish Growing Area Classifications**

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Chelsea River (MA71-06): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.3591 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

**Secondary Contact Recreation**

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for the Chelsea River (MA71-06) continues to be assessed as Not Supporting. The prior Debris, Odor, Trash, and Turbidity impairments (from the Aesthetics Use) are being carried forward. Since the Petroleum Hydrocarbons impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use. The shellfish growing areas (0.3591 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Secondary Contact Recreation Use of the Chelsea River (MA71-06).

MWRA and MyRWA staff/volunteers collected *Enterococcus* bacteria samples in the current IR window (2011-2022) in the Chelsea River (MA71-06) at 3 stations. Samples were collected from the following stations/sample years: in the downstream 1/3 of the AU but from the southern bank at MyRWA\_CHR95S [Chelsea River in E Boston at Condor St; sampled at E side of Urban Wild] from 2012-2019 (n=9-12/yr), a very short distance downstream but mid-channel at MWRA\_027 [Inner Harbor, Chelsea Creek, midchannel] from 2011-2022 (current n=19-31/yr), and a very short distance downstream but from the northern bank at MyRWA\_CHRWHIGH [Marginal St, near Highland St, sampled from W (downstream) side of Highland outfall, slightly higher elevation] in Sep 2012 (n=1).

Analysis of the recent five years of the multi-year moderate frequency *Enterococcus* dataset from MyRWA\_CHR95S indicated that in 2 of 5 sufficient data years >20% of intervals had GMs >68 CFU/100mL (2017 and 2019, 27 & 20%), 1 yr had ≥2 samples exceed the 252 CFU/100mL STV (2019, n=3), and cumulatively across years 12% of intervals had GMs >68 CFU/100mL.

Analysis of the recent five years of the multi-year high frequency *Enterococcus* dataset from MWRA\_027 indicated none of the 5 sufficient data years had any intervals with GMs >68 CFU/100mL, no years had >10% of samples exceed the 252 CFU/100mL STV, and cumulatively across years no intervals had GMs >68 CFU/100mL. The available *Enterococcus* data at MyRWA\_CHRWHIGH are too limited to assess according to the 2024 CALM. *Enterococcus* data from MyRWA\_CHR95S and MWRA\_027 meet 2024 CALM guidance.

MWRA staff also collected *Enterococcus* bacteria samples in the historic IR window (1997-2010) in the Chelsea River (MA71-06) at the MWRA station, MWRA\_027 [Inner Harbor, Chelsea Creek, midchannel] from 1997-2010 (historic n=18-30/yr). The data were similarly indicative of good water quality conditions as the current data.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_027	Massachusetts Water Resources Authority	Water Quality	Chelsea Creek	Inner Harbor, Chelsea Creek, midchannel	42.384000	-71.029833
MyRWA_CHR95S	Mystic River Watershed Association	Water Quality	Chelsea River	Chelsea River in East Boston at Condor Street; sampled at east side of Urban Wild	42.383570	-71.029060

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_CHRWHIGH	Mystic River Watershed Association	Water Quality	Chelsea River	Marginal St, near Highland St, sampled from west (downstream) side of Highland outfall, slightly higher elevation	42.385944	-71.031390

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

(MWRA 2024) (MassDEP Undated 1) (MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_027	Massachusetts Water Resources Authority	Enterococci	06/30/97	08/23/97	21	5	180	9
MWRA_027	Massachusetts Water Resources Authority	Enterococci	06/30/98	12/17/98	18	5	370	26
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/24/99	11/30/99	22	5	15	5
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/12/00	12/20/00	25	5	320	11
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/18/01	12/17/01	23	5	60	6
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/04/02	12/18/02	21	5	175	10
MWRA_027	Massachusetts Water Resources Authority	Enterococci	05/07/03	12/17/03	24	5	425	11
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/23/04	11/23/04	30	5	1320	10
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/29/05	12/21/05	29	5	240	15
MWRA_027	Massachusetts Water Resources Authority	Enterococci	01/12/06	12/20/06	29	5	2200	12
MWRA_027	Massachusetts Water Resources Authority	Enterococci	05/09/07	12/13/07	21	10	10	10
MWRA_027	Massachusetts Water Resources Authority	Enterococci	05/14/08	12/12/08	21	10	794	15
MWRA_027	Massachusetts Water Resources Authority	Enterococci	01/07/09	10/28/09	21	10	31	12

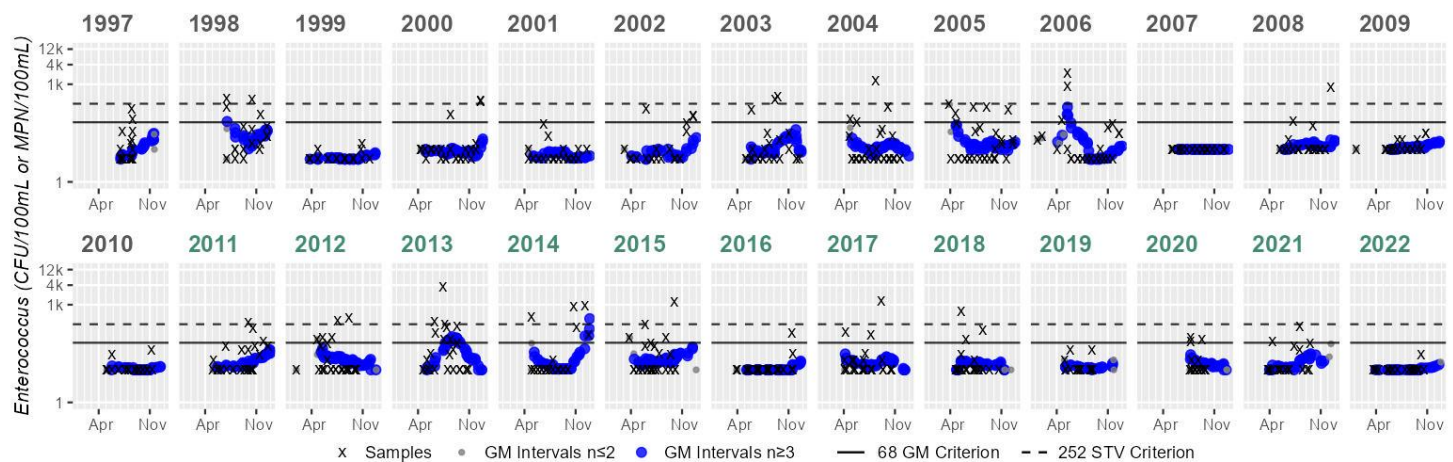


Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_027	Massachusetts Water Resources Authority	Enterococci	05/05/10	11/12/10	20	10	41	11
MWRA_027	Massachusetts Water Resources Authority	Enterococci	05/03/11	12/22/11	26	10	288	19
MWRA_027	Massachusetts Water Resources Authority	Enterococci	01/27/12	10/04/12	29	10	404	18
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/24/13	10/31/13	25	10	3650	35
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/30/14	12/26/14	24	10	909	22
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/27/15	10/06/15	27	10	1260	20
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/28/16	11/18/16	31	10	132	11
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/04/17	10/19/17	31	10	1330	16
MWRA_027	Massachusetts Water Resources Authority	Enterococci	04/25/18	10/22/18	26	10	613	15
MWRA_027	Massachusetts Water Resources Authority	Enterococci	05/03/19	08/30/19	21	10	41	11
MWRA_027	Massachusetts Water Resources Authority	Enterococci	07/21/20	09/25/20	19	10	97	15
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/23/21	09/16/21	21	10	213	16
MWRA_027	Massachusetts Water Resources Authority	Enterococci	03/22/22	10/17/22	20	10	30	10
MyRWA_CHR955	Mystic River Watershed Association	Enterococci	01/13/12	12/04/12	12	10	2600	38
MyRWA_CHR955	Mystic River Watershed Association	Enterococci	01/31/13	12/06/13	11	10	130	27
MyRWA_CHR955	Mystic River Watershed Association	Enterococci	01/06/14	12/12/14	12	1	790	23
MyRWA_CHR955	Mystic River Watershed Association	Enterococci	01/23/15	12/16/15	11	10	41	15

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_CHR95S	Mystic River Watershed Association	Enterococci	01/15/16	12/05/16	12	10	220	22
MyRWA_CHR95S	Mystic River Watershed Association	Enterococci	01/17/17	12/08/17	11	10	4600	20
MyRWA_CHR95S	Mystic River Watershed Association	Enterococci	01/23/18	11/13/18	11	10	320	23
MyRWA_CHR95S	Mystic River Watershed Association	Enterococci	01/25/19	10/18/19	9	5	364	40
MyRWA_CHRWHIGH	Mystic River Watershed Association	Enterococci	09/18/12	09/18/12	1	100	100	100

### Station MWRA\_027 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	18	Samples	22	Samples	25	Samples	23	Samples	21	Samples	24	Samples	30	Samples	29	Samples	29
SeasGM	9	SeasGM	26	SeasGM	5	SeasGM	11	SeasGM	6	SeasGM	10	SeasGM	11	SeasGM	10	SeasGM	15	SeasGM	12
#GMI	37	#GMI	31	#GMI	39	#GMI	45	#GMI	41	#GMI	36	#GMI	40	#GMI	49	#GMI	49	#GMI	49
#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	2	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	3
%GMI Ex	0%	%GMI Ex	3%	%GMI Ex	0%	%GMI Ex	2%	%GMI Ex	0%	%GMI Ex	5%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	6%	%GMI Ex	0%
n>STV	0	n>STV	2	n>STV	0	n>STV	2	n>STV	3	n>STV	0	n>STV	2	n>STV	1	n>STV	0	n>STV	2
%n>STV	0%	%n>STV	11%	%n>STV	0%	%n>STV	8%	%n>STV	0%	%n>STV	0%	%n>STV	8%	%n>STV	3%	%n>STV	0%	%n>STV	6%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	20	Samples	26	Samples	29	Samples	25	Samples	24	Samples	27	Samples	31	Samples	31	Samples	26	Samples	21
SeasGM	11	SeasGM	19	SeasGM	18	SeasGM	35	SeasGM	22	SeasGM	20	SeasGM	11	SeasGM	16	SeasGM	15	SeasGM	11
#GMI	35	#GMI	46	#GMI	49	#GMI	42	#GMI	39	#GMI	48	#GMI	54	#GMI	57	#GMI	43	#GMI	35
#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	15	#GMI Ex	5	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	35%	%GMI Ex	12%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%
n>STV	0	n>STV	1	n>STV	2	n>STV	2	n>STV	3	n>STV	1	n>STV	0	n>STV	1	n>STV	0	n>STV	0
%n>STV	0%	%n>STV	3%	%n>STV	6%	%n>STV	8%	%n>STV	12%	%n>STV	3%	%n>STV	0%	%n>STV	3%	%n>STV	0%	%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)

1%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)

1%

Cumulative %GMI Exceedance  
Current (2011-2022)

3%

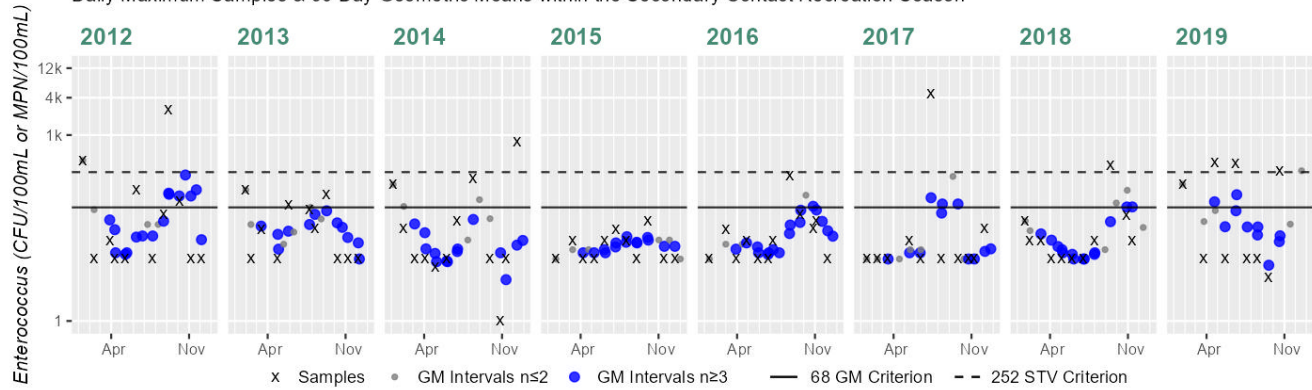
Cumulative %GMI Exceedance  
Current (Recent 5 Years)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n>STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_CHR95S - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	12	Samples	11	Samples	12	Samples	11	Samples	12	Samples	11	Samples	11	Samples	11	Samples	9
SeasGM	38	SeasGM	27	SeasGM	23	SeasGM	15	SeasGM	22	SeasGM	20	SeasGM	23	SeasGM	23	SeasGM	40
#GMI	16	#GMI	12	#GMI	14	#GMI	14	#GMI	17	#GMI	11	#GMI	14	#GMI	10	#GMI	10
#GMI Ex	6	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1	#GMI Ex	3	#GMI Ex	2	#GMI Ex	2	#GMI Ex	2
%GMI Ex	37%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	5%	%GMI Ex	27%	%GMI Ex	14%	%GMI Ex	20%	%GMI Ex	20%
n>STV	2	n>STV	0	n>STV	1	n>STV	0	n>STV	0	n>STV	1	n>STV	1	n>STV	3	n>STV	3
%n>STV	16%	%n>STV	0%	%n>STV	8%	%n>STV	0%	%n>STV	0%	%n>STV	9%	%n>STV	9%	%n>STV	33%	%n>STV	33%

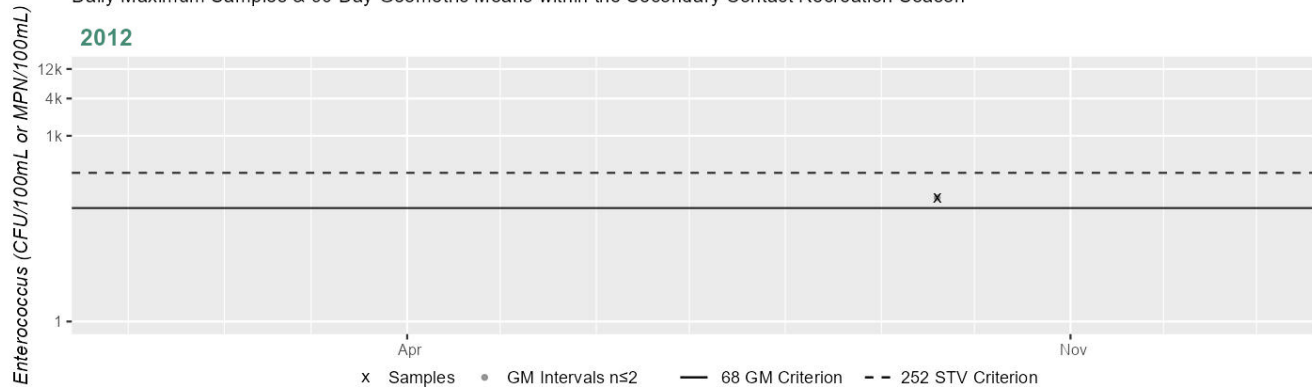
Cumulative %GMI Exceedance  
Current (2011-2022)  
12%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
12%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_CHRWHIGH - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	100
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### ***Shellfish Growing Area Classifications***

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Chelsea River (MA71-06): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.3591 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Clay Pit Pond (MA71011)

<b>Location:</b>	Belmont.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	12 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Chlordane in Fish Tissue	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Chlordane in Fish Tissue	Source Unknown (N)	--	X	--	--	--

## Designated Use Attainment Decisions

### Fish Consumption

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	No
<b>2024/26 Use Attainment Summary</b>	

The Fish Consumption Use for Clay Pit Pond (MA71011) continues to be assessed as Not Supporting and the prior Chlordane in Fish Tissue impairment is being carried forward. Fish toxics sampling for mercury and additional metals, PCB arochlors, and organochlorine pesticides was performed by MassDEP WPP biologists in Clay Pit Pond (MA71011) at station F0006 in 2022 at the recommendation of the Interagency Committee on Freshwater Fish Toxics Monitoring and Assessment in response to a public request for monitoring. MA DPH included a site-specific Chlordane advisory for Clay Pit Pond in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

### ***Fish Consumption Advisories***

**Summary of Fish Toxics Sampling and Resulting Fish Consumption Advisories** (MA DPH 2025) (MassDEP Undated 6)

<b>Summary Statement</b>
Fish toxics sampling for mercury and additional metals, PCB arochlors, and organochlorine pesticides was performed by MassDEP WPP biologists in Clay Pit Pond (MA71011) at station F0006 in 2022 at the recommendation of the Interagency Committee on Freshwater Fish Toxics Monitoring and Assessment in response to a public request for monitoring. MA DPH retained the existing site-specific fish consumption advisories for Chlordane associated with Clay Pit Pond in their January 2025 Freshwater Fish Consumption Advisory List. The site-specific DPH advisories are indicative of a Fish Consumption Use impairment for Chlordane in Fish Tissue for Clay Pit Pond (MA71011).

### **Aesthetic**

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Assessed	NO
<b>2024/26 Use Attainment Summary</b>	
No aesthetics observation data are available, so the Aesthetics Use for Clay Pit Pond (MA71011) is Not Assessed.	

### **Primary Contact Recreation**

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Assessed	NO
<b>2024/26 Use Attainment Summary</b>	
No bacteria or other indicator data for Clay Pit Pond (MA71011) are available, so the Primary Contact Recreation Use is Not Assessed.	

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
<p>Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Clay Pit Pond (MA71011) so it is assessed as having Insufficient Information.</p> <p>MyRWA staff/volunteers collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) &amp; the current IR window (2011-2022) in Clay Pit Pond (MA71011) at MyRWA_WEB005 [No description submitted by MYRWA] in 2008 and 2010 (historic n=1-2/yr) and 2012 and 2016 (current n=1/yr). <i>E. coli</i> data from MyRWA_WEB005 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use of Clay Pit Pond.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_WEB005	Mystic River Watershed Association	Water Quality	Wellington Brook	No description submitted by MyRWA	42.394314	-71.162308

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

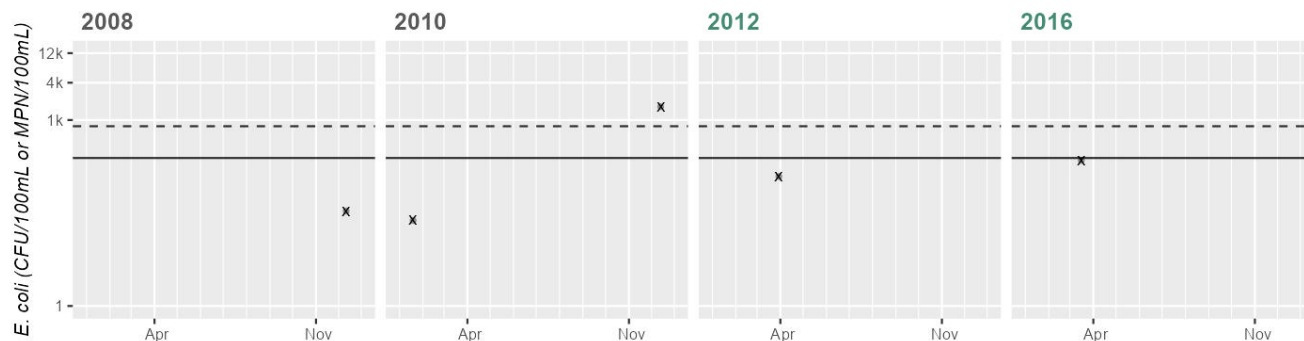
(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_WEB005	Mystic River Watershed Association	E. coli	12/10/08	12/10/08	1	34	34	34
MyRWA_WEB005	Mystic River Watershed Association	E. coli	01/19/10	12/13/10	2	24	1642	198
MyRWA_WEB005	Mystic River Watershed Association	E. coli	03/29/12	03/29/12	1	123	123	122
MyRWA_WEB005	Mystic River Watershed Association	E. coli	03/15/16	03/15/16	1	223	223	223

# Station MyRWA\_WEB005 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	198
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	1
SeasGM	123
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	223
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

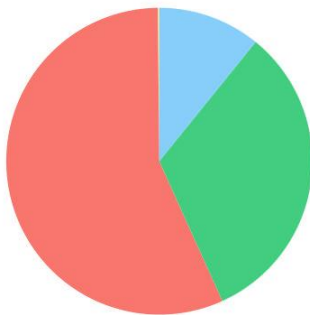


## Cummings Brook (MA71-10)

<b>Location:</b>	Headwaters east of Wright Street, Woburn to confluence with Fowle Brook, Woburn.
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	2.1 MILES
<b>Classification/Qualifier:</b>	B

### Cummings Brook (MA71-10)

Watershed Area: 3.98 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.98	3.98	1.11	1.11
Agriculture	0.2%	0.2%	0.3%	0.3%
Developed	56.6%	56.6%	52.5%	52.5%
Natural	32.4%	32.4%	30.3%	30.3%
Wetland	10.8%	10.8%	17%	17%
Impervious	35%	35%	32.6%	32.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Escherichia Coli (E. Coli)	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Massachusetts Statewide TMDL for Pathogen-Impaired Waterbodies (Report CN 515.1, approved 2/13/2024, ATTAINS Action ID: R1_MA_2024_04)

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Cummings Brook (MA71-10), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
There are no aesthetics observation data available to assess the status of the Aesthetics Use for this Cummings Brook AU (MA71-10), so it is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
No bacteria or other indicator data for Cummings Brook (MA71-10) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward.	

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

## 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Cummings Brook (MA71-10) is assessed as Not Supporting. An Escherichia Coli (E. Coli) impairment is being added based on a re-evaluation of historical bacteria data not meeting the threshold at W1971.

MassDEP and MyRWA staff/volunteers collected hisytorical *E. coli* bacteria samples in Cummings Brook (MA71-10) from 2006-2009 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: in the upstream third of the AU at MyRWA\_CUB145 [No description submitted by MyRWA] in Apr 2006 (n=1), in the middle of the AU at MyRWA\_CUB081 [No description submitted by MyRWA] in Apr 2006 (n=1), and at the downstream end of the AU at W1971 [~80 ft downstream of Lexington St, Woburn] from Apr-Sep 2009 (n=6). The historic *E. coli* data collected at MyRWA\_CUB145 and MyRWA\_CUB081 are too limited to assess according to the 2024 CALM. Analysis of the historic single year limited frequency *E. coli* dataset from W1971 indicated 100% of intervals had GMs >244 CFU/100mL, no samples exceeded the 794 CFU/100mL STV, and the overall GM was 357 CFU/100mL. These data from W1971 are indicative of an Escherichia Coli (E. Coli) impairment.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1971	MassDEP	Water Quality	Cummings Brook	[approximately 80 feet downstream of Lexington Street, Woburn]	42.472990	-71.172190
MyRWA_CUB081	Mystic River Watershed Association	Water Quality	Cummings Brook	No description submitted by MyRWA	42.481500	-71.174500
MyRWA_CUB145	Mystic River Watershed Association	Water Quality	Cummings Brook	No description submitted by MyRWA	42.487667	-71.167000

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

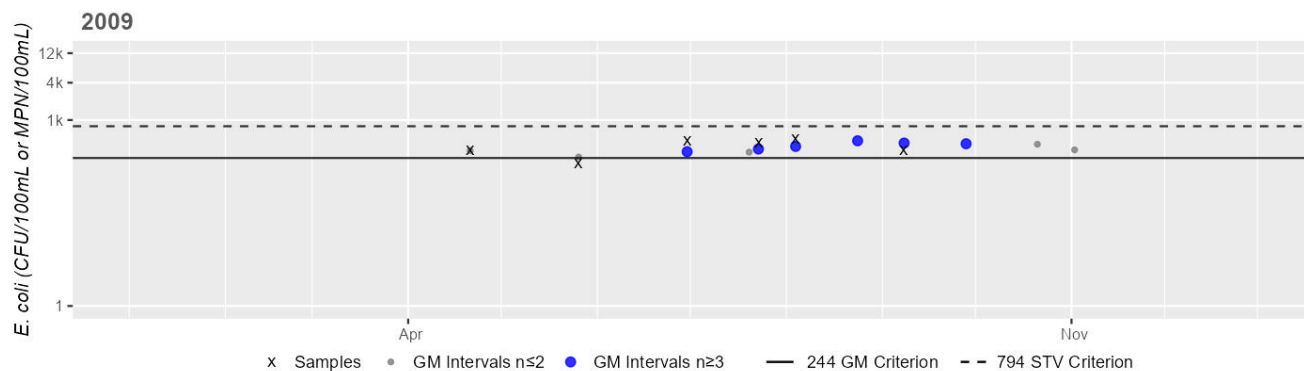
(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1971	MassDEP	E. coli	04/21/09	09/08/09	6	200	500	357
MyRWA_CUB081	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	185	185	184
MyRWA_CUB145	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	109	109	108

### Station MASSDEP\_W1971 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	6
SeasGM	357
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

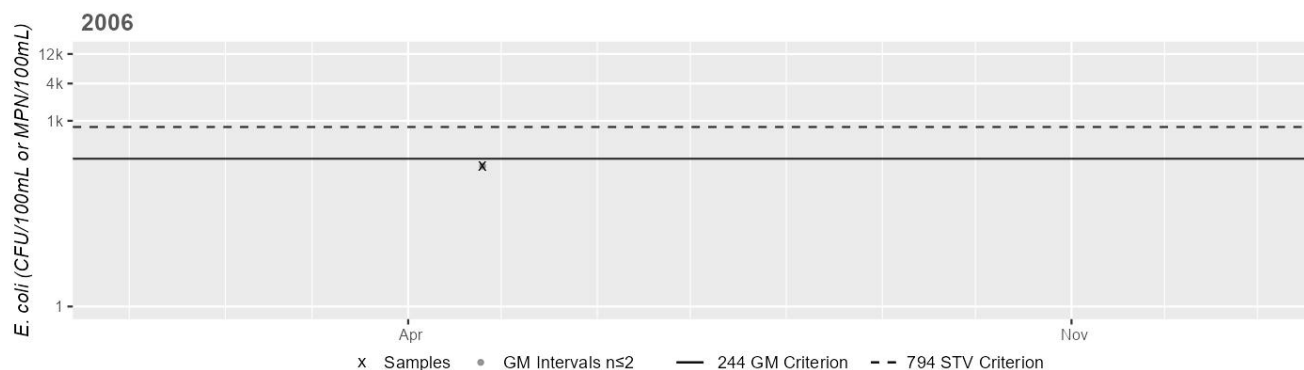
Historic (1997-2010)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_CUB081 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	185
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

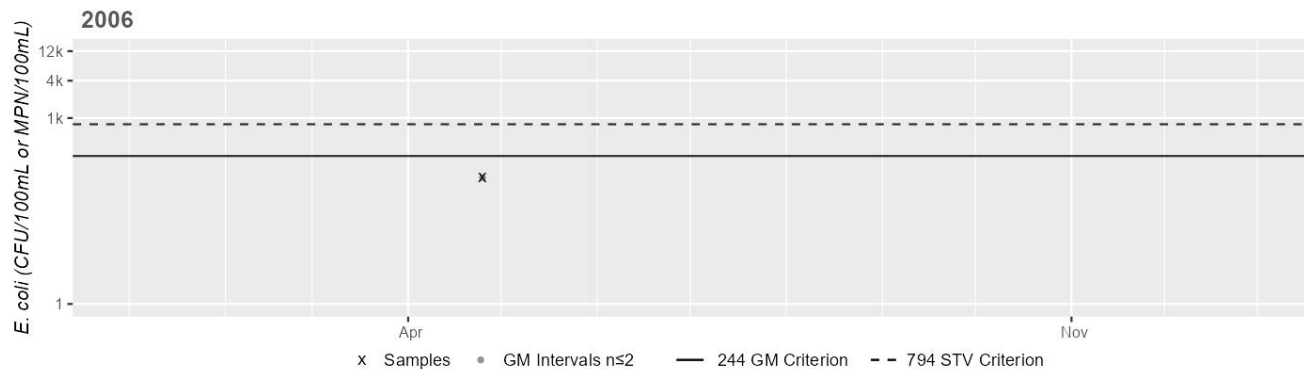
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MyRWA\_CUB145 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	109
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

## Cumulative %GMI Exceedance

Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Ell Pond (MA71014)

<b>Location:</b>	Melrose.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	23 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Chlorophyll-a	--	Unchanged
5	5	Fecal Coliform	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged
5	5	Phosphorus, Total	--	Unchanged
5	5	Total Suspended Solids (TSS)	--	Unchanged
5	5	Transparency / Clarity	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Chlorophyll-a	Source Unknown (N)	X	--	--	--	--
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Fecal Coliform	Source Unknown (N)	--	--	--	X	X
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	X	X	X
Harmful Algal Blooms	Source Unknown (N)	X	--	X	X	X

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Phosphorus, Total	Source Unknown (N)	X	--	--	--	--
Total Suspended Solids (TSS)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	X	X
Total Suspended Solids (TSS)	Source Unknown (N)	--	--	X	X	X
Transparency / Clarity	Source Unknown (N)	--	--	--	X	--

## Designated Use Attainment Decisions

### Fish Consumption

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Assessed	No

<b>2024/26 Use Attainment Summary</b>
Fish toxics sampling has not been conducted in Ell Pond (MA71014), so the Fish Consumption Use is Not Assessed.

### Aesthetic

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	NO

<b>2024/26 Use Attainment Summary</b>
---------------------------------------

The Aesthetics Use for Ell Pond (MA71014) continues to be assessed as Not Supporting with the Total Suspended Solids and Harmful Algal Blooms impairments being carried forward. Since the Transparency/Clarity impairment was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. Since the Total Phosphorus impairment was redundantly duplicated across multiple uses for this waterbody, the Total Phosphorus impairment is being removed from the Aesthetics Use, but will continue to be maintained under the Aquatic Life Use. No new aesthetics observation data are available to evaluate the Aesthetics Use for Ell Pond.

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Ell Pond (MA71014) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Fecal Coliform and Transparency / Clarity impairments are being carried forward and the prior Harmful Algal Blooms and Total Suspended Solids (TSS) impairments (from the Aesthetics Use) are being carried forward. Since the Total Phosphorus impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Ell Pond (MA71014) are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use continues to be assessed as Not Supporting. The prior Fecal Coliform impairment is being carried forward and the prior Harmful Algal Blooms and Total Suspended Solids (TSS) impairments (from the Aesthetics Use) are being carried forward. Since the Total Phosphorus and Transparency / Clarity impairments are being removed from the Aesthetics Use this cycle, these impairments are also being removed from the Secondary Contact Recreation Use.



## Fellsmere Pond (MA71016)

<b>Location:</b>	Malden.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	5 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Harmful Algal Blooms	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	X	X	X
Harmful Algal Blooms	Source Unknown (N)	X	--	X	X	X

## Recommendations

<b>2024/26 Recommendations</b>
2024/2026 IR [Harmful Algal Blooms, low priority] Follow-up monitoring should be conducted in Fellsmere Pond (MA71016) to confirm whether Harmful Algal Blooms are indeed impairing the Recreational and Aesthetic uses (the impairment was added in the 2016 IR cycle). Monitoring should include collection of cyanobacteria cell count data and observational data, as well as continued reporting of algal blooms to MDPH. {Fellsmere Pond (MA71016)}

## Designated Use Attainment Decisions

## Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Fellsmere Pond (MA71016), so the Fish Consumption Use is Not Assessed.	

## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
The Aesthetics Use for Fellsmere Pond (MA71016) continues to be assessed as Not Supporting with the Harmful Algal Blooms impairment being carried forward. Since the existing Harmful Algal Blooms impairment for Fellsmere Pond was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data. No new aesthetics observation data are available to evaluate the Aesthetics Use for this Fellsmere Pond AU.	

## Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

C-HAB Summary Statement
Since the existing Harmful Algal Blooms impairment for Fellsmere Pond (MA71016) was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Primary Contact Recreation Use for Fellsmere Pond (MA71016) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the existing Harmful Algal Blooms impairment for Fellsmere Pond (MA71016) was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

MyRWA staff/volunteers collected *E. coli* bacteria samples in Fellsmere Pond (MA71016) at MyRWA\_FEP01 [Southern end of Fellsmere Pond] in Sep 2011 (n=1). *E. coli* data from MyRWA\_FEP01 are too limited according to the 2024 CALM to assess the Primary Contact Recreation Use.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_FEP01	Mystic River Watershed Association	Water Quality	Fellsmere Pond	Southern end of Fellsmere Pond	42.426570	-71.086461

### Bacteria Data

#### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

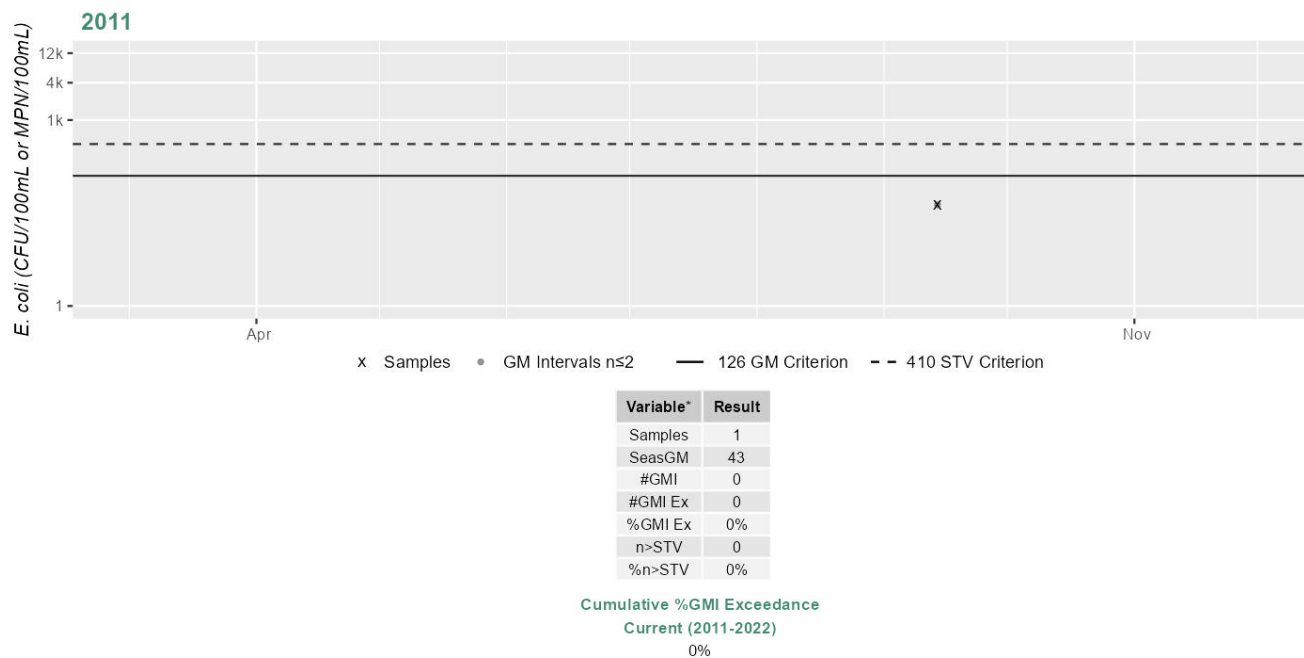
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_FEP01	Mystic River Watershed Association	E. coli	09/14/11	09/14/11	1	43	43	43

### Station MyRWA\_FEP01 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Secondary Contact Recreation Use for Fellsmere Pond (MA71016) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the existing Harmful Algal Blooms impairment for Fellsmere Pond (MA71016) was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.</p> <p>MyRWA staff/volunteers collected <i>E. coli</i> bacteria samples in both the historic (1997-2010) &amp; the current IR window (2011-2022) in Fellsmere Pond (MA71016) at MyRWA_FEP01 [Southern end of Fellsmere Pond] in Jan 2006 (historic n=1) and Sep 2011 (current n=1). <i>E. coli</i> data from MyRWA_FEP01 are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_FEP01	Mystic River Watershed Association	Water Quality	Fellsmere Pond	Southern end of Fellsmere Pond	42.426570	-71.086461

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

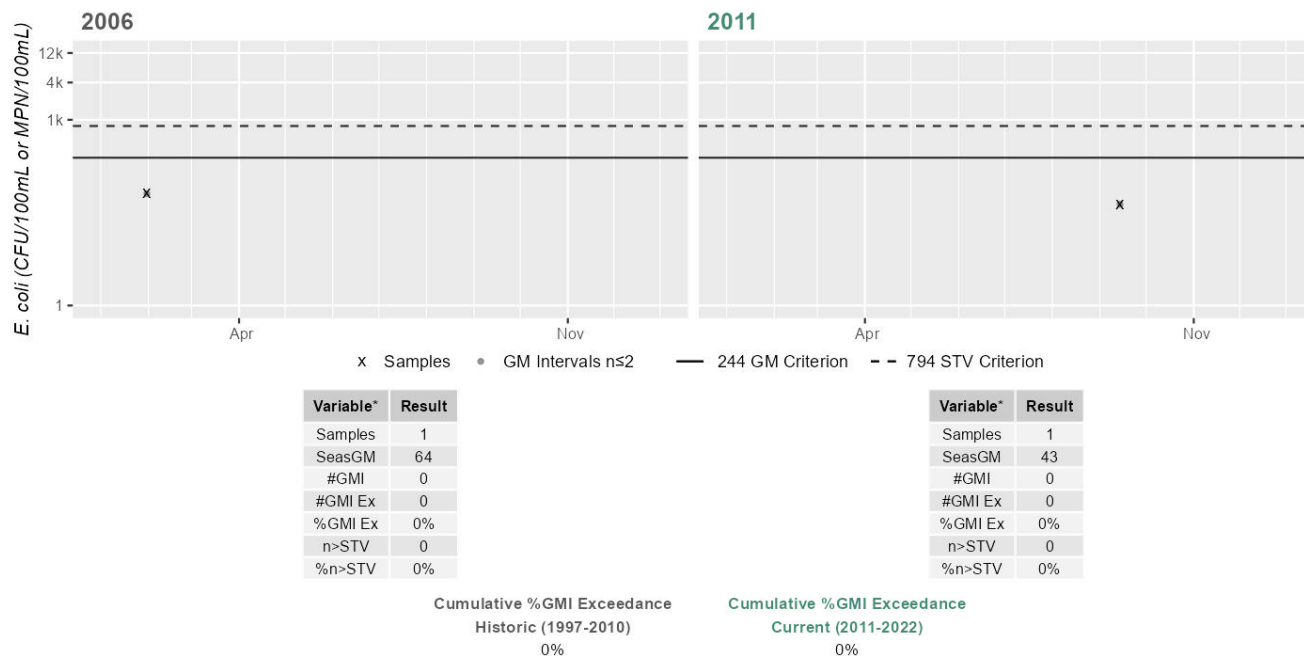
(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_FEP01	Mystic River Watershed Association	E. coli	01/31/06	01/31/06	1	64	64	63
MyRWA_FEP01	Mystic River Watershed Association	E. coli	09/14/11	09/14/11	1	43	43	43

### Station MyRWA\_FEP01 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Hills Pond (MA71018)

<b>Location:</b>	Arlington.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	2 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Harmful Algal Blooms	Source Unknown (N)	--	--	X	X	X

## Recommendations

<b>2024/26 Recommendations</b>
2024/2026 IR [Harmful Algal Blooms, low priority] Follow-up monitoring should be conducted in Hills Pond (MA71018) to confirm whether Harmful Algal Blooms are indeed impairing the Recreational and Aesthetic uses (this AU is already listed as impaired for Harmful Algal Blooms based on visual evidence of extended duration blooms). Monitoring should include collection of cyanobacteria cell count data and observational data, as well as continued reporting of harmful algal blooms to MDPH. {Hills Pond (MA71018)}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Hills Pond (MA71018), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
<p>The Aesthetics use for Hills Pond (MA71018) continues to be assessed as Not Supporting with the Harmful Algal Blooms impairment being carried forward, since C-HAB postings were reported to MDPH in 2019, 2020, 2021 &amp; 2022.</p> <p>During the period 2015 through 2022, C-HAB postings for Hills Pond (MDPH name Hills Pond at Menotomy Rocks Park) were reported to MDPH based on visual observations for 37 days in 2019, 65 days in 2020, 96 days in 2021, and an unknown duration in 2022. No blooms were reported in other years. Since blooms were reported in recent years this reflects the existing Harmful Algal Blooms impairment for Hills Pond. Considering the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.</p>	

### Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Hills Pond (MDPH name Hills Pond at Menotomy Rocks Park) (MA71018) were reported to MDPH based on visual observations for 37 days in 2019, 65 days in 2020, 96 days in 2021, and an unknown duration in 2022. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Bloom impairment is being carried forward and the Aesthetics Use and Primary/Secondary Contact Recreational Uses continue to be assessed as Not Supporting. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

**Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2022) Provided by MDPH** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

[\* indicates a C-HAB posting of unknown duration]

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Hills Pond (MDPH name Hills Pond at Menotomy Rocks Park)	Arlington					37	65	96	*

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Primary Contact Recreation Use for Hills Pond (MA71018) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment is being carried forward based on the occurrence of C-HAB postings extending &gt;20 days in 3 recent years.</p> <p>During the period 2015 through 2022, C-HAB postings for Hills Pond (MDPH name Hills Pond at Menotomy Rocks Park) (MA71018) were reported to MDPH based on visual observations for 37 days in 2019, 65 days in 2020, 96 days in 2021, and an unknown duration in 2022. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Blooms impairment is being carried forward and the C-HAB data continues to be indicative of a Harmful Algal Blooms impairment. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.</p>

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
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The Secondary Contact Recreation Use for Hills Pond (MA71018) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment is being carried forward based on the occurrence of C-HAB postings extending >20 days in 3 recent years.

During the period 2015 through 2022, C-HAB postings for Hills Pond (MDPH name Hills Pond at Menotomy Rocks Park) (MA71018) were reported to MDPH based on visual observations for 37 days in 2019, 65 days in 2020, 96 days in 2021, and an unknown duration in 2022. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Blooms impairment is being carried forward and the C-HAB data continues to be indicative of a Harmful Algal Blooms impairment. Since the existing Harmful Algal Blooms impairment was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

## Horn Pond (MA71019)

<b>Location:</b>	Woburn.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	108 ACRES
<b>Classification/Qualifier:</b>	B: WWF

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Curly-leaf Pondweed*)	--	Unchanged
5	5	(Fish Passage Barrier*)	--	Unchanged
5	5	DDT in Fish Tissue	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged
5	5	Phosphorus, Total	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X	--	--	--	--
DDT in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Harmful Algal Blooms	Source Unknown (N)	X	--	X	X	X
Phosphorus, Total	Source Unknown (N)	X	--	--	--	--

## Designated Use Attainment Decisions

## Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Horn Pond (MA71019) continues to be assessed as Not Supporting and the prior DDT in Fish Tissue impairment is being carried forward. MA DPH included a site-specific advisory for Horn Pond in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Aesthetics use for Horn Pond (MA71019) continues to be assessed as Not Supporting with the prior Harmful Algal Blooms impairment being carried forward. Since the Total Phosphorus impairment was redundantly duplicated across multiple uses for this waterbody, the Total Phosphorus impairment is being removed from the Aesthetics Use, but will continue to be maintained under the Aquatic Life Use.</p> <p>MassDEP staff recorded aesthetics observations at one station on Horn Pond at the deep hole, Woburn (W1087), in the summer of 2019 (n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted green water color on one occasion.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1087	MassDEP	Water Quality	Horn Pond	[deep hole, Woburn]	42.469630	-71.157650

## Aesthetic Observations

### Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 4)

[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1087	2019	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1087 on Horn Pond (MA71019) during 5 site visits between Jun 2019 and Oct 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded, though field staff noted green water color (n=1).

**MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 8)**

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1087	Horn Pond	2019	Aesthetics Impaired?	No	5	5
W1087	Horn Pond	2019	Aquatic Plant Density, Overall	None	3	5
W1087	Horn Pond	2019	Aquatic Plant Density, Overall	Unobservable	2	5
W1087	Horn Pond	2019	Aquatic Plant Density, Whole Lake	Unobservable	3	3
W1087	Horn Pond	2019	Color	Dark Tan	1	5
W1087	Horn Pond	2019	Color	Greenish	1	5
W1087	Horn Pond	2019	Color	Light Yellow/Tan	2	5
W1087	Horn Pond	2019	Color	None	1	5
W1087	Horn Pond	2019	Duckweed Density, Whole Lake	None	1	3
W1087	Horn Pond	2019	Duckweed Density, Whole Lake	Unobservable	2	3
W1087	Horn Pond	2019	Objectionable Deposits	No	4	5
W1087	Horn Pond	2019	Objectionable Deposits	Yes	1	5
W1087	Horn Pond	2019	Odor	None	5	5
W1087	Horn Pond	2019	Scum	No	4	5
W1087	Horn Pond	2019	Scum	Yes	1	5
W1087	Horn Pond	2019	Turbidity	None	1	5
W1087	Horn Pond	2019	Turbidity	Slightly Turbid	4	5

**Primary Contact Recreation**

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
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No bacteria data are available to assess the Primary Contact Recreation Use for Horn Pond (MA71019) but it continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the Total Phosphorus impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use.

In Horn Pond (MA71019), MassDEP collected Secchi data at W1087 [42.46963, -71.15765, deep hole, Woburn] in 2019. At station W1087 (station depth=13.8 m) the Secchi depth measurements ranged from 1.14-2.38 m (n=5) with 1 measurement taken on Jul 10, 2019 that was less than the 1.2 m (4 ft) threshold. Secchi depth data are generally indicative of water clarity meeting the 1.2m (4ft) threshold.

### ***Other Indicators***

#### **Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data** (MassDEP Undated 8) (MassDEP Undated 4)

<b>Data Year(s)</b>	<b>Summary</b>
2019	In Horn Pond (MA71019), MassDEP collected Secchi data at W1087 [42.46963, -71.15765, deep hole, Woburn] in 2019. At station W1087 (station depth=13.8 m) the Secchi depth measurements ranged from 1.14-2.38 m (n=5) with 1 measurement taken on Jul 10, 2019 that was less than the 1.2 m (4 ft) threshold.

### **Secondary Contact Recreation**

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	NO

<b>2024/26 Use Attainment Summary</b>
No bacteria data are available to assess the Secondary Contact Recreation Use for Horn Pond (MA71019) but it continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the Total Phosphorus impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use.

## Little Pond (MA71024)

<b>Location:</b>	Belmont.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	18 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Water Chestnut*)	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Harmful Algal Blooms	Source Unknown (N)	--	--	X	X	X

## Recommendations

<b>2024/26 Recommendations</b>
2024/2026 IR [Harmful Algal Blooms, low priority] Follow-up monitoring should be conducted in Little Pond (MA71024) to confirm whether Harmful Algal Blooms are truly impairing the Recreational and Aesthetic uses (the existing impairment was based on visual observations in 2011). Monitoring should include collection of cyanobacteria cell count data and observational data, as well as continued reporting of algal blooms to MDPH. {Little Pond (MA71024)}

## Designated Use Attainment Decisions

## Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted recently in Little Pond (MA71024), so the Fish Consumption Use is Not Assessed.

## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Little Pond (MA71024) continues to be assessed as Not Supporting with the Harmful Algal Blooms impairment being carried forward. Since the existing Harmful Algal Blooms impairment for Little Pond was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data. No new data are available to evaluate the Aesthetics Use for this Little Pond AU.

## Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

C-HAB Summary Statement
Since the existing Harmful Algal Blooms impairment for Little Pond (MA71024) was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
The Primary Contact Recreation Use for Little Pond (MA71024) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the existing Harmful Algal Blooms impairment for Little Pond (MA71024) was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
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Not Supporting	NO
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#### **2024/26 Use Attainment Summary**

The Secondary Contact Recreation Use for Little Pond (MA71024) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the existing Harmful Algal Blooms impairment for Little Pond (MA71024) was based on visual observations, a recommendation is being made to confirm the impairment with cyanobacteria cell count data.

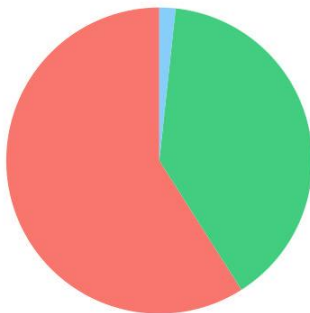


## Little River (MA71-21)

<b>Location:</b>	Headwaters, outlet Little Pond, Belmont to MWRA CSO outfall (MWR003) approximately 150 feet upstream of mouth at the confluence with Alewife Brook, Cambridge (formerly part of 2016 segment: Alewife Brook MA71-04).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	0.8 MILES
<b>Classification/Qualifier:</b>	B: WWF

### Little River (MA71-21)

Watershed Area: 4.23 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.23	4.23	1.14	1.14
Agriculture	0%	0%	0%	0%
Developed	59%	59%	45.2%	45.2%
Natural	39.3%	39.3%	50.3%	50.3%
Wetland	1.7%	1.7%	4.5%	4.5%
Impervious	42.5%	42.5%	31.2%	31.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	(Water Chestnut*)	--	Unchanged
5	5	Chloride	--	Unchanged
5	5	Copper in Sediment	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Enterococcus	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
5	5	Flocculant Masses	--	Removed
5	5	Lead in Sediment	--	Unchanged
5	5	Odor	--	Unchanged
5	5	Oil and Grease	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
5	5	Scum/Foam	--	Removed
5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
5	5	Trash	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Debris*)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Chloride	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Chloride	Highway/Road/Bridge Runoff (Non-construction Related) (Y)	X	--	--	--	--
Chloride	Impervious Surface/Parking Lot Runoff (Y)	X	--	--	--	--
Copper in Sediment	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Dissolved Oxygen	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X
Lead in Sediment	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Odor	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Oil and Grease	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Transparency / Clarity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Trash	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Flocculant Masses	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to Little River (MA71-21, at that time part of AU MA71-04) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations from various volunteer groups of “oily sheens” along the shoreline, between 1995-2000 (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU, these impairments are being removed but the impairment for “Oil and Grease” is being carried forward.
Scum/Foam	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to Little River (MA71-21, at that time part of AU MA71-04) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations from various volunteer groups of “oily sheens” along the shoreline, between 1995-2000 (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU, these impairments are

2022 Removed Impairment	Removal Reason	Removal Comment
		being removed but the impairment for “Oil and Grease” is being carried forward.

## Flocculant Masses

See removal comment.

## Scum/Foam

See removal comment.

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for this Little River AU (MA71-21) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue impairment is being carried forward. MA DPH included a site-specific advisory for Little River (referred to by MA DPH as "Alewife Brook and Little River" or "Little River") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No new aesthetics observation data are available to evaluate the Aesthetics Use for this Little River AU (MA71-21) so it continues to be assessed as Not Supporting with the Oil and Grease, Debris, Trash and Odor impairments being carried forward. Since the Transparency/Clarity impairment was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. The Flocculant Masses and Scum/Foam impairments are being removed (see supporting information for removed impairments).

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

### 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for this Little River AU (MA71-21) continues to be assessed as Not Supporting. The prior *Enterococcus* and *Escherichia Coli* (*E. Coli*) impairments are being carried forward based on bacteria data not meeting the threshold at MWRA\_174. The prior Transparency / Clarity impairment is being carried forward and the prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Flocculant Masses and Scum/Foam impairments were removed from the Aesthetics Use, they are being removed from the recreational uses as well.

MWRA staff collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples toward the downstream end of this Little River AU (MA71-21) at MWRA\_174 [Alewife Brook, Little River, 415 ft upstream of Rt. 2 E offramp to Alewife MBTA station, upstream] from 2011-2022 (EC & Ent n=17-58/yr). Analysis of the recent five years (2018-2022) of the multi-year high frequency *E. coli* dataset from MWRA\_174 indicated that in all 5 sufficient data years >10% of the intervals had GMs >126 CFU/100mL (92-100%), all 5 years had >10% of samples exceed the 410 CFU/100mL STV (40-70%), and cumulatively across these 5 years 95% of intervals had GMs >126 CFU/100mL. Analysis of the recent five years (2018-2022) of the multi-year high frequency *Enterococcus* dataset from MWRA\_174 indicated that in all 5 sufficient data years >10% of the intervals had GMs >35 CFU/100mL (90-100%), all 5 years had >10% of samples exceed the 130 CFU/100mL STV (47-82%), and cumulatively across these 5 years 97% of intervals had GMs >35 CFU/100mL. The multi-year high frequency *E. coli* and *Enterococcus* data from MWRA\_174 data are indicative of *Escherichia Coli* (*E. Coli*) and *Enterococcus* impairments.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_174	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, Little River, 415 ft upstream of Rt. 2 east offramp to Alewife MBTA station, upstream	42.397029	-71.144994

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

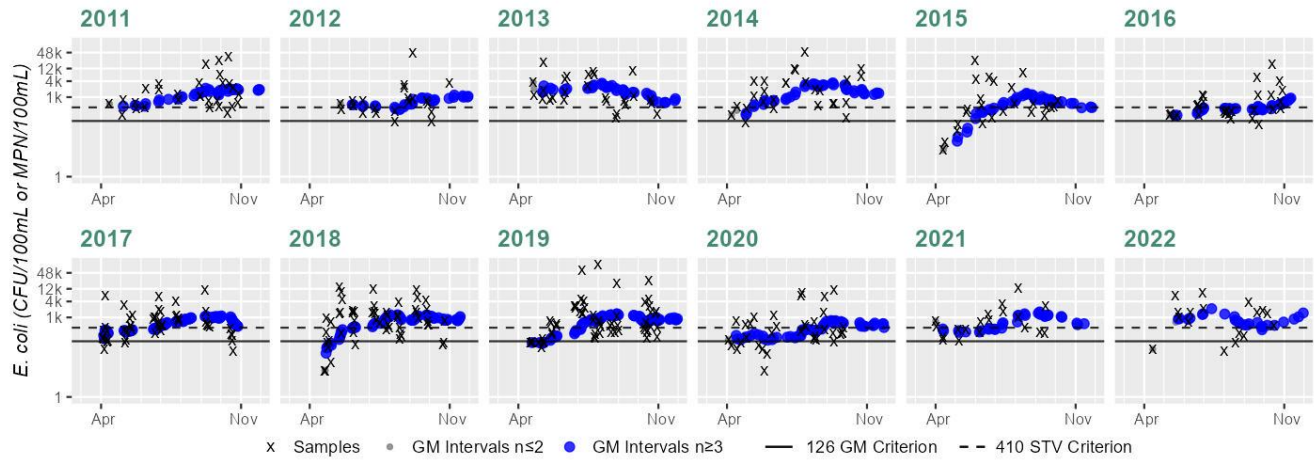
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/14/11	10/28/11	29	218	32700	1377
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/14/11	10/28/11	29	30	45700	345
MWRA_174	Massachusetts Water Resources Authority	E. coli	05/17/12	10/30/12	21	121	46500	678
MWRA_174	Massachusetts Water Resources Authority	Enterococci	05/17/12	10/30/12	21	10	19900	138
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/24/13	12/10/13	26	166	19900	1496
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/24/13	12/10/13	26	31	9800	390
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/08/14	10/24/14	27	110	52000	1526
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/08/14	10/24/14	27	10	6490	253
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/13/15	10/05/15	25	10	24200	474
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/13/15	10/05/15	25	10	7700	140
MWRA_174	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	30	97	17300	494
MWRA_174	Massachusetts Water Resources Authority	Enterococci	05/09/16	10/28/16	30	10	650	108
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/03/17	12/13/17	49	52	11200	532
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/03/17	12/13/17	49	10	9800	146
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	10	14100	689
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/24/18	10/24/18	53	10	3870	239
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	58	74	101000	729

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/20/19	11/20/19	58	10	24200	365
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	35	10	11200	347
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/02/20	09/25/20	34	10	8660	135
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	135	13000	628
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/01/21	09/16/21	20	30	5170	248
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	52	8660	806
MWRA_174	Massachusetts Water Resources Authority	Enterococci	04/14/22	10/17/22	17	20	4880	265



## Station MWRA\_174 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	1377
#GMI	52
#GMI Ex	52
%GMI Ex	100%
n>STV	24
%n>STV	82%

Variable*	Result
Samples	21
SeasGM	678
#GMI	36
#GMI Ex	36
%GMI Ex	100%
n>STV	13
%n>STV	61%

Variable*	Result
Samples	26
SeasGM	1496
#GMI	44
#GMI Ex	44
%GMI Ex	100%
n>STV	23
%n>STV	88%

Variable*	Result
Samples	27
SeasGM	1526
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	22
%n>STV	81%

Variable*	Result
Samples	25
SeasGM	474
#GMI	45
#GMI Ex	41
%GMI Ex	91%
n>STV	13
%n>STV	52%

Variable*	Result
Samples	30
SeasGM	494
#GMI	53
#GMI Ex	53
%GMI Ex	100%
n>STV	13
%n>STV	43%

Variable*	Result
Samples	49
SeasGM	532
#GMI	90
#GMI Ex	89
%GMI Ex	98%
n>STV	29
%n>STV	59%

Variable*	Result
Samples	53
SeasGM	689
#GMI	92
#GMI Ex	85
%GMI Ex	92%
n>STV	36
%n>STV	67%

Variable*	Result
Samples	58
SeasGM	729
#GMI	104
#GMI Ex	98
%GMI Ex	94%
n>STV	35
%n>STV	60%

Variable*	Result
Samples	35
SeasGM	347
#GMI	65
#GMI Ex	65
%GMI Ex	100%
n>STV	14
%n>STV	40%

Variable*	Result
Samples	19
SeasGM	628
#GMI	31
#GMI Ex	31
%GMI Ex	100%
n>STV	11
%n>STV	57%

Variable*	Result
Samples	17
SeasGM	806
#GMI	28
#GMI Ex	28
%GMI Ex	100%
n>STV	12
%n>STV	70%

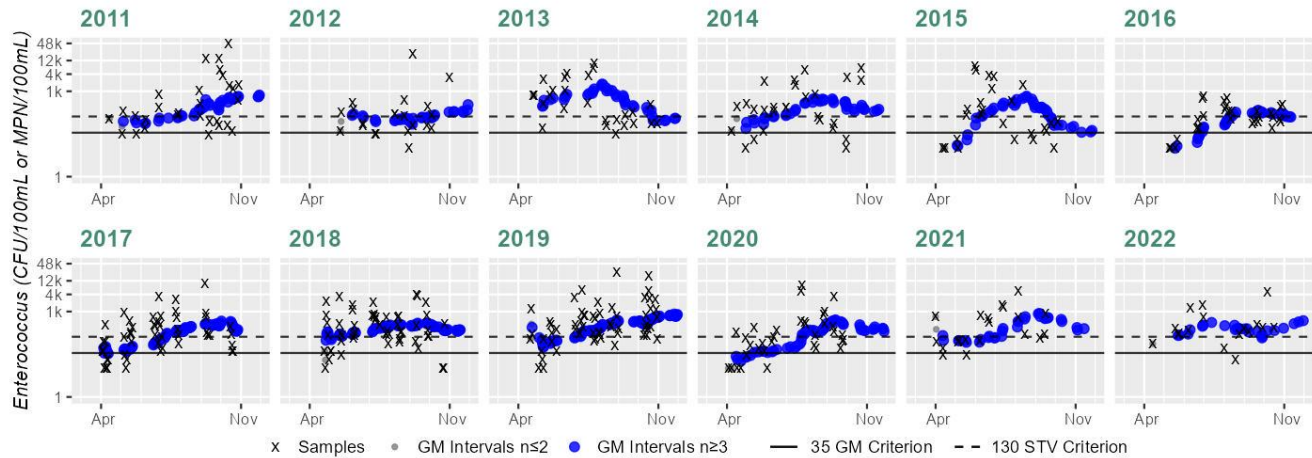
Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
95%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_174 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	29
SeasGM	345
#GMI	52
#GMI Ex	52
%GMI Ex	100%
n>STV	18
%n>STV	62%

Variable*	Result
Samples	21
SeasGM	138
#GMI	36
#GMI Ex	36
%GMI Ex	100%
n>STV	11
%n>STV	52%

Variable*	Result
Samples	26
SeasGM	390
#GMI	44
#GMI Ex	44
%GMI Ex	100%
n>STV	17
%n>STV	65%

Variable*	Result
Samples	27
SeasGM	253
#GMI	45
#GMI Ex	45
%GMI Ex	100%
n>STV	17
%n>STV	62%

Variable*	Result
Samples	25
SeasGM	140
#GMI	45
#GMI Ex	41
%GMI Ex	91%
n>STV	12
%n>STV	48%

Variable*	Result
Samples	30
SeasGM	108
#GMI	53
#GMI Ex	47
%GMI Ex	88%
n>STV	13
%n>STV	43%

Variable*	Result
Samples	49
SeasGM	146
#GMI	90
#GMI Ex	88
%GMI Ex	97%
n>STV	28
%n>STV	57%

Variable*	Result
Samples	53
SeasGM	239
#GMI	92
#GMI Ex	91
%GMI Ex	98%
n>STV	38
%n>STV	71%

Variable*	Result
Samples	58
SeasGM	365
#GMI	104
#GMI Ex	104
%GMI Ex	100%
n>STV	45
%n>STV	77%

Variable*	Result
Samples	34
SeasGM	135
#GMI	63
#GMI Ex	57
%GMI Ex	90%
n>STV	16
%n>STV	47%

Variable*	Result
Samples	20
SeasGM	248
#GMI	32
#GMI Ex	32
%GMI Ex	100%
n>STV	11
%n>STV	55%

Variable*	Result
Samples	17
SeasGM	265
#GMI	28
#GMI Ex	28
%GMI Ex	100%
n>STV	14
%n>STV	82%

Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
97%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for this Little River AU (MA71-21) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at MWRA\_174. The prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Transparency / Clarity, Flocculant Masses, and Scum/Foam impairments were removed from the Aesthetics Use, they are being removed from the Secondary Contact Recreation Use as well.

MWRA and MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in the Little River (MA71-21) from 2011-2022 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: in the upstream third of the AU at MyRWA\_LIR007 [No description submitted by MyRWA] from 2011-2012 (n=1/yr), in the downstream third of the AU at MyRWA\_LIR003 [No description submitted by MyRWA] in Mar 2016 (n=1), and toward the downstream end of the AU at MWRA\_174 [Alewife Brook, Little River, 415 ft upstream of Rt. 2 E offramp to Alewife MBTA station, upstream] from 2011-2022 (current n=20-62/yr). The available *E. coli* data from MyRWA\_LIR007 and MyRWA\_LIR003 are too limited to assess according to the 2024 CALM. Analysis of the recent five years (2018-2022) of the multi-year high frequency *E. coli* dataset from MWRA\_174 indicated that in all 5 sufficient data years >10% of the intervals had GMs >244 CFU/100mL (68-96%), all 5 years had >10% of samples exceed the 794 CFU/100mL STV (19-50%), and cumulatively across the 5 years 84% of intervals had GMs >244 CFU/100mL. The multi-year high frequency *E. coli* data from MWRA\_174 are indicative of an Escherichia Coli (E. Coli) impairment.

MWRA staff also collected *E. coli* bacteria samples at MWRA\_174 on the Little River (MA71-21) during the historic IR window (1997-2010) from 2002-2010 and these data were similarly indicative of poor water quality conditions.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_174	Massachusetts Water Resources Authority	Water Quality	Alewife Brook	Alewife Brook, Little River, 415 ft upstream of Rt. 2 east offramp to Alewife MBTA station, upstream	42.397029	-71.144994
MyRWA_LIR003	Mystic River Watershed Association	Water Quality	Little River	No description submitted by MyRWA	42.397000	-71.147833
MyRWA_LIR007	Mystic River Watershed Association	Water Quality	Little River	No description submitted by MyRWA	42.397667	-71.155167

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 1) (MyRWA 2019) (MassDEP Undated 1)

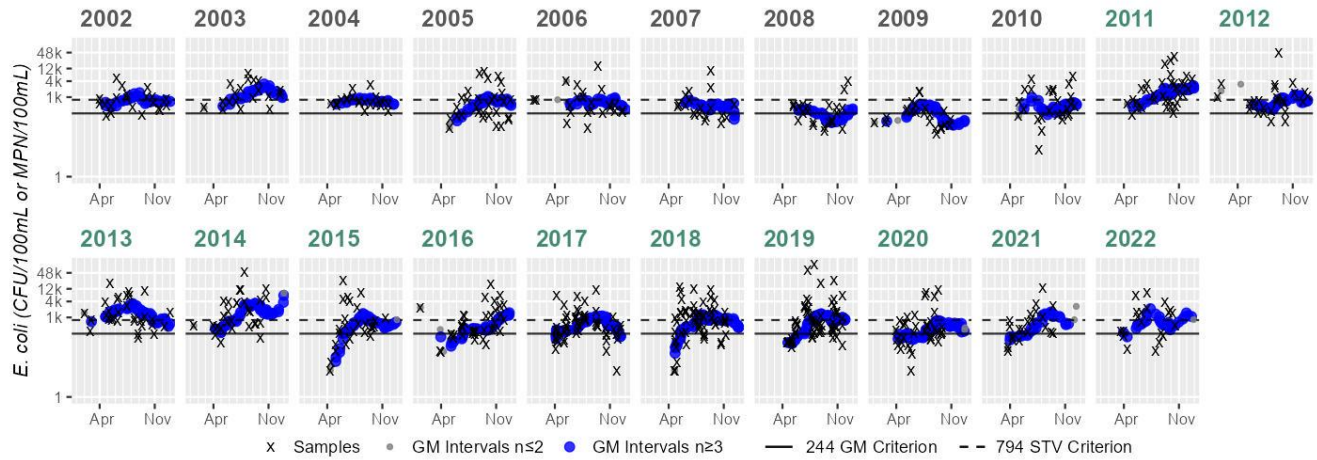
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/01/02	12/17/02	21	190	5300	697
MWRA_174	Massachusetts Water Resources Authority	E. coli	02/24/03	12/18/03	19	340	7500	1274
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/14/04	11/23/04	20	290	2900	691
MWRA_174	Massachusetts Water Resources Authority	E. coli	05/04/05	12/27/05	30	70	8910	544
MWRA_174	Massachusetts Water Resources Authority	E. coli	01/12/06	12/20/06	23	70	14900	602
MWRA_174	Massachusetts Water Resources Authority	E. coli	05/09/07	12/13/07	19	98	9800	450
MWRA_174	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	52	4110	257
MWRA_174	Massachusetts Water Resources Authority	E. coli	01/07/09	10/28/09	23	41	1660	203
MWRA_174	Massachusetts Water Resources Authority	E. coli	05/05/10	12/08/10	26	10	5790	480
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/14/11	12/22/11	35	218	32700	1576
MWRA_174	Massachusetts Water Resources Authority	E. coli	01/13/12	12/28/12	27	121	46500	781
MWRA_174	Massachusetts Water Resources Authority	E. coli	01/31/13	12/30/13	31	166	19900	1336
MWRA_174	Massachusetts Water Resources Authority	E. coli	01/15/14	10/24/14	29	110	52000	1409
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/13/15	11/12/15	26	10	24200	486
MWRA_174	Massachusetts Water Resources Authority	E. coli	01/11/16	12/02/16	39	51	17300	547
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/03/17	12/13/17	57	10	11200	469
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	10	14100	686

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_174	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	62	74	101000	728
MWRA_174	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	36	10	11200	346
MWRA_174	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	52	13000	504
MWRA_174	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	52	8660	682
MyRWA_LIR003	Mystic River Watershed Association	E. coli	03/15/16	03/15/16	1	1954	1954	1953
MyRWA_LIR007	Mystic River Watershed Association	E. coli	12/13/11	12/13/11	1	69	69	69
MyRWA_LIR007	Mystic River Watershed Association	E. coli	03/29/12	03/29/12	1	68	68	68

## Station MWRA\_174 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	19	Samples	20	Samples	30	Samples	23	Samples	19	Samples	22	Samples	23	Samples	26
SeasGM	697	SeasGM	1274	SeasGM	691	SeasGM	544	SeasGM	602	SeasGM	450	SeasGM	257	SeasGM	203	SeasGM	480
#GMI	37	#GMI	30	#GMI	30	#GMI	53	#GMI	36	#GMI	33	#GMI	38	#GMI	38	#GMI	47
#GMI Ex	37	#GMI Ex	30	#GMI Ex	30	#GMI Ex	49	#GMI Ex	36	#GMI Ex	31	#GMI Ex	19	#GMI Ex	18	#GMI Ex	46
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	92%	%GMI Ex	100%	%GMI Ex	93%	%GMI Ex	50%	%GMI Ex	47%	%GMI Ex	97%
n>STV	10	n>STV	12	n>STV	6	n>STV	13	n>STV	8	n>STV	5	n>STV	2	n>STV	2	n>STV	9
%n>STV	47%	%n>STV	63%	%n>STV	30%	%n>STV	43%	%n>STV	34%	%n>STV	26%	%n>STV	9%	%n>STV	8%	%n>STV	34%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	31	Samples	29	Samples	26	Samples	39	Samples	57	Samples	58	Samples	62	Samples	36	Samples	21
SeasGM	1336	SeasGM	1409	SeasGM	486	SeasGM	547	SeasGM	469	SeasGM	686	SeasGM	728	SeasGM	346	SeasGM	504
#GMI	53	#GMI	48	#GMI	47	#GMI	69	#GMI	105	#GMI	102	#GMI	110	#GMI	67	#GMI	33
#GMI Ex	53	#GMI Ex	48	#GMI Ex	41	#GMI Ex	59	#GMI Ex	88	#GMI Ex	92	#GMI Ex	97	#GMI Ex	46	#GMI Ex	24
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	87%	%GMI Ex	85%	%GMI Ex	83%	%GMI Ex	90%	%GMI Ex	88%	%GMI Ex	68%	%GMI Ex	72%
n>STV	19	n>STV	15	n>STV	8	n>STV	13	n>STV	18	n>STV	28	n>STV	23	n>STV	7	n>STV	6
%n>STV	61%	%n>STV	51%	%n>STV	30%	%n>STV	33%	%n>STV	31%	%n>STV	48%	%n>STV	37%	%n>STV	19%	%n>STV	28%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
86%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
78%

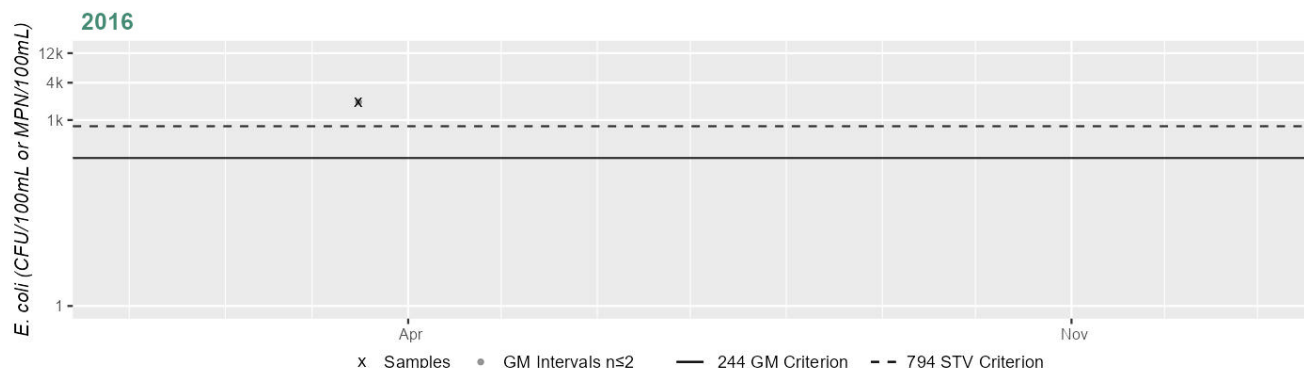
Cumulative %GMI Exceedance  
Current (2011-2022)  
88%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
84%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_LIR003 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	1954
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

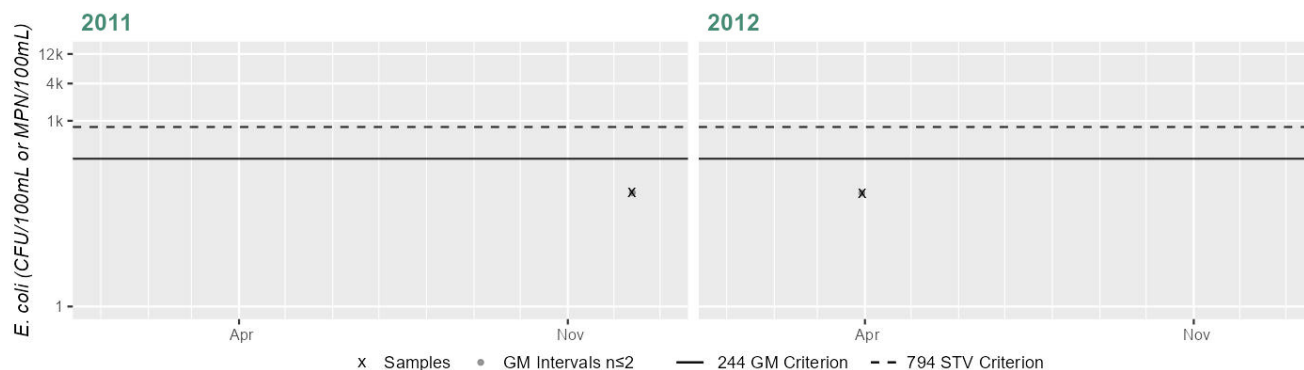
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_LIR007 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	69
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	68
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

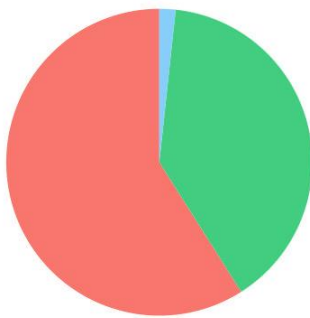


## Little River (MA71-22)

<b>Location:</b>	From MWRA CSO outfall (MWR003, approximately 150 feet upstream of mouth), Cambridge to mouth at confluence with Alewife Brook, Cambridge (formerly part of 2016 segment: Alewife Brook MA71-04).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	0.03 MILES
<b>Classification/Qualifier:</b>	B: WWF, CSO

### Little River (MA71-22)

Watershed Area: 4.24 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	4.24	4.24	1.14	1.14
Agriculture	0%	0%	0%	0%
Developed	59%	59%	45.1%	45.1%
Natural	39.3%	39.3%	50.4%	50.4%
Wetland	1.7%	1.7%	4.5%	4.5%
Impervious	42.4%	42.4%	31.1%	31.1%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	Copper in Sediment	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
5	5	Flocculant Masses	--	Removed
5	5	Lead in Sediment	--	Unchanged
5	5	Odor	--	Unchanged
5	5	Oil and Grease	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged
5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
5	5	Scum/Foam	--	Removed
5	5	Transparency / Clarity	--	Unchanged
5	5	Trash	--	Unchanged



<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Debris*)	Combined Sewer Overflows (Y)	--	--	X	X	X
(Debris*)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
Copper in Sediment	Combined Sewer Overflows (Y)	X	--	--	--	--
Copper in Sediment	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Dissolved Oxygen	Combined Sewer Overflows (Y)	X	--	--	--	--
Dissolved Oxygen	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Escherichia Coli (E. Coli)	Combined Sewer Overflows (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X
Lead in Sediment	Combined Sewer Overflows (Y)	X	--	--	--	--
Lead in Sediment	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Odor	Combined Sewer Overflows (Y)	--	--	X	X	X
Odor	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Oil and Grease	Combined Sewer Overflows (Y)	--	--	X	X	X
Oil and Grease	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Phosphorus, Total	Combined Sewer Overflows (Y)	X	--	--	--	--
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Transparency / Clarity	Combined Sewer Overflows (Y)	--	--	--	X	--
Transparency / Clarity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Trash	Combined Sewer Overflows (Y)	--	--	X	X	X
Trash	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	X	X	X

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Flocculant Masses	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to Little River (MA71-22, at that time part of AU MA71-04) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations from various volunteer groups of “oily sheens” along the shoreline, between 1995-2000 (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU, these impairments are being removed but the impairment for “Oil and Grease” is being carried forward.
Scum/Foam	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to Little River (MA71-22, at that time part of AU MA71-04) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations from various volunteer groups of “oily sheens” along the shoreline, between 1995-2000 (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU, these impairments are being removed but the impairment for “Oil and Grease” is being carried forward.

## Flocculant Masses

See removal comment.

## Scum/Foam

See removal comment.

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No
2024/26 Use Attainment Summary	
The Fish Consumption Use for this Little River AU (MA71-22) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue impairment is being carried forward. MA DPH included a site-specific advisory for the Little River (referred to by MA DPH as "Alewife Brook and Little River" or "Little River") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
No new aesthetics observation data are available to evaluate the Aesthetics Use for this Little River AU (MA71-22) so it continues to be assessed as Not Supporting with the Oil and Grease, Debris, Trash and Odor impairments being carried forward. Since the Transparency/Clarity impairment was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. The Flocculant Masses and Scum/Foam impairments are being removed (see supporting information for removed impairments).	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

#### 2024/26 Use Attainment Summary

The Primary Contact Recreation Use for this Little River AU (MA71-22) continues to be assessed as Not Supporting. The prior *Escherichia Coli* (*E. Coli*) impairment is being carried forward based on the presence of an active CSO. The prior Transparency / Clarity impairment is being carried forward and the prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Flocculant Masses and Scum/Foam impairments were removed from the Aesthetics Use, they are being removed from the recreational uses as well.

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

#### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for this Little River AU (MA71-22) continues to be assessed as Not Supporting. The prior *Escherichia Coli* (*E. Coli*) impairment is being carried forward based on the presence of an active CSO. The prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Transparency / Clarity, Flocculant Masses, and Scum/Foam impairments were removed from the Aesthetics Use, they are being removed from the Secondary Contact Recreation Use as well.

MassDEP and MyRWA staff/volunteers collected *E. coli* bacteria samples in the Little River (MA71-22) at the combined W1976 & MyRWA\_LIR001 station [Little River/Alewif Brook, ~65 ft upstream of bridge crossing of Rt. 2 off ramp (W Rdway) to the Alewife T Station, Cambridge/Arlington (~25 ft upstream of the CSO discharge stream confluence on southern bank) & No description submitted by MyRWA] in 2006 and 2008-2009 (n=1-6/yr). Note, only the data from 2009 are of sufficient frequency to be evaluated according to the 2024 CALM.

Analysis of the historic single year limited frequency *E. coli* dataset from the combined W1976 & MyRWA\_LIR001 station (from 2009) indicated 66% of intervals had GMs >244 CFU/100mL, 1 sample exceeded the 794 CFU/100mL STV, and the overall GM was 352 CFU/100mL. Historic *E. coli* data from the combined W1976 & MyRWA\_LIR001 station meet 2024 CALM guidance.

However, since these data were collected prior to the current IR window (2011-2022) they cannot be used to positively assess the Secondary Contact Recreation Use of this Little River AU (MA71-22). Moreover, there is a presumptive *Escherichia Coli* (*E. Coli*) impairment in place due to the presence of the active CSO outfall at the upstream border of this AU.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1976	MassDEP	Water Quality	Little River	[Little River/Alewife Brook, approximately 65 feet upstream of bridge crossing of Route 2 off ramp (West Roadway) to the Alewife T Station, Cambridge/Arlington (approximately 25 feet upstream of the CSO discharge stream confluence on southern bank)]	42.397357	-71.143841
MyRWA_LIR001	Mystic River Watershed Association	Water Quality	Little River	No description submitted by MyRWA	42.397167	-71.144000

### ***Bacteria Data***

#### **Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

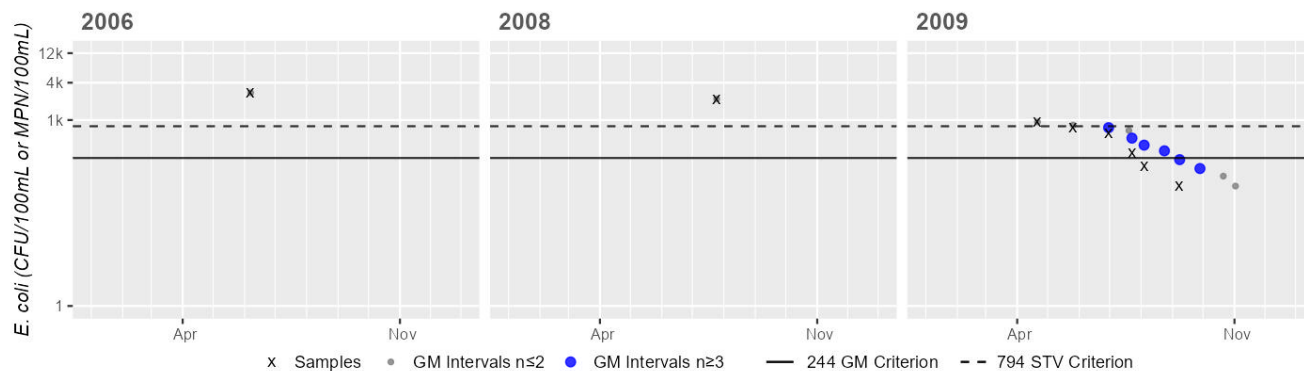
(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1976	MassDEP	E. coli	04/21/09	09/08/09	6	86	930	352
MyRWA_LIR001	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	2755	2755	2754
MyRWA_LIR001	Mystic River Watershed Association	E. coli	07/24/08	07/24/08	1	2187	2187	2187

# Station MASSDEP\_W1976 & MyRWA\_LIR001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	2755
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	2187
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	6
SeasGM	352
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
66%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Lower Mystic Lake (MA71027)

<b>Location:</b>	Arlington/Medford.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	93 ACRES
<b>Classification/Qualifier:</b>	B: WWF

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	DDT in Fish Tissue	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Hydrogen Sulfide	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged
5	5	Salinity	--	Unchanged
5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
DDT in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Hydrogen Sulfide	Source Unknown (N)	X	--	--	--	--
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Salinity	Source Unknown (N)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Contaminated Sediments (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Source Unknown (N)	X	--	--	--	--



## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Lower Mystic Lake (MA71027) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue and DDT in Fish Tissue impairments are being carried forward. MA DPH included a site-specific advisory for Lower Mystic Lake in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

### Aesthetic

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
The Aesthetics Use for Lower Mystic Lake (MA71027) is assessed as Insufficient Information. During the period 2015 through 2022, C-HAB postings for Lower Mystic Lake were reported to MDPH based on visual observations for 6 days in 2022. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings.

### Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Lower Mystic Lake (MA71027) were reported to MDPH based on visual observations for 6 days in 2022. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings.

**Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2022) Provided by MDPH** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

[\* indicates a C-HAB posting of unknown duration]

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Lower Mystic Lake	Arlington & Medford								6

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

2024/26 Use Attainment Summary
No bacteria data are available to assess the Primary Contact Recreation Use for Lower Mystic Lake (MA71027) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. During the period 2015 through 2022, C-HAB postings for Lower Mystic Lake (MA71027) were reported to MDPH based on visual observations for 6 days in 2022. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO

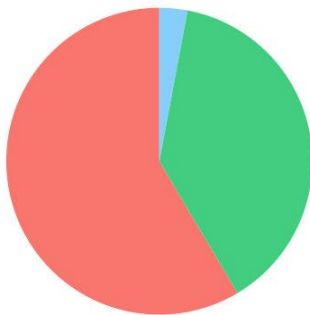
2024/26 Use Attainment Summary
No bacteria data are available to assess the Secondary Contact Recreation Use for Lower Mystic Lake (MA71027) and available other indicators for this AU did not result in any impairment, so it is assessed as having Insufficient Information. During the period 2015 through 2022, C-HAB postings for Lower Mystic Lake (MA71027) were reported to MDPH based on visual observations for 6 days in 2022. No blooms were reported in other years. Since no extended blooms (>20 days in duration) based on cell count data were reported in recent years, an impairment decision will not be made at this time based on C-HAB postings.

## Malden River (MA71-05)

<b>Location:</b>	From culverted portion south of Charles Street, Malden to confluence with Mystic River, Everett/Medford.
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	2 MILES
<b>Classification/Qualifier:</b>	B: WWF

### Malden River (MA71-05)

Watershed Area: 11.00 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	11.00	4.92	2.28	0.75
Agriculture	0%	0%	0%	0%
Developed	58.5%	77.5%	34.4%	56.5%
Natural	38.5%	21.2%	60.7%	39.6%
Wetland	3%	1.3%	4.9%	3.9%
Impervious	44.9%	64.1%	25.4%	43.8%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Debris*)	--	Unchanged
5	5	(Water Chestnut*)	--	Unchanged
5	5	Chlordane in Fish Tissue	--	Unchanged
5	5	DDT in Fish Tissue	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Dissolved Oxygen Supersaturation	R1_MA_2020_5a	Unchanged
5	5	Enterococcus	R1_MA_2019_01	Changed
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
5	5	Fecal Coliform	R1_MA_2019_01	Changed
5	5	Flocculant Masses	--	Removed
5	5	Odor	--	Unchanged
5	5	Oil and Grease	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	pH, High	--	Unchanged
5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
5	5	Scum/Foam	--	Removed
5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
5	5	Temperature	--	Unchanged
5	5	Total Suspended Solids (TSS)	--	Unchanged
5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged
5	5	Trash	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Debris*)	Illegal Dumps or Other Inappropriate Waste Disposal (N)	--	--	X	X	X
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Chlordane in Fish Tissue	Source Unknown (N)	--	X	--	--	--
DDT in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Dissolved Oxygen	Combined Sewer Overflows (Y)	X	--	--	--	--
Dissolved Oxygen	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Dissolved Oxygen Supersaturation	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	--
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Fecal Coliform	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	--
Odor	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	X	X
Oil and Grease	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	X	X	X
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--
pH, High	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Phosphorus, Total	Contaminated Sediments (Y)	X	--	--	--	--
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Contaminated Sediments (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Temperature	Impervious Surface/Parking Lot Runoff (Y)	X	--	--	--	--
Temperature	Source Unknown (N)	X	--	--	--	--
Total Suspended Solids (TSS)	Combined Sewer Overflows (Y)	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Total Suspended Solids (TSS)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Transparency / Clarity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	--
Trash	Illegal Dumps or Other Inappropriate Waste Disposal (N)	--	--	X	X	X

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Flocculant Masses	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	<p>The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to the Malden River (MA71-05) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations of “oily sheens” along the shoreline, from Alewife/Mystic River Advocates and Friends of the Mystic River field staff in 1996 (O'Brien, Weinstein and McVoy 2002). Oily sheens were also observed by MassDEP staff in 2009 at Medford Street, Malden (W1967) (MassDEP Undated 7). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since “Flocculant Masses” and “Scum/foam” were rarely (if ever) associated with this AU, these impairments are being removed but the impairment for “Oil and Grease” is being carried forward.</p>
Scum/Foam	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	<p>The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to the Malden River (MA71-05) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 2002. The Oil and Grease impairment was based on direct observations of “oily sheens” along the shoreline, from Alewife/Mystic River Advocates and Friends of the Mystic River field staff in 1996 (O'Brien, Weinstein and McVoy 2002). Oily sheens were also observed by MassDEP staff in 2009 at Medford Street, Malden (W1967) (MassDEP Undated 7). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting</p>

2022 Removed Impairment	Removal Reason	Removal Comment
		cycle submittal to EPA's new ATTAINS database. Since "Flocculant Masses" and "Scum/foam" were rarely (if ever) associated with this AU, these impairments are being removed but the impairment for "Oil and Grease" is being carried forward.
Enterococcus	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds (Report CN 157.1, approved 11/21/2018, ATTAINS Action ID: R1_MA_2019_01)
Fecal Coliform	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds (Report CN 157.1, approved 11/21/2018, ATTAINS Action ID: R1_MA_2019_01)

## Flocculant Masses

See removal comment.

## Scum/Foam

See removal comment.

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for the Malden River (MA71-05) continues to be assessed as Not Supporting and the prior DDT in Fish Tissue, PCBs in Fish Tissue, and Chlordane in Fish Tissue impairments are being carried forward. MA DPH included a site-specific advisory for the Malden River in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.



## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
No new data are available to evaluate the Aesthetics Use for the Malden River (MA71-05) so it continues to be assessed as Not Supporting with the Oil and Grease, Debris, Trash and Odor impairments being carried forward. Since the Transparency/Clarity impairment was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. The Flocculant Masses and Scum/Foam impairments are being removed (see supporting information for removed impairments).

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
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The Primary Contact Recreation Use for the Malden River (MA71-05) continues to be assessed as Not Supporting. The prior Transparency/Clarity and Enterococcus impairments are being carried forward due to Secchi data & bacteria data from MWRA\_176. The Escherichia Coli (E. Coli) impairment is being carried forward due to bacteria data from MyRWA\_MAR036, MyRWA\_MARINT3, MyRWA\_MARINT2, MyRWA\_MARINT1, MWRA\_176, and MyRWA\_MAR0065. The prior Fecal Coliform impairment is being carried forward, as are the prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use). The Flocculant Masses and Scum/Foam impairments were removed since they were removed from the Aesthetics Use. MWRA collected Secchi data in the Malden River at MWRA\_176 (2011-2022) which indicated poor Transparency / Clarity. The most recent five years of data (2018-2022) with >2 Secchi measurements were used for assessment. Although some station depths were less than the 1.2 m (4 ft) threshold, in that case the Secchi measurement was always less than the corresponding station depth. More than one Secchi depth measurement was less than the 1.2 m (4 ft) threshold at MWRA\_176 in 2018 (n=22/23, 0.3-1.3m), 2019 (n=15/19, 0.5-1.4m), 2020 (n=18/20, 0.3-1.4m), 2021 (n=19/19, 0.3-1m), and 2022 (n=17/17, 0.3-1m).

MWRA and MyRWA staff/volunteers collected *E. coli* (EC) and *Enterococcus* (Ent) bacteria samples in the Malden River from 2011-2022 at 11 stations. Samples were collected from the following stations/sample years from upstream to downstream (stations with an \* have data that are too limited to assess according to the 2024 CALM and will not be discussed further): MyRWA\_MARMR1\* [MDC deep rock tunnel near the N end of Malden River near Commercial St; near all 5 major top-end sources] in 2011 (EC n=1), MyRWA\_MAR036 [Malden River, upstr. side of Medford St Bridge in Malden] from 2011-2019 (EC n=6-11/yr), MyRWA\_MARINT3 [HS dock] in 2016 (EC n=4), MyRWA\_MARUT2\* [Trib in line with Floyd St] from 2012-2014 (EC n=1/yr), MyRWA\_MARINT2 [Tufts pavilion] in 2016 (EC n=3), MyRWA\_MARINT1 [Bldg before Rivers Edge] in 2016 (EC n=4), MWRA\_176 [Malden River, upstr. of Rt 16 bridge] from 2011-2022 (EC & Ent n=17-59/yr), MyRWA\_MAR0065 [Center of stream. Upstr. side of Rt. 16 bridge] from 2015-2016 (EC n=37-43/yr), MyRWA\_MAR006\* [None submitted by MyRWA] in 2015 (EC n=1), MyRWA\_MARUT1\* [None submitted by MyRWA] in 2013 (EC n=1), MyRWA\_MAR001\* [None submitted by MyRWA] in 2012 (EC n=1).

EC data from all six stations with sufficient frequency data for this indicator (MyRWA\_MAR036, MyRWA\_MARINT3, MyRWA\_MARINT2, MyRWA\_MARINT1, MWRA\_176, MyRWA\_MAR0065) indicated poor water quality. Some limited frequency stations will not be discussed below due to space constraints. MyRWA\_MAR036 (recent 5 years, moderate frequency): >20% of intervals had GMs >126 CFU/100mL (2015-2019, 77-100%), 5 yrs had ≥2 samples exceed the 410 CFU/100mL STV (2015-2019, n=2-7), and there were 86% cumulative GM exceedances. MyRWA\_MARINT3 (single year, limited frequency, not summarized). MyRWA\_MARINT2 (single year, limited frequency, not summarized). MyRWA\_MARINT1 (single year, limited frequency, not summarized). MWRA\_176 (recent 5 years, high frequency): >10% of intervals had GMs >126 CFU/100mL (2018-2022, 50-92%), 5 yrs had >10% of samples exceed the 410 CFU/100mL STV (2018-2022, 19-52%), and there were 73% cumulative GM exceedances. MyRWA\_MAR0065 (2 years, high frequency): >10% of intervals had GMs >126 CFU/100mL (2015 & 2016, both 18%), both yrs had >10% of samples exceed the 410 CFU/100mL STV (2015 & 2016, both 16%), and there were 18% cumulative GM exceedances.

Multi-year high frequency Ent data from MWRA\_176 indicated poor water quality: in all 5 recent data yrs >10% of intervals had GMs >35 CFU/100mL (2018-2022, 17-95%), 4 yrs had >10% of samples exceed the 130 CFU/100mL STV (2018-2021, 22-35%), and cumulatively across years 58% of intervals had GMs >35 CFU/100mL.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_176	Massachusetts Water Resources Authority	Water Quality	Malden River	Malden River, upstream of Rt 16 bridge	42.405300	-71.071910
MyRWA_MAR001	Mystic River Watershed Association	Water Quality	Malden River	No description submitted by MyRWA	42.396833	-71.075450
MyRWA_MAR006	Mystic River Watershed Association	Water Quality	Malden River	No description submitted by MyRWA	42.403583	-71.072694
MyRWA_MAR0065	Mystic River Watershed Association	Water Quality	Malden River	Center of the stream. Sample from route 16 bridge upstream side	42.403923	-71.072533
MyRWA_MAR036	Mystic River Watershed Association	Water Quality	Malden River	Malden River at Medford Street Bridge in Malden; upstream side of the bridge	42.417500	-71.073283
MyRWA_MARINT1	Mystic River Watershed Association	Water Quality	Malden River	Building before Rivers Edge	42.407096	-71.072337
MyRWA_MARINT2	Mystic River Watershed Association	Water Quality	Malden River	Tufts pavilion	42.410558	-71.073108
MyRWA_MARINT3	Mystic River Watershed Association	Water Quality	Malden River	HS dock	42.415309	-71.073103
MyRWA_MARMR1	Mystic River Watershed Association	Water Quality	Malden River	MDC deep rock tunnel near the north end of Malden River near Commercial St; Malden River near all 5 major top-end sources	42.421656	-71.072864
MyRWA_MARUT1	Mystic River Watershed Association	Water Quality	Malden River	No description submitted by MyRWA	42.401933	-71.070313
MyRWA_MARUT2	Mystic River Watershed Association	Water Quality	Malden River	Tributary in line with Floyd St	42.412500	-71.069292

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 2) (MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

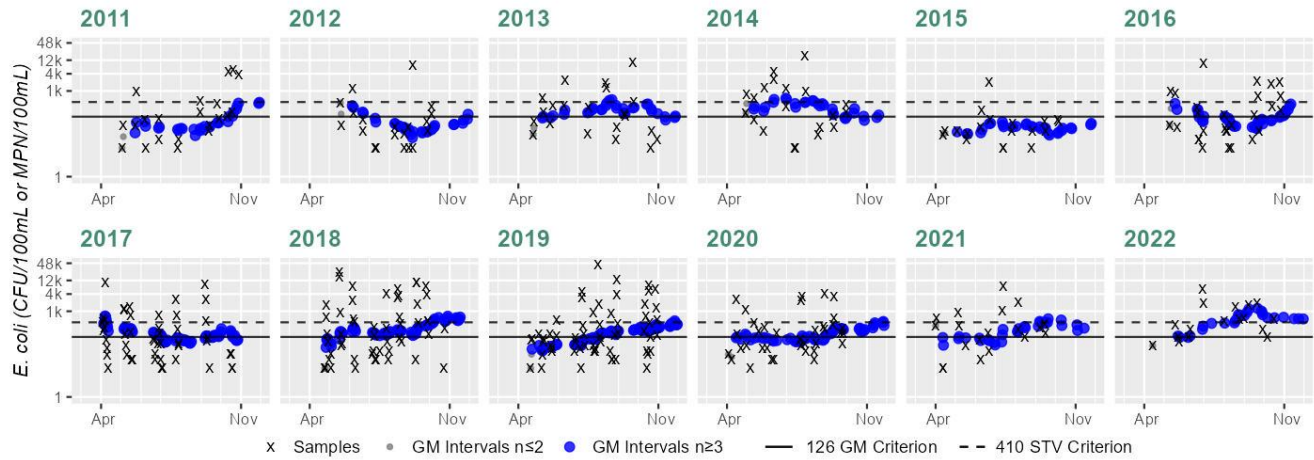
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/03/11	10/28/11	21	10	5470	131
MWRA_176	Massachusetts Water Resources Authority	Enterococci	05/03/11	10/28/11	21	10	2910	26
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/17/12	10/04/12	20	10	8160	69
MWRA_176	Massachusetts Water Resources Authority	Enterococci	05/17/12	10/04/12	20	10	5480	20
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	10	9800	169
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/24/13	10/31/13	21	10	2010	20
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/30/14	12/10/14	20	10	17300	256
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/30/14	12/10/14	19	10	1210	28
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	19	10	1970	50
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/13/15	10/06/15	19	10	1140	18
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/09/16	10/26/16	28	10	9210	133
MWRA_176	Massachusetts Water Resources Authority	Enterococci	05/09/16	10/26/16	28	10	3870	27
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/03/17	10/19/17	48	10	10500	124
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/03/17	10/19/17	48	10	9210	35
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	52	10	24200	249
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/24/18	10/24/18	52	10	4110	70
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/20/19	11/21/19	59	10	44100	180

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/20/19	11/21/19	59	10	14100	47
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	10	4110	153
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/02/20	09/25/20	35	10	2050	33
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	10	7270	195
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/01/21	09/16/21	20	10	10500	54
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	63	5790	431
MWRA_176	Massachusetts Water Resources Authority	Enterococci	04/14/22	10/17/22	17	10	173	27
MyRWA_MAR001	Mystic River Watershed Association	E. coli	04/24/12	04/24/12	1	857	857	857
MyRWA_MAR006	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	81640	81640	81640
MyRWA_MAR0065	Mystic River Watershed Association	E. coli	06/29/15	10/02/15	37	9	14136	64
MyRWA_MAR0065	Mystic River Watershed Association	E. coli	04/26/16	09/21/16	43	1	14136	72
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	203	2910	966
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	6	134	24200	685
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	169	3650	397
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	98	1920	326
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	8	63	15230	416
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	11	20	2419	364

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	52	24200	523
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	676	24200	9053
MyRWA_MAR036	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	52	1650	233
MyRWA_MARINT1	Mystic River Watershed Association	E. coli	04/26/16	05/05/16	4	9	2239	167
MyRWA_MARINT2	Mystic River Watershed Association	E. coli	04/27/16	05/05/16	3	98	1553	611
MyRWA_MARINT3	Mystic River Watershed Association	E. coli	04/27/16	05/05/16	4	107	1597	701
MyRWA_MARMR1	Mystic River Watershed Association	E. coli	04/21/11	04/21/11	1	475	475	475
MyRWA_MARUT1	Mystic River Watershed Association	E. coli	06/20/13	06/20/13	1	1302	1302	1301
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	04/24/12	04/24/12	1	104	104	103
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	06/20/13	06/20/13	1	39	39	38
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	07/02/14	07/02/14	1	12	12	12

## Station MWRA\_176 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	131
#GMI	36
#GMI Ex	14
%GMI Ex	38%
n>STV	5
%n>STV	23%

Variable*	Result
Samples	20
SeasGM	69
#GMI	34
#GMI Ex	6
%GMI Ex	17%
n>STV	2
%n>STV	10%

Variable*	Result
Samples	21
SeasGM	169
#GMI	37
#GMI Ex	30
%GMI Ex	81%
n>STV	5
%n>STV	23%

Variable*	Result
Samples	20
SeasGM	256
#GMI	32
#GMI Ex	27
%GMI Ex	84%
n>STV	8
%n>STV	40%

Variable*	Result
Samples	19
SeasGM	50
#GMI	32
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	28
SeasGM	133
#GMI	49
#GMI Ex	23
%GMI Ex	46%
n>STV	8
%n>STV	28%

Variable*	Result
Samples	48
SeasGM	124
#GMI	88
#GMI Ex	47
%GMI Ex	53%
n>STV	14
%n>STV	29%

Variable*	Result
Samples	52
SeasGM	249
#GMI	90
#GMI Ex	80
%GMI Ex	88%
n>STV	20
%n>STV	38%

Variable*	Result
Samples	59
SeasGM	180
#GMI	105
#GMI Ex	75
%GMI Ex	71%
n>STV	16
%n>STV	27%

Variable*	Result
Samples	36
SeasGM	153
#GMI	67
#GMI Ex	34
%GMI Ex	50%
n>STV	7
%n>STV	19%

Variable*	Result
Samples	19
SeasGM	195
#GMI	31
#GMI Ex	20
%GMI Ex	64%
n>STV	5
%n>STV	26%

Variable*	Result
Samples	17
SeasGM	431
#GMI	28
#GMI Ex	26
%GMI Ex	92%
n>STV	9
%n>STV	52%

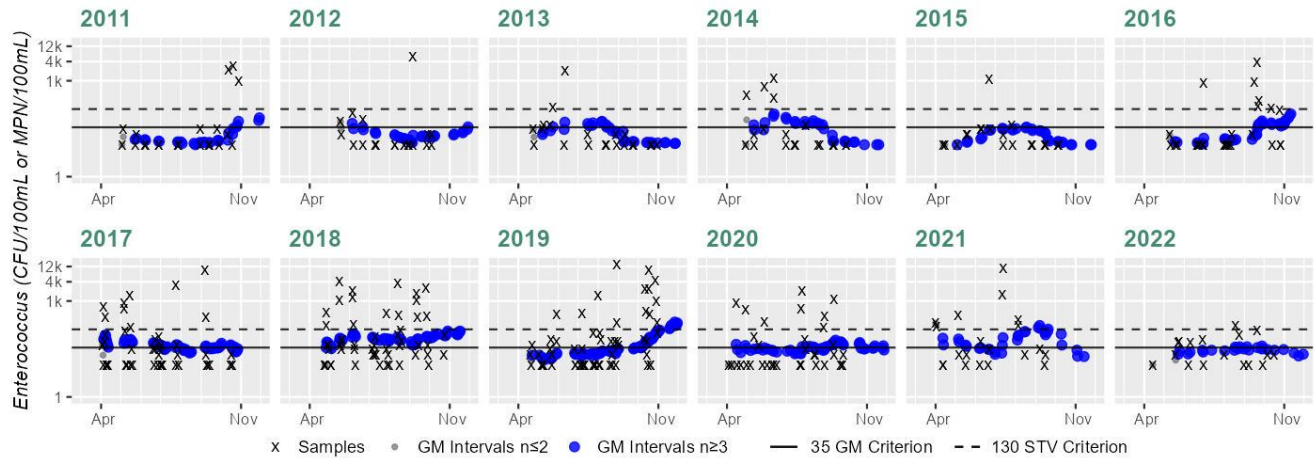
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 60%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 73%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_176 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	26
#GMI	36
#GMI Ex	11
%GMI Ex	30%
n>STV	3
%n>STV	14%

Variable*	Result
Samples	20
SeasGM	20
#GMI	34
#GMI Ex	4
%GMI Ex	11%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	21
SeasGM	20
#GMI	37
#GMI Ex	10
%GMI Ex	27%
n>STV	2
%n>STV	9%

Variable*	Result
Samples	19
SeasGM	28
#GMI	31
#GMI Ex	15
%GMI Ex	48%
n>STV	4
%n>STV	21%

Variable*	Result
Samples	19
SeasGM	18
#GMI	32
#GMI Ex	1
%GMI Ex	3%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	28
SeasGM	27
#GMI	49
#GMI Ex	21
%GMI Ex	42%
n>STV	6
%n>STV	21%

Variable*	Result
Samples	48
SeasGM	35
#GMI	88
#GMI Ex	52
%GMI Ex	59%
n>STV	9
%n>STV	18%

Variable*	Result
Samples	52
SeasGM	70
#GMI	90
#GMI Ex	86
%GMI Ex	95%
n>STV	15
%n>STV	28%

Variable*	Result
Samples	59
SeasGM	47
#GMI	105
#GMI Ex	50
%GMI Ex	47%
n>STV	13
%n>STV	22%

Variable*	Result
Samples	35
SeasGM	33
#GMI	65
#GMI Ex	24
%GMI Ex	36%
n>STV	8
%n>STV	22%

Variable*	Result
Samples	20
SeasGM	54
#GMI	32
#GMI Ex	22
%GMI Ex	68%
n>STV	7
%n>STV	35%

Variable*	Result
Samples	17
SeasGM	27
#GMI	28
#GMI Ex	5
%GMI Ex	17%
n>STV	1
%n>STV	5%

Cumulative %GMI Exceedance  
Current (2011-2022)  
48%

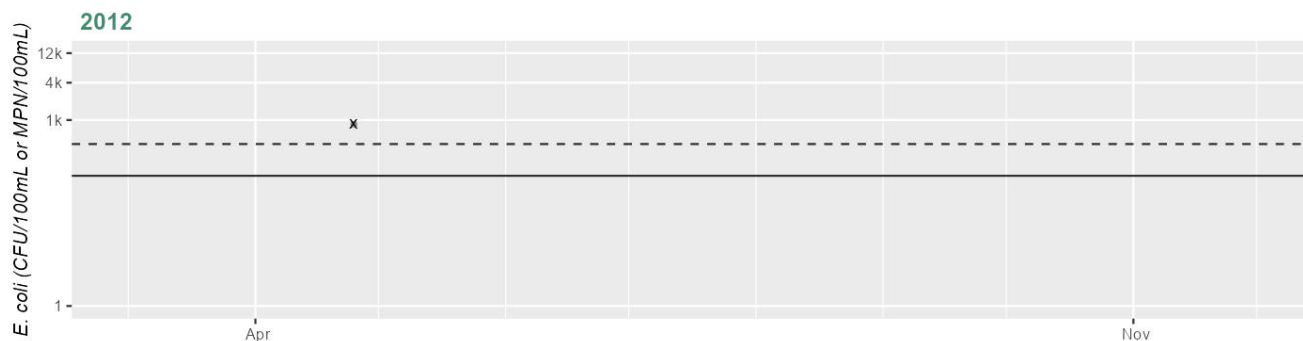
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
58%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_MAR001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	857
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

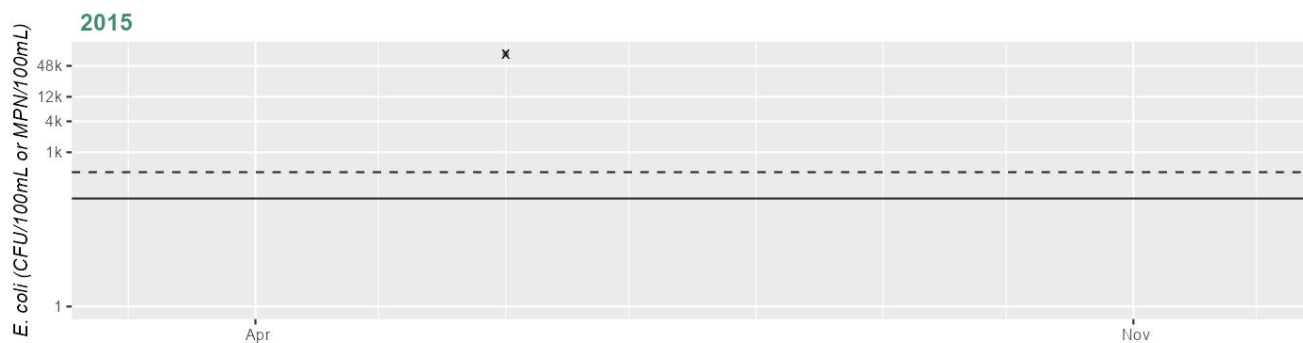
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAR006 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	81640
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

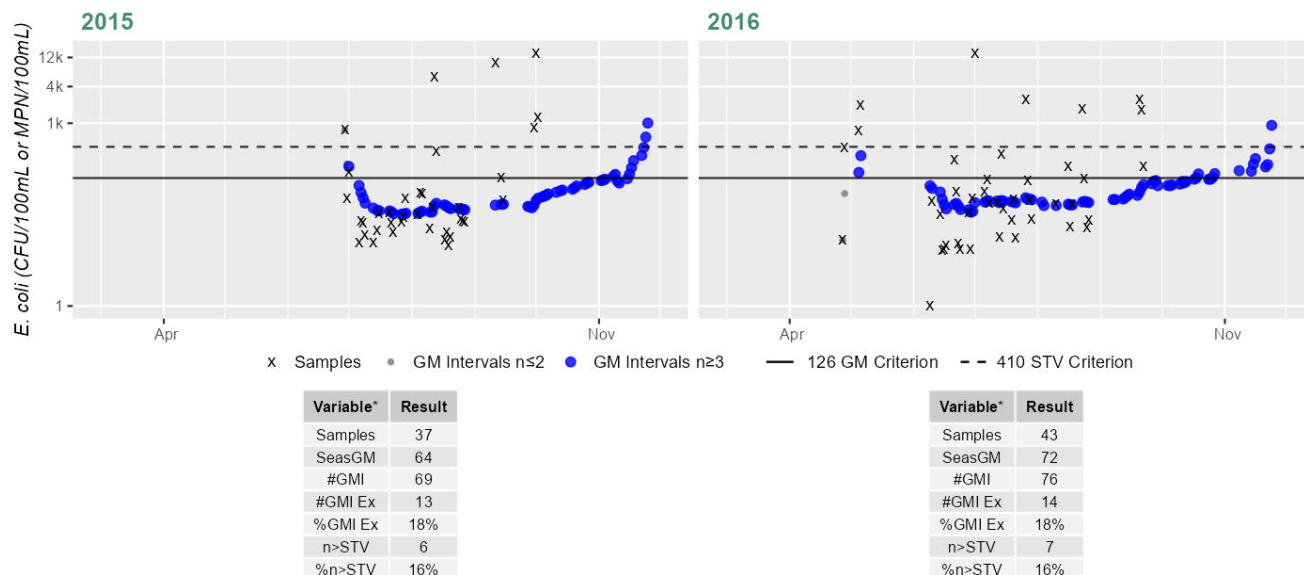
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_MAR0065 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



### Cumulative %GMI Exceedance

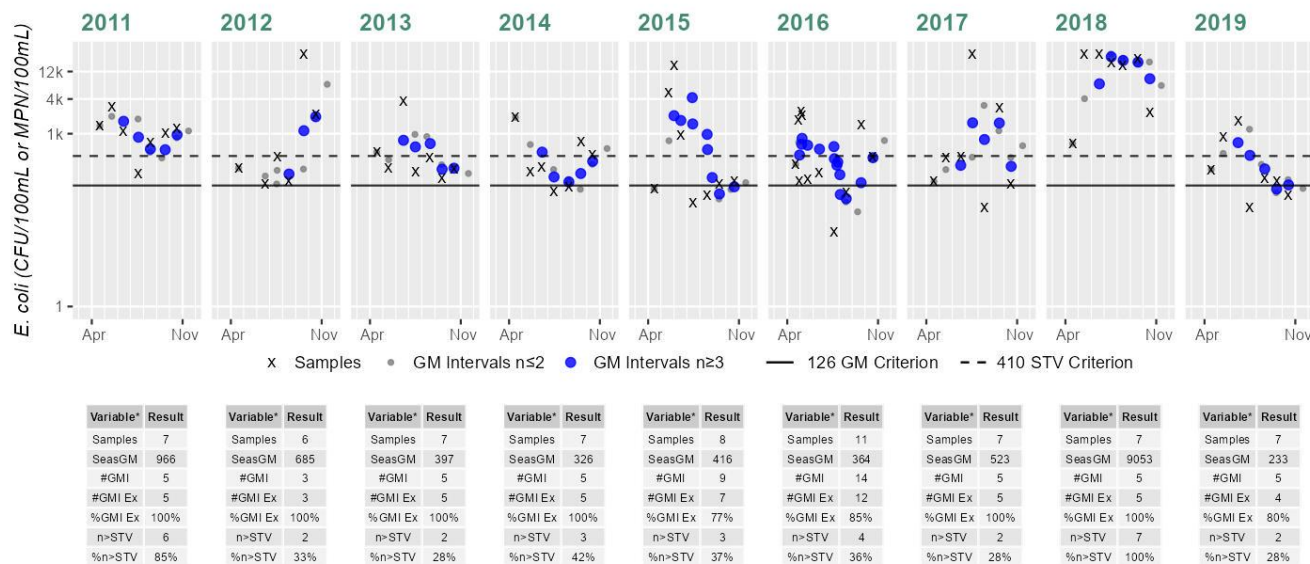
Current (2011-2022)

18%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_MAR036 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



### Cumulative %GMI Exceedance

Current (2011-2022)

91%

### Cumulative %GMI Exceedance

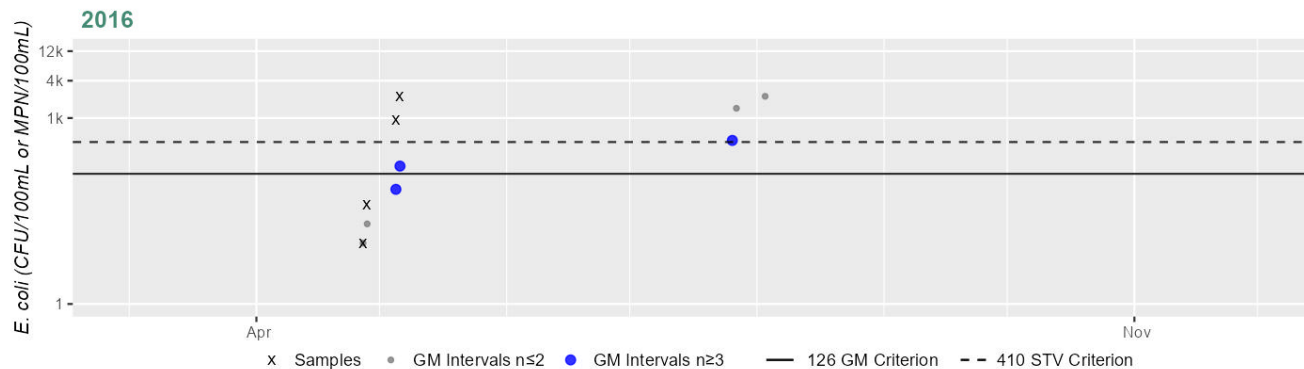
Current (Recent 5 Years)

86%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARINT1 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	4
SeasGM	167
#GMI	3
#GMI Ex	2
%GMI Ex	66%
n>STV	2
%n>STV	50%

#### Cumulative %GMI Exceedance

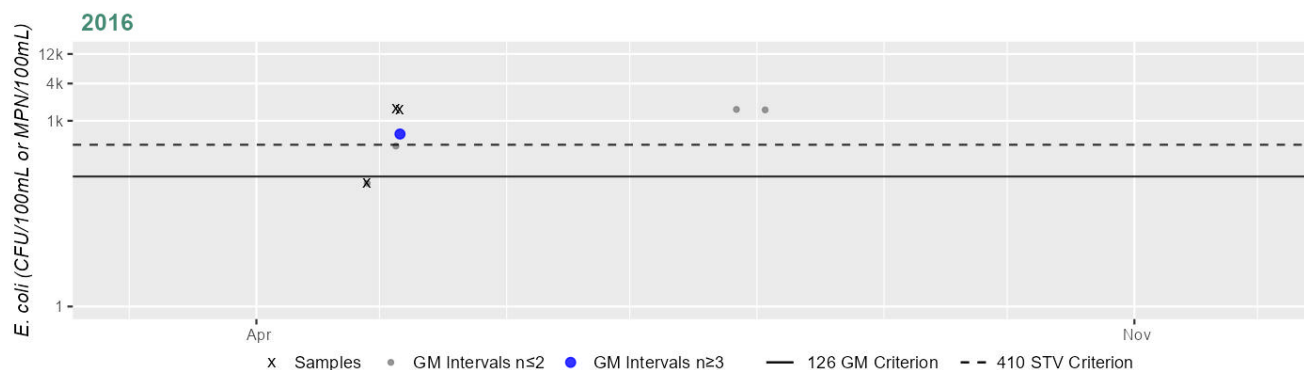
Current (2011-2022)

66%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARINT2 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	3
SeasGM	611
#GMI	1
#GMI Ex	1
%GMI Ex	100%
n>STV	2
%n>STV	66%

#### Cumulative %GMI Exceedance

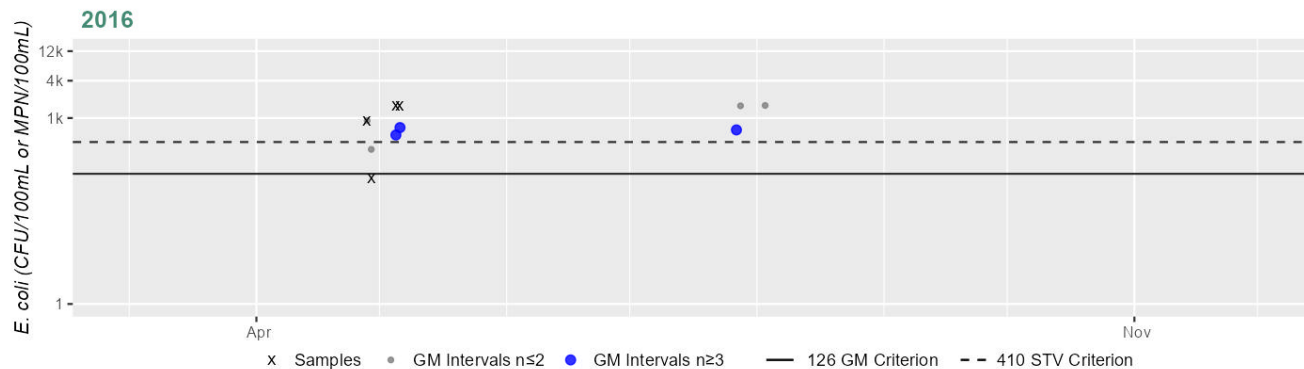
Current (2011-2022)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARINT3 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	4
SeasGM	701
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	3
%n>STV	75%

#### Cumulative %GMI Exceedance

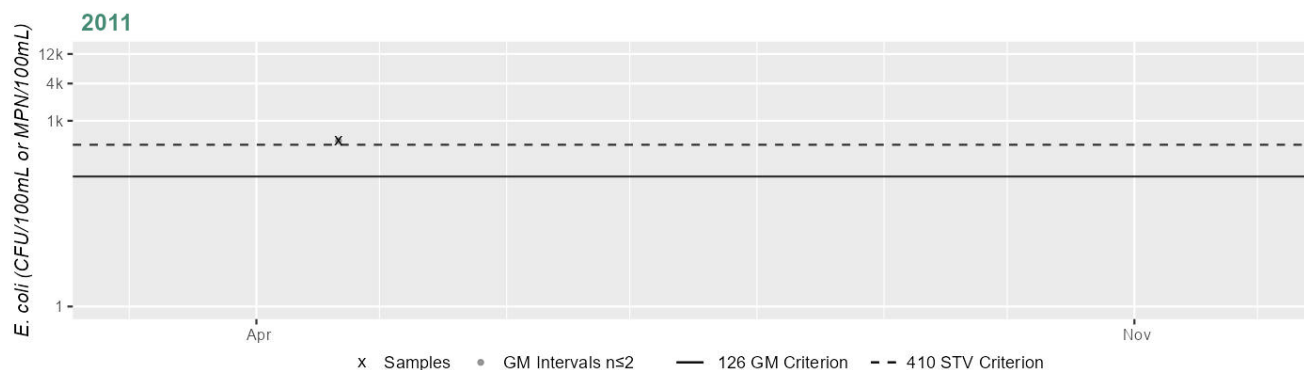
Current (2011-2022)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARMR1 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	475
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

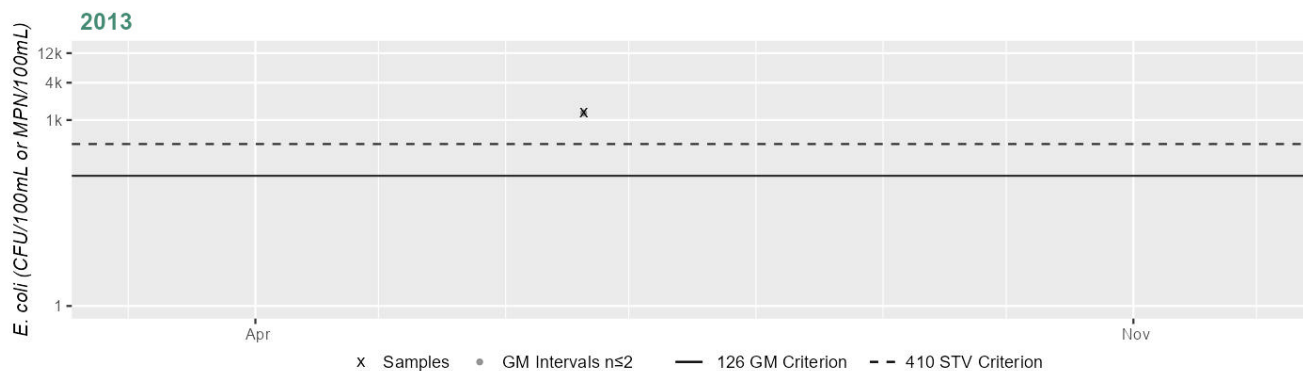
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARUT1 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	1302
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

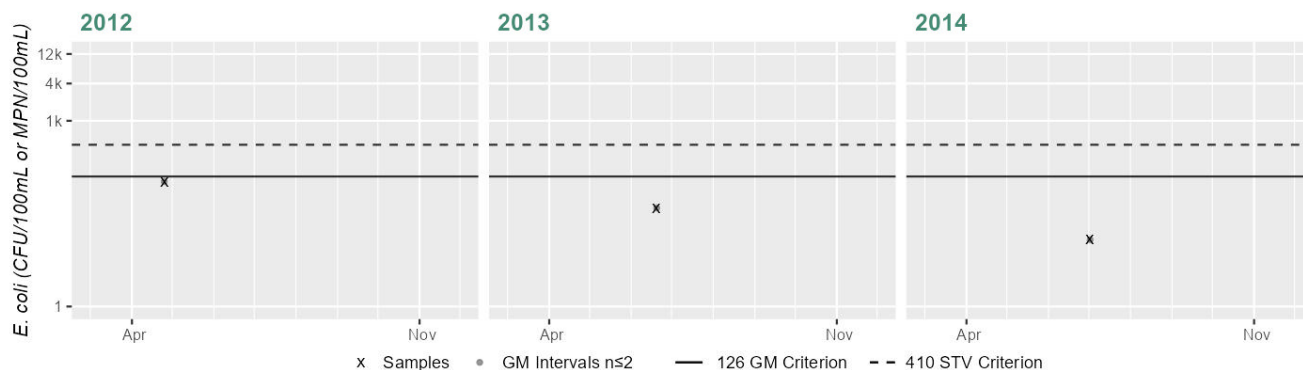
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARUT2 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	104
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	39
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Other Indicators

### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MWRA 2024) (MassDEP Undated 2)

Data Year(s)	Summary
2011-2022	In the Malden River (MA71-05), MWRA collected Secchi data at MWRA_176 from 2011-2022. Note that station depths were available on all dates Secchi depth was measured and some station depths were less than the 1.2 m (4 ft) threshold as noted when a station depth range is given below (in such a case, the Secchi measurement was always less than the corresponding station depth). The most recent five years of data with >2 Secchi measurements were used for assessment. In 2018 at station MWRA_176 (station depth=0.6-2.1 m) the Secchi depth measurements ranged from 0.3-1.3 m (n=23) with 22 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2019 at station MWRA_176 (station depth=1.1-3.6 m) the Secchi depth measurements ranged from 0.5-1.4 m (n=19) with 15 measurements in May, Jun, Jul, and Aug that were less than the 1.2 m (4 ft) threshold. In 2020 at station MWRA_176 (max station depth=2.5 m) the Secchi depth measurements ranged from 0.3-1.4 m (n=20) with 18 measurements in Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2021 at station MWRA_176 (station depth=1.1-2.3 m) the Secchi depth measurements ranged from 0.3-1 m (n=19) with 19 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2022 at station MWRA_176 (station depth=3.1 m) the Secchi depth measurements ranged from 0.3-1 m (n=17) with 17 measurements in Apr, May, Jun, Aug, Sep, and Oct that were less than the 1.2 m (4 ft) threshold. The Secchi depth measurements are indicative of a Transparency / Clarity impairment due to conditions measured from 2018-2022 at MWRA_176.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for the Malden River (MA71-05) continues to be assessed as Not Supporting. The prior *Escherichia Coli* (*E. Coli*) impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA\_MAR036, MyRWA\_MARINT3, MyRWA\_MARINT2, and MWRA\_176. The prior Debris, Odor, Oil and Grease, and Trash impairments (from the Aesthetics Use) are being carried forward. Since the Transparency / Clarity, Flocculant Masses, and Scum/Foam impairments are being removed from the Aesthetics Use this cycle, they are also being removed from the Secondary Contact Recreation Use.

MWRA, and MyRWA staff/volunteers collected *E. coli* (EC) bacteria samples in the current IR window (2011-2022) in the Malden River (MA71-05) from 2011-2022 at 11 stations. Samples were collected from the following stations/sample years from upstream to downstream (stations with an \* have data that are too limited to assess according to the 2024 CALM and will not be discussed further): MyRWA\_MARMR1\* [MDC deep rock tunnel near the N end of Malden River near Commercial St; near all 5 major top-end sources] in Apr 2011 (current n=1), MyRWA\_MAR036 [Malden River, upstr. side of Medford St Bridge in Malden] from 2011-2019 (current n=8-16/yr), MyRWA\_MARINT3 [HS dock] from Apr-May 2016 (n=4), MyRWA\_MARUT2\* [Tributary in line with Floyd St] from 2012-2014 (current n=1/yr), MyRWA\_MARINT2 [Tufts pavilion] from Apr-May 2016 (n=3), MyRWA\_MARINT1 [Bldg before Rivers Edge] from Apr-May 2016 (n=4), MWRA\_176 [Malden River, upstr. of Rt 16 bridge] from 2011-2022 (current n=19-63/yr), MyRWA\_MAR0065 [Center of stream. Upstr. side of Rt. 16 bridge] from 2015-2016 (n=37-43/yr), MyRWA\_MAR006\* [None submitted by MyRWA] in Jun 2015 (n=1), MyRWA\_MARUT1\* [None submitted by MyRWA] in Jun 2013 (current n=1), MyRWA\_MAR001\* [None submitted by MyRWA] in Apr 2012 (current n=1).

*E. coli* data from 4 of the 6 stations with sufficient frequency data indicated poor water quality. Analysis of the recent five years (2015-2019) of the multi-year moderate frequency EC dataset from MyRWA\_MAR036 indicated that in all 5 data yrs >20% of intervals had GMs >244 CFU/100mL (66-100%), all 5 yrs had ≥2 samples exceed the 794 CFU/100mL STV (n=2-7), and cumulatively across the 5 years 81% of intervals had GMs >244 CFU/100mL. Analysis of the single year limited frequency EC dataset from MyRWA\_MARINT3 (2016) indicated 100% of intervals had GMs >244 CFU/100mL, 3 samples exceeded the 794 CFU/100mL STV, and the overall GM was 701 CFU/100mL. Analysis of the single year limited frequency EC dataset from MyRWA\_MARINT2 (2016) indicated 100% of intervals had GMs >244 CFU/100mL, 2 samples exceeded the 794 CFU/100mL STV, and the overall GM was 611 CFU/100mL. The single year limited frequency EC dataset from MyRWA\_MARINT1 (2016) was inconclusive according to the 2024 CALM because only 33% of intervals had GMs >244 CFU/100mL, there were 2 STV exceedances, and the overall GM was < 244 CFU/100mL. Analysis of the recent five years (2018-2022) of the multi-year high frequency EC dataset from MWRA\_176 indicated that in all 5 data yrs >10% of intervals had GMs >244 CFU/100mL (20-69%), all 5 yrs had >10% of samples exceed the 794 CFU/100mL STV (16-31%), and cumulatively across the 5 years 40% of intervals had GMs >244 CFU/100mL. The two-year high frequency EC dataset from MyRWA\_MAR0065 (2015-2016) met CALM guidance (it is shortly downstream of the MWRA station and 2015 was a good year at the MWRA station too but it was not one of the recent 5 years in the MWRA dataset,). *E. coli* data from MyRWA\_MAR036, MyRWA\_MARINT3, MyRWA\_MARINT2, and MWRA\_176 are indicative of an *Escherichia Coli* (*E. Coli*) impairment.

MassDEP, MWRA & MyRWA collected historical *E. coli* samples in the Malden River from 2002-2010 at the same stations plus a few extras. Most of the data were too limited to evaluate or were similarly indicative of poor water quality (MassDEP's W1967, MyRWA\_MAR036, MWRA\_176).

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_176	Massachusetts Water Resources Authority	Water Quality	Malden River	Malden River, upstream of Rt 16 bridge	42.405300	-71.071910
W1967	MassDEP	Water Quality	Malden River	[Medford Street, Malden]	42.417911	-71.073297
MyRWA_MAR001	Mystic River Watershed Association	Water Quality	Malden River	No description submitted by MyRWA	42.396833	-71.075450
MyRWA_MAR006	Mystic River Watershed Association	Water Quality	Malden River	No description submitted by MyRWA	42.403583	-71.072694
MyRWA_MAR0065	Mystic River Watershed Association	Water Quality	Malden River	Center of the stream. Sample from route 16 bridge upstream side	42.403923	-71.072533
MyRWA_MAR036	Mystic River Watershed Association	Water Quality	Malden River	Malden River at Medford Street Bridge in Malden; upstream side of the bridge	42.417500	-71.073283
MyRWA_MARINT1	Mystic River Watershed Association	Water Quality	Malden River	Building before Rivers Edge	42.407096	-71.072337
MyRWA_MARINT2	Mystic River Watershed Association	Water Quality	Malden River	Tufts pavilion	42.410558	-71.073108
MyRWA_MARINT3	Mystic River Watershed Association	Water Quality	Malden River	HS dock	42.415309	-71.073103
MyRWA_MARMR1	Mystic River Watershed Association	Water Quality	Malden River	MDC deep rock tunnel near the north end of Malden River near Commercial St; Malden River near all 5 major top-end sources	42.421656	-71.072864
MyRWA_MARTCBM	Mystic River Watershed Association	Water Quality	Malden River	Malden River behind boom where shoreline work happened at technology park construction	42.409310	-71.073440
MyRWA_MARUT1	Mystic River Watershed Association	Water Quality	Malden River	No description submitted by MyRWA	42.401933	-71.070313
MyRWA_MARUT2	Mystic River Watershed Association	Water Quality	Malden River	Tributary in line with Floyd St	42.412500	-71.069292



## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 1) (MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/16/02	12/16/02	15	5	870	47
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/07/03	11/05/03	16	5	6800	92
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/05/04	11/23/04	19	5	1660	34
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/04/05	12/01/05	23	5	4400	49
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/16/06	12/20/06	24	10	10800	96
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/09/07	11/13/07	20	10	24200	73
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	10	4350	148
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/11/09	10/28/09	20	10	1440	110
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/05/10	11/10/10	19	10	1440	53
MWRA_176	Massachusetts Water Resources Authority	E. coli	05/03/11	12/22/11	24	10	11200	189
MWRA_176	Massachusetts Water Resources Authority	E. coli	01/27/12	10/04/12	21	10	8160	79
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	10	9800	169
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/30/14	12/10/14	21	10	17300	300
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	19	10	1970	50
MWRA_176	Massachusetts Water Resources Authority	E. coli	03/28/16	12/01/16	35	10	9210	183

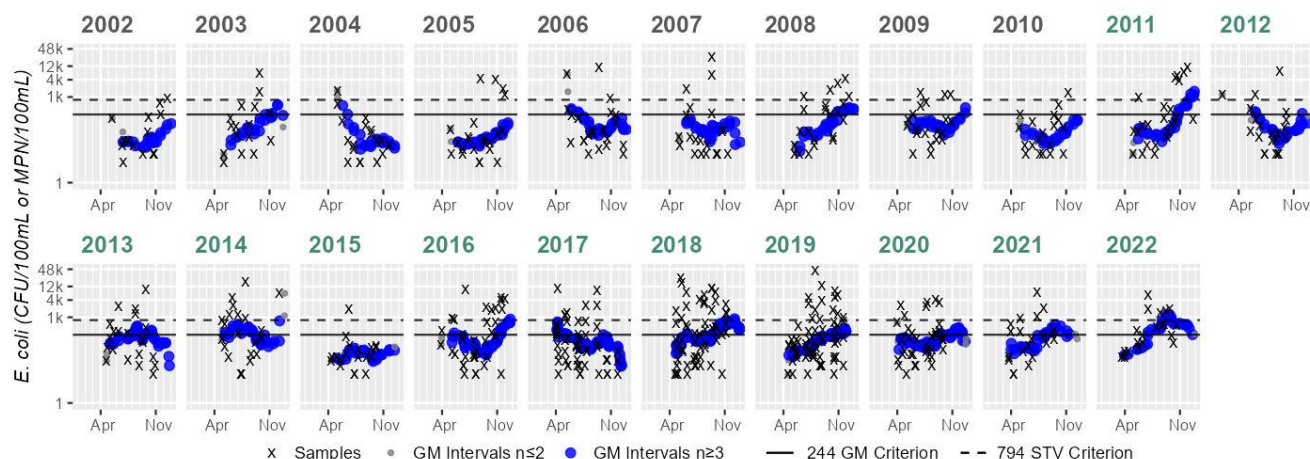
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/03/17	11/29/17	51	10	10500	113
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	57	10	24200	281
MWRA_176	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	63	10	44100	183
MWRA_176	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	10	4110	160
MWRA_176	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	10	7270	165
MWRA_176	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	41	5790	309
W1967	MassDEP	E. coli	04/21/09	09/08/09	6	10	8700	277
MyRWA_MAR001	Mystic River Watershed Association	E. coli	04/24/07	04/24/07	1	314	314	313
MyRWA_MAR001	Mystic River Watershed Association	E. coli	04/24/12	04/24/12	1	857	857	857
MyRWA_MAR006	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	81640	81640	81640
MyRWA_MAR0065	Mystic River Watershed Association	E. coli	06/29/15	10/02/15	37	9	14136	64
MyRWA_MAR0065	Mystic River Watershed Association	E. coli	04/26/16	09/21/16	43	1	14136	72
MyRWA_MAR036	Mystic River Watershed Association	E. coli	05/16/06	06/14/06	2	305	10810	1815
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	13	20	24200	418
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	12	203	9210	1377
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	11	41	24200	715
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/16/13	11/20/13	11	169	3650	630
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	13	98	16000	976

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	12	63	15230	574
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	16	20	11200	556
MyRWA_MAR036	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	11	52	24200	619
MyRWA_MAR036	Mystic River Watershed Association	E. coli	02/21/18	12/19/18	11	134	24200	3215
MyRWA_MAR036	Mystic River Watershed Association	E. coli	03/20/19	10/16/19	8	52	1650	222
MyRWA_MARINT1	Mystic River Watershed Association	E. coli	04/26/16	05/05/16	4	9	2239	167
MyRWA_MARINT2	Mystic River Watershed Association	E. coli	04/27/16	05/05/16	3	98	1553	611
MyRWA_MARINT3	Mystic River Watershed Association	E. coli	04/27/16	05/05/16	4	107	1597	701
MyRWA_MARMR1	Mystic River Watershed Association	E. coli	03/20/07	06/04/07	2	471	2481	1080
MyRWA_MARMR1	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	394	394	394
MyRWA_MARMR1	Mystic River Watershed Association	E. coli	04/21/11	04/21/11	1	475	475	475
MyRWA_MARTCBM	Mystic River Watershed Association	E. coli	03/20/07	03/20/07	1	39	39	38
MyRWA_MARUT1	Mystic River Watershed Association	E. coli	03/20/07	03/20/07	1	12	12	12
MyRWA_MARUT1	Mystic River Watershed Association	E. coli	06/20/13	06/20/13	1	1302	1302	1301
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	03/20/07	03/20/07	1	405	405	404
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	03/10/10	03/10/10	1	30	30	30
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	04/24/12	04/24/12	1	104	104	103

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	06/20/13	06/20/13	1	39	39	38
MyRWA_MARUT2	Mystic River Watershed Association	E. coli	07/02/14	07/02/14	1	12	12	12

### Station MWRA\_176 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	15	Samples	16	Samples	19	Samples	23	Samples	24	Samples	20	Samples	22	Samples	20
SeasGM	47	SeasGM	92	SeasGM	34	SeasGM	49	SeasGM	96	SeasGM	73	SeasGM	148	SeasGM	110
#GMI	25	#GMI	25	#GMI	28	#GMI	38	#GMI	41	#GMI	35	#GMI	38	#GMI	34
#GMI Ex	1	#GMI Ex	4	#GMI Ex	2	#GMI Ex	1	#GMI Ex	4	#GMI Ex	0	#GMI Ex	15	#GMI Ex	3
%GMI Ex	4%	%GMI Ex	16%	%GMI Ex	7%	%GMI Ex	2%	%GMI Ex	9%	%GMI Ex	0%	%GMI Ex	39%	%GMI Ex	8%
n>STV	1	n>STV	2	n>STV	1	n>STV	4	n>STV	3	n>STV	3	n>STV	5	n>STV	3
%n>STV	6%	%n>STV	12%	%n>STV	5%	%n>STV	17%	%n>STV	12%	%n>STV	15%	%n>STV	22%	%n>STV	15%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	21	Samples	19	Samples	35	Samples	51	Samples	57	Samples	63	Samples	37
SeasGM	169	SeasGM	300	SeasGM	50	SeasGM	183	SeasGM	113	SeasGM	281	SeasGM	183	SeasGM	160
#GMI	37	#GMI	33	#GMI	32	#GMI	62	#GMI	94	#GMI	100	#GMI	110	#GMI	69
#GMI Ex	11	#GMI Ex	17	#GMI Ex	0	#GMI Ex	20	#GMI Ex	11	#GMI Ex	50	#GMI Ex	40	#GMI Ex	14
%GMI Ex	29%	%GMI Ex	51%	%GMI Ex	0%	%GMI Ex	32%	%GMI Ex	11%	%GMI Ex	50%	%GMI Ex	36%	%GMI Ex	20%
n>STV	4	n>STV	7	n>STV	1	n>STV	10	n>STV	7	n>STV	18	n>STV	14	n>STV	6
%n>STV	19%	%n>STV	33%	%n>STV	5%	%n>STV	28%	%n>STV	13%	%n>STV	31%	%n>STV	22%	%n>STV	16%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
10%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
12%

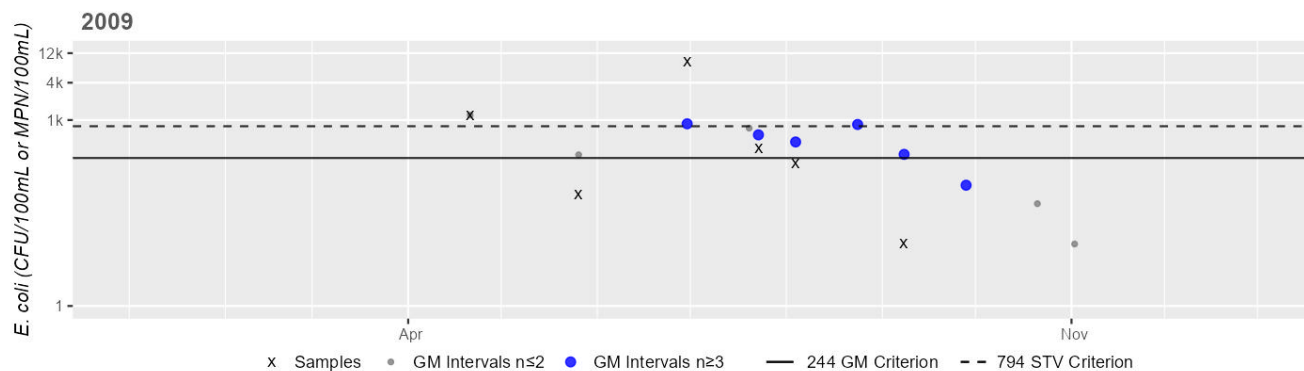
Cumulative %GMI Exceedance  
Current (2011-2022)  
32%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
40%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MASSDEP\_W1967 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



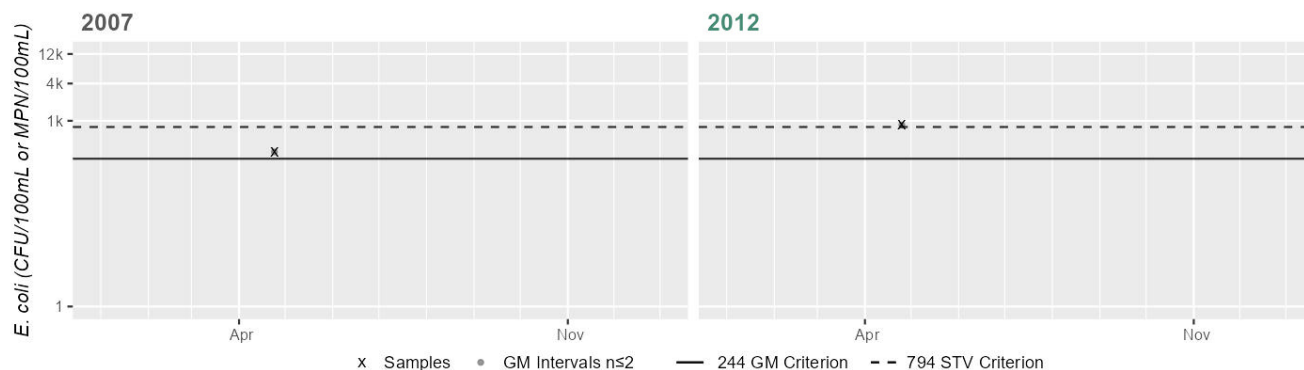
Variable*	Result
Samples	6
SeasGM	277
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
83%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAR001 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	314
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

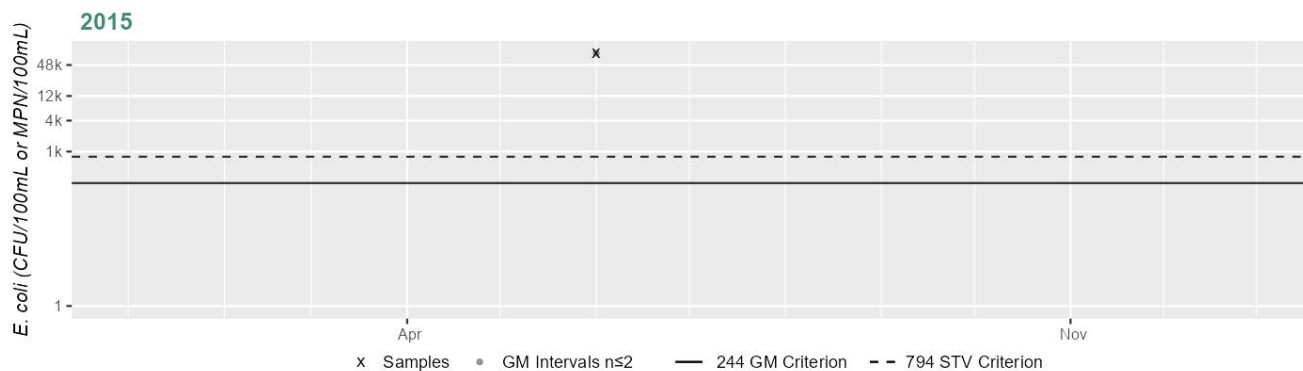
Variable*	Result
Samples	1
SeasGM	857
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAR006 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	81640
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

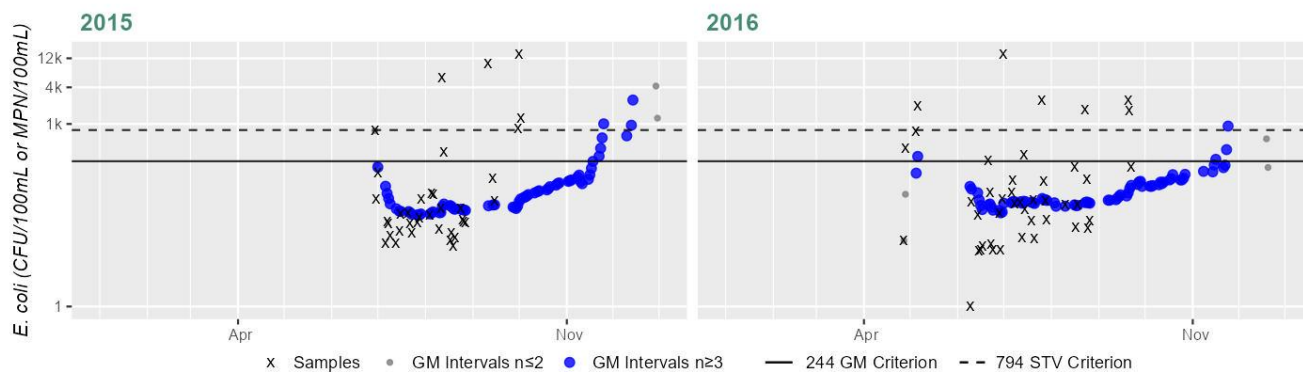
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAR0065 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	37
SeasGM	64
#GMI	69
#GMI Ex	7
%GMI Ex	10%
n>STV	5
%n>STV	13%

Variable*	Result
Samples	43
SeasGM	72
#GMI	76
#GMI Ex	4
%GMI Ex	5%
n>STV	6
%n>STV	13%

Cumulative %GMI Exceedance

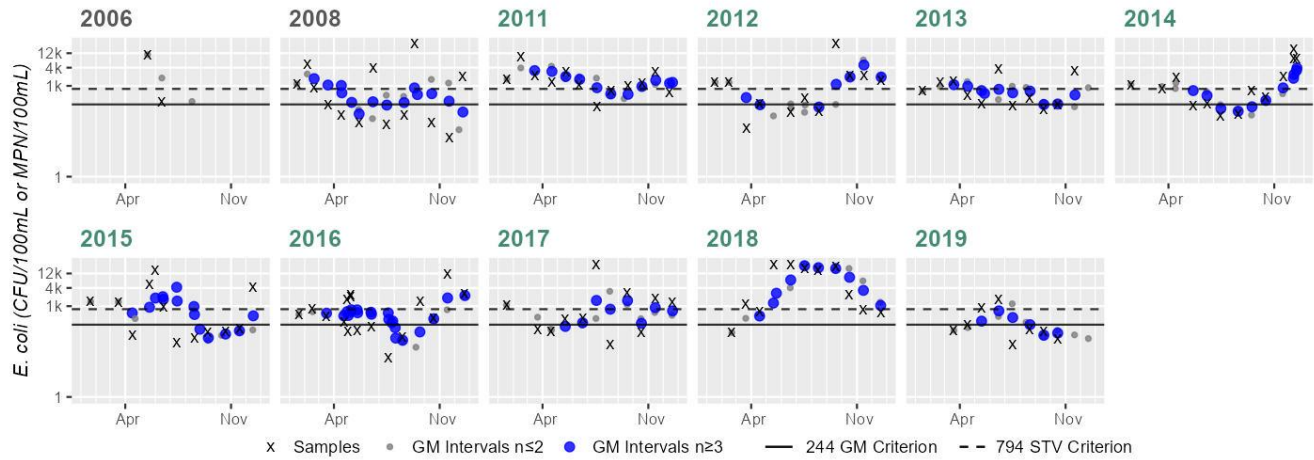
Current (2011-2022)

7%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_MAR036 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	1815
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	13
SeasGM	418
#GMI	14
#GMI Ex	11
%GMI Ex	78%
n>STV	6
%n>STV	46%

Variable*	Result
Samples	12
SeasGM	1377
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	9
%n>STV	75%

Variable*	Result
Samples	11
SeasGM	715
#GMI	7
#GMI Ex	5
%GMI Ex	71%
n>STV	6
%n>STV	54%

Variable*	Result
Samples	11
SeasGM	630
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	4
%n>STV	36%

Variable*	Result
Samples	13
SeasGM	976
#GMI	13
#GMI Ex	10
%GMI Ex	76%
n>STV	7
%n>STV	53%

Variable*	Result
Samples	12
SeasGM	574
#GMI	14
#GMI Ex	10
%GMI Ex	71%
n>STV	6
%n>STV	50%

Variable*	Result
Samples	16
SeasGM	556
#GMI	21
#GMI Ex	17
%GMI Ex	80%
n>STV	6
%n>STV	37%

Variable*	Result
Samples	11
SeasGM	619
#GMI	8
#GMI Ex	7
%GMI Ex	87%
n>STV	5
%n>STV	45%

Variable*	Result
Samples	11
SeasGM	3215
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	7
%n>STV	63%

Variable*	Result
Samples	8
SeasGM	222
#GMI	6
#GMI Ex	4
%GMI Ex	66%
n>STV	2
%n>STV	25%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
78%

Cumulative %GMI Exceedance  
Current (2011-2022)  
83%

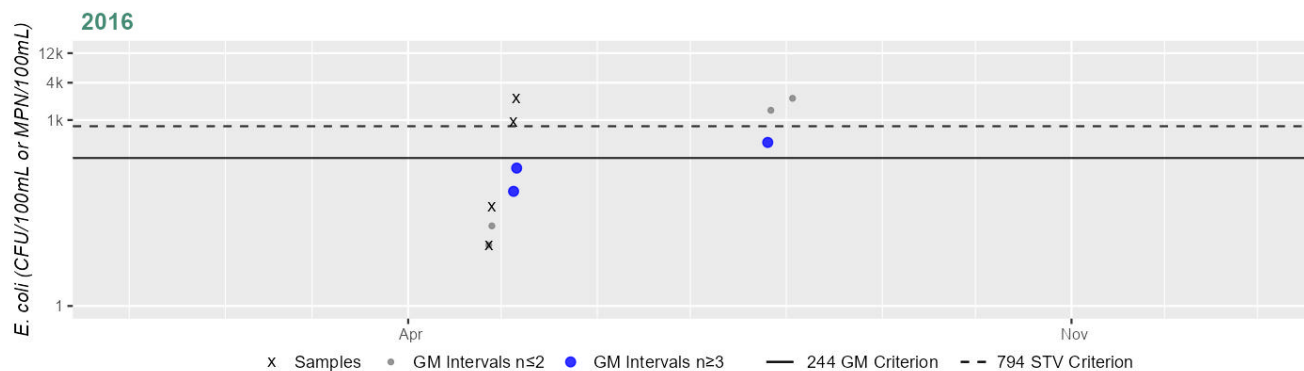
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
81%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_MARINT1 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	4
SeasGM	167
#GMI	3
#GMI Ex	1
%GMI Ex	33%
n>STV	2
%n>STV	50%

#### Cumulative %GMI Exceedance

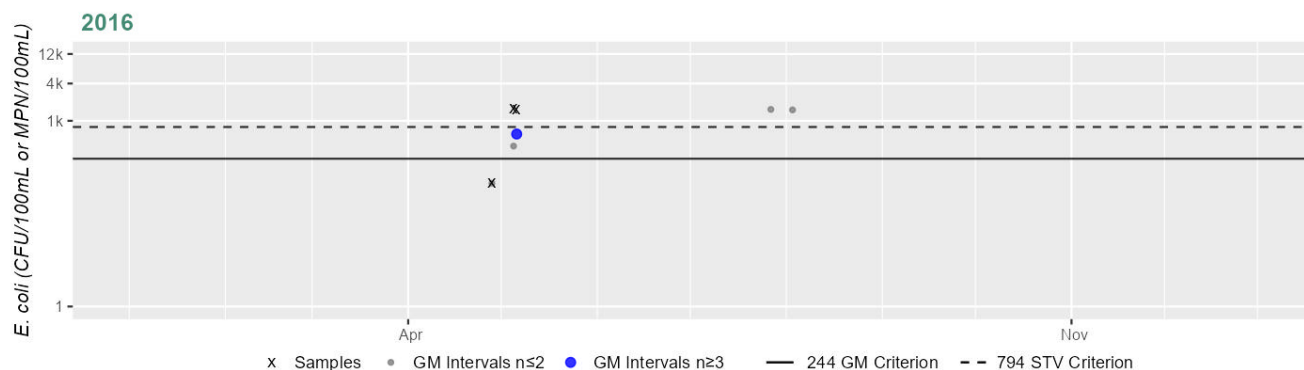
Current (2011-2022)

33%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARINT2 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	3
SeasGM	611
#GMI	1
#GMI Ex	1
%GMI Ex	100%
n>STV	2
%n>STV	66%

#### Cumulative %GMI Exceedance

Current (2011-2022)

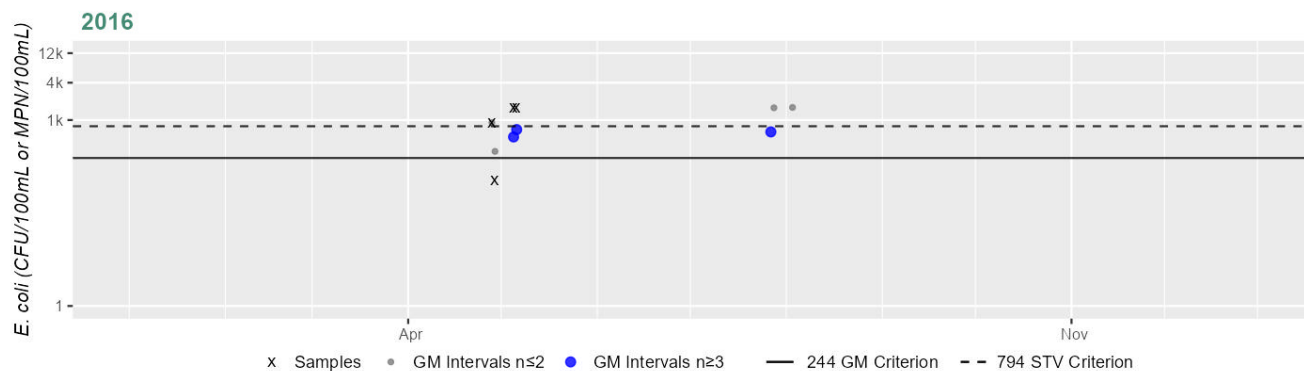
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_MARINT3 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	4
SeasGM	701
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	3
%n>STV	75%

Cumulative %GMI Exceedance

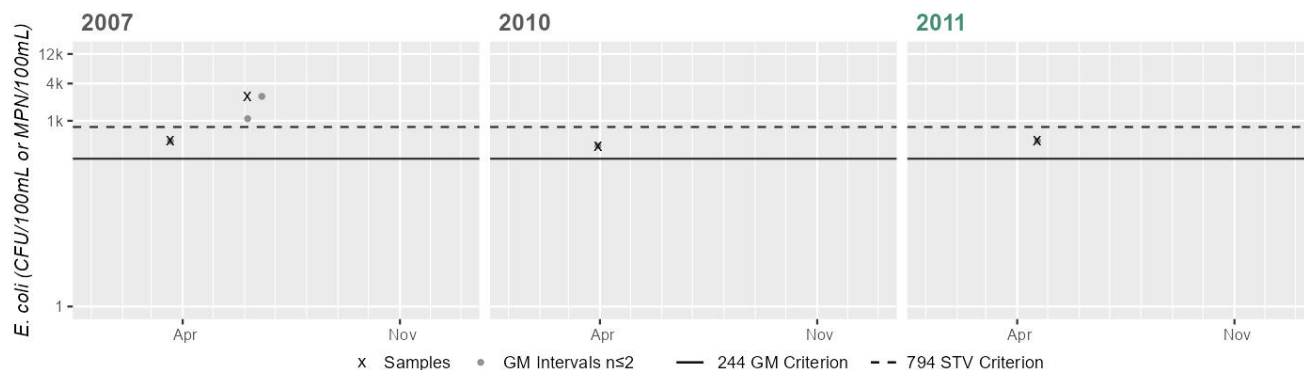
Current (2011-2022)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARMR1 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	1080
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

Variable*	Result
Samples	1
SeasGM	394
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

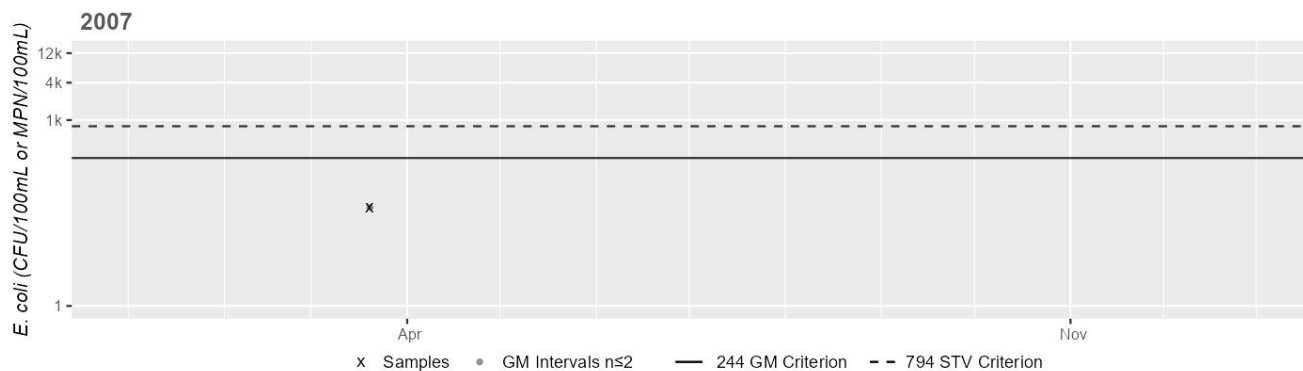
0%

Variable*	Result
Samples	1
SeasGM	475
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARTCBM - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



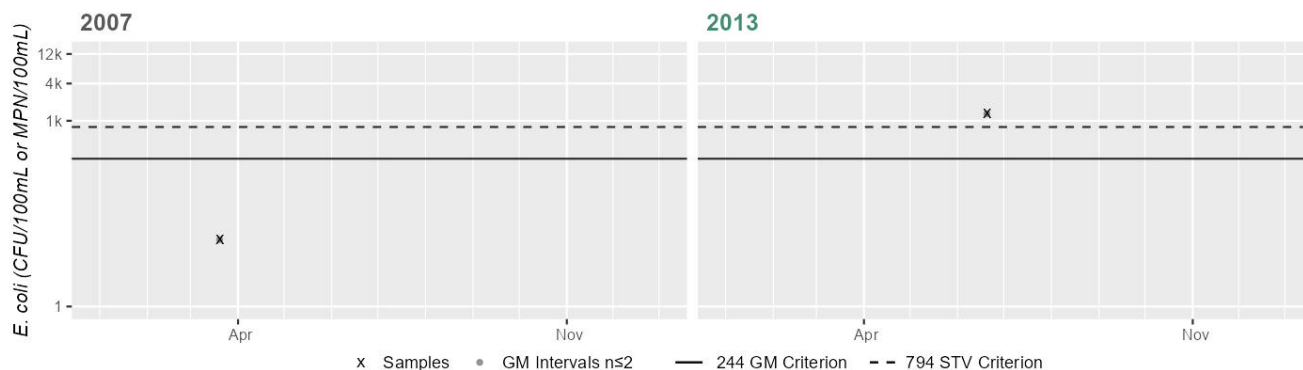
Variable*	Result
Samples	1
SeasGM	39
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MARUT1 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

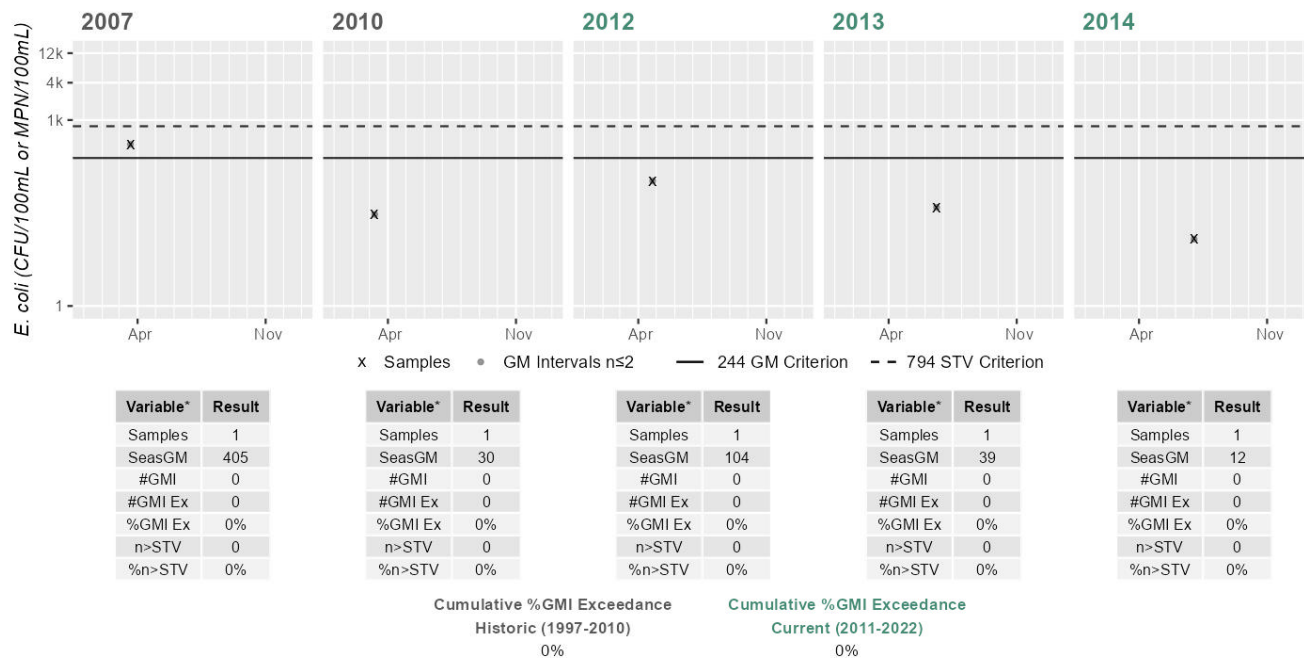
Variable*	Result
Samples	1
SeasGM	1302
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MyRWA\_MARUT2 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Mill Brook (MA71-07)

<b>Location:</b>	Headwaters south of Massachusetts Avenue, Lexington to inlet of Lower Mystic Lake, Arlington (portions culverted underground).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	3.9 MILES
<b>Classification/Qualifier:</b>	B

### Mill Brook (MA71-07)

Watershed Area: 5.47 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	5.47	4.59	1.37	1.12
Agriculture	1%	1%	3.2%	3.4%
Developed	48.8%	51.2%	35%	37.4%
Natural	42.9%	41.7%	40%	40%
Wetland	7.3%	6.2%	21.7%	19.2%
Impervious	34.2%	36.3%	24.5%	26.3%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Physical Substrate Habitat Alterations*)	--	Unchanged
5	5	Benthic Macroinvertebrates	--	Unchanged
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged
5	5	Fish Bioassessments	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Physical Substrate Habitat Alterations*)	Unspecified Urban Stormwater (Y)	X	--	--	--	--

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X
Fish Bioassessments	Source Unknown (N)	X	--	--	--	--

## Recommendations

2024/26 Recommendations
2022 IR [Trash, low priority] Follow-up aesthetics observations should be recorded in Mill Brook (MA71-07) in the vicinity of W2401. Note that trash was observed at this location on most MassDEP visits during summer 2013 and an aesthetics flag was raised on two occasions. This triggered an Alert in the 2022 IR. {W2401}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Mill Brook (MA71-07), so the Fish Consumption Use is Not Assessed.

### Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	YES

2024/26 Use Attainment Summary
--------------------------------

The Aesthetics Use for Mill Brook (MA71-07) is assessed as Fully Supporting based on the general lack of objectionable conditions observed at one station during summer 2013. An Alert is being carried forward due to observations of objectionable deposits (i.e., trash) during most site visits.

MassDEP staff recorded aesthetics observations at one station in the downstream half of this Mill Brook AU ~45 feet downstream/east from Brattle Street, Arlington (W2401) during the summer of 2013 as part of the MAP2 Wadeable Streams Monitoring Project (n=8). Field staff noted some objectionable conditions at this station including grey water color on one occasion, chlorine and effluent odor on one occasion each and trash on seven occasions, raising an aesthetics flag on two occasions.

### **Monitoring Stations**

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2401	MassDEP	Water Quality	Mill Brook	[approximately 45 feet downstream/east from Brattle Street, Arlington]	42.421301	-71.169094

### **Aesthetic Observations**

#### **Aesthetics Summary Statements for MassDEP Stations (2011-2020)** (MassDEP Undated 4)

[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2401	2013	8	Aesthetic observations were made by MassDEP field sampling crews at Station W2401 on Mill Brook (MA71-07) during 8 site visits between May 2013 and Sep 2013. There were some objectionable conditions recorded, including an aesthetics impairment flag (n=2). Field staff also noted grey water color (n=1), chlorine or effluent odor (n=2), and objectionable deposits (n=8). These conditions are indicative of an Alert status.

#### **Observations of Filamentous/Film Algae at MassDEP Stations (2011-2020)** (MassDEP Undated 8) (MassDEP Undated 4)

Station Code	Data Year	Field Sheet Count	Field Sheet Count w/ Film & Filamentous Algae Observations	Dense/ Very Dense Film/ Filamentous Algae
W2401	2013	8	6	0

#### **MassDEP Aesthetics Observations (2011-2020)** (MassDEP Undated 8)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2401	Mill Brook	2013	Aesthetics Impaired?	No	5	8
W2401	Mill Brook	2013	Aesthetics Impaired?	NR	1	8
W2401	Mill Brook	2013	Aesthetics Impaired?	Yes	2	8
W2401	Mill Brook	2013	Aquatic Plant Density, Overall	None	7	8
W2401	Mill Brook	2013	Aquatic Plant Density, Overall	Unobservable	1	8
W2401	Mill Brook	2013	Color	Greyish	1	8
W2401	Mill Brook	2013	Color	Light Yellow/Tan	5	8
W2401	Mill Brook	2013	Color	None	1	8
W2401	Mill Brook	2013	Color	NR	1	8
W2401	Mill Brook	2013	Objectionable Deposits	Yes	8	8
W2401	Mill Brook	2013	Odor	Chlorine	1	8
W2401	Mill Brook	2013	Odor	Effluent (Treated)	1	8
W2401	Mill Brook	2013	Odor	Musty (Basement)	1	8
W2401	Mill Brook	2013	Odor	None	5	8
W2401	Mill Brook	2013	Periphyton Density, Filamentous	None	6	8
W2401	Mill Brook	2013	Periphyton Density, Filamentous	Unobservable	2	8
W2401	Mill Brook	2013	Periphyton Density, Film	None	3	8
W2401	Mill Brook	2013	Periphyton Density, Film	Sparse	3	8
W2401	Mill Brook	2013	Periphyton Density, Film	Unobservable	2	8
W2401	Mill Brook	2013	Scum	No	6	8
W2401	Mill Brook	2013	Scum	Yes	2	8
W2401	Mill Brook	2013	Turbidity	None	5	8
W2401	Mill Brook	2013	Turbidity	Slightly Turbid	3	8

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
--------------------------------

The Primary Contact Recreation Use for Mill Brook (MA71-07) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at W2401 and MyRWA\_MIB001.

MassDEP and MyRWA staff/volunteers collected *E. coli* bacteria samples in Mill Brook (MA71-07) from 2011-2019 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: at the upstream end of the brook at MyRWA\_SIBFRM [DS from Mass Ave, where brook crosses Rd, near Wilson Farms] in Oct 2012 (n=1) and at MyRWA\_MIB11-6 [Centerline near OF 11-6, under Fottler Ave culvert] in Oct 2012 (n=1), in the middle of the brook at W2401 [~45 ft downstream/E from Brattle St, Arlington] from May-Sep 2013 (n=5), and toward the downstream end of the AU at MyRWA\_MIB005 [No description submitted by MyRWA] in Oct 2012 (n=1) and at MyRWA\_MIB001 [Mill Brook at Mt. Pleasant Cemetery in Arlington; upstream of the dam] from 2011-2019 (n=6-7/yr). The available *E. coli* data from MyRWA\_SIBFRM, MyRWA\_MIB11-6, and MyRWA\_MIB005 are too limited to assess according to the 2024 CALM. Analysis of the single year limited frequency *E. coli* dataset from W2401 indicated 100% of intervals had GMs >126 CFU/100mL and all 5 samples exceeded the 410 CFU/100mL STV (the seasonal GM was 1,882 CFU/100mL). Analysis of the recent five years (2015-2019) of the multi-year moderate/limited frequency *E. coli* dataset from MyRWA\_MIB001 indicated that in all 5 sufficient data years 100% of the intervals had GMs >126 CFU/100mL, all 5 years had ≥2 samples exceed the 410 CFU/100mL STV (n=5-7), and cumulatively across years 100% of intervals had GMs >126 CFU/100mL. *E. coli* data from W2401 and MyRWA\_MIB001 are indicative of an Escherichia Coli (E. Coli) impairment.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2401	MassDEP	Water Quality	Mill Brook	[approximately 45 feet downstream/east from Brattle Street, Arlington]	42.421301	-71.169094
MyRWA_MIB001	Mystic River Watershed Association	Water Quality	Mill Brook	Mill Brook at Mt. Pleasant Cemetery in Arlington; upstream of the dam	42.422342	-71.149475
MyRWA_MIB005	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.418486	-71.152536
MyRWA_MIB11-6	Mystic River Watershed Association	Water Quality	Mill Brook	Centerline near OF 11-6, under Fottler Ave culvert	42.428287	-71.196740
MyRWA_SIBFRM	Mystic River Watershed Association	Water Quality	Sickle Brook	DS from Mass Ave, where brook crosses road, near Wilson Farms	42.427735	-71.204993

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

(MassDEP Undated 8) (MassDEP Undated 4) (MyRWA 2019) (MassDEP Undated 2)

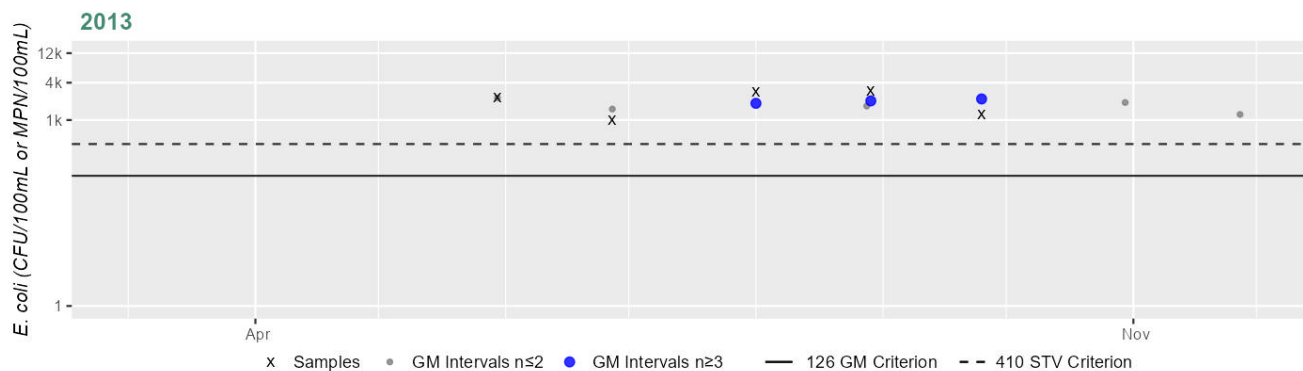
[Result units are CFU/100mL or MPN/100mL]



Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2401	MassDEP	E. coli	05/30/13	09/25/13	5	990	2990	1882
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	480	2010	975
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	364	24200	1189
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	86	1720	776
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	228	8160	945
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	6	189	1380	648
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	30	1190	448
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	171	4350	840
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	464	9800	1888
MyRWA_MIB001	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	480	884	662
MyRWA_MIB005	Mystic River Watershed Association	E. coli	10/24/12	10/24/12	1	291	291	291
MyRWA_MIB11-6	Mystic River Watershed Association	E. coli	10/24/12	10/24/12	1	21	21	21
MyRWA_SIBFRM	Mystic River Watershed Association	E. coli	10/24/12	10/24/12	1	34	34	34

## Station MASSDEP\_W2401 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	1882
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	5
%n>STV	100%

Cumulative %GMI Exceedance

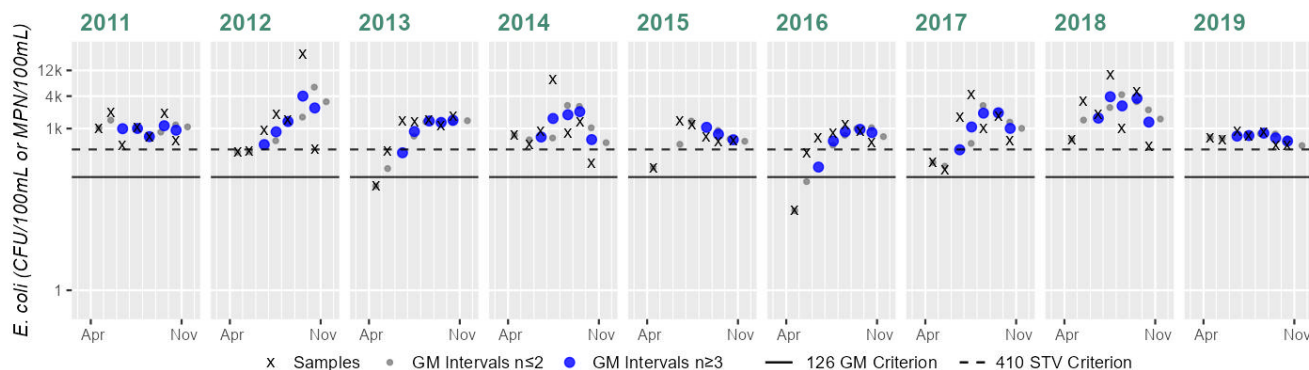
Current (2011-2022)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MASSDEP\_W1966 & MyRWA\_MIB001 & USGS-01103015 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	7	Samples	7	Samples	7	Samples	6	Samples	7	Samples	7	Samples	7	Samples	7	Samples	7
SeasGM	975	SeasGM	1189	SeasGM	776	SeasGM	945	SeasGM	648	SeasGM	448	SeasGM	840	SeasGM	1888	SeasGM	662	SeasGM	662
#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	3	#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	5
#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	3	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%
n>STV	7	n>STV	4	n>STV	5	n>STV	6	n>STV	5	n>STV	5	n>STV	5	n>STV	7	n>STV	7	n>STV	7
%n>STV	100%	%n>STV	57%	%n>STV	71%	%n>STV	85%	%n>STV	83%	%n>STV	71%	%n>STV	71%	%n>STV	100%	%n>STV	100%	%n>STV	100%

Cumulative %GMI Exceedance

Current (2011-2022)

100%

Cumulative %GMI Exceedance

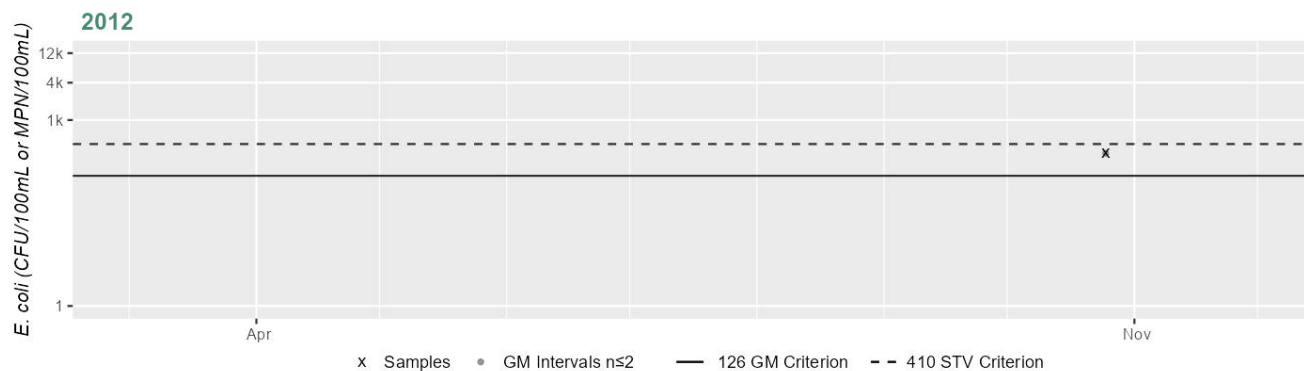
Current (Recent 5 Years)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB005 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	291
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

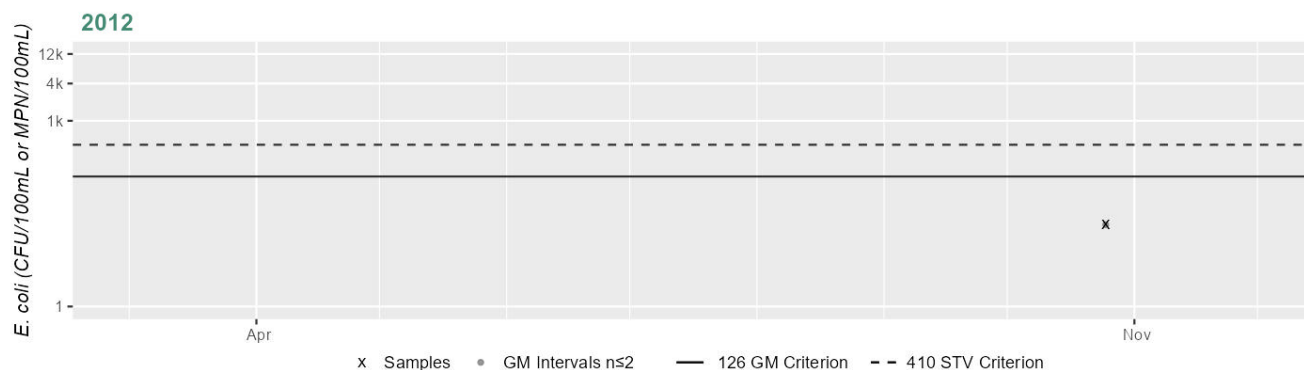
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB11-6 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	21
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

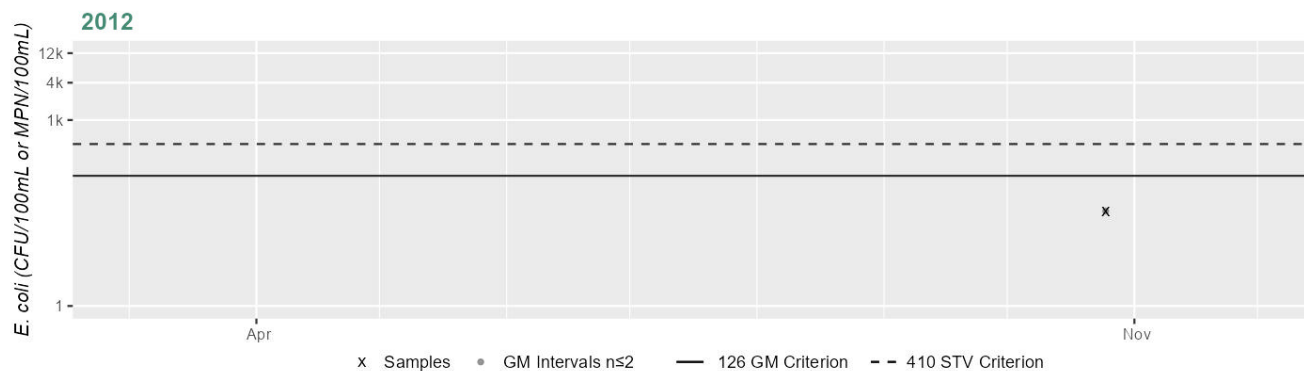
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_SIBFRM - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for Mill Brook (MA71-07) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at W2401 and MyRWA\_MIB001.

MassDEP and MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in Mill Brook (MA71-07) from 2011-2019 at 5 stations. Samples were collected from the following stations/sample years from upstream to downstream: at the upstream end of the brook at MyRWA\_SIBFRM [DS from Mass Ave, where brook crosses Rd, near Wilson Farms] in Oct 2012 (n=1) and at MyRWA\_MIB11-6 [Centerline near OF 11-6, under Fottler Ave culvert] in Oct 2012 (n=1), in the middle of the brook at W2401 [~45 ft downstream/E from Brattle St, Arlington] from May-Sep 2013 (n=5), and toward the downstream end of the AU at MyRWA\_MIB005 [No description submitted by MyRWA] in Oct 2012 (n=1) and at MyRWA\_MIB001 [Mill Brook at Mt. Pleasant Cemetery in Arlington; upstream of the dam] from 2011-2019 (current n=10-12/yr). The available *E. coli* data from MyRWA\_SIBFRM, MyRWA\_MIB11-6, and MyRWA\_MIB005 are too limited to assess according to the 2024 CALM. Analysis of the single year limited frequency *E. coli* dataset from W2401 indicated 100% of intervals had GMs >244 CFU/100mL and all 5 samples exceeded the 794 CFU/100mL STV (the overall GM was 1,882 CFU/100mL). Analysis of the recent five years (2015-2019) of the multi-year moderate frequency *E. coli* dataset from MyRWA\_MIB001 indicated that in all 5 sufficient data years >20% of intervals had GMs >244 CFU/100mL (70-88%), all 5 years had ≥2 samples exceed the 794 CFU/100mL STV (n=2-6), and cumulatively across the 5 years 78% of intervals had GMs >244 CFU/100mL. *E. coli* data from W2401 and MyRWA\_MIB001 are indicative of an Escherichia Coli (E. Coli) impairment.

MassDEP, MyRWA, and USGS staff/volunteers also collected *E. coli* bacteria samples in the historic (1997-2010) IR window at numerous stations throughout the AU. Note that these data were mostly too limited to be evaluated (i.e., there was only 1 sample per station-year) and for the sake of brevity, these data are not being discussed further.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1966	MassDEP	Water Quality	Mill Brook	[in Mt. Pleasant Cemetery, upstream of weir approximately 80 feet upstream of Mystic Valley Parkway, Arlington]	42.422314	-71.149523
W2401	MassDEP	Water Quality	Mill Brook	[approximately 45 feet downstream/east from Brattle Street, Arlington]	42.421301	-71.169094
MyRWA_MIB001	Mystic River Watershed Association	Water Quality	Mill Brook	Mill Brook at Mt. Pleasant Cemetery in Arlington; upstream of the dam	42.422342	-71.149475
MyRWA_MIB004	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.418583	-71.150100
MyRWA_MIB0045	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.418681	-71.151278

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_MIB00455	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.418719	-71.151195
MyRWA_MIB005	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.418486	-71.152536
MyRWA_MIB016	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.421950	-71.170575
MyRWA_MIB020	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.425333	-71.177033
MyRWA_MIB024	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.424765	-71.184419
MyRWA_MIB030	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.426333	-71.194333
MyRWA_MIB11-6	Mystic River Watershed Association	Water Quality	Mill Brook	Centerline near OF 11-6, under Fottler Ave culvert	42.428287	-71.196740
MyRWA_MIB211	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.425725	-71.179017
MyRWA_MIB217	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.425070	-71.178270
MyRWA_MIB265	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.426800	-71.187640
MyRWA_MIBRES	Mystic River Watershed Association	Water Quality	Mill Brook	No description submitted by MyRWA	42.426860	-71.189650
MyRWA_SIB001	Mystic River Watershed Association	Water Quality	Sickle Brook	No description submitted by MyRWA	42.426833	-71.189667
MyRWA_SIBFRM	Mystic River Watershed Association	Water Quality	Sickle Brook	DS from Mass Ave, where brook crosses road, near Wilson Farms	42.427735	-71.204993
USGS-01103015	USGS Massachusetts Water Science Center	Water Quality	Mill Brook	Mill Brook At Arlington, MA	42.422318	-71.149221

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1) (USGS 2024) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1966	MassDEP	E. coli	04/21/09	09/08/09	6	260	2900	798
W2401	MassDEP	E. coli	05/30/13	09/25/13	5	990	2990	1882
MyRWA_MIB001	Mystic River Watershed Association	E. coli	05/16/06	06/14/06	4	435	9678	2815
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/16/08	11/19/08	11	213	2140	586
MyRWA_MIB001	Mystic River Watershed Association	E. coli	06/24/09	06/24/09	1	2190	2190	2190
MyRWA_MIB001	Mystic River Watershed Association	E. coli	11/16/10	11/16/10	1	164	164	164
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	12	31	2010	485
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	20	24200	573
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/16/13	11/20/13	11	86	1720	616
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	12	228	8160	971
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	10	173	1380	440
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	30	1480	409
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	97	4350	632
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	74	9800	774
MyRWA_MIB001	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	121	884	457
MyRWA_MIB004	Mystic River Watershed Association	E. coli	06/24/09	06/24/09	1	3683	3683	3683
MyRWA_MIB0045	Mystic River Watershed Association	E. coli	07/25/07	07/25/07	1	806	806	805

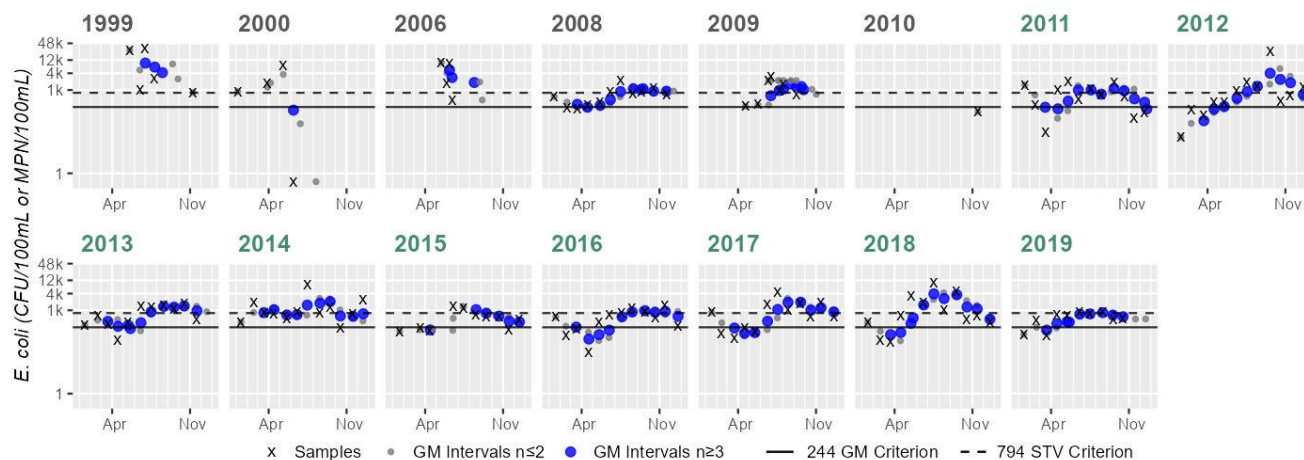
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MIB0045S	Mystic River Watershed Association	E. coli	06/24/09	06/24/09	1	5654	5654	5653
MyRWA_MIB005	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	3873	3873	3873
MyRWA_MIB005	Mystic River Watershed Association	E. coli	07/25/07	07/25/07	1	4479	4479	4479
MyRWA_MIB005	Mystic River Watershed Association	E. coli	06/24/09	06/24/09	1	6212	6212	6212
MyRWA_MIB005	Mystic River Watershed Association	E. coli	10/24/12	10/24/12	1	291	291	291
MyRWA_MIB016	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	10462	10462	10462
MyRWA_MIB020	Mystic River Watershed Association	E. coli	06/07/06	06/07/06	1	5794	5794	5793
MyRWA_MIB024	Mystic River Watershed Association	E. coli	11/16/10	11/16/10	1	125	125	125
MyRWA_MIB030	Mystic River Watershed Association	E. coli	03/10/10	03/10/10	1	498	498	497
MyRWA_MIB11-6	Mystic River Watershed Association	E. coli	10/24/12	10/24/12	1	21	21	21
MyRWA_MIB211	Mystic River Watershed Association	E. coli	11/16/10	11/16/10	1	153	153	152
MyRWA_MIB217	Mystic River Watershed Association	E. coli	11/16/10	11/16/10	1	78	78	78
MyRWA_MIB265	Mystic River Watershed Association	E. coli	09/19/07	09/19/07	1	154	154	154
MyRWA_MIBRES	Mystic River Watershed Association	E. coli	09/19/07	09/19/07	1	100	100	100
MyRWA_SIB001	Mystic River Watershed Association	E. coli	04/23/08	04/23/08	1	875	875	874
MyRWA_SIBFRM	Mystic River Watershed Association	E. coli	10/24/12	10/24/12	1	34	34	34
USGS-01103015	USGS Massachusetts Water Science Center	E. coli	05/19/99	11/09/99	5	820	30000	4406



Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
USGS-01103015	USGS Massachusetts Water Science Center	E. coli	01/06/00	06/07/00	4	0	7400	276

### Station MASSDEP\_W1966 & MyRWA\_MIB001 & USGS-01103015 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	4406
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	5
%n>STV	100%

Variable*	Result
Samples	4
SeasGM	276
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	3
%n>STV	75%

Variable*	Result
Samples	4
SeasGM	2815
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	3
%n>STV	75%

Variable*	Result
Samples	11
SeasGM	586
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	4
%n>STV	36%

Variable*	Result
Samples	7
SeasGM	922
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	1
SeasGM	164
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	485
#GMI	11
#GMI Ex	8
%GMI Ex	72%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	12
SeasGM	573
#GMI	10
#GMI Ex	8
%GMI Ex	80%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	11
SeasGM	616
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	5
%n>STV	45%

Variable*	Result
Samples	12
SeasGM	971
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	7
%n>STV	58%

Variable*	Result
Samples	10
SeasGM	440
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	2
%n>STV	20%

Variable*	Result
Samples	12
SeasGM	409
#GMI	10
#GMI Ex	7
%GMI Ex	70%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	12
SeasGM	632
#GMI	10
#GMI Ex	7
%GMI Ex	70%
n>STV	6
%n>STV	50%

Variable*	Result
Samples	12
SeasGM	774
#GMI	11
#GMI Ex	9
%GMI Ex	81%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	10
SeasGM	457
#GMI	9
#GMI Ex	8
%GMI Ex	88%
n>STV	2
%n>STV	20%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
91%

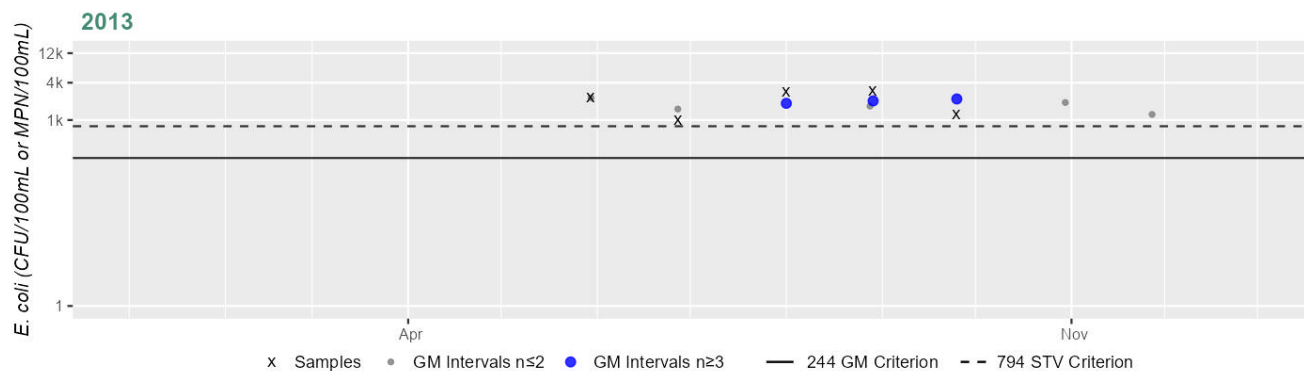
Cumulative %GMI Exceedance  
Current (2011-2022)  
81%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
78%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MASSDEP\_W2401 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	1882
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	5
%n>STV	100%

#### Cumulative %GMI Exceedance

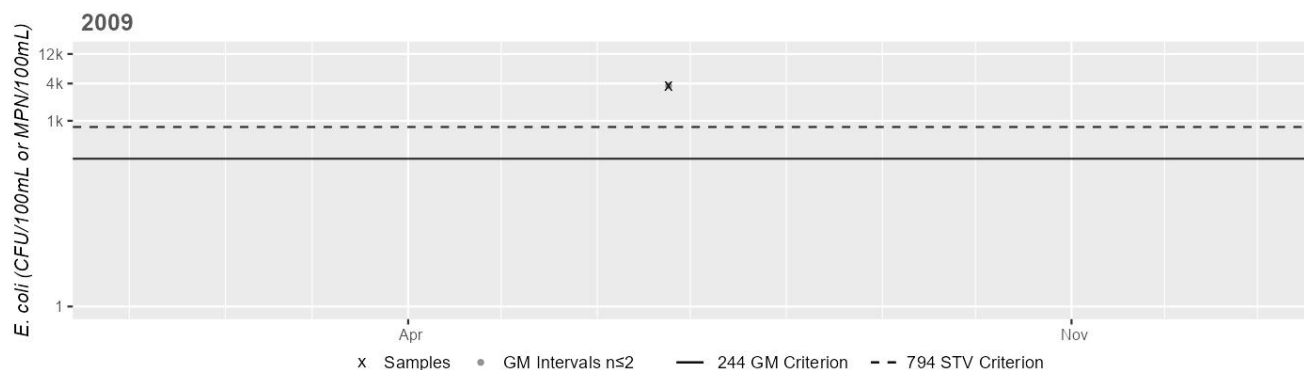
Current (2011-2022)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB004 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	3683
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

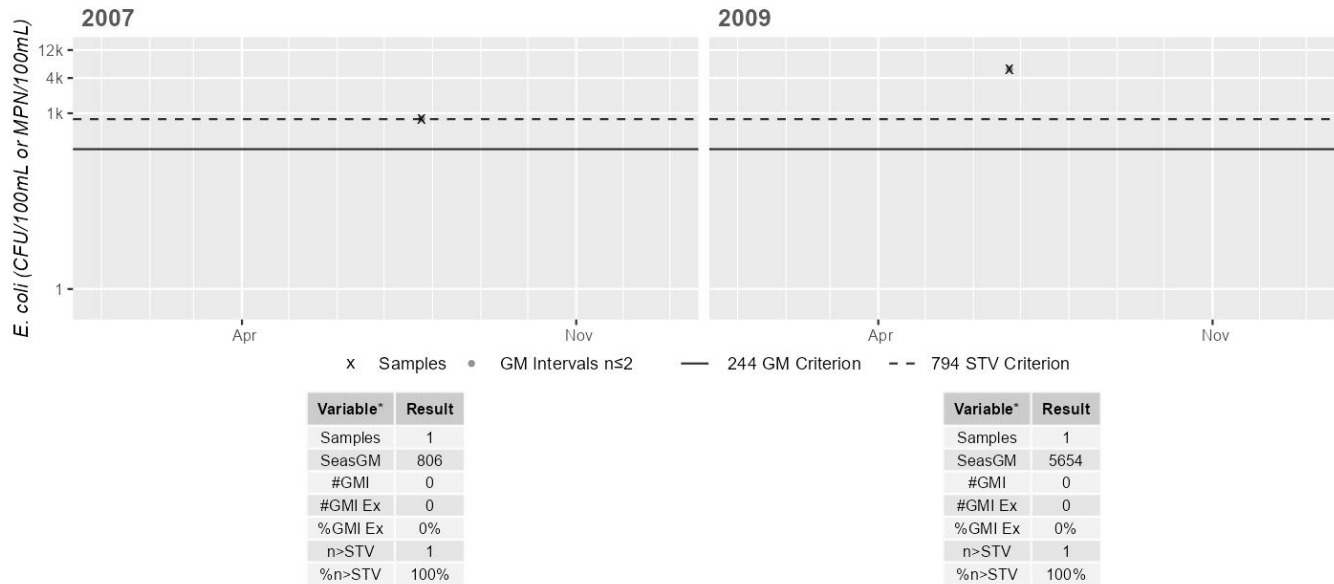
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB0045 & MyRWA\_MIB0045S - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Cumulative %GMI Exceedance

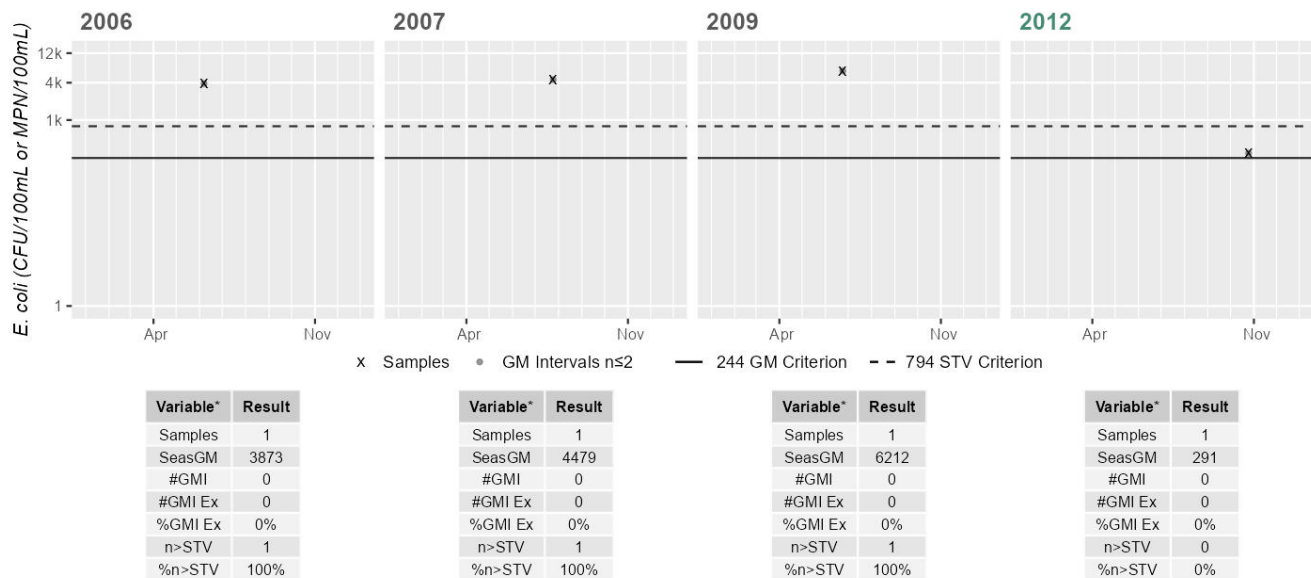
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB005 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Cumulative %GMI Exceedance

Historic (1997-2010)

0%

Cumulative %GMI Exceedance

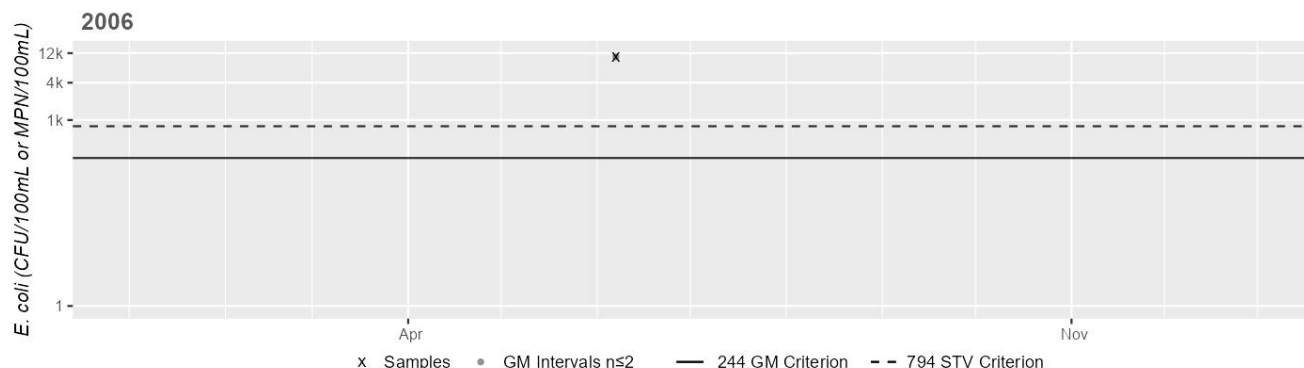
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB016 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	10462
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

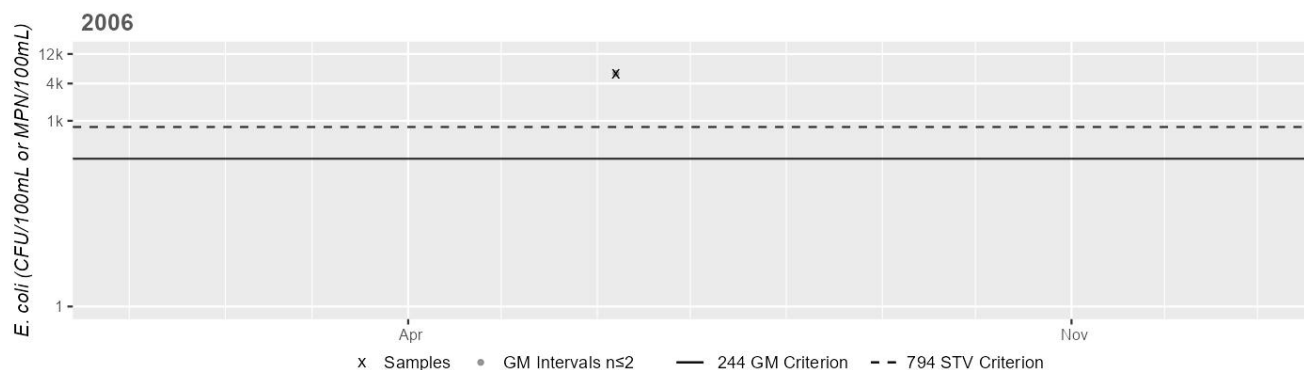
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB020 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	5794
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

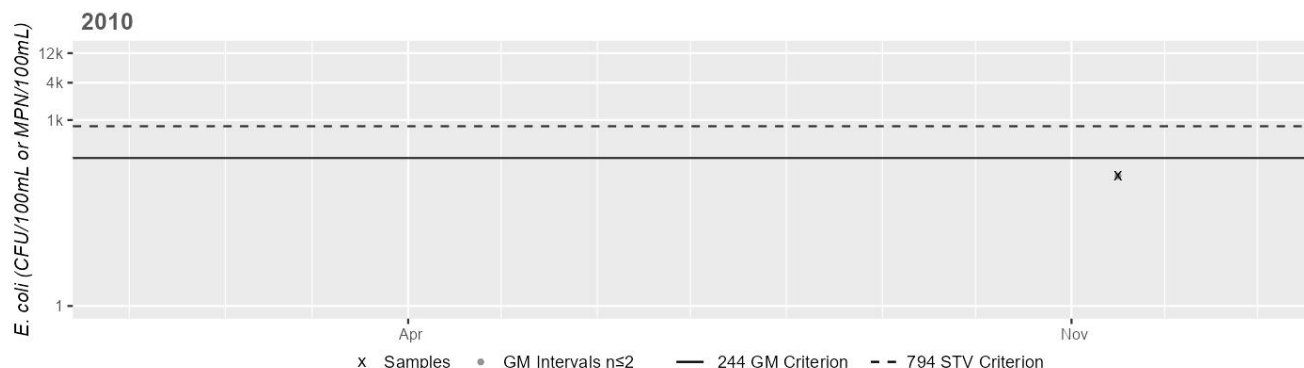
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB024 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	125
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

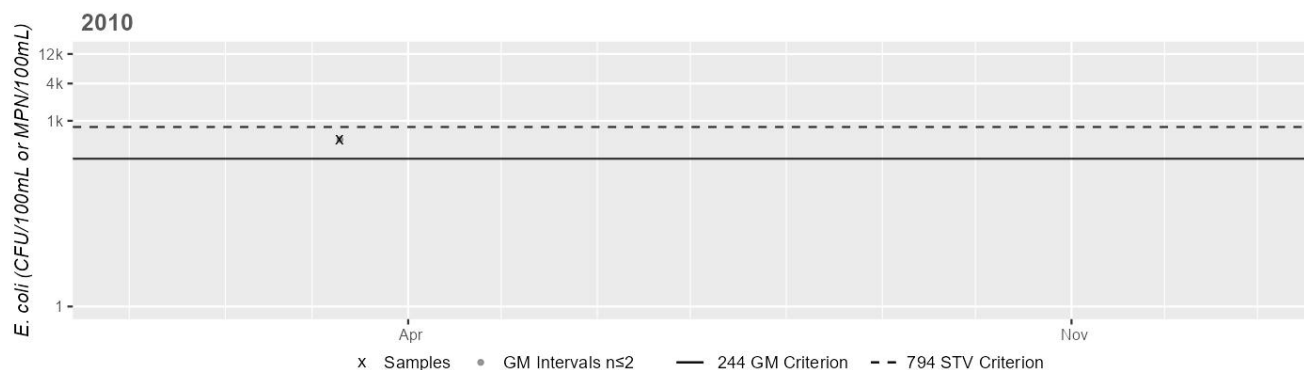
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB030 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	498
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

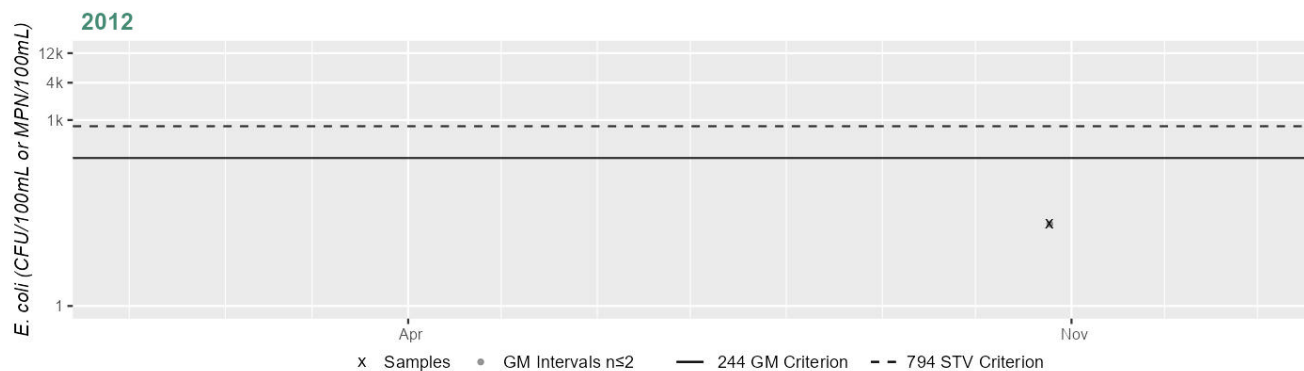
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB11-6 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	21
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

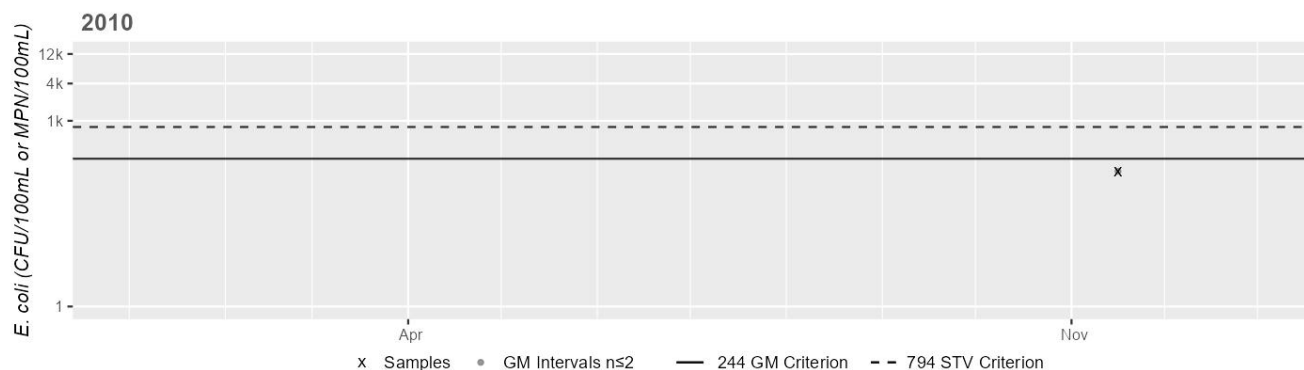
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB211 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	153
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

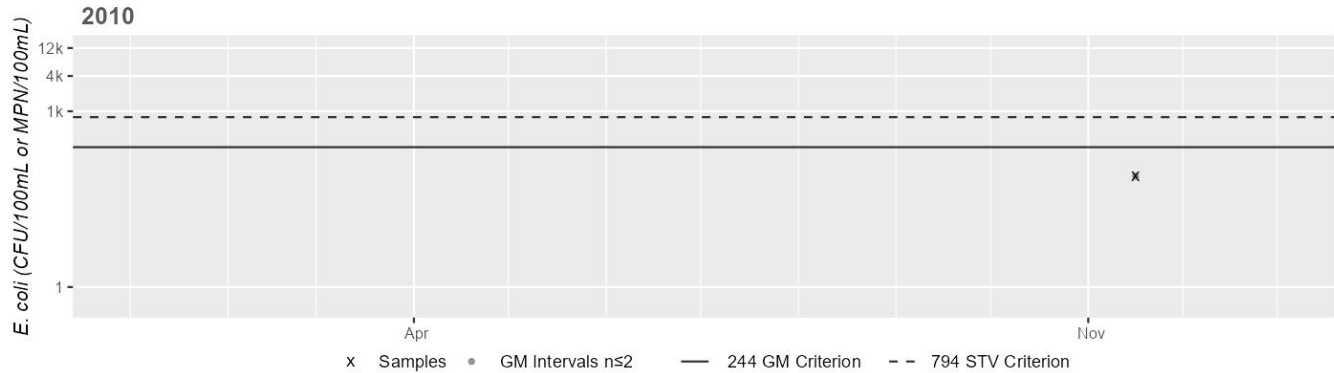
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB217 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	78
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

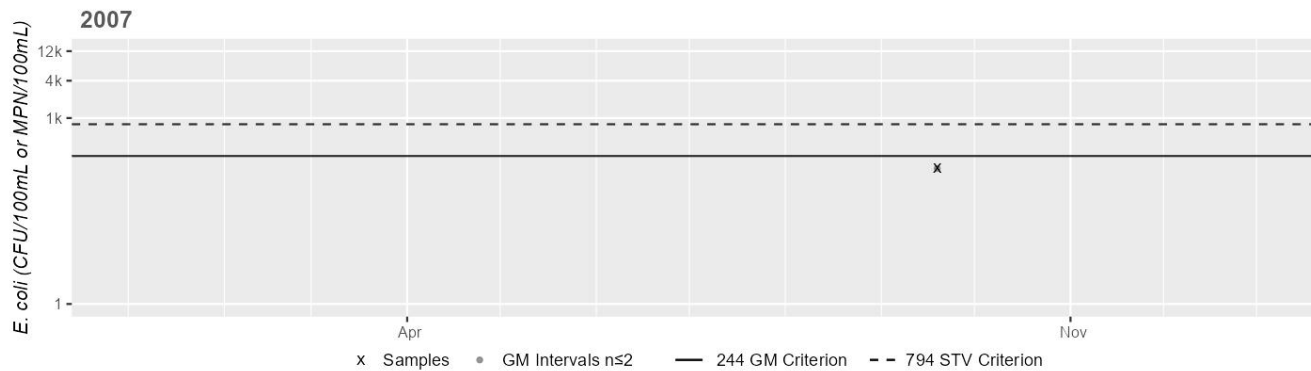
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIB265 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	154
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

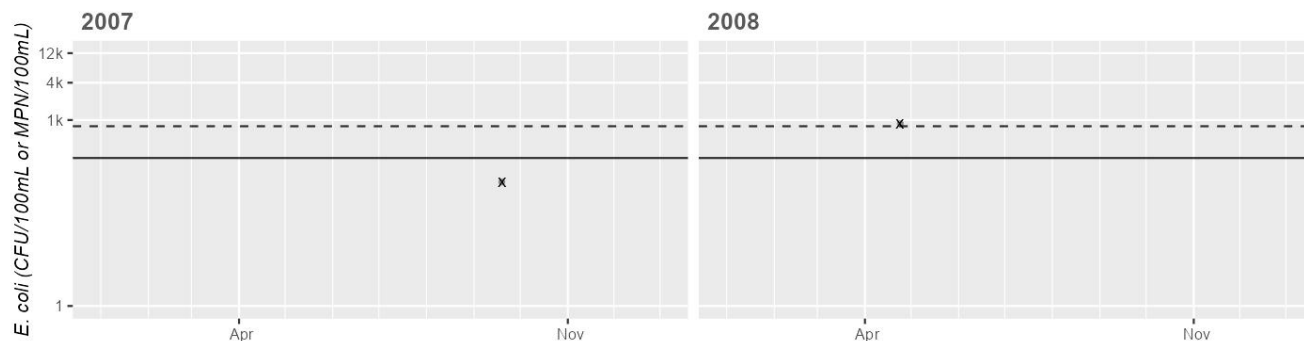
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MIBRES & MyRWA\_SIB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	100
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

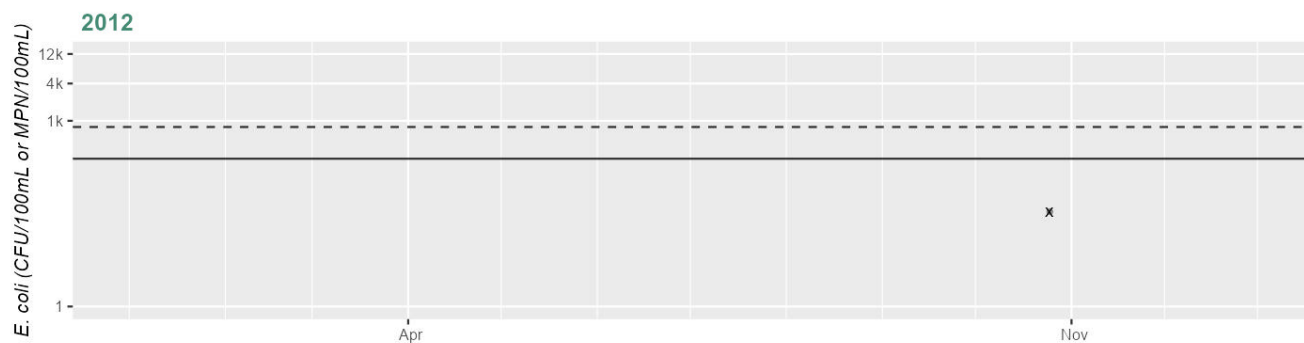
Variable*	Result
Samples	1
SeasGM	875
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_SIBFRM - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Mill Creek (MA71-08)

<b>Location:</b>	From Route 1, Chelsea/Revere to confluence with Chelsea River, Chelsea/Revere.
<b>AU Type:</b>	ESTUARY
<b>AU Size:</b>	0.02 SQUARE MILES
<b>Classification/Qualifier:</b>	SB: SFR

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Cause Unknown [Contaminants in Fish and/or Shellfish]	--	Unchanged
5	5	Enterococcus	R1_MA_2019_01	Unchanged
5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>SH</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Cause Unknown [Contaminants in Fish and/or Shellfish]	Source Unknown (N)	--	X	--	--	--	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	--	X	X
Enterococcus	Source Unknown (N)	--	--	--	--	X	X
Fecal Coliform	Source Unknown (N)	--	--	X	--	--	--
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--	--

# Recommendations

2024/26 Recommendations
2016 IR [Fecal Coliform, medium priority] Identify the cause of the prohibited shellfishing growing area in Mill Creek (MA71-08). {Mill Creek (MA71-08) shellfish beds}

# Designated Use Attainment Decisions

## Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for Mill Creek (MA71-08) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue and Cause Unknown [Contaminants in Fish and/or Shellfish] impairments are being carried forward. MA DPH included a site-specific advisory for Mill Creek (referred to by MA DPH as "Boston Harbor") in their 2017 Guide to Eating Fish Safely in Massachusetts. The public should refer to the most recent DPH information for the most up to date meal advice for sensitive and general populations.

## Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
Mill Creek (MA71-08): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0141 sq mi (69%). The sum of the approved, conditionally approved, and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.0141 sq mi (69%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved, and/or restricted. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting. The prior Alert from the 2016 IR cycle, recommending an investigation of the cause of the prohibited shellfish growing area, is being carried forward.

## Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 5)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
GBH4.0	Boston Inner Harbor	Prohibited	0.01410	68.8%

## Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No aesthetics observation data are available, so the Aesthetics Use for Mill Creek (MA71-08) is Not Assessed.

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Primary Contact Recreation Use for Mill Creek (MA71-08) continues to be assessed as Not Supporting. The prior <i>Enterococcus</i> impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA_MIC004. The shellfish growing areas (0.0141 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Primary Contact Recreation Use of Mill Creek (MA71-08).</p> <p>MyRWA staff/volunteers collected <i>Enterococcus</i> bacteria samples in Mill Creek (MA71-08) at MyRWA_MIC004 [Mill Creek at Broadway Bridge on Chelsea/Revere line; sampled from SE side of Broadway bridge] from 2012-2019 (n=6-8/yr). Analysis of the recent five years (2015-2019) of this multi-year moderate/limited frequency <i>Enterococcus</i> dataset from MyRWA_MIC004 indicated that in all 5 sufficient data years 100% of intervals had GMs &gt;35 CFU/100mL, all 5 years had ≥2 samples exceed the 130 CFU/100mL STV (n=3-6), and cumulatively across years 100% of intervals had GMs &gt;35 CFU/100mL. <i>Enterococcus</i> data from MyRWA_MIC004 are indicative of an <i>Enterococcus</i> impairment.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_MIC004	Mystic River Watershed Association	Water Quality	Mill Creek	Mill Creek at Broadway Bridge on Chelsea/Revere line; sampled from south east side of Broadway bridge	42.403340	-71.018030

## Bacteria Data

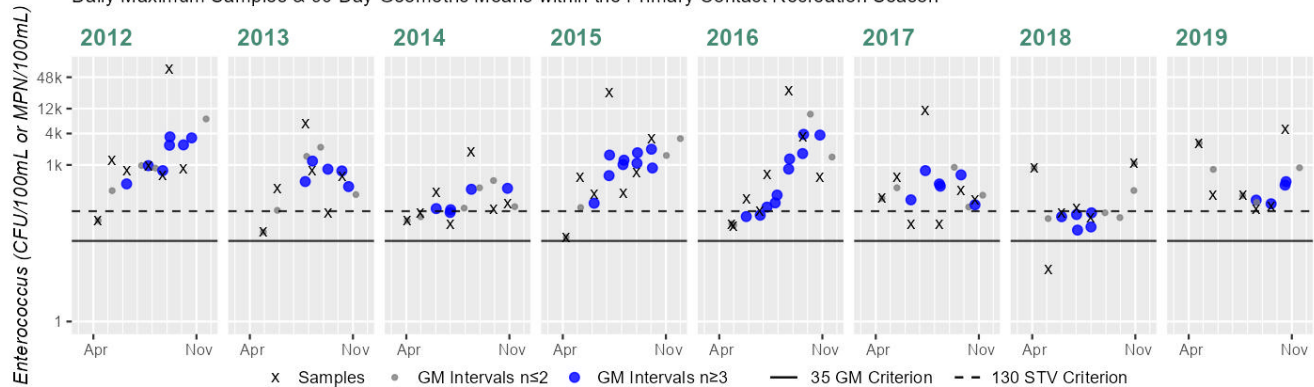
**Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)**  
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/10/12	12/04/12	7	86	69000	1159
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/29/13	11/07/13	6	52	6100	430
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/03/14	11/12/14	7	74	1800	194
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/08/15	10/02/15	7	41	24000	720
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/26/16	10/26/16	8	66	26000	512
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/14/17	11/09/17	7	74	11000	342
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/05/18	10/29/18	6	10	1067	159
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	04/23/19	10/18/19	6	140	4884	518

### Station MyRWA\_MIC004 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	6	Samples	7	Samples	7	Samples	8	Samples	7	Samples	6	Samples	6
SeasGM	1159	SeasGM	430	SeasGM	194	SeasGM	720	SeasGM	512	SeasGM	342	SeasGM	159	SeasGM	518
#GMI	7	#GMI	5	#GMI	5	#GMI	9	#GMI	10	#GMI	6	#GMI	5	#GMI	4
#GMI Ex	7	#GMI Ex	5	#GMI Ex	5	#GMI Ex	9	#GMI Ex	10	#GMI Ex	6	#GMI Ex	5	#GMI Ex	4
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%
n>STV	6	n>STV	4	n>STV	4	n>STV	6	n>STV	5	n>STV	5	n>STV	3	n>STV	6
%n>STV	85%	%n>STV	66%	%n>STV	57%	%n>STV	85%	%n>STV	62%	%n>STV	71%	%n>STV	50%	%n>STV	100%

Cumulative %GMI Exceedance  
Current (2011-2022)  
100%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Shellfish Growing Area Classifications

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Mill Creek (MA71-08): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0141 sq mi (69%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Secondary Contact Recreation Use for Mill Creek (MA71-08) continues to be assessed as Not Supporting. The prior <i>Enterococcus</i> impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA_MIC004. The shellfish growing areas (0.0141 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Secondary Contact Recreation Use of Mill Creek (MA71-08).</p> <p>MyRWA staff/volunteers collected <i>Enterococcus</i> bacteria samples in Mill Creek (MA71-08) at MyRWA_MIC004 [Mill Creek at Broadway Bridge on Chelsea/Revere line; sampled from SE side of Broadway bridge] from 2012-2019 (n=9-13/yr). Analysis of the recent five years (2015-2019) of this multi-year moderate frequency <i>Enterococcus</i> dataset from MyRWA_MIC004 indicated that in all 5 sufficient data years &gt;20% of intervals had GMs &gt;68 CFU/100mL (83-100%), all 5 years had ≥2 samples exceed the 252 CFU/100mL STV (n=5-9), and cumulatively across years 97% of intervals had GMs &gt;68 CFU/100mL. <i>Enterococcus</i> data from MyRWA_MIC004 are indicative of an <i>Enterococcus</i> impairment.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_MIC004	Mystic River Watershed Association	Water Quality	Mill Creek	Mill Creek at Broadway Bridge on Chelsea/Revere line; sampled from south east side of Broadway bridge	42.403340	-71.018030

## Bacteria Data

**Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

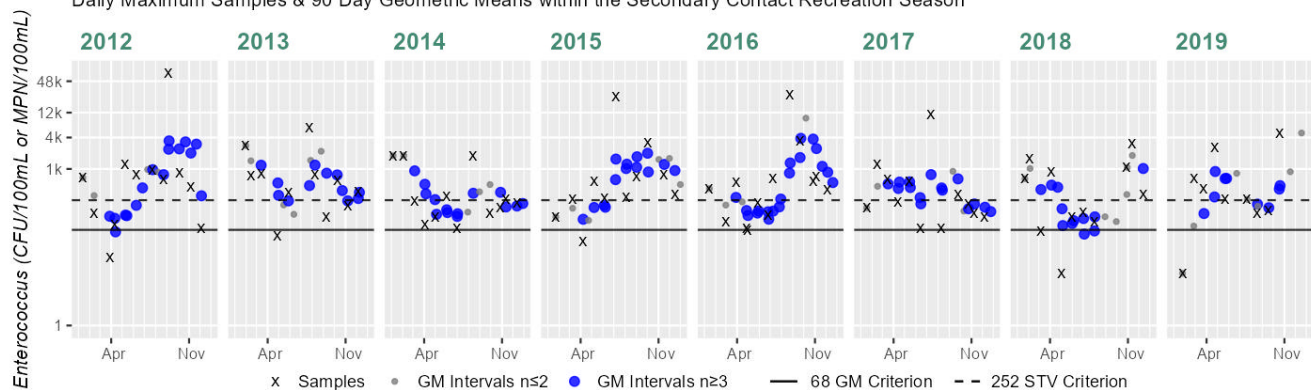
(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/13/12	12/04/12	12	20	69000	487
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/31/13	12/06/13	11	52	6100	520
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/06/14	12/12/14	12	74	1800	296
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/23/15	12/16/15	11	41	24000	522
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/15/16	12/05/16	13	66	26000	449
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/17/17	12/08/17	12	74	11000	323
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/22/18	12/13/18	11	10	3075	286
MyRWA_MIC004	Mystic River Watershed Association	Enterococci	01/25/19	10/18/19	9	10	4884	334

### Station MyRWA\_MIC004 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	12	Samples	11	Samples	12	Samples	11	Samples	13	Samples	12	Samples	11	Samples	9
SeasGM	487	SeasGM	520	SeasGM	296	SeasGM	522	SeasGM	449	SeasGM	323	SeasGM	286	SeasGM	334
#GMI	16	#GMI	12	#GMI	14	#GMI	14	#GMI	19	#GMI	15	#GMI	12	#GMI	9
#GMI Ex	15	#GMI Ex	12	#GMI Ex	14	#GMI Ex	14	#GMI Ex	19	#GMI Ex	15	#GMI Ex	10	#GMI Ex	9
%GMI Ex	93%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	83%	%GMI Ex	100%
n>STV	8	n>STV	8	n>STV	5	n>STV	9	n>STV	8	n>STV	5	n>STV	6	n>STV	6
%n>STV	66%	%n>STV	72%	%n>STV	41%	%n>STV	81%	%n>STV	61%	%n>STV	41%	%n>STV	54%	%n>STV	66%

Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
97%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### ***Shellfish Growing Area Classifications***

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

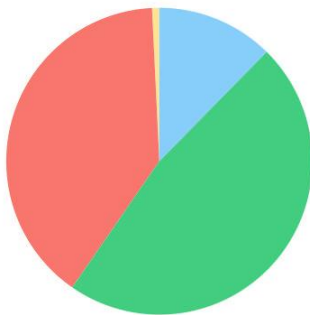
Summary
Mill Creek (MA71-08): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.0141 sq mi (69%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Munroe Brook (MA71-15)

<b>Location:</b>	Headwaters, north of Solomon Pierce Road, Lexington to the mouth at inlet Arlington Reservoir, Lexington (includes culverted portion).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	1.8 MILES
<b>Classification/Qualifier:</b>	B

### Munroe Brook (MA71-15)

Watershed Area: 1.49 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.49	1.49	0.45	0.45
Agriculture	0.8%	0.8%	2%	2%
Developed	39.6%	39.6%	28.2%	28.2%
Natural	47.3%	47.3%	40.5%	40.5%
Wetland	12.4%	12.4%	29.3%	29.3%
Impervious	23%	23%	15.7%	15.7%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X



## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Escherichia Coli (E. Coli)	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Massachusetts Statewide TMDL for Pathogen-Impaired Waterbodies (Report CN 515.1, approved 2/13/2024, ATTAINS Action ID: R1_MA_2024_04)

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Munroe Brook (MA71-15), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
There are no aesthetics observation data available to assess the status of the Aesthetics Use for this Munroe Brook AU (MA71-15), so it is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
No bacteria or other indicator data are available for Munroe Brook (MA71-15), so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward.	

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Munroe Brook (MA71-15) is assessed as Not Supporting. An Escherichia Coli (E. Coli) impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at W1977. MassDEP staff collected historical *E. coli* bacteria samples in the downstream portion of Munroe Brook (MA71-15) at W1977 [at footbridge S of Bartlett Avenue, Lexington] from Apr-Sep 2009 (n=6). Analysis of this historic single year limited frequency *E. coli* dataset indicated 100% of intervals had GMs >244 CFU/100mL, no samples exceeded the 794 CFU/100mL STV, and the overall GM was 423 CFU/100mL. Historic *E. coli* data from W1977 are indicative of an Escherichia Coli (E. Coli) impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1977	MassDEP	Water Quality	Munroe Brook	[at footbridge south of Bartlett Avenue, Lexington]	42.435244	-71.194067

### Bacteria Data

#### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

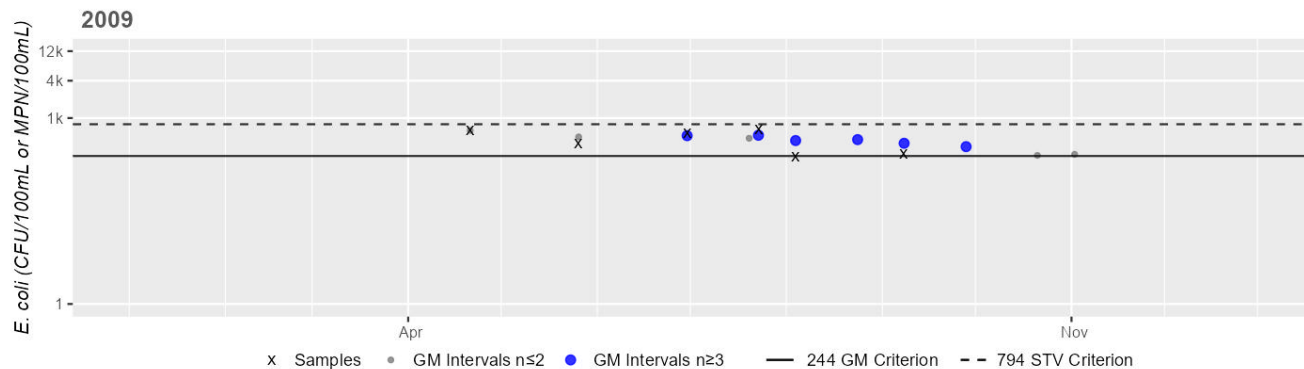
(MassDEP Undated 8) (MassDEP Undated 3)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1977	MassDEP	E. coli	04/21/09	09/08/09	6	240	660	423

# Station MASSDEP\_W1977 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	6
SeasGM	423
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Historic (1997-2010)

100%

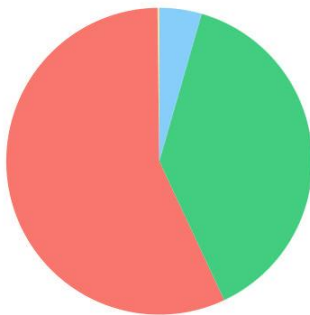
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Mystic River (MA71-02)

<b>Location:</b>	Outlet Lower Mystic Lake, Arlington/Medford to Amelia Earhart Dam, Somerville/Everett.
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	5 MILES
<b>Classification/Qualifier:</b>	B: WWF, CSO

### Mystic River (MA71-02)

Watershed Area: 63.29 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	63.29	12.06	15.37	1.71
Agriculture	0.2%	0%	0.4%	0%
Developed	56.8%	79.1%	36.6%	49.8%
Natural	38.6%	20%	52.2%	46.9%
Wetland	4.5%	0.9%	10.8%	3.4%
Impervious	40.6%	65.8%	24.1%	35.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Aquatic Plants (Macrophytes)*)	--	Added
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
5	5	(Water Chestnut*)	--	Unchanged
5	5	Arsenic	--	Unchanged
5	5	Chlordane in Fish Tissue	--	Unchanged
5	5	Chlorophyll-a	R1_MA_2020_5a	Unchanged
5	5	DDT in Fish Tissue	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Dissolved Oxygen Supersaturation	R1_MA_2020_5a	Unchanged
5	5	Enterococcus	R1_MA_2019_01	Changed
5	5	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Harmful Algal Blooms	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged
5	5	pH, High	--	Unchanged
5	5	Phosphorus, Total	R1_MA_2020_5a	Unchanged
5	5	Sediment Bioassay [Chronic Toxicity Freshwater]	--	Unchanged
5	5	Transparency / Clarity	R1_MA_2020_5a	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Aquatic Plants (Macrophytes)*)	Source Unknown (N)	--	--	X	X	X
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Arsenic	Source Unknown (N)	X	--	--	--	--
Chlordane in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Chlorophyll-a	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
DDT in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Dissolved Oxygen	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Dissolved Oxygen Supersaturation	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Enterococcus	Combined Sewer Overflows (Y)	--	--	--	X	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--
Escherichia Coli (E. Coli)	Combined Sewer Overflows (Y)	--	--	--	X	X
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	X
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	X	X	X
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--
pH, High	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Contaminated Sediments (Y)	X	--	--	--	--
Sediment Bioassay [Chronic Toxicity Freshwater]	Source Unknown (N)	X	--	--	--	--
Transparency / Clarity	Combined Sewer Overflows (Y)	--	--	--	X	--
Transparency / Clarity	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	X	--

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Enterococcus	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds (Report CN 157.1, approved 11/21/2018, ATTAINS Action ID: R1_MA_2019_01)

## Recommendations

2024/26 Recommendations
2024/2026 IR [Harmful Algal Blooms, low priority] Blooms should continue to be tracked in Mystic River (MA71-02) and delisting may be warranted if no additional blooms occur (as of the 2024/2026 IR, the last reported bloom occurred in 2017). {Mystic River (MA71-02) near Blessing of the Bay Boathouse}; 2016 IR [Oily Sheens & Objectionable Deposits, low priority] Follow-up sampling and aesthetics observations should be noted at W1973 and W1975 on the upstream Mystic River AU (MA71-02). The Oily Sheens and Objectionable Deposits (trash) Alerts are being carried forward in the 2024/2026 IR from the 2016 IR. In the 2016 repository documents (MassDEP Undated 7) it was noted on the field sheet for W1973 "Oily sheen: oily sheen occurs after rain, comes from culvert upstream source: Hospital?" Also trash was documented at W1973 and W1975. {W1973, W1975}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for this freshwater Mystic River AU (MA71-02) continues to be assessed as Not Supporting and the prior Chlordane in Fish Tissue, PCBs in Fish Tissue, and DDT in Fish Tissue impairments are being carried forward. MA DPH included a site-specific advisory for the Mystic River (referred to by MA DPH as "Mystic River (between outlet of Lower Mystic Lake and Amelia Earhart Dam)") in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.

### Aesthetic

2024/26 Use Attainment	Alert
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Not Supporting	YES
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#### 2024/26 Use Attainment Summary

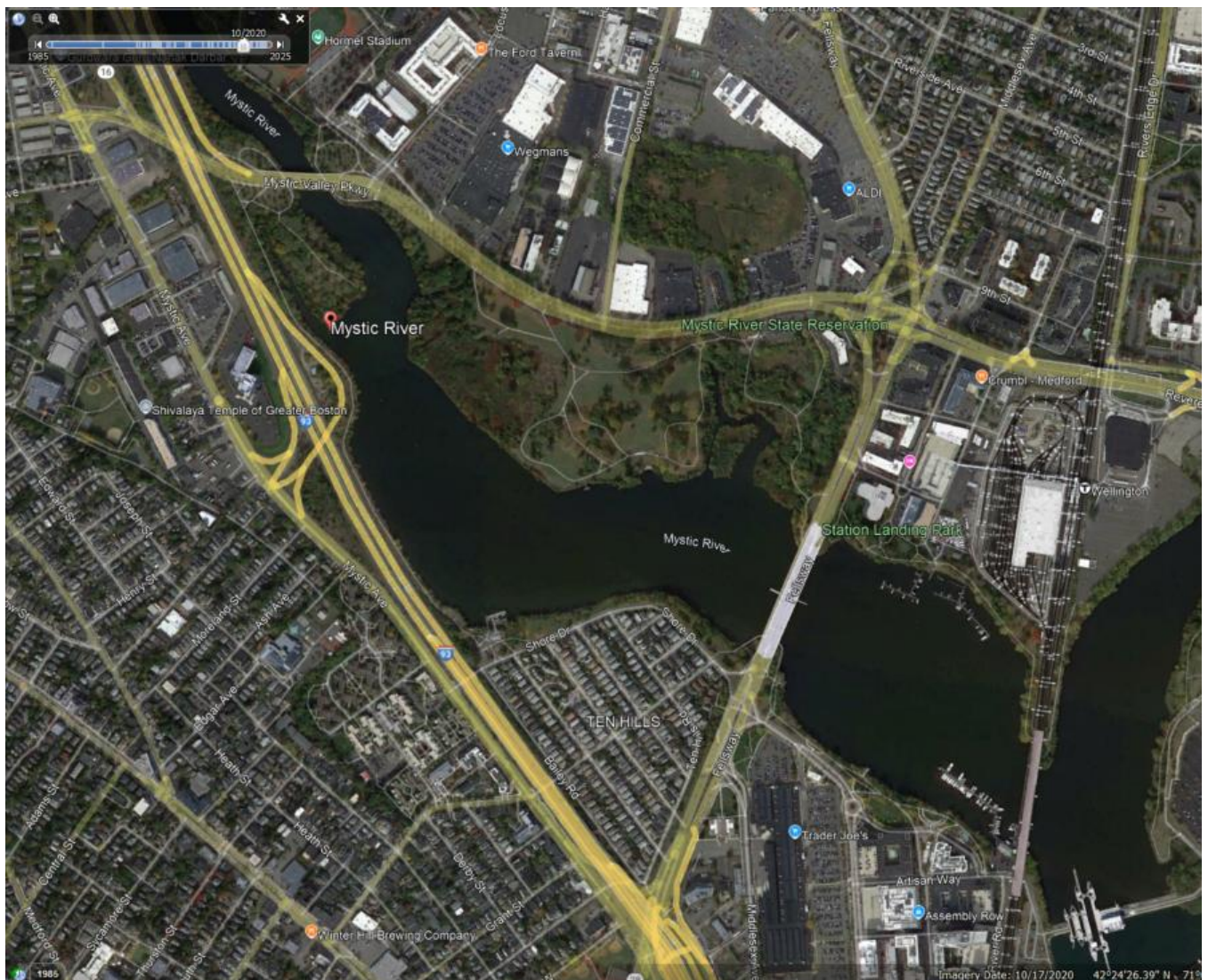
The Aesthetics Use for this freshwater Mystic River AU (MA71-02) continues to be assessed as Not Supporting with the Harmful Algal Blooms impairment being carried forward, since C-HAB postings were reported to MDPH in 2015 & 2017. Since the Water Chestnut impairment was redundantly duplicated across multiple uses for this waterbody, the Water Chestnut impairment is being removed from the Aesthetics Use (and is being replaced with a non-pollutant Aquatic Plants (Macrophytes) impairment under Aesthetics), but will continue to be maintained under the Aquatic Life Use. Since the Transparency/Clarity impairment was redundantly duplicated across multiple uses for this waterbody, the Transparency/Clarity impairment is being removed from the Aesthetics Use but will continue to be maintained under the Primary Contact Recreation Use. The historical Alerts for Oily Sheens and Objectionable Deposits are being carried forward (MassDEP Undated 7). The prior Alert for Dense Macrophytes is being removed in light of the new impairment for the same cause.

MassDEP field staff noted multiple observations of dense aquatic macrophytes including *Trapa natans* at two stations in 2009 (MassDEP Undated 7, MassDEP 2009): upstream at Rt. 38 (Winthrop St), Medford (W1974) and off the southern end/downstream side of the Riverside Yacht Club boat dock, Medford (~1400 ft downstream of Rt.93 crossing) (W1973), and Google Earth images from August 2013, July 2014, and June 2019 (Google Earth Pro Undated) show long stretches of the AU to be covered with dense growths, so an Aquatic Plants (Macrophytes) non-pollutant impairment is being added in place of the Water Chestnut impairment at this time. During the period 2015 through 2022, C-HAB postings for the Mystic River (MA71-02) were reported to MDPH for 37 days in 2015 (visual observations), 20 days in 2016 (cell count), and 30 days in 2017 (cell count). No blooms were reported in other years. Since extended blooms (>20 days in duration) based on cell count data were reported in recent years, this reflects the existing Harmful Algal Blooms impairment for the Mystic River.

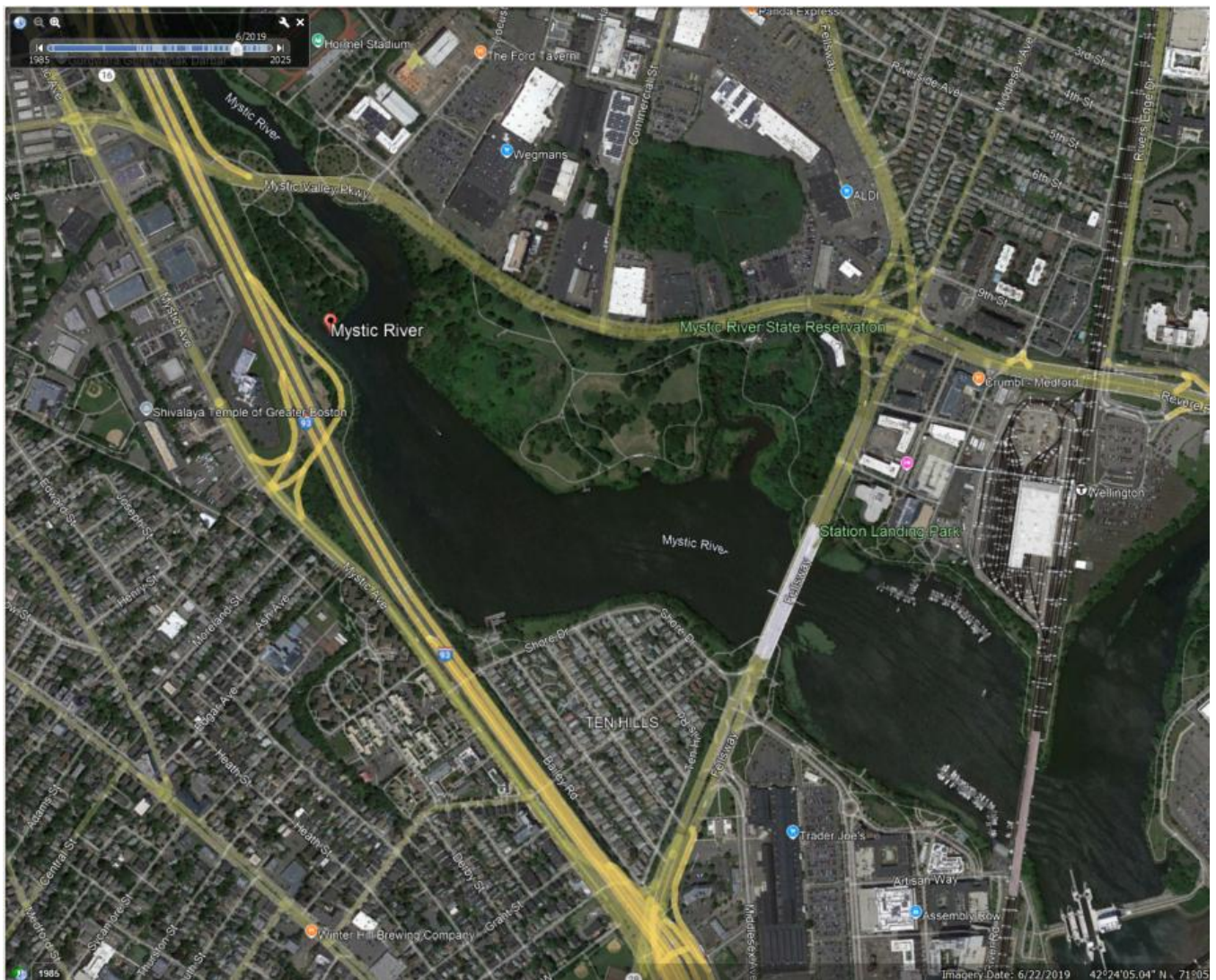
#### Aesthetic Observations

**Mystic River (MA71-02) Google Earth Imagery: Outline of the Downstream Portion of the Waterbody (Oct 2020) Followed by Imagery from Jun 2019, Jul 2014, and Aug 2013 Showing Dense/Very Dense Vegetation Covering >25% of the Surface in >10% of the River AU (Google Earth Pro Undated)**

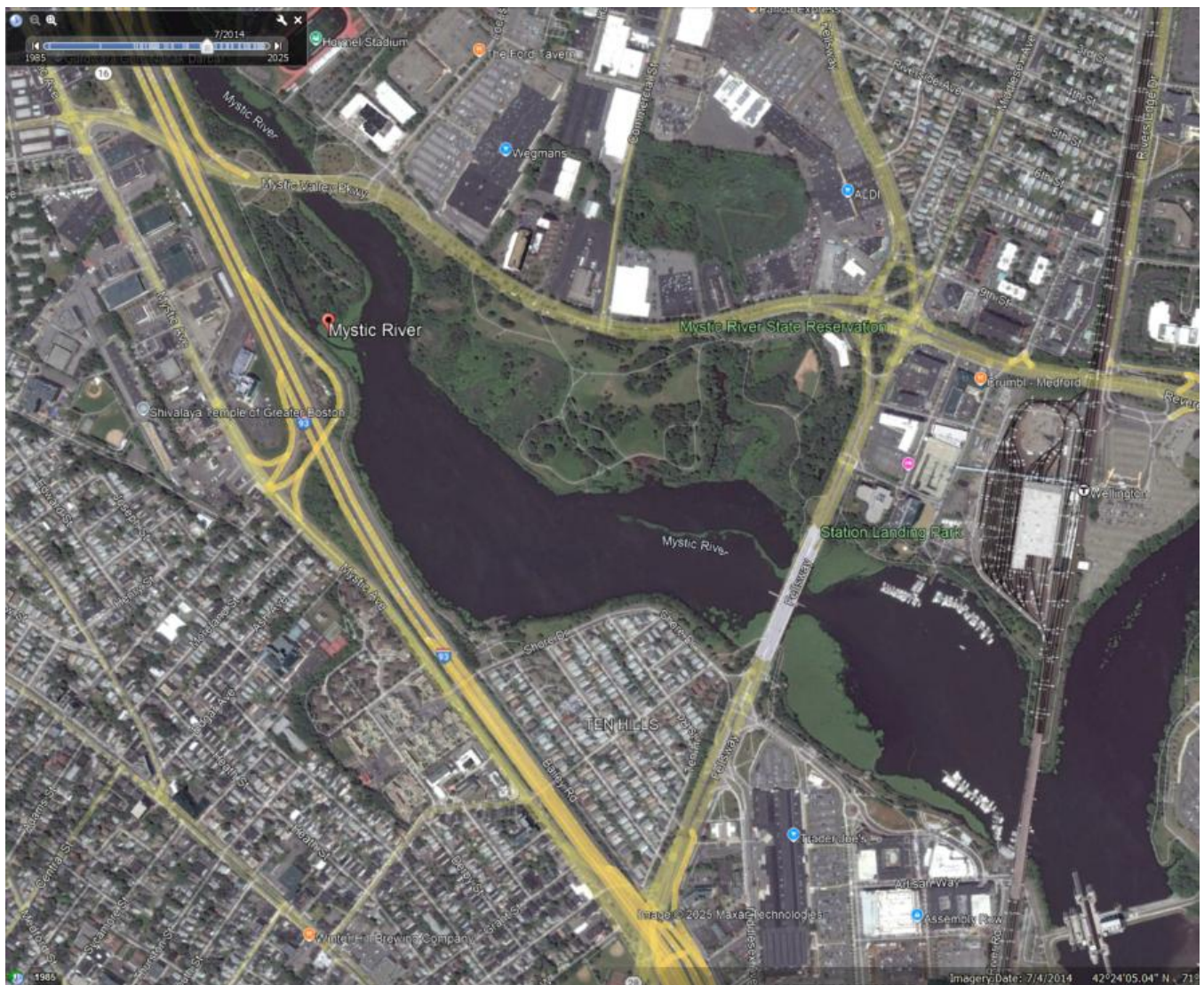




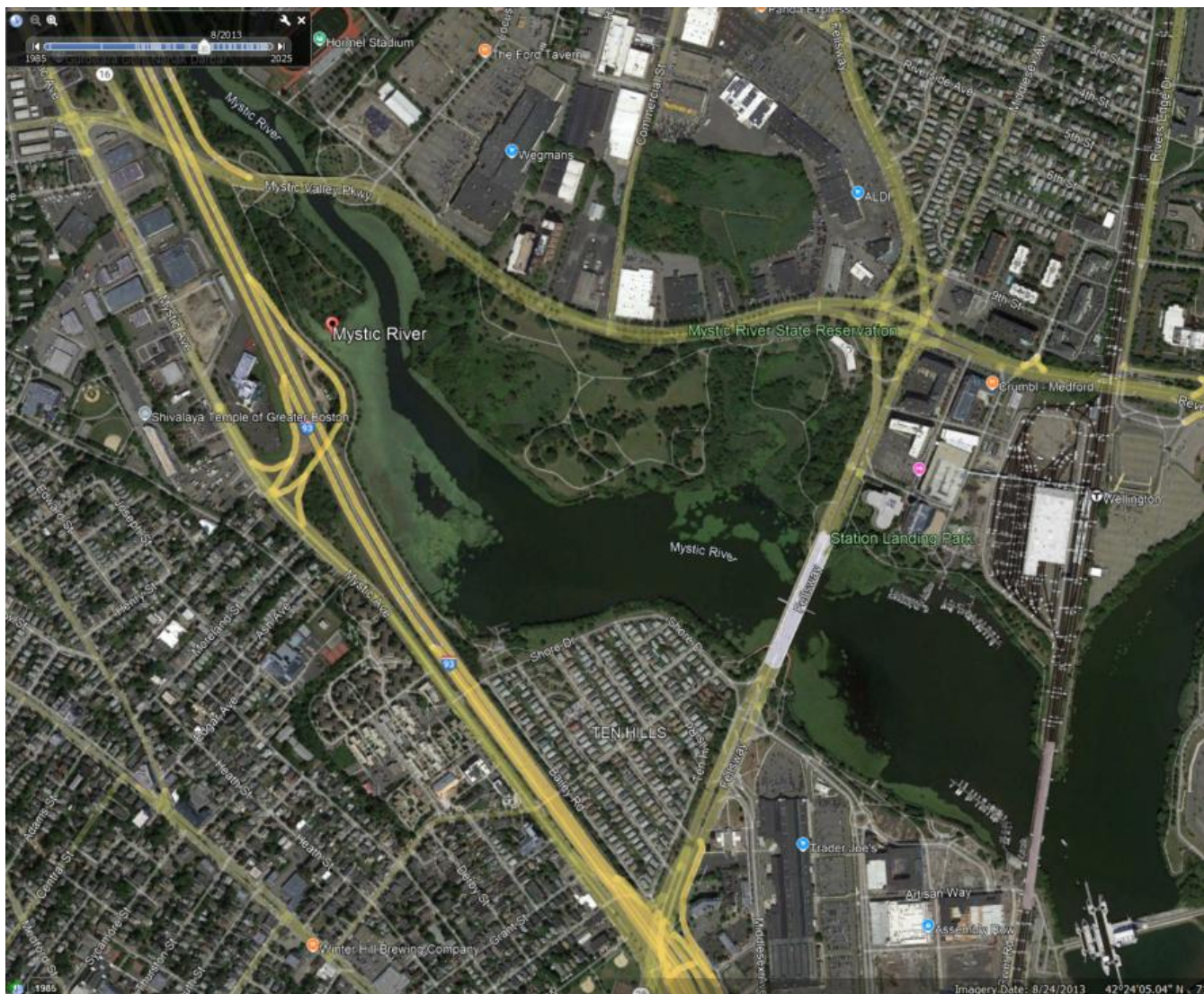












## Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

### C-HAB Summary Statement

During the period 2015 through 2022, C-HAB postings for Mystic River (MA71-02) were reported to MDPH for 37 days in 2015 (visual observations), 20 days in 2016 (cell count), and 30 days in 2017 (cell count). No blooms were reported in other years. Since extended blooms (>20 days in duration) based on cell count data were reported in recent years, the Aesthetics Use and Primary/Secondary Contact Recreational Uses continue to be assessed as Not Supporting.

**Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2022) Provided by MDPH** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

[\* indicates a C-HAB posting of unknown duration]

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Mystic River	Somerville	37	20	30					

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

Primary Contact Recreation Use assessment for this freshwater Mystic River AU (MA71-02): Not Supporting. Prior *Escherichia Coli* (E. Coli) impairment: carried forward based on bacteria data from MyRWA\_MYR071, MWRA\_083\*, MWRA\_057\*, MWRA\_066\*, MWRA\_056\*, MWRA\_177\*, MyRWA\_MYR0435, MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK\*, MWRA\_067\*, MWRA\_059\*, and MWRA\_167\* (\*also retained prior *Enterococcus* impairment). Harmful Algal Blooms (see Aesthetics Use for more details) and Transparency/Clarity impairments: carried forward. New Aquatic Plants (Macrophytes) impairment (from the Aesthetics Use). The Water Chestnut impairment was removed because it was removed from Aesthetics Use. Prior Alerts for Oily Sheens & Objectionable Deposits were removed from this use but maintained under Aesthetics Use.

In this MA71-02 AU, MWRA collected Secchi data at MWRA\_056 (2011-2022), MWRA\_057 (2011-2015, 2017-2018, 2021-2022), MWRA\_059 (2011-2022), MWRA\_066 (2012), MWRA\_067 (2011-2022), MWRA\_083 (2011, 2013-2017, 2021-2022), MWRA\_167 (2011-2019), and MWRA\_177 (2012). The most recent 5 years of data with >2 Secchi measurements were evaluated. More than 1 Secchi depth measurement was less than the 1.2 m (4 ft) threshold in multiple years at most of the stations, typically 3-24/yr (except MWRA\_066 & MWRA\_177).

MWRA and MyRWA staff/volunteers collected *E. coli* (EC) samples at 11 stations/combined stations and *Enterococcus* (Ent) samples at 9 of these stations in this AU (MA71-02) from 2011-2022. Samples were collected from upstr. to downstr. as follows: MyRWA\_MYR071 [Mystic R. at upstr. side of High St Bridge, Medford; outlet from Lower Mystic Lake] from 2011-2019 (EC n=7/yr), MWRA\_083 [Mystic R. upstr. of confluence with Alewife Br] from 2011-2022 (EC & Ent n=32-75/yr), MWRA\_057 [Mystic R. confluence w/ Alewife Br] from 2011-2022 (EC & Ent n=17-59/yr), MWRA\_066 [Mystic R., Boston Ave bridge] from 2011-2022 (EC & Ent n=13-22/yr), MWRA\_056 [Mystic R., 100m upstr. of Rt. 93] from 2011-2022 (EC & Ent n=17-59/yr), MWRA\_177 [Mystic R., downstr. of Rt 16 bridge, midchannel] from 2011-2022 (EC & Ent n=14-22/yr), MyRWA\_MYR0435 [Center-stream. Downstr. side of Rt 16 bridge] from 2015-2016 (EC n=39-43/yr), MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK [MYSTIC, MDC SAILING DOCK & From Blessing of the Bay Boathouse furthest dock] from 2015-2016 (EC n=38-43/yr), MyRWA\_MYRBOBDOCK [From Blessing of the Bay Boathouse furthest dock] from 2015-2016 (Ent n=33-43/yr), MWRA\_067 [Mystic R., Rt. 28 bridge, near SOM007A/MWR205A] from 2011-2022 (EC & Ent n=17-59/yr), MWRA\_059 [Mystic R. confluence w/ Malden R.] from 2011-2022 (EC=16-31/yr; Ent=17-31/yr), MWRA\_167 [Mystic R. upstr. of Amelia Earhart Dam] from 2011-2022 (EC & Ent n=15-55/yr).

All the multi-year EC datasets were indicative of an *Escherichia Coli* (E. Coli) impairment. At all stations, 4-5 of the 5 recent years of data (or 2 yrs for the 2-yr stations, MyRWA\_MYR0435 and the combined MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK station) had >10% of intervals with GMs >126 CFU/100mL. In most cases, 4-5 years (or 2 for the 2-yr stations) had >10% of samples exceed the 410 CFU/100mL STV (exceptions included the most upstr. & downstr. sites: the moderate frequency MyRWA\_MYR071 & high frequency MWRA\_167 had 1 & 2 yrs of STV exceedances, respectively; note that both these stations still met impairment conditions), and cumulatively across years, >10% of intervals had GMs >126 CFU/100mL at all stations.

All the multi-year Ent datasets were indicative of an *Enterococcus* impairment. At all stations, 4-5 of the 5 recent years of data (or 2 for the 2-yr station, MyRWA\_MYRBOBDOCK) had >10% of intervals with GMs >35 CFU/100mL. In most cases, 4-5 years (or 2 for the 2-year station) had

>10% of samples exceed the 130 CFU/100mL STV (exceptions included MWRA\_067 & MWRA\_059 with 2 yrs & 1 yr of STV exceedances, respectively; note that both these stations still met impairment thresholds), and cumulatively across years, >10% of intervals had GMs >35 CFU/100mL at all stations.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_056	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, 100m upstream of Rt. 93	42.414769	-71.105322
MWRA_057	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, confluence of Mystic River and Alewife Brook	42.415224	-71.132393
MWRA_059	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, confluence of Mystic and Malden Rivers	42.396667	-71.077000
MWRA_066	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, Boston Ave. bridge	42.417263	-71.130664
MWRA_067	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, Route 28 bridge, near SOM007A/MWR205A	42.399765	-71.082831
MWRA_083	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, upstream of confluence of Mystic River and Alewife Brook	42.415203	-71.137041
MWRA_167	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, Amelia Earhart Dam, upstream side	42.395000	-71.075833
MWRA_177	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, Rt 16 bridge, midchannel, downstream side	42.405722	-71.096351
MyRWA_MWRA060	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	MYSTIC, MDC SAILING DOCK	42.398700	-71.090461
MyRWA_MYR0435	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Center of the stream. Sample from route 16 bridge, downstream side	42.405722	-71.096351
MyRWA_MYR071	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic River at High Street Bridge in Medford; outlet from Lower Mystic Lake, upstream side of the bridge	42.420647	-71.142906
MyRWA_MYRBOBDock	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	From Blessing of the Bay Boathouse furthest dock	42.398700	-71.090461

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 2) (MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/03/11	10/28/11	21	74	3450	278
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	05/03/11	10/28/11	21	10	1520	41
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/17/12	10/04/12	20	20	9210	204
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/04/12	20	10	4880	17
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	20	7270	173
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	21	10	3450	31
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	52	6130	381
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/30/14	10/01/14	20	10	3450	46
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	20	2100	191
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/06/15	20	10	301	22
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	29	10	2600	114
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	29	10	571	17
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/03/17	10/19/17	48	31	7700	189
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/19/17	48	10	4350	35
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	52	31	17300	327
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	52	10	3870	95



Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	59	20	72700	321
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	59	10	15500	83
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	20	2280	175
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	4610	52
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	98	11200	355
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	10	5170	102
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	41	2100	290
MWRA_056	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	428	45
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/03/11	10/28/11	21	20	9210	130
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	05/03/11	10/28/11	21	10	5480	38
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/17/12	10/04/12	20	20	24200	153
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/04/12	20	10	12000	37
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	20	10	7700	170
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	20	10	754	56
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	10	1310	185
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/30/14	10/01/14	20	10	749	62
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	10	2850	124

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/06/15	20	10	613	49
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	29	10	496	67
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	29	10	145	20
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/03/17	10/19/17	48	10	5790	114
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/19/17	48	10	19900	51
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	53	10	2100	173
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	53	10	2010	90
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	59	20	4610	154
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	59	10	11200	95
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	10	1470	158
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	6130	67
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	10	8160	123
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	10	19900	70
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	10	1450	180
MWRA_057	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	620	38
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/03/11	10/28/11	21	10	472	47
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	05/03/11	10/28/11	21	10	243	16

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/17/12	10/04/12	20	10	556	48
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/04/12	20	10	148	14
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	10	185	39
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	21	10	74	15
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	10	6870	44
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/30/14	10/01/14	20	10	884	15
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	10	122	24
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/06/15	20	10	86	13
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/09/16	10/26/16	28	10	857	46
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/26/16	28	10	3260	21
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/04/17	10/19/17	31	10	4350	70
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/04/17	10/19/17	31	10	933	18
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/25/18	09/12/18	24	10	3260	87
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/25/18	09/12/18	24	10	350	20
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/03/19	08/30/19	21	10	759	42
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	05/03/19	08/30/19	21	10	31	11
MWRA_059	Massachusetts Water Resources Authority	E. coli	07/21/20	09/25/20	20	10	3260	153

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	07/21/20	09/25/20	19	10	1460	23
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	18	20	2720	98
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	19	10	1990	17
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	16	20	3650	208
MWRA_059	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	512	18
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/04/11	11/03/11	22	10	7270	308
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/04/11	11/03/11	22	10	6870	140
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/02/12	10/31/12	16	31	1780	227
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/02/12	10/31/12	16	10	733	65
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/01/13	10/28/13	16	31	809	173
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/01/13	10/28/13	16	10	813	50
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/01/14	10/27/14	16	31	784	136
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/01/14	10/27/14	16	10	546	33
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/16/15	10/27/15	15	10	299	91
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/16/15	10/27/15	15	10	121	25
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/11/16	10/27/16	15	20	2250	118
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/11/16	10/27/16	15	10	2010	29

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/14/17	10/24/17	15	10	617	86
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/14/17	10/24/17	15	10	364	55
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/12/18	10/18/18	14	20	776	125
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/12/18	10/18/18	14	10	310	58
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/01/19	10/22/19	16	41	1470	182
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/01/19	10/22/19	16	10	457	89
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/08/20	10/20/20	15	41	24200	267
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/08/20	10/20/20	15	10	9210	79
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/05/21	10/20/21	13	63	1780	238
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/05/21	10/20/21	13	10	1170	91
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/05/22	11/02/22	15	20	3650	332
MWRA_066	Massachusetts Water Resources Authority	Enterococcus	04/05/22	11/02/22	15	10	2360	88
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/03/11	10/28/11	21	10	1350	51
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	05/03/11	10/28/11	21	10	988	16
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/17/12	10/04/12	20	10	529	49
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	05/17/12	10/04/12	20	10	52	11
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	10	785	33

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	21	10	598	14
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	10	3260	102
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/30/14	10/01/14	20	10	388	13
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	10	384	33
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/06/15	20	10	161	13
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/09/16	10/28/16	29	10	906	54
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	29	10	2250	20
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/03/17	10/19/17	48	10	6870	76
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/19/17	48	10	620	19
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/24/18	10/24/18	52	10	24200	116
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	52	10	591	27
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/20/19	11/20/19	59	10	3450	69
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/20/19	11/20/19	59	10	3450	22
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/02/20	09/25/20	36	10	7270	145
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/02/20	09/25/20	35	10	504	22
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/01/21	09/16/21	19	10	1530	106
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	20	10	1450	31

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/14/22	10/17/22	17	20	1220	186
MWRA_067	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	487	22
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/04/11	10/28/11	37	10	1520	84
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/04/11	10/28/11	37	10	4880	37
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/02/12	10/31/12	36	10	24200	157
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/02/12	10/31/12	36	10	24200	41
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/01/13	10/31/13	37	10	1020	97
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/01/13	10/31/13	37	10	809	34
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/01/14	10/27/14	36	10	1610	124
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/01/14	10/27/14	36	10	496	41
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/13/15	10/27/15	35	10	364	68
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/27/15	35	10	301	24
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/11/16	10/28/16	43	10	4610	89
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/11/16	10/28/16	43	10	5480	24
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/03/17	10/24/17	63	10	2600	120
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/24/17	63	10	3260	53
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/12/18	10/24/18	67	10	8660	128

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/12/18	10/24/18	67	10	4110	72
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/01/19	11/21/19	75	20	2490	135
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/01/19	11/21/19	75	10	3650	81
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/02/20	10/20/20	51	10	3450	188
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/02/20	10/20/20	50	10	6130	87
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/01/21	10/20/21	34	10	9210	138
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/01/21	10/20/21	35	10	4610	76
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/05/22	11/02/22	32	10	932	102
MWRA_083	Massachusetts Water Resources Authority	Enterococcus	04/05/22	11/02/22	32	10	683	30
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/04/11	10/21/11	18	10	1320	67
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/04/11	10/21/11	18	10	683	24
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/02/12	10/31/12	16	10	1850	63
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/02/12	10/31/12	16	10	487	19
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/01/13	10/28/13	16	10	504	39
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/01/13	10/28/13	16	10	364	14
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/01/14	10/27/14	16	10	1330	50
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/01/14	10/27/14	16	10	41	13



Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/10/15	10/29/15	24	10	4350	59
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/10/15	10/29/15	24	10	576	17
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/11/16	10/28/16	16	10	288	52
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/11/16	10/28/16	16	10	160	16
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/03/17	10/24/17	32	10	419	45
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/24/17	32	10	216	15
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/12/18	10/24/18	42	10	2910	64
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/12/18	10/24/18	42	10	595	24
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/01/19	11/21/19	55	10	2910	72
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/01/19	11/21/19	55	10	2010	29
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/02/20	10/20/20	31	10	24200	77
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/02/20	10/20/20	31	10	19900	29
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/05/21	10/20/21	16	10	1310	133
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/05/21	10/20/21	16	10	408	40
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/05/22	11/02/22	15	10	12000	180
MWRA_167	Massachusetts Water Resources Authority	Enterococcus	04/05/22	11/02/22	15	10	11200	64
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/04/11	11/03/11	22	146	5170	552

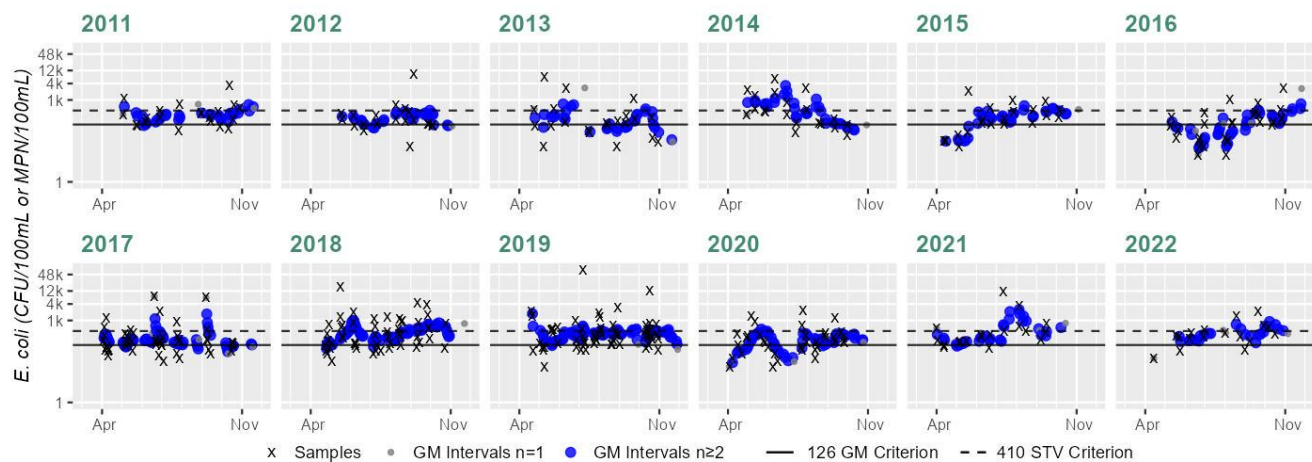
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/04/11	11/03/11	22	10	3080	132
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/02/12	10/31/12	16	41	5470	290
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/02/12	10/31/12	16	10	2190	23
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/01/13	10/28/13	16	20	3260	169
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/01/13	10/28/13	16	10	1080	24
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/01/14	10/27/14	16	20	3650	235
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/01/14	10/27/14	16	10	677	25
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/16/15	10/27/15	15	20	712	118
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/16/15	10/27/15	15	10	52	14
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/11/16	10/27/16	15	10	2700	78
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/11/16	10/27/16	15	10	1600	14
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/14/17	10/24/17	15	10	233	56
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/14/17	10/24/17	15	10	148	15
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/12/18	10/18/18	14	30	282	118
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/12/18	10/18/18	14	10	74	24
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/01/19	10/22/19	16	51	13000	380
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/01/19	10/22/19	16	10	2380	42

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/08/20	10/20/20	15	10	24200	161
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/08/20	10/20/20	15	10	9800	42
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/05/21	10/20/21	15	98	3870	403
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/05/21	10/20/21	15	10	2600	100
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/05/22	11/02/22	15	20	4110	314
MWRA_177	Massachusetts Water Resources Authority	Enterococcus	04/05/22	11/02/22	15	10	5480	68
MyRWA_MWRA060	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	1089	1089	1089
MyRWA_MYR0435	Mystic River Watershed Association	E. coli	06/01/15	10/02/15	39	14	13140	221
MyRWA_MYR0435	Mystic River Watershed Association	E. coli	04/26/16	09/21/16	43	7	19863	92
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	41	218	88
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	10	275	60
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	10	160	38
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	31	189	73
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	7	10	350	67
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	10	97	47
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	10	1350	125
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	30	1940	302

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MYR071	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	10	683	102
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	E. coli	06/29/15	10/02/15	37	1	24196	115
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	Enterococcus	06/29/15	10/02/15	33	10	24196	87
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	E. coli	04/26/16	09/21/16	43	1	6867	159
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	Enterococcus	04/26/16	09/21/16	43	1	2419	64

### Station MWRA\_056 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	278
#GMI	33
#GMI Ex	32
%GMI Ex	96%
n>STV	5
%n>STV	23%

Variable*	Result
Samples	20
SeasGM	204
#GMI	34
#GMI Ex	29
%GMI Ex	85%
n>STV	3
%n>STV	15%

Variable*	Result
Samples	21
SeasGM	173
#GMI	35
#GMI Ex	20
%GMI Ex	57%
n>STV	5
%n>STV	23%

Variable*	Result
Samples	20
SeasGM	381
#GMI	34
#GMI Ex	30
%GMI Ex	88%
n>STV	8
%n>STV	40%

Variable*	Result
Samples	20
SeasGM	191
#GMI	35
#GMI Ex	28
%GMI Ex	80%
n>STV	6
%n>STV	30%

Variable*	Result
Samples	29
SeasGM	114
#GMI	45
#GMI Ex	23
%GMI Ex	51%
n>STV	4
%n>STV	13%

Variable*	Result
Samples	48
SeasGM	189
#GMI	76
#GMI Ex	64
%GMI Ex	84%
n>STV	8
%n>STV	16%

Variable*	Result
Samples	52
SeasGM	327
#GMI	92
#GMI Ex	89
%GMI Ex	96%
n>STV	21
%n>STV	40%

Variable*	Result
Samples	59
SeasGM	321
#GMI	99
#GMI Ex	98
%GMI Ex	98%
n>STV	21
%n>STV	35%

Variable*	Result
Samples	36
SeasGM	175
#GMI	62
#GMI Ex	47
%GMI Ex	75%
n>STV	5
%n>STV	13%

Variable*	Result
Samples	19
SeasGM	355
#GMI	32
#GMI Ex	31
%GMI Ex	96%
n>STV	6
%n>STV	31%

Variable*	Result
Samples	17
SeasGM	290
#GMI	25
#GMI Ex	25
%GMI Ex	100%
n>STV	5
%n>STV	29%

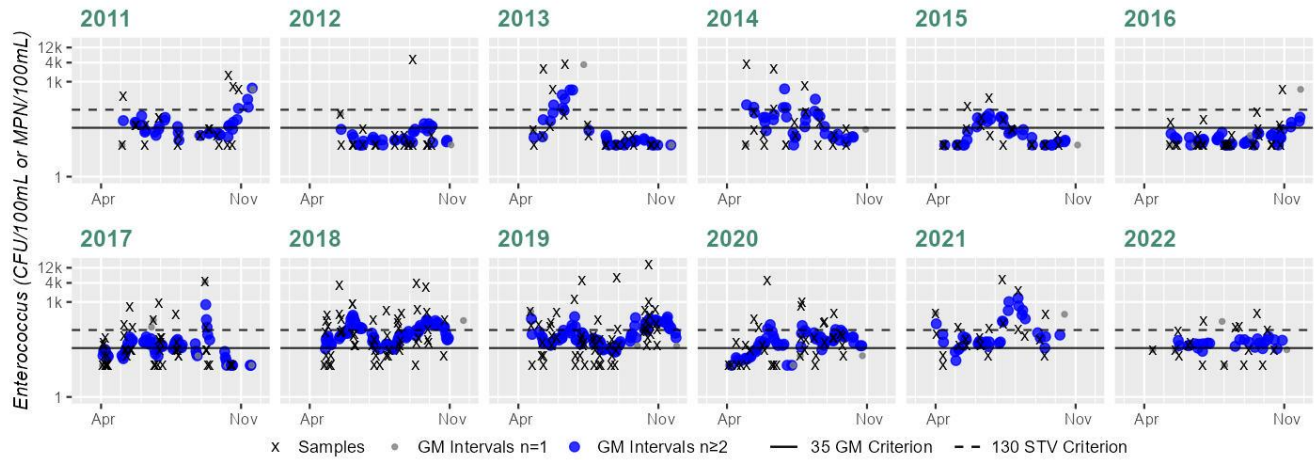
Cumulative %GMI Exceedance  
Current (2011-2022)  
85%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
93%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_056 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	41
#GMI	33
#GMI Ex	17
%GMI Ex	51%
n>STV	4
%n>STV	19%

Variable*	Result
Samples	20
SeasGM	17
#GMI	34
#GMI Ex	4
%GMI Ex	11%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	21
SeasGM	31
#GMI	35
#GMI Ex	10
%GMI Ex	28%
n>STV	3
%n>STV	14%

Variable*	Result
Samples	20
SeasGM	46
#GMI	34
#GMI Ex	20
%GMI Ex	58%
n>STV	4
%n>STV	20%

Variable*	Result
Samples	20
SeasGM	22
#GMI	35
#GMI Ex	12
%GMI Ex	34%
n>STV	2
%n>STV	10%

Variable*	Result
Samples	29
SeasGM	17
#GMI	45
#GMI Ex	4
%GMI Ex	8%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	48
SeasGM	35
#GMI	76
#GMI Ex	43
%GMI Ex	56%
n>STV	8
%n>STV	16%

Variable*	Result
Samples	52
SeasGM	95
#GMI	92
#GMI Ex	88
%GMI Ex	95%
n>STV	20
%n>STV	38%

Variable*	Result
Samples	59
SeasGM	83
#GMI	99
#GMI Ex	85
%GMI Ex	85%
n>STV	21
%n>STV	35%

Variable*	Result
Samples	35
SeasGM	52
#GMI	61
#GMI Ex	46
%GMI Ex	75%
n>STV	8
%n>STV	22%

Variable*	Result
Samples	20
SeasGM	102
#GMI	35
#GMI Ex	31
%GMI Ex	88%
n>STV	8
%n>STV	40%

Variable*	Result
Samples	17
SeasGM	45
#GMI	25
#GMI Ex	21
%GMI Ex	84%
n>STV	4
%n>STV	23%

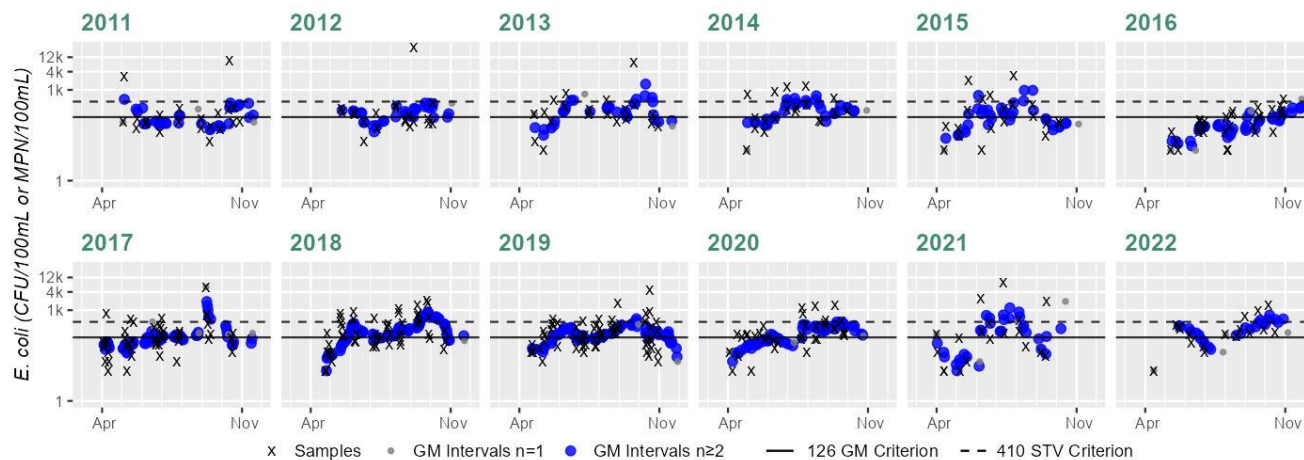
Cumulative %GMI Exceedance  
Current (2011-2022)  
63%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
86%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_057 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	130
#GMI	33
#GMI Ex	14
%GMI Ex	42%
n>STV	2
%n>STV	9%

Variable*	Result
Samples	20
SeasGM	153
#GMI	33
#GMI Ex	23
%GMI Ex	69%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	20
SeasGM	170
#GMI	33
#GMI Ex	24
%GMI Ex	72%
n>STV	4
%n>STV	20%

Variable*	Result
Samples	20
SeasGM	185
#GMI	34
#GMI Ex	25
%GMI Ex	73%
n>STV	5
%n>STV	25%

Variable*	Result
Samples	20
SeasGM	124
#GMI	35
#GMI Ex	18
%GMI Ex	51%
n>STV	4
%n>STV	20%

Variable*	Result
Samples	29
SeasGM	67
#GMI	45
#GMI Ex	10
%GMI Ex	22%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	48
SeasGM	114
#GMI	76
#GMI Ex	27
%GMI Ex	35%
n>STV	6
%n>STV	12%

Variable*	Result
Samples	53
SeasGM	173
#GMI	94
#GMI Ex	69
%GMI Ex	73%
n>STV	13
%n>STV	24%

Variable*	Result
Samples	59
SeasGM	154
#GMI	99
#GMI Ex	71
%GMI Ex	71%
n>STV	10
%n>STV	16%

Variable*	Result
Samples	36
SeasGM	158
#GMI	62
#GMI Ex	35
%GMI Ex	56%
n>STV	6
%n>STV	16%

Variable*	Result
Samples	19
SeasGM	123
#GMI	32
#GMI Ex	18
%GMI Ex	56%
n>STV	4
%n>STV	21%

Variable*	Result
Samples	17
SeasGM	180
#GMI	25
#GMI Ex	20
%GMI Ex	80%
n>STV	3
%n>STV	17%

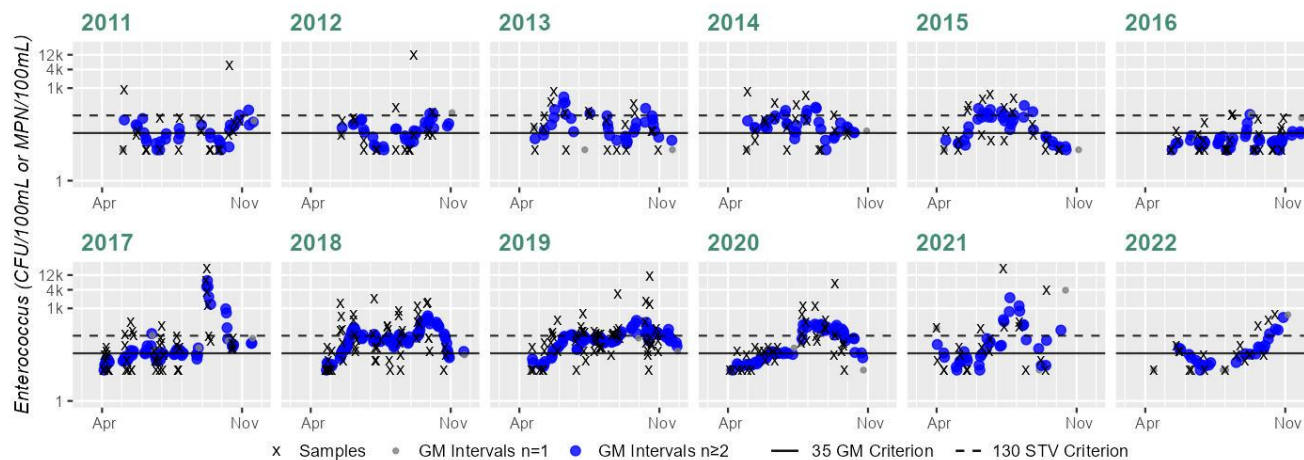
Cumulative %GMI Exceedance  
Current (2011-2022)  
58%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
68%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MWRA\_057 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	38
#GMI	33
#GMI Ex	16
%GMI Ex	48%
n>STV	2
%n>STV	9%

Variable*	Result
Samples	20
SeasGM	37
#GMI	33
#GMI Ex	21
%GMI Ex	63%
n>STV	3
%n>STV	15%

Variable*	Result
Samples	20
SeasGM	56
#GMI	33
#GMI Ex	23
%GMI Ex	69%
n>STV	7
%n>STV	35%

Variable*	Result
Samples	20
SeasGM	62
#GMI	34
#GMI Ex	29
%GMI Ex	85%
n>STV	5
%n>STV	25%

Variable*	Result
Samples	20
SeasGM	49
#GMI	35
#GMI Ex	21
%GMI Ex	60%
n>STV	7
%n>STV	35%

Variable*	Result
Samples	29
SeasGM	20
#GMI	45
#GMI Ex	5
%GMI Ex	11%
n>STV	2
%n>STV	6%

Variable*	Result
Samples	48
SeasGM	51
#GMI	76
#GMI Ex	37
%GMI Ex	48%
n>STV	9
%n>STV	18%

Variable*	Result
Samples	53
SeasGM	90
#GMI	94
#GMI Ex	82
%GMI Ex	87%
n>STV	22
%n>STV	41%

Variable*	Result
Samples	59
SeasGM	95
#GMI	99
#GMI Ex	90
%GMI Ex	90%
n>STV	26
%n>STV	44%

Variable*	Result
Samples	35
SeasGM	67
#GMI	61
#GMI Ex	36
%GMI Ex	59%
n>STV	10
%n>STV	28%

Variable*	Result
Samples	20
SeasGM	70
#GMI	35
#GMI Ex	21
%GMI Ex	60%
n>STV	7
%n>STV	35%

Variable*	Result
Samples	17
SeasGM	38
#GMI	25
#GMI Ex	11
%GMI Ex	44%
n>STV	3
%n>STV	17%

Cumulative %GMI Exceedance  
Current (2011-2022)  
65%

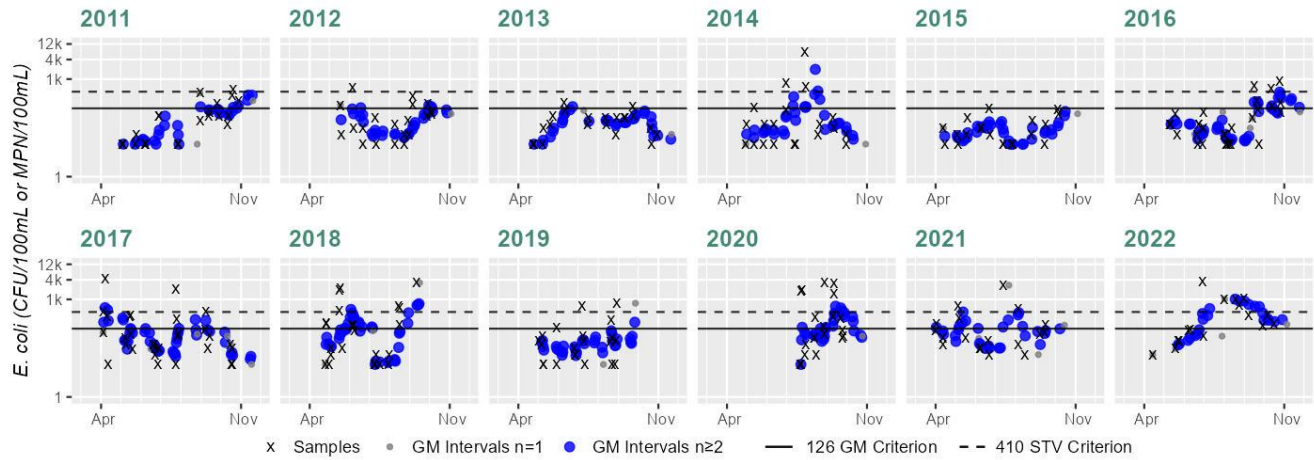
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
76%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_059 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	47
#GMI	33
#GMI Ex	7
%GMI Ex	21%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	20
SeasGM	48
#GMI	34
#GMI Ex	3
%GMI Ex	8%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	21
SeasGM	39
#GMI	35
#GMI Ex	1
%GMI Ex	2%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	20
SeasGM	44
#GMI	34
#GMI Ex	9
%GMI Ex	26%
n>STV	3
%n>STV	15%

Variable*	Result
Samples	20
SeasGM	24
#GMI	35
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	28
SeasGM	46
#GMI	43
#GMI Ex	12
%GMI Ex	27%
n>STV	3
%n>STV	10%

Variable*	Result
Samples	31
SeasGM	70
#GMI	48
#GMI Ex	11
%GMI Ex	22%
n>STV	3
%n>STV	9%

Variable*	Result
Samples	24
SeasGM	87
#GMI	41
#GMI Ex	19
%GMI Ex	46%
n>STV	6
%n>STV	25%

Variable*	Result
Samples	21
SeasGM	42
#GMI	35
#GMI Ex	1
%GMI Ex	2%
n>STV	2
%n>STV	9%

Variable*	Result
Samples	20
SeasGM	153
#GMI	33
#GMI Ex	16
%GMI Ex	48%
n>STV	5
%n>STV	25%

Variable*	Result
Samples	18
SeasGM	98
#GMI	29
#GMI Ex	11
%GMI Ex	37%
n>STV	3
%n>STV	16%

Variable*	Result
Samples	16
SeasGM	208
#GMI	23
#GMI Ex	16
%GMI Ex	69%
n>STV	5
%n>STV	31%

Cumulative %GMI Exceedance  
Current (2011-2022)  
25%

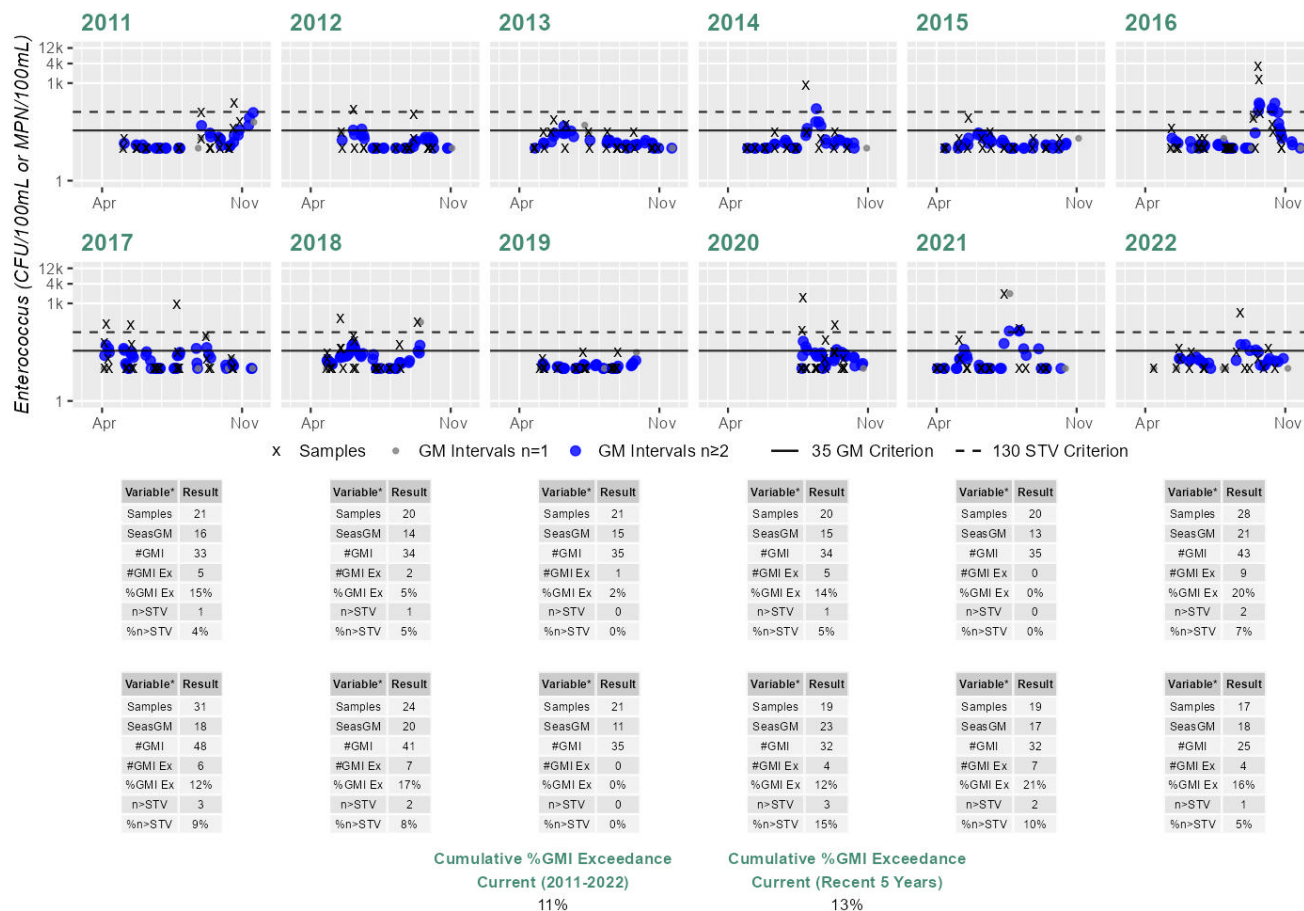
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
39%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_059 - Enterococcus

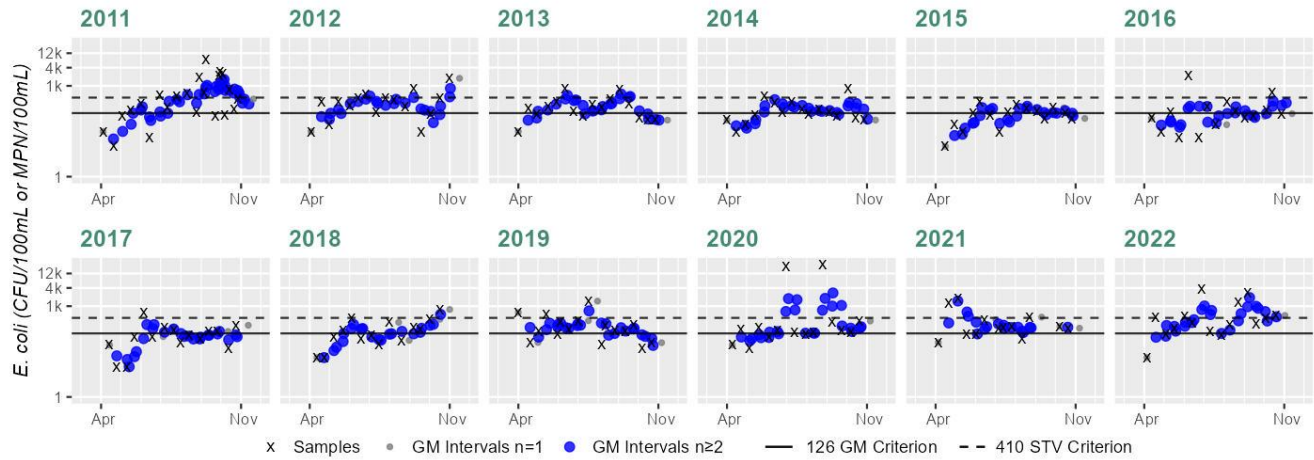
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MWRA\_066 & MyRWA\_MYR664 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	22
SeasGM	308
#GMI	38
#GMI Ex	30
%GMI Ex	78%
n>STV	10
%n>STV	45%

Variable*	Result
Samples	16
SeasGM	227
#GMI	24
#GMI Ex	18
%GMI Ex	75%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	16
SeasGM	173
#GMI	26
#GMI Ex	19
%GMI Ex	73%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	136
#GMI	26
#GMI Ex	19
%GMI Ex	73%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	15
SeasGM	91
#GMI	24
#GMI Ex	10
%GMI Ex	41%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	15
SeasGM	118
#GMI	24
#GMI Ex	11
%GMI Ex	45%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	15
SeasGM	86
#GMI	24
#GMI Ex	6
%GMI Ex	25%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	14
SeasGM	125
#GMI	21
#GMI Ex	10
%GMI Ex	47%
n>STV	1
%n>STV	7%

Variable*	Result
Samples	16
SeasGM	182
#GMI	25
#GMI Ex	18
%GMI Ex	72%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	15
SeasGM	267
#GMI	26
#GMI Ex	19
%GMI Ex	73%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	13
SeasGM	238
#GMI	18
#GMI Ex	17
%GMI Ex	94%
n>STV	3
%n>STV	23%

Variable*	Result
Samples	15
SeasGM	332
#GMI	24
#GMI Ex	21
%GMI Ex	87%
n>STV	6
%n>STV	40%

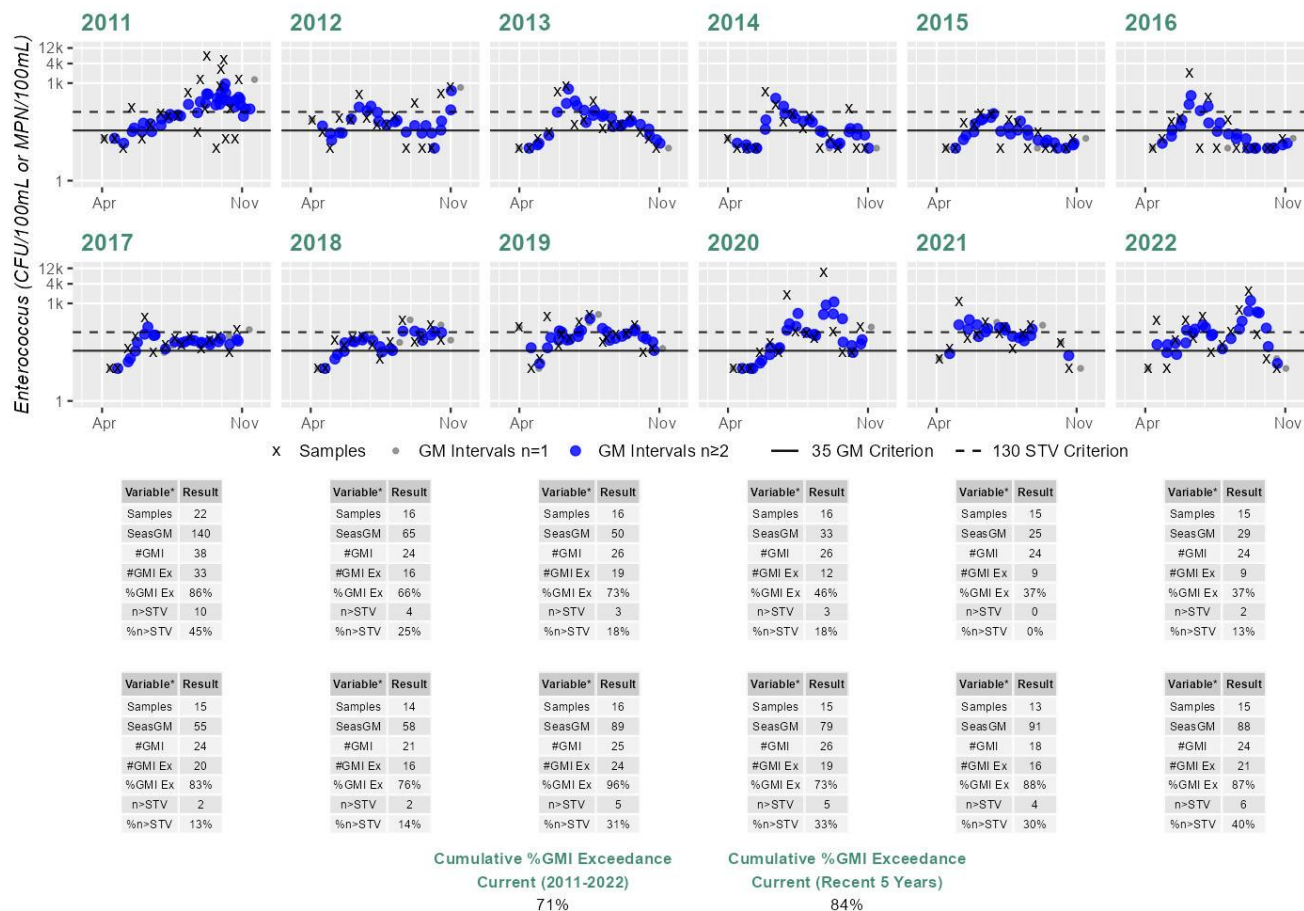
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 66%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 74%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_066 - Enterococcus

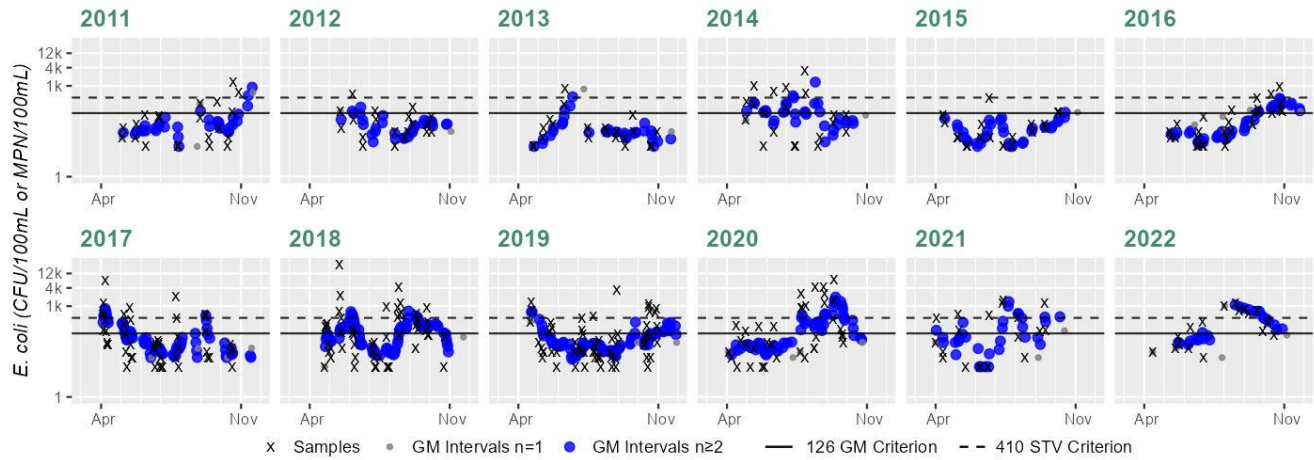
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_067 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	51
#GMI	33
#GMI Ex	4
%GMI Ex	12%
n>STV	2
%n>STV	9%

Variable*	Result
Samples	20
SeasGM	49
#GMI	34
#GMI Ex	2
%GMI Ex	5%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	21
SeasGM	33
#GMI	35
#GMI Ex	3
%GMI Ex	8%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	20
SeasGM	102
#GMI	34
#GMI Ex	19
%GMI Ex	55%
n>STV	5
%n>STV	25%

Variable*	Result
Samples	20
SeasGM	33
#GMI	35
#GMI Ex	1
%GMI Ex	2%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	29
SeasGM	54
#GMI	45
#GMI Ex	17
%GMI Ex	37%
n>STV	2
%n>STV	6%

Variable*	Result
Samples	48
SeasGM	76
#GMI	76
#GMI Ex	21
%GMI Ex	27%
n>STV	9
%n>STV	18%

Variable*	Result
Samples	52
SeasGM	116
#GMI	92
#GMI Ex	50
%GMI Ex	54%
n>STV	12
%n>STV	23%

Variable*	Result
Samples	59
SeasGM	69
#GMI	99
#GMI Ex	23
%GMI Ex	23%
n>STV	9
%n>STV	15%

Variable*	Result
Samples	36
SeasGM	145
#GMI	62
#GMI Ex	30
%GMI Ex	48%
n>STV	10
%n>STV	27%

Variable*	Result
Samples	19
SeasGM	106
#GMI	32
#GMI Ex	13
%GMI Ex	40%
n>STV	6
%n>STV	31%

Variable*	Result
Samples	17
SeasGM	186
#GMI	25
#GMI Ex	15
%GMI Ex	60%
n>STV	6
%n>STV	35%

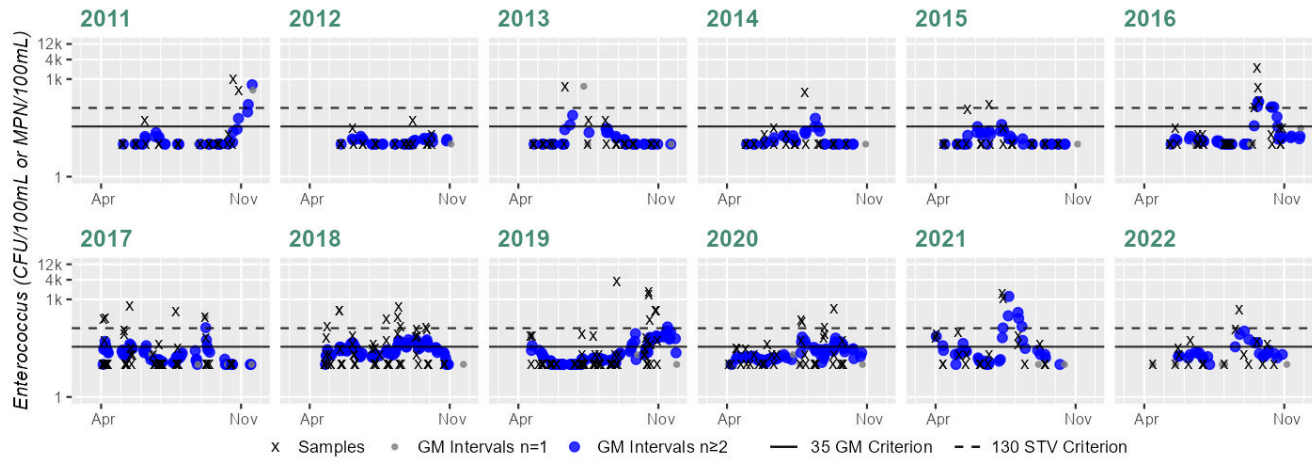
Cumulative %GMI Exceedance  
Current (2011-2022)  
32%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
42%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_067 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	21
SeasGM	16
#GMI	33
#GMI Ex	4
%GMI Ex	12%
n>STV	2
%n>STV	9%

Variable*	Result
Samples	20
SeasGM	11
#GMI	34
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	21
SeasGM	14
#GMI	35
#GMI Ex	2
%GMI Ex	5%
n>STV	1
%n>STV	4%

Variable*	Result
Samples	20
SeasGM	13
#GMI	34
#GMI Ex	1
%GMI Ex	2%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	20
SeasGM	13
#GMI	35
#GMI Ex	1
%GMI Ex	2%
n>STV	1
%n>STV	5%

Variable*	Result
Samples	29
SeasGM	20
#GMI	45
#GMI Ex	9
%GMI Ex	20%
n>STV	4
%n>STV	13%

Variable*	Result
Samples	48
SeasGM	19
#GMI	76
#GMI Ex	9
%GMI Ex	11%
n>STV	5
%n>STV	10%

Variable*	Result
Samples	52
SeasGM	27
#GMI	92
#GMI Ex	26
%GMI Ex	28%
n>STV	8
%n>STV	15%

Variable*	Result
Samples	59
SeasGM	22
#GMI	99
#GMI Ex	26
%GMI Ex	26%
n>STV	6
%n>STV	10%

Variable*	Result
Samples	35
SeasGM	22
#GMI	61
#GMI Ex	10
%GMI Ex	16%
n>STV	4
%n>STV	11%

Variable*	Result
Samples	20
SeasGM	31
#GMI	35
#GMI Ex	11
%GMI Ex	31%
n>STV	2
%n>STV	10%

Variable*	Result
Samples	17
SeasGM	22
#GMI	25
#GMI Ex	5
%GMI Ex	20%
n>STV	1
%n>STV	5%

Cumulative %GMI Exceedance  
Current (2011-2022)  
17%

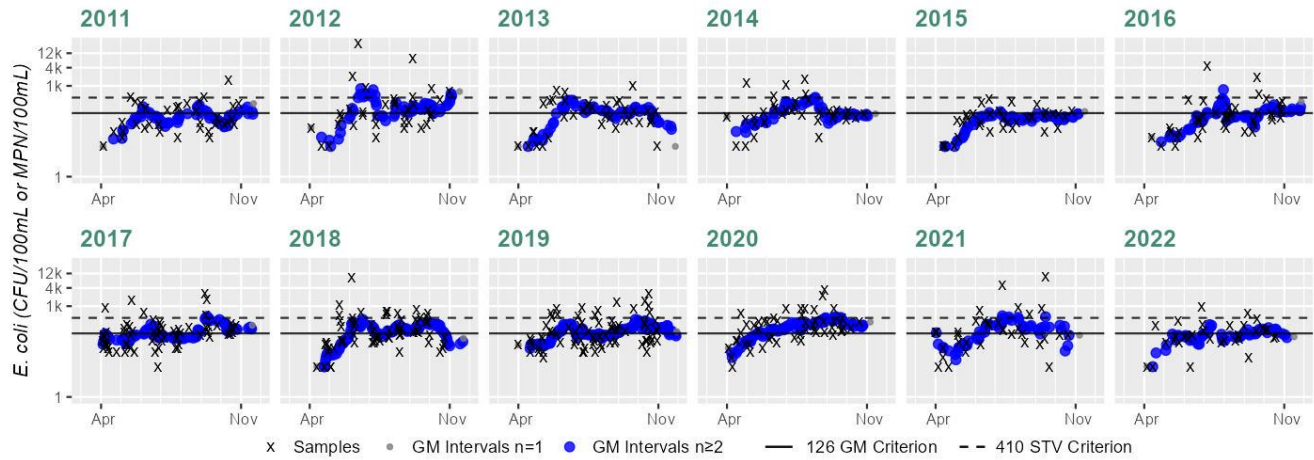
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
25%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_083 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	37
SeasGM	84
#GMI	64
#GMI Ex	16
%GMI Ex	25%
n>STV	3
%n>STV	8%

Variable*	Result
Samples	36
SeasGM	157
#GMI	60
#GMI Ex	45
%GMI Ex	75%
n>STV	7
%n>STV	19%

Variable*	Result
Samples	37
SeasGM	97
#GMI	67
#GMI Ex	38
%GMI Ex	56%
n>STV	3
%n>STV	8%

Variable*	Result
Samples	36
SeasGM	124
#GMI	62
#GMI Ex	27
%GMI Ex	43%
n>STV	5
%n>STV	13%

Variable*	Result
Samples	35
SeasGM	68
#GMI	62
#GMI Ex	2
%GMI Ex	3%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	43
SeasGM	89
#GMI	78
#GMI Ex	33
%GMI Ex	42%
n>STV	3
%n>STV	6%

Variable*	Result
Samples	63
SeasGM	120
#GMI	110
#GMI Ex	45
%GMI Ex	40%
n>STV	6
%n>STV	9%

Variable*	Result
Samples	67
SeasGM	128
#GMI	117
#GMI Ex	75
%GMI Ex	64%
n>STV	11
%n>STV	16%

Variable*	Result
Samples	75
SeasGM	135
#GMI	129
#GMI Ex	77
%GMI Ex	59%
n>STV	14
%n>STV	18%

Variable*	Result
Samples	51
SeasGM	188
#GMI	90
#GMI Ex	67
%GMI Ex	74%
n>STV	9
%n>STV	17%

Variable*	Result
Samples	34
SeasGM	138
#GMI	58
#GMI Ex	35
%GMI Ex	60%
n>STV	6
%n>STV	17%

Variable*	Result
Samples	32
SeasGM	102
#GMI	56
#GMI Ex	18
%GMI Ex	32%
n>STV	2
%n>STV	6%

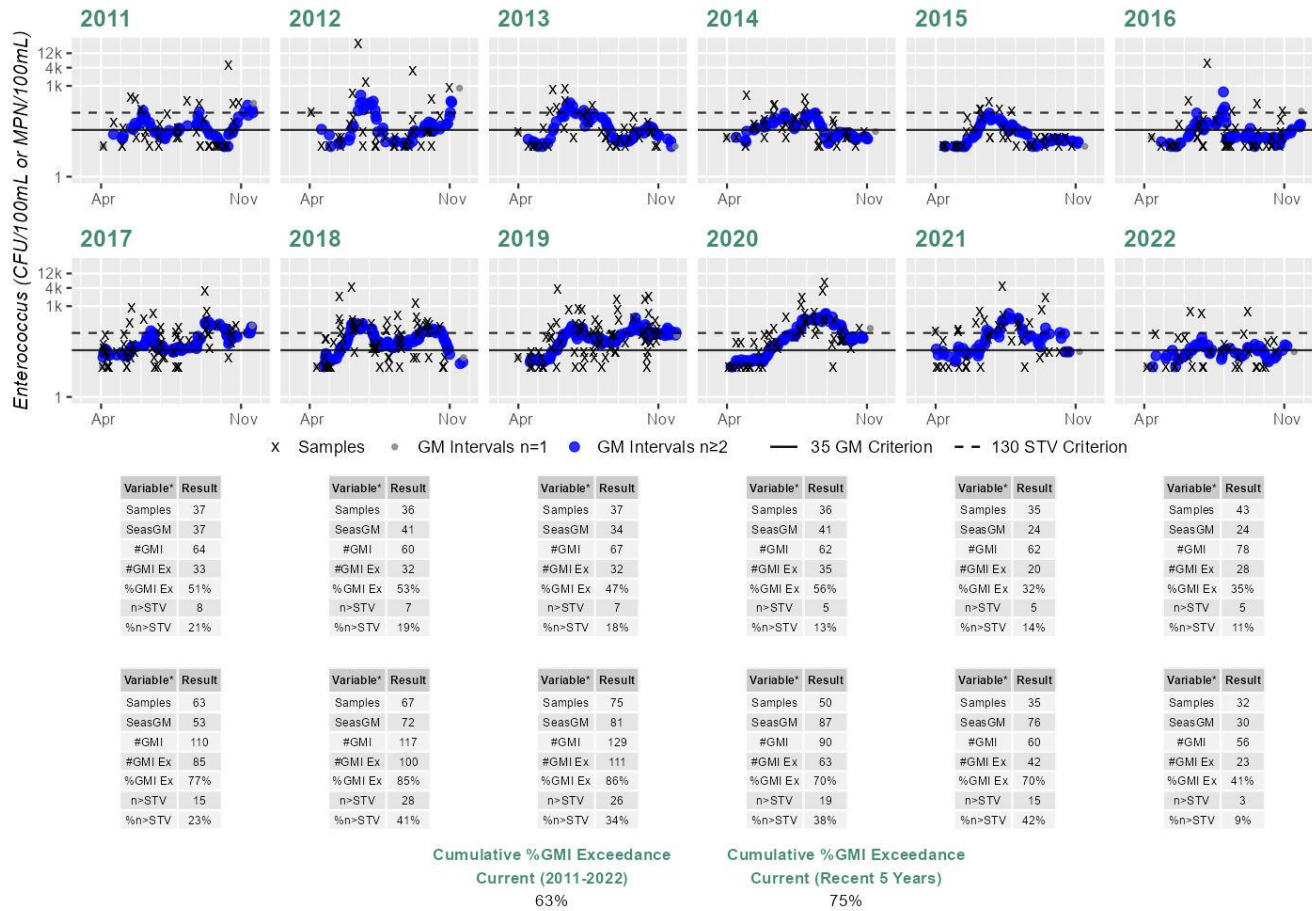
Cumulative %GMI Exceedance  
Current (2011-2022)  
50%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
60%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_083 - Enterococcus

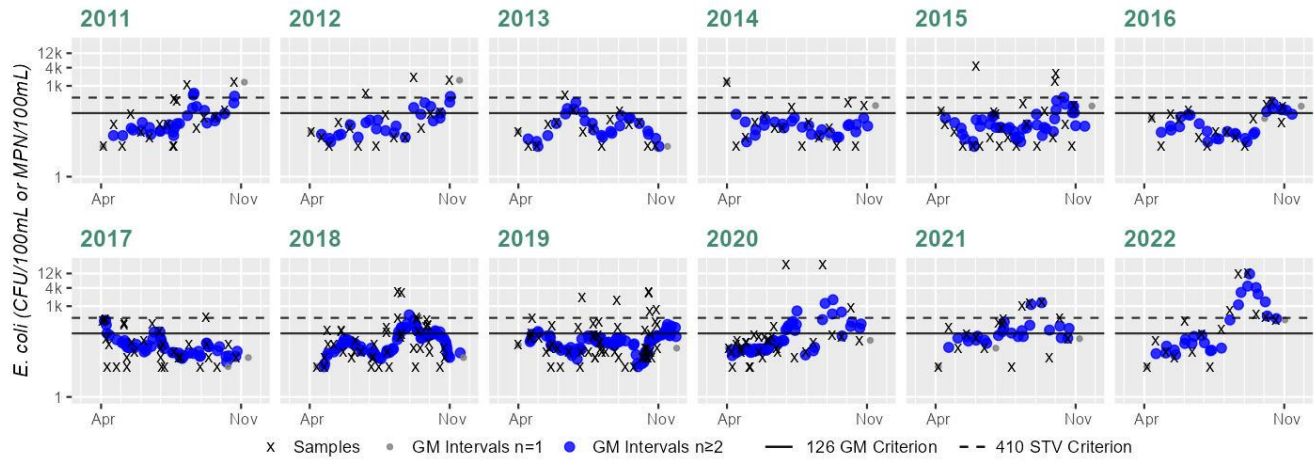
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_167 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	18
SeasGM	67
#GMI	29
#GMI Ex	7
%GMI Ex	24%
n>STV	2
%n>STV	11%

Variable*	Result
Samples	16
SeasGM	63
#GMI	24
#GMI Ex	5
%GMI Ex	20%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	16
SeasGM	39
#GMI	26
#GMI Ex	4
%GMI Ex	15%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	50
#GMI	26
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	24
SeasGM	59
#GMI	43
#GMI Ex	8
%GMI Ex	18%
n>STV	3
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	52
#GMI	26
#GMI Ex	6
%GMI Ex	23%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	32
SeasGM	45
#GMI	56
#GMI Ex	6
%GMI Ex	10%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	42
SeasGM	64
#GMI	78
#GMI Ex	19
%GMI Ex	24%
n>STV	3
%n>STV	7%

Variable*	Result
Samples	55
SeasGM	72
#GMI	95
#GMI Ex	13
%GMI Ex	13%
n>STV	6
%n>STV	10%

Variable*	Result
Samples	31
SeasGM	77
#GMI	58
#GMI Ex	17
%GMI Ex	29%
n>STV	3
%n>STV	9%

Variable*	Result
Samples	16
SeasGM	133
#GMI	24
#GMI Ex	11
%GMI Ex	45%
n>STV	3
%n>STV	18%

Variable*	Result
Samples	15
SeasGM	180
#GMI	24
#GMI Ex	10
%GMI Ex	41%
n>STV	5
%n>STV	33%

Cumulative %GMI Exceedance  
 Current (2011-2022)  
 20%

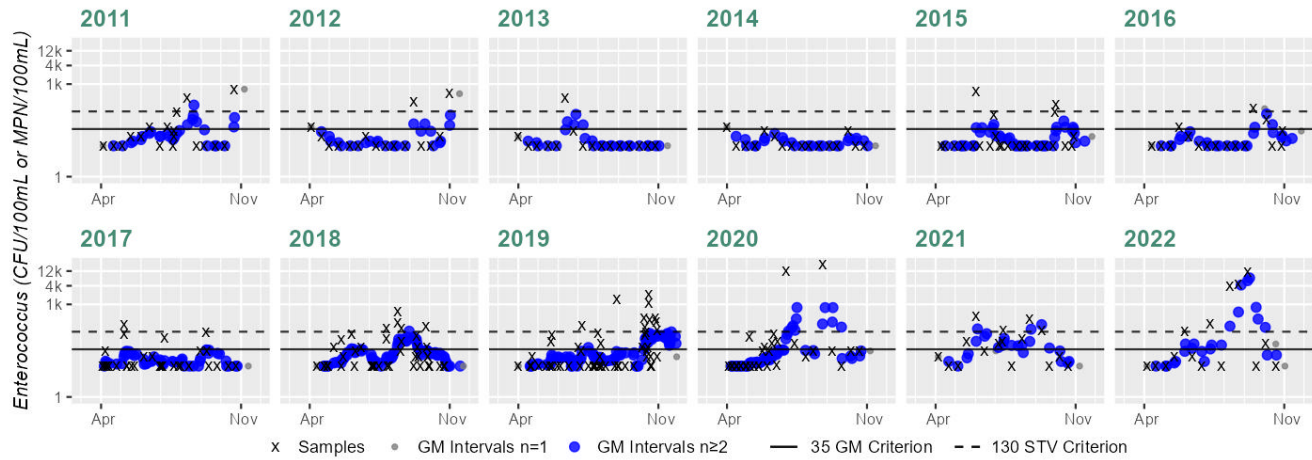
Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 25%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_167 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	18
SeasGM	24
#GMI	29
#GMI Ex	7
%GMI Ex	24%
n>STV	2
%n>STV	11%

Variable*	Result
Samples	16
SeasGM	19
#GMI	24
#GMI Ex	4
%GMI Ex	16%
n>STV	2
%n>STV	12%

Variable*	Result
Samples	16
SeasGM	14
#GMI	26
#GMI Ex	4
%GMI Ex	15%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	13
#GMI	26
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	24
SeasGM	17
#GMI	43
#GMI Ex	8
%GMI Ex	18%
n>STV	2
%n>STV	8%

Variable*	Result
Samples	16
SeasGM	16
#GMI	26
#GMI Ex	3
%GMI Ex	11%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	32
SeasGM	15
#GMI	56
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	3%

Variable*	Result
Samples	42
SeasGM	24
#GMI	78
#GMI Ex	18
%GMI Ex	23%
n>STV	5
%n>STV	11%

Variable*	Result
Samples	55
SeasGM	29
#GMI	95
#GMI Ex	34
%GMI Ex	35%
n>STV	10
%n>STV	18%

Variable*	Result
Samples	31
SeasGM	29
#GMI	58
#GMI Ex	13
%GMI Ex	22%
n>STV	2
%n>STV	6%

Variable*	Result
Samples	16
SeasGM	40
#GMI	24
#GMI Ex	15
%GMI Ex	62%
n>STV	4
%n>STV	25%

Variable*	Result
Samples	15
SeasGM	64
#GMI	24
#GMI Ex	14
%GMI Ex	58%
n>STV	5
%n>STV	33%

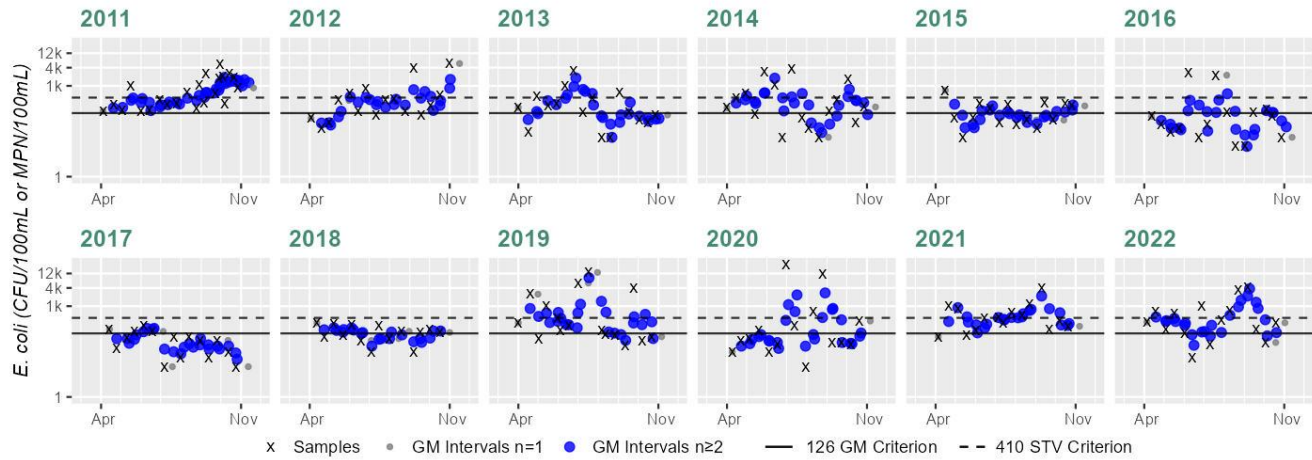
Cumulative %GMI Exceedance  
Current (2011-2022)  
23%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
33%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_177 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	22
SeasGM	552
#GMI	38
#GMI Ex	38
%GMI Ex	100%
n>STV	11
%n>STV	50%

Variable*	Result
Samples	16
SeasGM	290
#GMI	24
#GMI Ex	20
%GMI Ex	83%
n>STV	5
%n>STV	31%

Variable*	Result
Samples	16
SeasGM	169
#GMI	26
#GMI Ex	12
%GMI Ex	46%
n>STV	4
%n>STV	25%

Variable*	Result
Samples	16
SeasGM	235
#GMI	26
#GMI Ex	20
%GMI Ex	76%
n>STV	5
%n>STV	31%

Variable*	Result
Samples	15
SeasGM	118
#GMI	24
#GMI Ex	9
%GMI Ex	37%
n>STV	1
%n>STV	6%

Variable*	Result
Samples	15
SeasGM	78
#GMI	24
#GMI Ex	11
%GMI Ex	45%
n>STV	2
%n>STV	13%

Variable*	Result
Samples	15
SeasGM	56
#GMI	24
#GMI Ex	4
%GMI Ex	16%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	14
SeasGM	118
#GMI	21
#GMI Ex	11
%GMI Ex	52%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	16
SeasGM	380
#GMI	25
#GMI Ex	22
%GMI Ex	88%
n>STV	5
%n>STV	31%

Variable*	Result
Samples	15
SeasGM	161
#GMI	26
#GMI Ex	10
%GMI Ex	38%
n>STV	3
%n>STV	20%

Variable*	Result
Samples	15
SeasGM	403
#GMI	23
#GMI Ex	23
%GMI Ex	100%
n>STV	7
%n>STV	46%

Variable*	Result
Samples	15
SeasGM	314
#GMI	24
#GMI Ex	20
%GMI Ex	83%
n>STV	6
%n>STV	40%

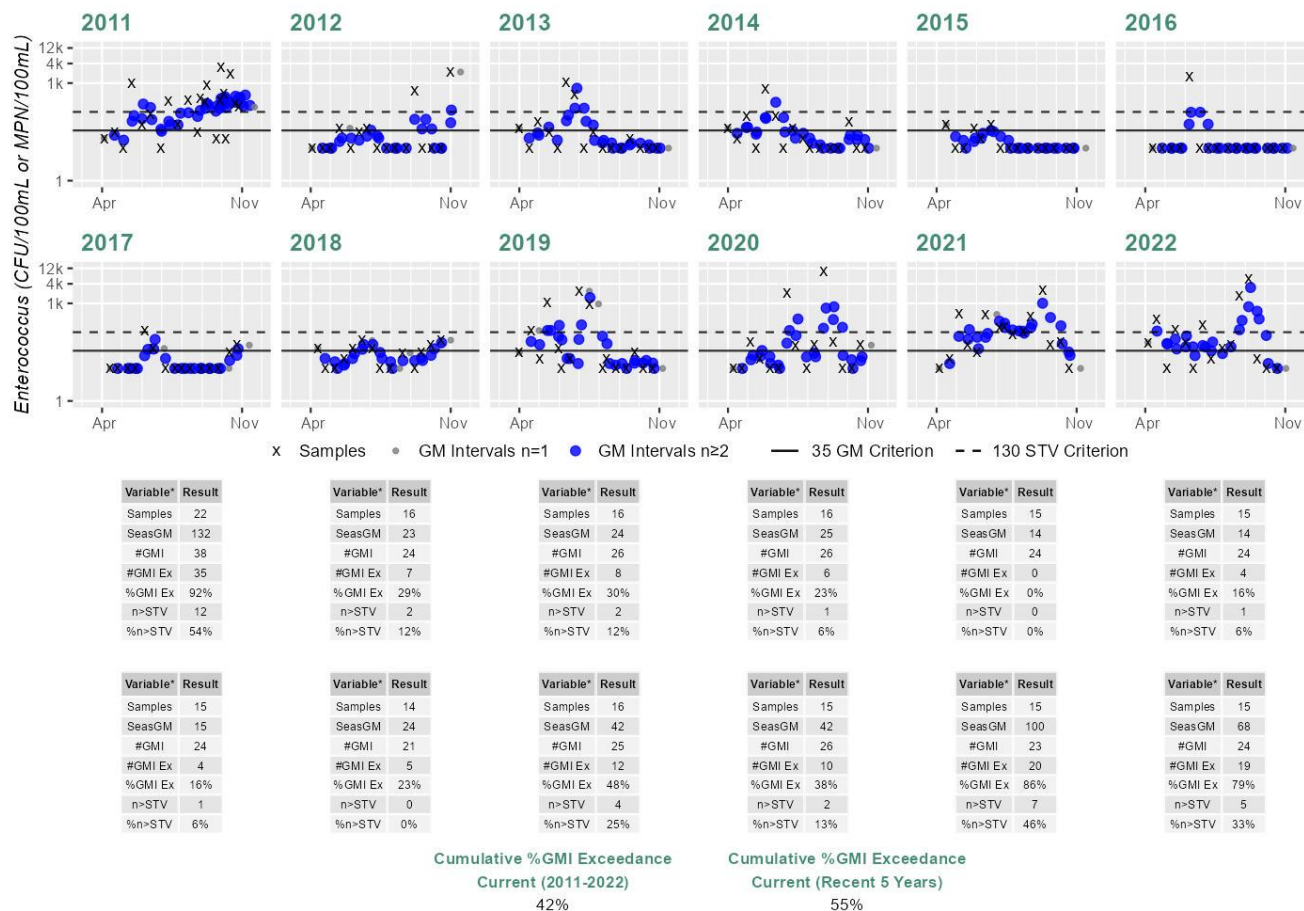
Cumulative %GMI Exceedance  
Current (2011-2022)  
65%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
72%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_177 - Enterococcus

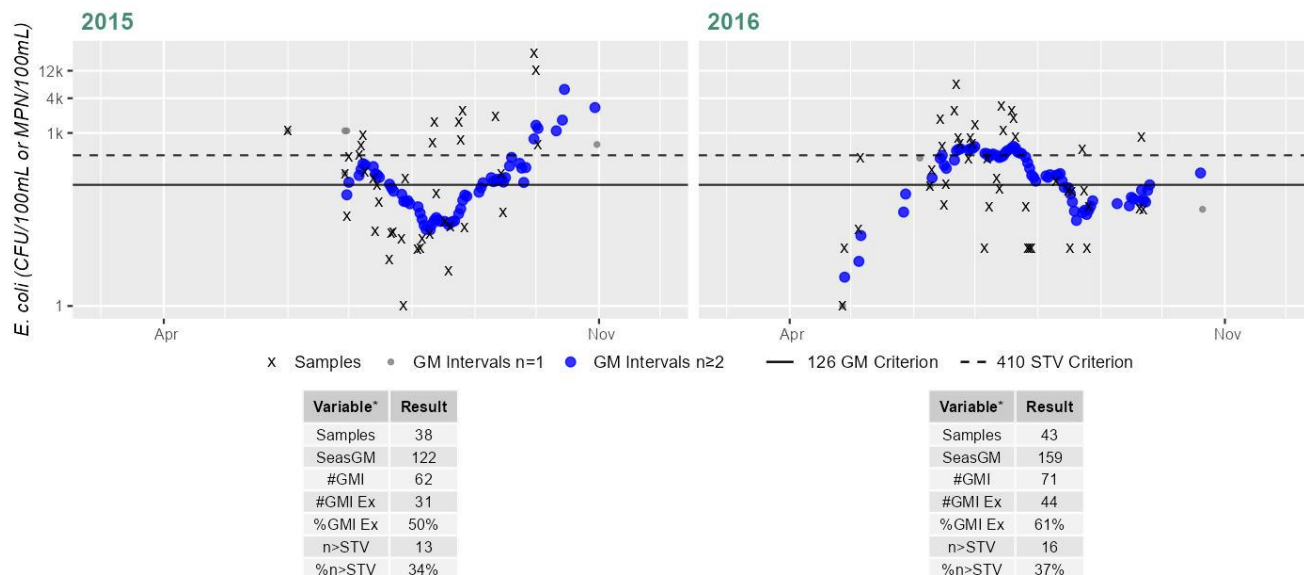
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK - *Escherichia coli*

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

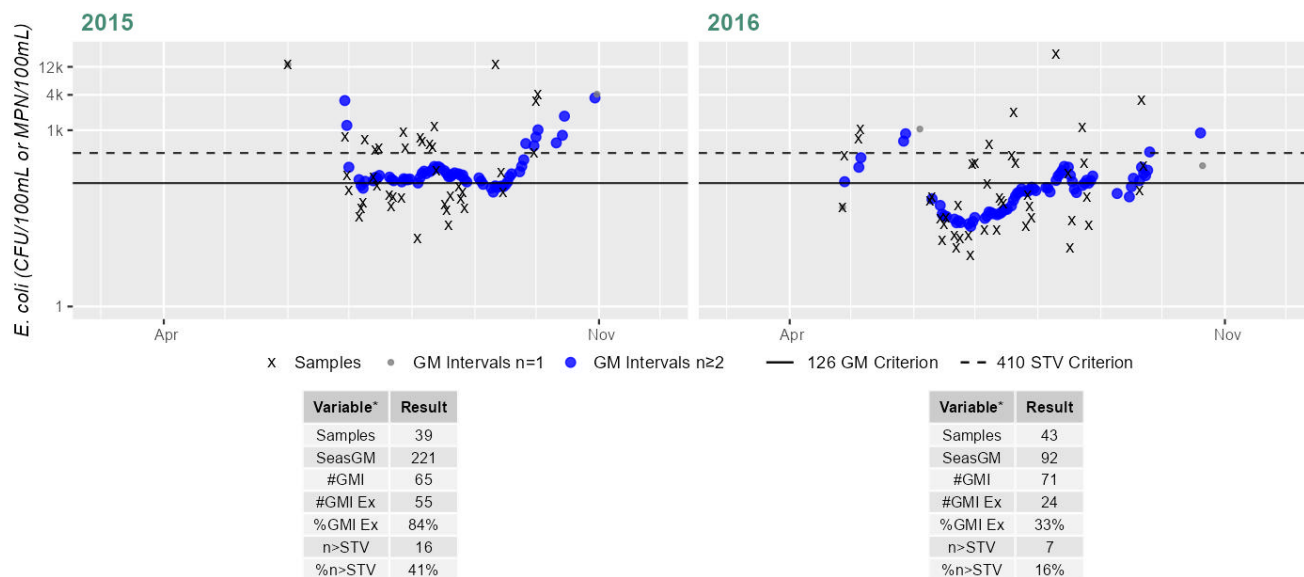
Current (2011-2022)

56%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR0435 - *Escherichia coli*

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

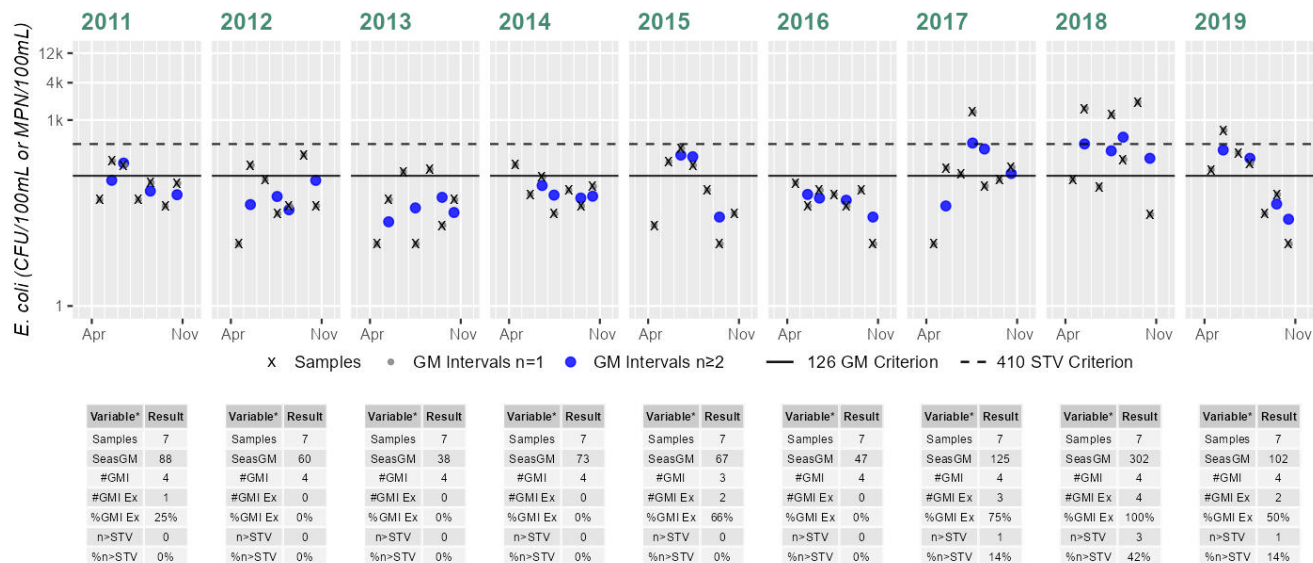
58%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MyRWA\_MYR071 & USGS-01103017 - *Escherichia coli*

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

34%

Cumulative %GMI Exceedance

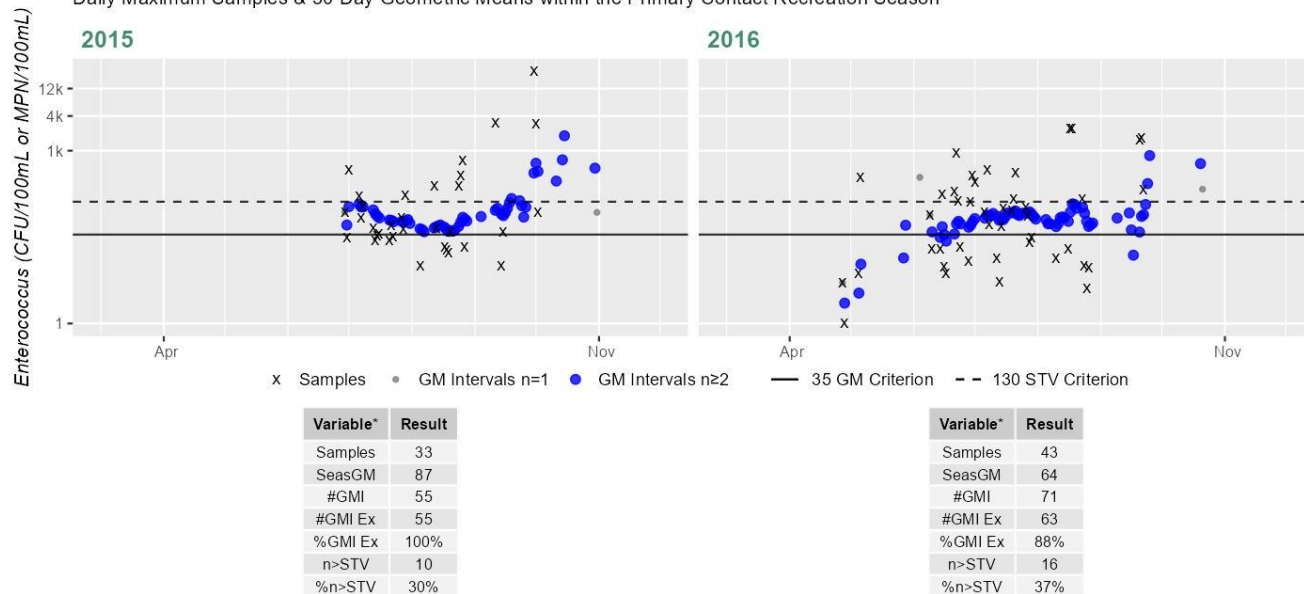
Current (Recent 5 Years)

57%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_MYRBOBDOCK - *Enterococcus*

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

93%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Other Indicators

### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MWRA 2025) (MassDEP Undated 2)

Data Year(s)	Summary
2011-2022	<p>In this upstream Mystic River AU (MA71-02), MWRA collected Secchi data at MWRA_056 (2011-2022), MWRA_057 (2011-2015, 2017-2018, and 2021-2022), MWRA_059 (2011-2022), MWRA_066 (2012), MWRA_067 (2011-2022), MWRA_083 (2011, 2013-2017, and 2021-2022), MWRA_167 (2011-2019), and MWRA_177 (2012). Note that station depths were available on all dates Secchi depth was measured and some station depths were less than the 1.2 m (4 ft) threshold as noted when a station depth range is given below. The most recent five years of data with &gt;2 Secchi measurements (i.e., 2018-2022) were used for assessment. In 2018 at station MWRA_056 (max station depth=3 m) the Secchi depth measurements ranged from 0.5-2.3 m (n=24) with 10 measurements in Apr, May, and Jun that were less than the 1.2 m (4 ft) threshold. In 2019 at station MWRA_056 (max station depth=3.1 m) the Secchi depth measurements ranged from 0.9-2.2 m (n=21) with 4 measurements in May, Jun, and Aug that were less than the 1.2 m (4 ft) threshold. In 2020 at station MWRA_056 (max station depth=3.3 m) the Secchi depth measurements ranged from 0.4-1.8 m (n=20) with 12 measurements in Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2021 at station MWRA_056 (max station depth=3.2 m) the Secchi depth measurements ranged from 0.6-1.5 m (n=19) with 17 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2022 at station MWRA_056 (max station depth=3.2 m) the Secchi depth measurements ranged from 0.5-1.8 m (n=16) with 10 measurements in May, Jun, Aug, Sep, and Oct that were less than the 1.2 m (4 ft) threshold. In 2018 at station MWRA_057 (max station depth=0.9 m) the Secchi depth (n=1) was measured to be 0.7 m on Jul 17th which was less than the corresponding station depth. In 2021 at station MWRA_057 (max station depth=1.2 m) the Secchi depth measurements ranged from 0.7-1 m (n=5) with 5 measurements in May, Jun, Aug, and Sep that were less than the corresponding station depth. In 2022 at station MWRA_057 (max station depth=1.1 m) the Secchi depth measurements ranged from 0.5-1 m (n=3) with 3 measurements in Jun and Sep that were less than the corresponding station depth. In 2018 at station MWRA_059 (station depth=1.2-3 m) the Secchi depth measurements ranged from 0.4-1 m (n=24) with 24 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2019 at station MWRA_059 (station depth=1-1.8 m) the Secchi depth measurements ranged from 0.6-1.5 m (n=20) with 18 measurements in May, Jun, Jul, and Aug that were less than the 1.2 m (4 ft) threshold as well as their corresponding station depth. In 2020 at station MWRA_059 (station depth=1.4-2.7 m) the Secchi depth measurements ranged from 0.2-1.5 m (n=19) with 12 measurements in Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2021 at station MWRA_059 (station depth=1.4-4.1 m) the Secchi depth measurements ranged from 0.6-1 m (n=19) with 19 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2022 at station MWRA_059 (station depth=1.3-2 m) the Secchi depth measurements ranged from 0.3-1.5 m (n=17) with 16 measurements in Apr, May, Jun, Aug, Sep, and Oct that were less than the 1.2 m (4 ft) threshold. In 2018 at station MWRA_067 (max station depth=3.7 m) the Secchi depth measurements ranged from 0.4-1.1 m (n=24) with 24 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2019 at station MWRA_067 (max station depth=3.9 m) the Secchi depth measurements ranged from 0.8-1.9 m (n=21) with 14 measurements in May, Jun, Jul, and Aug that were less than the 1.2 m (4 ft) threshold. In 2020 at station MWRA_067 (max station depth=3.9 m) the Secchi depth measurements ranged from 0.4-1.5 m (n=20) with 13 measurements in Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2021 at station MWRA_067 (max station depth=4 m) the Secchi depth measurements ranged from 0.5-1 m (n=19) with 19 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2022 at station MWRA_067 (max station depth=4.1 m) the Secchi depth measurements ranged from 0.4-1.5 m (n=17) with 16 measurements in</p>

<b>Data Year(s)</b>	<b>Summary</b>
	<p>Apr, May, Jun, Aug, Sep, and Oct that were less than the 1.2 m (4 ft) threshold. In 2021 at station MWRA_083 (station depth=1-1.2 m) the Secchi depth measurements ranged from 0.7-1 m (n=7) with 7 measurements in May, Jun, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2022 at station MWRA_083 (station depth=1-1.4 m) the Secchi depth measurements ranged from 0.5-1 m (n=4) with 4 measurements in May, Jun, and Aug that were less than the 1.2 m (4 ft) threshold. In 2018 at station MWRA_167 (max station depth=6 m) the Secchi depth measurements ranged from 0.4-1.1 m (n=24) with 24 measurements in Apr, May, Jun, Jul, Aug, and Sep that were less than the 1.2 m (4 ft) threshold. In 2019 at station MWRA_167 (max station depth=6.4 m) the Secchi depth measurements ranged from 0.6-1.5 m (n=21) with 16 measurements in May, Jun, Jul, and Aug that were less than the 1.2 m (4 ft) threshold. The Secchi depth measurements are indicative of a Transparency / Clarity impairment due to conditions at MWRA_056, MWRA_057, MWRA_059, MWRA_067, MWRA_083, and MWRA_167.</p>

## Secondary Contact Recreation

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	NO
<b>2024/26 Use Attainment Summary</b>	

Secondary Contact Recreation Use assessment for this freshwater Mystic River AU (MA71-02): Not Supporting. Prior Harmful Algal Blooms impairment: carried forward (see Aesthetics Use for more details). New Escherichia Coli (E. Coli) impairment: based on reevaluation of bacteria data at MWRA\_083, MWRA\_057, MWRA\_066, MWRA\_056, MWRA\_177, MyRWA\_MYR0435, MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK, MWRA\_067, MWRA\_059, and MWRA\_167. New Aquatic Plants (Macrophytes) impairment (from Aesthetics Use). Removal of Transparency/Clarity & Water Chestnut impairments since they were also removed from Aesthetics Use. Prior Alerts for Oily Sheens & Objectionable Deposits: removed from this use but maintained under Aesthetics Use.

MWRA, and MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in this MA71-02 AU at 12 stations/combined stations. Samples were collected from upstream to downstream as follows: MyRWA\_MYR071 [Mystic R. at upstr. side of High St Bridge in Medford; outlet from Lower Mystic Lake] from 2011-2019 (current n=10-13/yr), MWRA\_083 [Mystic R. upstream of confluence with Alewife Br.] from 2011-2022 (current n=41-87/yr), MWRA\_057 [Mystic R. confluence with Alewife Br.] from 2011-2022 (current n=20-63/yr), MWRA\_066 [Mystic R., Boston Ave bridge] from 2011-2022 (current n=23-35/yr), MWRA\_056 [Mystic R. 100m upstr. of Rt 93] from 2011-2022 (current n=20-63/yr), MyRWA\_MWRA056 [Mystic, 100m upstr. of Rt 93] in Dec 2014 (n=2; data insufficient to evaluate & will not be discussed), MWRA\_177 [Mystic R. downstr. of Rt 16 bridge, midchannel] from 2011-2022 (current n=22-35/yr), MyRWA\_MYR0435 [Center of stream. Downstr. side of Rt 16 bridge] from 2015-2016 (n=39-43/yr), MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK [MYSTIC, MDC SAILING DOCK & From Blessing of the Bay Boathouse furthest dock] from 2014-2016 (n=2-43/yr), MWRA\_067 [Mystic R., Rt 28 bridge, near SOM007A/MWR205A] from 2011-2022 (current n=20-63/yr), MWRA\_059 [Mystic R. confluence with Malden R.] from 2011-2022 (current n=19-35/yr), and MWRA\_167 [Mystic R. upstr. of Amelia Earhart Dam] from 2011-2022 (current n=21-66/yr). *E. coli* data from 10 of 11 stations with sufficient frequency data indicated poor water quality. At most of these stations, 3-5 of the 5 recent years of data (or 2 years for the 2-year combined station, MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK station) had >10% of intervals with GMs >244 CFU/100mL (the exception was the high frequency MWRA\_059 with only 2 years of GM exceedances >10%; note that this station still met impairment conditions). In many cases, 3-4 years (or 2 for the 2-yr stations, MyRWA\_MYR0435 and the combined station, MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK station) had >10% of samples exceed the 794 CFU/100mL STV (exceptions included some high frequency stations with fewer years of STV exceedances: MWRA\_083 with no years, MWRA\_057 with 1 year, MWRA\_066 with 2 years, MWRA\_056 with 2 years, and MWRA\_167 with 2 years; note that all these stations still met impairment conditions), and cumulatively across years, >10% of intervals had GMs >244 CFU/100mL at all stations but the following exception. The moderate frequency MyRWA\_MYR071, the most upstream station, had data which met 2024 CALM guidance- 2 of the 5 recent years had >20% of intervals with GMs >244 CFU/100mL, but only 1 year had ≥2 samples exceed the 794 CFU/100mL STV and cumulatively across all 5 years, only 14% of intervals had GMs >244 CFU/100mL. However, since so many other stations had high frequency *E. coli* data that did not meet thresholds in the 2024 CALM, an Escherichia Coli (E. Coli) impairment is being added.



Note that MassDEP, MWRA, MyRWA, and USGS staff/volunteers collected *E. coli* bacteria samples in this MA71-02 AU in the historic IR window (1997-2010) at 37 stations. Most of the stations with data in the current window had similar results while most stations with data only in the historical window had limited data which could not be evaluated according to the 2024 CALM.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_056	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, 100m upstream of Rt. 93	42.414769	- 71.105322
MWRA_057	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, confluence of Mystic River and Alewife Brook	42.415224	- 71.132393
MWRA_059	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, confluence of Mystic and Malden Rivers	42.396667	- 71.077000
MWRA_066	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, Boston Ave. bridge	42.417263	- 71.130664
MWRA_067	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, Route 28 bridge, near SOM007A/MWR205A	42.399765	- 71.082831
MWRA_083	Massachusetts Water Resources Authority	Water Quality	Upper Mystic	Mystic River, upstream of confluence of Mystic River and Alewife Brook	42.415203	- 71.137041
MWRA_167	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, Amelia Earhart Dam, upstream side	42.395000	- 71.075833
MWRA_177	Massachusetts Water Resources Authority	Water Quality	Lower Mystic Basin	Mystic River, Rt 16 bridge, midchannel, downstream side	42.405722	- 71.096351
W1973	MassDEP	Water Quality	Mystic River	[off the southern end/downstream side of the Riverside Yacht Club boat dock, Medford (approximately 1400 feet downstream of Route 93 crossing)]	42.411965	- 71.100564
W1974	MassDEP	Water Quality	Mystic River	[upstream at Route 38 (Winthrop Street), Medford]	42.417852	- 71.118136

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1975	MassDEP	Water Quality	Mystic River	[off the western end/upstream side of the Winter Hill Yacht Club boat dock, Somerville (approximately 1400 feet downstream of the Route 28, Wellington Bridge crossing)]	42.397119	- 71.079433
MyRWA_LMLSiphon	Mystic River Watershed Association	Water Quality	Lower Mystic Lake	Footpath west of Lakeview Street, Medford	42.422456	- 71.143951
MyRWA_MWRA056	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	MYSTIC, 100M UPSTREAM OF RT. 93	42.414769	- 71.105322
MyRWA_MWRA060	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	MYSTIC, MDC SAILING DOCK	42.398700	- 71.090461
MyRWA_MWRA167	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic R. US of Amelia Earhart dam	42.395500	- 71.075200
MyRWA_MYR0435	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Center of the stream. Sample from route 16 bridge, downstream side	42.405722	- 71.096351
MyRWA_MYR069	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.415390	- 71.133600
MyRWA_MYR070	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.415230	- 71.135580
MyRWA_MYR071	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic River at High Street Bridge in Medford; outlet from Lower Mystic Lake, upstream side of the bridge	42.420647	- 71.142906
MyRWA_MYR073	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.416910	- 71.140510
MyRWA_MYR077	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.421970	- 71.142810
MyRWA_MYR29S	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic River at Amelia Earhart Dam, Somerville shore in line with upstream lock end	42.395081	- 71.076531
MyRWA_MYR33	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.398810	- 71.081470
MyRWA_MYR36S	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.399549	- 71.086661
MyRWA_MYR37	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.400060	- 71.088630

<b>Station Code</b>	<b>Organization</b>	<b>Type</b>	<b>Water Body</b>	<b>Station Description</b>	<b>Latitude</b>	<b>Longitude</b>
MyRWA_MYR41	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.402910	- 71.094170
MyRWA_MYR45	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.407090	- 71.098640
MyRWA_MYR49	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.412360	- 71.100710
MyRWA_MYR53	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.415440	- 71.106640
MyRWA_MYR57	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic River downstream of Meetinghouse Brook	42.417810	- 71.112710
MyRWA_MYR60S	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.417663	- 71.118532
MyRWA_MYR61	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic River upstream of Winthrop Street	42.417870	- 71.120490
MyRWA_MYR65	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.417990	- 71.127940
MyRWA_MYR664	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.417322	- 71.130456
MyRWA_MYRBANK	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.417583	- 71.116975
MyRWA_MYRBOB1	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	Mystic River at the Blessing of the Bay Boathouse	42.398430	- 71.090630
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	From Blessing of the Bay Boathouse furthest dock	42.398700	- 71.090461
MyRWA_MYRMTC	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.420595	- 71.143642
MyRWA_MYRWhIFds	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.417917	- 71.126561
MyRWA_MYRWHOLLY	Mystic River Watershed Association	Water Quality	Mystic River (Fresh)	No description submitted by MyRWA	42.417970	- 71.126309

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
USGS-01103017	USGS Massachusetts Water Science Center	Water Quality	Mystic River	Mystic River At Medford, MA	42.420652	- 71.142832

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

(MWRA 2024) (MassDEP Undated 1) (MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

(USGS 2024) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/24/02	11/20/02	16	15	5300	146
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/07/03	11/05/03	15	120	7000	503
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/05/04	11/23/04	19	5	635	141
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/04/05	12/01/05	21	65	27000	336
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/16/06	12/20/06	24	30	17000	315
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/09/07	11/13/07	19	74	2400	266
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	21	63	15500	289
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/11/09	10/28/09	20	95	2360	383
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/05/10	11/12/10	20	52	1940	221
MWRA_056	Massachusetts Water Resources Authority	E. coli	05/03/11	12/22/11	24	74	3450	326
MWRA_056	Massachusetts Water Resources Authority	E. coli	01/27/12	10/04/12	21	20	9210	206
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	20	7270	173

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	52	6130	381
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	20	2100	191
MWRA_056	Massachusetts Water Resources Authority	E. coli	03/28/16	12/02/16	37	10	5170	147
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/03/17	11/29/17	51	31	7700	183
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	57	31	17300	317
MWRA_056	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	63	20	72700	318
MWRA_056	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	20	2280	176
MWRA_056	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	10	11200	287
MWRA_056	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	41	2100	275
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/01/02	12/17/02	21	5	2200	95
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/07/03	12/18/03	20	10	6900	139
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/05/04	11/23/04	19	5	115	41
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/04/05	12/27/05	28	10	3100	77
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/16/06	12/20/06	24	5	10900	127
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/09/07	11/13/07	20	10	11200	151
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	10	2480	152
MWRA_057	Massachusetts Water Resources Authority	E. coli	01/07/09	10/28/09	21	31	2010	123

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/05/10	11/12/10	20	20	2100	169
MWRA_057	Massachusetts Water Resources Authority	E. coli	05/03/11	12/22/11	24	20	9210	153
MWRA_057	Massachusetts Water Resources Authority	E. coli	01/27/12	10/04/12	21	20	24200	158
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	20	10	7700	170
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	10	1310	185
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	10	2850	124
MWRA_057	Massachusetts Water Resources Authority	E. coli	03/28/16	12/02/16	37	10	3080	85
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/03/17	11/29/17	51	10	5790	112
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	58	10	2100	163
MWRA_057	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	63	20	4610	163
MWRA_057	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	10	1470	153
MWRA_057	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	10	8160	111
MWRA_057	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	10	1450	116
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/02/02	11/20/02	18	5	1100	38
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/07/03	11/05/03	16	10	1800	32
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/05/04	11/23/04	19	5	185	29
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/04/05	12/01/05	21	5	305	18

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/16/06	12/20/06	24	5	8400	49
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/09/07	11/13/07	19	10	683	33
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	10	2760	85
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/11/09	10/28/09	20	10	243	37
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/05/10	11/12/10	20	10	581	38
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/03/11	11/30/11	23	10	1040	54
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/17/12	10/04/12	20	10	556	48
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	10	185	39
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	10	6870	44
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	10	122	24
MWRA_059	Massachusetts Water Resources Authority	E. coli	03/28/16	12/01/16	35	10	960	59
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/04/17	10/19/17	31	10	4350	70
MWRA_059	Massachusetts Water Resources Authority	E. coli	04/25/18	09/12/18	24	10	3260	87
MWRA_059	Massachusetts Water Resources Authority	E. coli	05/03/19	08/30/19	21	10	759	42
MWRA_059	Massachusetts Water Resources Authority	E. coli	07/21/20	09/25/20	20	10	3260	153
MWRA_059	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	20	20	2720	90
MWRA_059	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	19	10	3650	149

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_066	Massachusetts Water Resources Authority	E. coli	04/01/02	12/31/02	39	10	42200	205
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/16/03	12/30/03	44	10	2800	127
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/06/04	12/22/04	23	5	5400	91
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/05/05	12/19/05	23	30	1240	189
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/04/06	12/27/06	35	5	15700	148
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/09/07	12/27/07	26	20	3450	125
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/09/08	12/29/08	26	10	2360	130
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/13/09	12/28/09	26	10	907	106
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/11/10	12/29/10	26	41	4110	363
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/10/11	12/27/11	35	10	7270	269
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/11/12	12/26/12	27	31	1780	213
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/08/13	12/23/13	26	31	809	152
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/06/14	12/22/14	26	10	3260	142
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/07/15	12/21/15	25	10	327	89
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/04/16	12/20/16	26	20	2250	113
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/03/17	12/20/17	26	10	617	92
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/18/18	12/26/18	25	20	3610	141



Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/07/19	12/16/19	26	31	1470	159
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/02/20	12/28/20	27	20	24200	194
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/11/21	12/29/21	23	30	1780	175
MWRA_066	Massachusetts Water Resources Authority	E. coli	01/12/22	12/28/22	25	20	3650	269
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/24/02	11/20/02	17	5	1400	32
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/07/03	11/05/03	16	5	470	38
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/05/04	11/23/04	19	5	200	24
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/04/05	12/01/05	21	5	1020	28
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/16/06	12/20/06	24	5	12400	51
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/09/07	11/13/07	19	10	689	31
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/14/08	12/12/08	22	10	5170	74
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/11/09	10/28/09	20	10	379	40
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/05/10	11/12/10	20	10	496	38
MWRA_067	Massachusetts Water Resources Authority	E. coli	05/03/11	12/22/11	24	10	1920	65
MWRA_067	Massachusetts Water Resources Authority	E. coli	01/27/12	10/04/12	21	10	988	57
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/24/13	10/31/13	21	10	785	33
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/30/14	10/01/14	20	10	3260	102

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/13/15	10/06/15	20	10	384	33
MWRA_067	Massachusetts Water Resources Authority	E. coli	03/28/16	12/02/16	37	10	1240	72
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/03/17	11/29/17	50	10	6870	75
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/24/18	11/08/18	57	10	24200	130
MWRA_067	Massachusetts Water Resources Authority	E. coli	04/20/19	11/22/19	63	10	3450	74
MWRA_067	Massachusetts Water Resources Authority	E. coli	03/31/20	09/25/20	37	10	7270	150
MWRA_067	Massachusetts Water Resources Authority	E. coli	03/23/21	09/16/21	21	10	1530	100
MWRA_067	Massachusetts Water Resources Authority	E. coli	03/22/22	10/17/22	20	20	1220	151
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/01/02	12/17/02	21	10	540	50
MWRA_083	Massachusetts Water Resources Authority	E. coli	05/07/03	12/18/03	20	10	4500	115
MWRA_083	Massachusetts Water Resources Authority	E. coli	05/05/04	11/23/04	19	5	100	32
MWRA_083	Massachusetts Water Resources Authority	E. coli	05/04/05	12/27/05	28	5	1080	54
MWRA_083	Massachusetts Water Resources Authority	E. coli	04/13/06	12/27/06	44	10	5100	78
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/09/07	12/13/07	42	10	1620	77
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/09/08	12/29/08	48	10	1020	92
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/27/09	12/28/09	45	10	691	63
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/27/10	12/29/10	44	10	4350	101

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/10/11	12/27/11	48	10	1520	84
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/11/12	12/26/12	47	10	24200	107
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/08/13	12/23/13	47	10	1020	69
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/06/14	12/22/14	44	10	1610	102
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/20/15	12/21/15	41	10	364	66
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/04/16	12/06/16	61	10	4610	74
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/03/17	12/20/17	76	10	2600	100
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/18/18	12/10/18	82	10	8660	116
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/07/19	12/16/19	87	10	2490	130
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/02/20	12/28/20	64	10	3450	152
MWRA_083	Massachusetts Water Resources Authority	E. coli	01/11/21	12/29/21	45	10	9210	93
MWRA_083	Massachusetts Water Resources Authority	E. coli	02/09/22	12/28/22	44	10	24200	102
MWRA_167	Massachusetts Water Resources Authority	E. coli	04/01/02	12/31/02	36	10	2820	29
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/16/03	12/30/03	42	5	820	32
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/06/04	12/08/04	19	5	340	23
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/05/05	11/22/05	19	15	2500	78
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/04/06	12/27/06	32	5	9800	55

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/09/07	11/27/07	21	10	1010	32
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/09/08	12/29/08	25	10	1350	68
MWRA_167	Massachusetts Water Resources Authority	E. coli	02/26/09	12/28/09	23	10	1260	85
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/11/10	12/13/10	24	10	1400	38
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/10/11	12/27/11	26	10	1320	89
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/11/12	12/26/12	26	10	1850	57
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/08/13	12/09/13	25	10	504	47
MWRA_167	Massachusetts Water Resources Authority	E. coli	03/18/14	12/22/14	21	10	1330	59
MWRA_167	Massachusetts Water Resources Authority	E. coli	03/30/15	12/21/15	30	10	4350	76
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/04/16	12/06/16	27	10	1050	65
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/03/17	12/04/17	43	10	419	46
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/29/18	11/27/18	55	10	2910	90
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/07/19	12/16/19	66	10	2910	79
MWRA_167	Massachusetts Water Resources Authority	E. coli	01/02/20	12/28/20	44	10	24200	98
MWRA_167	Massachusetts Water Resources Authority	E. coli	03/10/21	12/29/21	23	10	1310	130
MWRA_167	Massachusetts Water Resources Authority	E. coli	02/22/22	12/12/22	22	10	12000	137
MWRA_177	Massachusetts Water Resources Authority	E. coli	04/02/03	12/30/03	39	10	9200	87

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/06/04	12/08/04	21	5	900	52
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/05/05	12/19/05	21	20	1600	231
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/04/06	12/27/06	25	5	3200	99
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/09/07	12/27/07	23	41	9800	185
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/09/08	12/29/08	27	63	3260	291
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/13/09	12/28/09	25	20	1010	221
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/27/10	12/29/10	25	41	5170	250
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/10/11	12/27/11	35	134	5170	499
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/11/12	12/28/12	28	31	5470	323
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/08/13	12/23/13	25	20	3260	183
MWRA_177	Massachusetts Water Resources Authority	E. coli	02/21/14	12/22/14	24	20	13000	338
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/20/15	12/21/15	22	20	1450	169
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/21/16	12/20/16	25	10	2700	137
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/03/17	12/20/17	25	10	1920	89
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/18/18	12/26/18	25	30	1720	154
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/07/19	12/16/19	23	51	13000	324
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/02/20	12/28/20	27	10	24200	211

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/11/21	12/29/21	25	41	3870	345
MWRA_177	Massachusetts Water Resources Authority	E. coli	01/27/22	12/28/22	25	20	4110	303
W1973	MassDEP	E. coli	04/21/09	09/08/09	6	20	2800	296
W1974	MassDEP	E. coli	04/21/09	09/08/09	6	86	1600	261
W1975	MassDEP	E. coli	04/21/09	09/08/09	6	10	63	28
MyRWA_LMLSiphon	Mystic River Watershed Association	E. coli	03/15/10	03/15/10	1	120000	120000	120000
MyRWA_MWRA056	Mystic River Watershed Association	E. coli	12/10/14	12/11/14	2	1800	2900	2284
MyRWA_MWRA060	Mystic River Watershed Association	E. coli	12/10/14	12/11/14	2	3200	12000	6196
MyRWA_MWRA060	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	1089	1089	1089
MyRWA_MWRA167	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	146	740	328
MyRWA_MYR0435	Mystic River Watershed Association	E. coli	06/01/15	10/02/15	39	14	13140	221
MyRWA_MYR0435	Mystic River Watershed Association	E. coli	04/26/16	09/21/16	43	7	19863	92
MyRWA_MYR069	Mystic River Watershed Association	E. coli	05/28/08	05/28/08	1	1642	1642	1641
MyRWA_MYR070	Mystic River Watershed Association	E. coli	07/24/08	07/24/08	1	598	598	597
MyRWA_MYR071	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	3	4	3922	175
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	12	10	314	50
MyRWA_MYR071	Mystic River Watershed Association	E. coli	03/15/10	03/30/10	2	8600	18600	12647
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	12	10	218	51
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	10	419	60

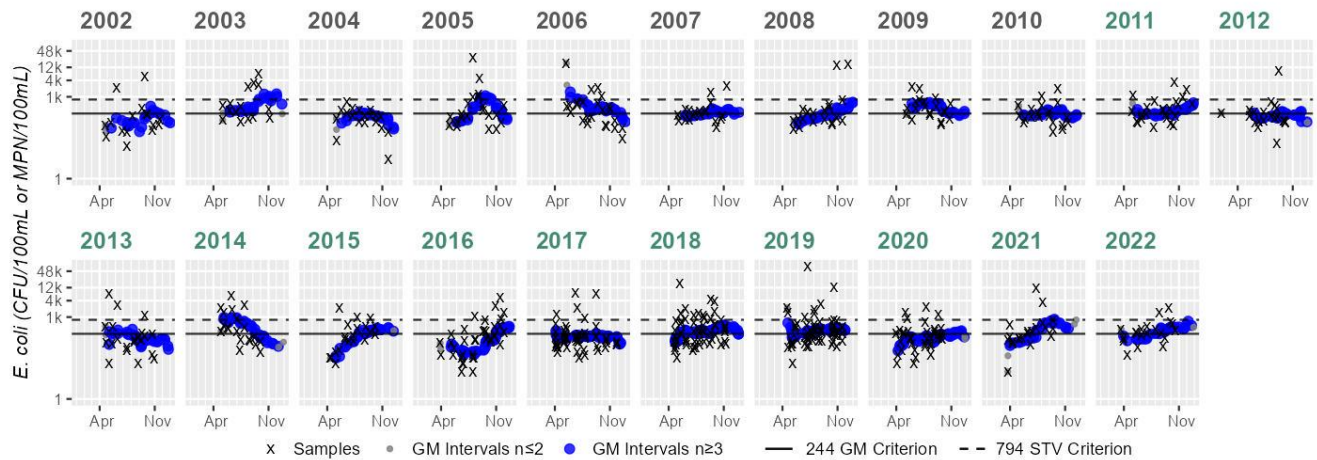
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/16/13	12/18/13	12	10	160	35
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	13	31	1700	146
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	11	10	496	55
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	10	450	48
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	10	1350	47
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	10	1940	134
MyRWA_MYR071	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	10	683	66
MyRWA_MYR073	Mystic River Watershed Association	E. coli	05/28/08	05/28/08	1	744	744	743
MyRWA_MYR077	Mystic River Watershed Association	E. coli	05/28/08	05/28/08	1	839	839	838
MyRWA_MYR29S	Mystic River Watershed Association	E. coli	05/16/06	05/16/06	1	24810	24810	24810
MyRWA_MYR33	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	63	2595	404
MyRWA_MYR36S	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	2747	2747	2746
MyRWA_MYR37	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	122	657	283
MyRWA_MYR41	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	1664	1844	1751
MyRWA_MYR45	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	1281	3466	2107
MyRWA_MYR49	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	3076	6212	4371
MyRWA_MYR53	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	6488	111990	26955

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MYR57	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	1634	86640	11898
MyRWA_MYR60S	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	34480	34480	34480
MyRWA_MYR61	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	2282	32550	8618
MyRWA_MYR65	Mystic River Watershed Association	E. coli	05/28/08	07/24/08	2	1789	18420	5740
MyRWA_MYR664	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	2069	2069	2068
MyRWA_MYRBANK	Mystic River Watershed Association	E. coli	03/15/10	03/15/10	1	14000	14000	14000
MyRWA_MYRBOB1	Mystic River Watershed Association	E. coli	05/16/06	05/16/06	1	29090	29090	29089
MyRWA_MYRBOB1	Mystic River Watershed Association	E. coli	11/13/08	11/13/08	1	75	75	74
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	E. coli	06/29/15	10/02/15	37	1	24196	115
MyRWA_MYRBOBDOCK	Mystic River Watershed Association	E. coli	04/26/16	09/21/16	43	1	6867	159
MyRWA_MYRMTCT	Mystic River Watershed Association	E. coli	03/15/10	03/15/10	1	160000	160000	159999
MyRWA_MYRWHIFds	Mystic River Watershed Association	E. coli	03/15/10	03/15/10	1	42000	42000	41999
MyRWA_MYRWHOLLY	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	648800	648800	648799
USGS-01103017	USGS Massachusetts Water Science Center	E. coli	05/19/99	11/10/99	5	20	130	37
USGS-01103017	USGS Massachusetts Water Science Center	E. coli	01/06/00	06/07/00	5	72	580	235



## Station MWRA\_056 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	16	Samples	15	Samples	19	Samples	21	Samples	24	Samples	19	Samples	21	Samples	20	Samples	20	Samples	24	Samples	21	Samples	21
SeasGM	146	SeasGM	503	SeasGM	141	SeasGM	336	SeasGM	315	SeasGM	266	SeasGM	289	SeasGM	383	SeasGM	221	SeasGM	326	SeasGM	206	SeasGM	206
#GMI	27	#GMI	23	#GMI	28	#GMI	35	#GMI	41	#GMI	33	#GMI	36	#GMI	34	#GMI	35	#GMI	42	#GMI	34	#GMI	34
#GMI Ex	6	#GMI Ex	23	#GMI Ex	3	#GMI Ex	22	#GMI Ex	31	#GMI Ex	20	#GMI Ex	17	#GMI Ex	30	#GMI Ex	13	#GMI Ex	31	#GMI Ex	7	#GMI Ex	7
%GMI Ex	22%	%GMI Ex	100%	%GMI Ex	10%	%GMI Ex	62%	%GMI Ex	75%	%GMI Ex	60%	%GMI Ex	47%	%GMI Ex	88%	%GMI Ex	37%	%GMI Ex	73%	%GMI Ex	20%	%GMI Ex	20%
n>STV	2	n>STV	4	n>STV	0	n>STV	5	n>STV	4	n>STV	2	n>STV	2	n>STV	3	n>STV	2	n>STV	4	n>STV	1	n>STV	1
%n>STV	12%	%n>STV	26%	%n>STV	0%	%n>STV	23%	%n>STV	16%	%n>STV	10%	%n>STV	9%	%n>STV	15%	%n>STV	10%	%n>STV	16%	%n>STV	4%	%n>STV	4%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	20	Samples	20	Samples	37	Samples	51	Samples	57	Samples	63	Samples	37	Samples	21	Samples	20	Samples	20	Samples	20
SeasGM	173	SeasGM	381	SeasGM	191	SeasGM	147	SeasGM	183	SeasGM	317	SeasGM	318	SeasGM	176	SeasGM	287	SeasGM	275	SeasGM	275	SeasGM	275
#GMI	37	#GMI	32	#GMI	34	#GMI	66	#GMI	94	#GMI	100	#GMI	110	#GMI	69	#GMI	33	#GMI	33	#GMI	33	#GMI	33
#GMI Ex	7	#GMI Ex	21	#GMI Ex	19	#GMI Ex	25	#GMI Ex	4	#GMI Ex	87	#GMI Ex	96	#GMI Ex	9	#GMI Ex	19	#GMI Ex	21	#GMI Ex	21	#GMI Ex	21
%GMI Ex	18%	%GMI Ex	65%	%GMI Ex	55%	%GMI Ex	37%	%GMI Ex	4%	%GMI Ex	87%	%GMI Ex	87%	%GMI Ex	13%	%GMI Ex	57%	%GMI Ex	63%	%GMI Ex	63%	%GMI Ex	63%
n>STV	3	n>STV	6	n>STV	3	n>STV	5	n>STV	5	n>STV	13	n>STV	8	n>STV	4	n>STV	2	n>STV	2	n>STV	2	n>STV	2
%n>STV	14%	%n>STV	30%	%n>STV	15%	%n>STV	13%	%n>STV	9%	%n>STV	22%	%n>STV	12%	%n>STV	10%	%n>STV	9%	%n>STV	10%	%n>STV	10%	%n>STV	10%

Cumulative %GMI Exceedance

Historic (1997-2010)

56%

Cumulative %GMI Exceedance

Historic (Recent 5 Years)

62%

Cumulative %GMI Exceedance

Current (2011-2022)

50%

Cumulative %GMI Exceedance

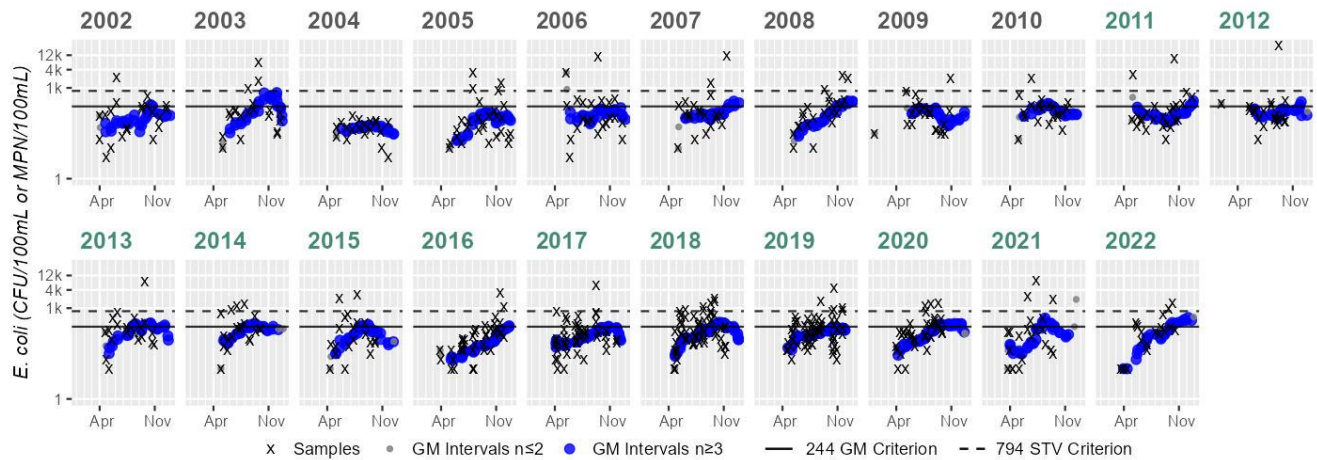
Current (Recent 5 Years)

67%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_057 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	20	Samples	19	Samples	28	Samples	24	Samples	20	Samples	22	Samples	21	Samples	20	Samples	24	Samples	21	Samples	21
SeasGM	95	SeasGM	139	SeasGM	41	SeasGM	77	SeasGM	127	SeasGM	151	SeasGM	152	SeasGM	123	SeasGM	169	SeasGM	153	SeasGM	158	SeasGM	158
#GMI	37	#GMI	33	#GMI	28	#GMI	47	#GMI	41	#GMI	35	#GMI	38	#GMI	34	#GMI	35	#GMI	42	#GMI	34	#GMI	34
#GMI Ex	2	#GMI Ex	12	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	6	#GMI Ex	13	#GMI Ex	0	#GMI Ex	8	#GMI Ex	8	#GMI Ex	2	#GMI Ex	2
%GMI Ex	5%	%GMI Ex	36%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	17%	%GMI Ex	34%	%GMI Ex	0%	%GMI Ex	22%	%GMI Ex	19%	%GMI Ex	5%	%GMI Ex	5%
n>STV	1	n>STV	3	n>STV	0	n>STV	3	n>STV	2	n>STV	2	n>STV	3	n>STV	1	n>STV	1	n>STV	2	n>STV	1	n>STV	1
%n>STV	4%	%n>STV	15%	%n>STV	0%	%n>STV	10%	%n>STV	8%	%n>STV	10%	%n>STV	13%	%n>STV	4%	%n>STV	5%	%n>STV	8%	%n>STV	4%	%n>STV	4%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	20	Samples	20	Samples	20	Samples	37	Samples	51	Samples	58	Samples	63	Samples	37	Samples	21	Samples	20	Samples	20	Samples	20
SeasGM	170	SeasGM	185	SeasGM	124	SeasGM	85	SeasGM	112	SeasGM	163	SeasGM	163	SeasGM	153	SeasGM	111	SeasGM	116	SeasGM	116	SeasGM	116
#GMI	35	#GMI	32	#GMI	34	#GMI	66	#GMI	94	#GMI	102	#GMI	110	#GMI	69	#GMI	33	#GMI	33	#GMI	33	#GMI	33
#GMI Ex	13	#GMI Ex	11	#GMI Ex	4	#GMI Ex	11	#GMI Ex	1	#GMI Ex	29	#GMI Ex	2	#GMI Ex	24	#GMI Ex	9	#GMI Ex	10	#GMI Ex	10	#GMI Ex	10
%GMI Ex	37%	%GMI Ex	34%	%GMI Ex	11%	%GMI Ex	16%	%GMI Ex	1%	%GMI Ex	28%	%GMI Ex	1%	%GMI Ex	34%	%GMI Ex	27%	%GMI Ex	30%	%GMI Ex	30%	%GMI Ex	30%
n>STV	1	n>STV	3	n>STV	2	n>STV	2	n>STV	1	n>STV	6	n>STV	5	n>STV	3	n>STV	3	n>STV	2	n>STV	2	n>STV	2
%n>STV	5%	%n>STV	15%	%n>STV	10%	%n>STV	5%	%n>STV	1%	%n>STV	10%	%n>STV	7%	%n>STV	8%	%n>STV	14%	%n>STV	10%	%n>STV	10%	%n>STV	10%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
12%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
14%

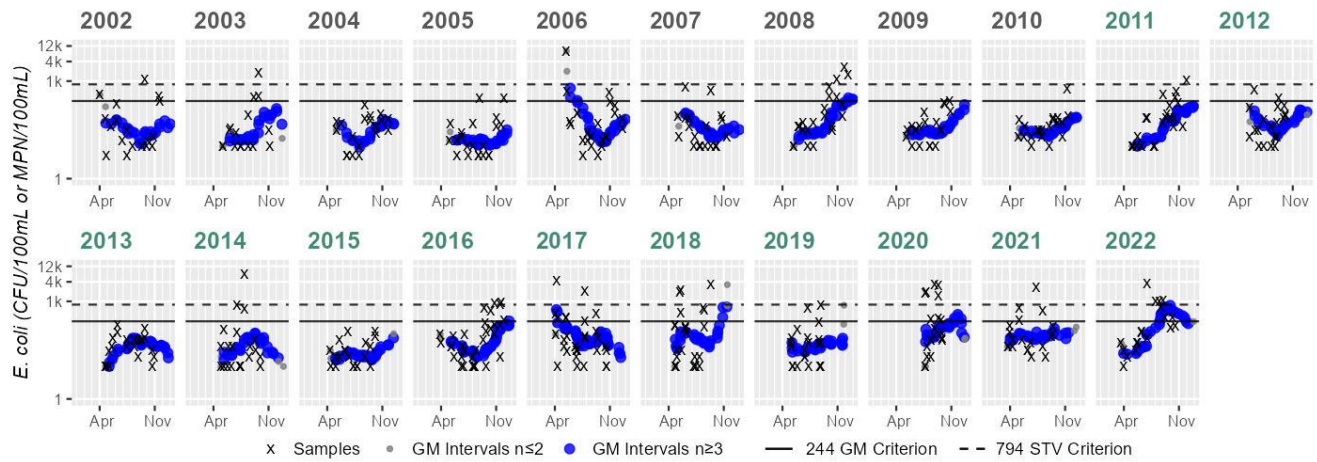
Cumulative %GMI Exceedance  
Current (2011-2022)  
18%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
21%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_059 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	18	Samples	16	Samples	19	Samples	21	Samples	24	Samples	19	Samples	22	Samples	20	Samples	20	Samples	23	Samples	20	Samples	20
SeasGM	38	SeasGM	32	SeasGM	29	SeasGM	18	SeasGM	49	SeasGM	33	SeasGM	85	SeasGM	37	SeasGM	38	SeasGM	54	SeasGM	48	SeasGM	48
#GMI	31	#GMI	25	#GMI	28	#GMI	35	#GMI	41	#GMI	33	#GMI	38	#GMI	34	#GMI	35	#GMI	40	#GMI	34	#GMI	34
#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	3	#GMI Ex	0	#GMI Ex	9	#GMI Ex	0	#GMI Ex	0	#GMI Ex	2	#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	7%	%GMI Ex	0%	%GMI Ex	23%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	5%	%GMI Ex	0%	%GMI Ex	0%
n>STV	1	n>STV	1	n>STV	0	n>STV	0	n>STV	1	n>STV	0	n>STV	3	n>STV	0	n>STV	0	n>STV	1	n>STV	0	n>STV	0
%n>STV	5%	%n>STV	6%	%n>STV	0%	%n>STV	0%	%n>STV	4%	%n>STV	0%	%n>STV	13%	%n>STV	0%	%n>STV	0%	%n>STV	4%	%n>STV	0%	%n>STV	0%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	20	Samples	20	Samples	35	Samples	31	Samples	24	Samples	21	Samples	20	Samples	20	Samples	19	Samples	19	Samples	19
SeasGM	39	SeasGM	44	SeasGM	24	SeasGM	59	SeasGM	70	SeasGM	87	SeasGM	42	SeasGM	153	SeasGM	90	SeasGM	149	SeasGM	149	SeasGM	149
#GMI	37	#GMI	32	#GMI	34	#GMI	62	#GMI	57	#GMI	41	#GMI	35	#GMI	35	#GMI	32	#GMI	31	#GMI	31	#GMI	31
#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	3	#GMI Ex	2	#GMI Ex	3	#GMI Ex	0	#GMI Ex	5	#GMI Ex	0	#GMI Ex	14	#GMI Ex	14	#GMI Ex	14
%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	4%	%GMI Ex	3%	%GMI Ex	7%	%GMI Ex	0%	%GMI Ex	14%	%GMI Ex	0%	%GMI Ex	45%	%GMI Ex	45%	%GMI Ex	45%
n>STV	0	n>STV	1	n>STV	0	n>STV	3	n>STV	2	n>STV	3	n>STV	0	n>STV	5	n>STV	1	n>STV	4	n>STV	4	n>STV	4
%n>STV	0%	%n>STV	5%	%n>STV	0%	%n>STV	8%	%n>STV	6%	%n>STV	12%	%n>STV	0%	%n>STV	25%	%n>STV	5%	%n>STV	21%	%n>STV	21%	%n>STV	21%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
4%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
6%

Cumulative %GMI Exceedance  
Current (2011-2022)  
6%

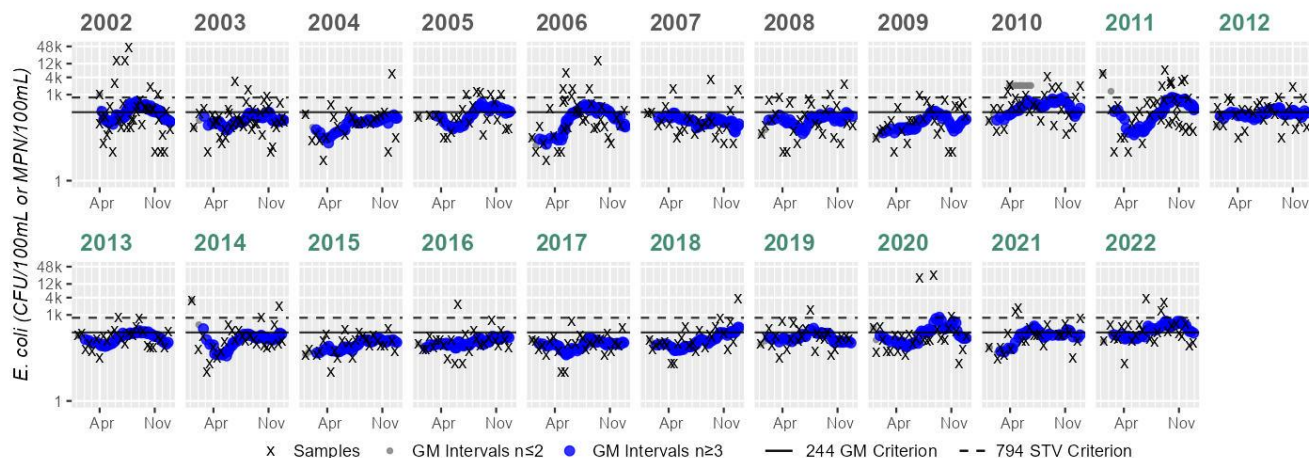
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
12%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



# Station MWRA\_066 & MyRWA\_MYR664 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	39	Samples	44	Samples	23	Samples	23	Samples	35	Samples	26	Samples	26	Samples	26	Samples	27
SeasGM	205	SeasGM	127	SeasGM	91	SeasGM	189	SeasGM	148	SeasGM	125	SeasGM	130	SeasGM	106	SeasGM	387
#GMI	72	#GMI	79	#GMI	41	#GMI	41	#GMI	62	#GMI	47	#GMI	47	#GMI	47	#GMI	49
#GMI Ex	38	#GMI Ex	0	#GMI Ex	0	#GMI Ex	19	#GMI Ex	26	#GMI Ex	0	#GMI Ex	1	#GMI Ex	4	#GMI Ex	39
%GMI Ex	52%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	46%	%GMI Ex	41%	%GMI Ex	0%	%GMI Ex	2%	%GMI Ex	8%	%GMI Ex	79%
n>STV	7	n>STV	3	n>STV	1	n>STV	5	n>STV	6	n>STV	3	n>STV	3	n>STV	1	n>STV	9
%n>STV	17%	%n>STV	6%	%n>STV	4%	%n>STV	21%	%n>STV	17%	%n>STV	11%	%n>STV	11%	%n>STV	3%	%n>STV	33%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	26	Samples	26	Samples	25	Samples	26	Samples	26	Samples	25	Samples	26	Samples	27	Samples	23
SeasGM	152	SeasGM	142	SeasGM	89	SeasGM	113	SeasGM	92	SeasGM	141	SeasGM	159	SeasGM	194	SeasGM	175
#GMI	47	#GMI	47	#GMI	45	#GMI	47	#GMI	47	#GMI	43	#GMI	45	#GMI	49	#GMI	41
#GMI Ex	4	#GMI Ex	3	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	9	#GMI Ex	3	#GMI Ex	20	#GMI Ex	11
%GMI Ex	8%	%GMI Ex	6%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	20%	%GMI Ex	6%	%GMI Ex	40%	%GMI Ex	26%
n>STV	1	n>STV	2	n>STV	0	n>STV	1	n>STV	0	n>STV	1	n>STV	1	n>STV	3	n>STV	2
%n>STV	3%	%n>STV	7%	%n>STV	0%	%n>STV	3%	%n>STV	0%	%n>STV	4%	%n>STV	3%	%n>STV	11%	%n>STV	8%

Cumulative %GMI Exceedance

Historic (1997-2010)

26%

Cumulative %GMI Exceedance

Historic (Recent 5 Years)

27%

Cumulative %GMI Exceedance

Current (2011-2022)

22%

Cumulative %GMI Exceedance

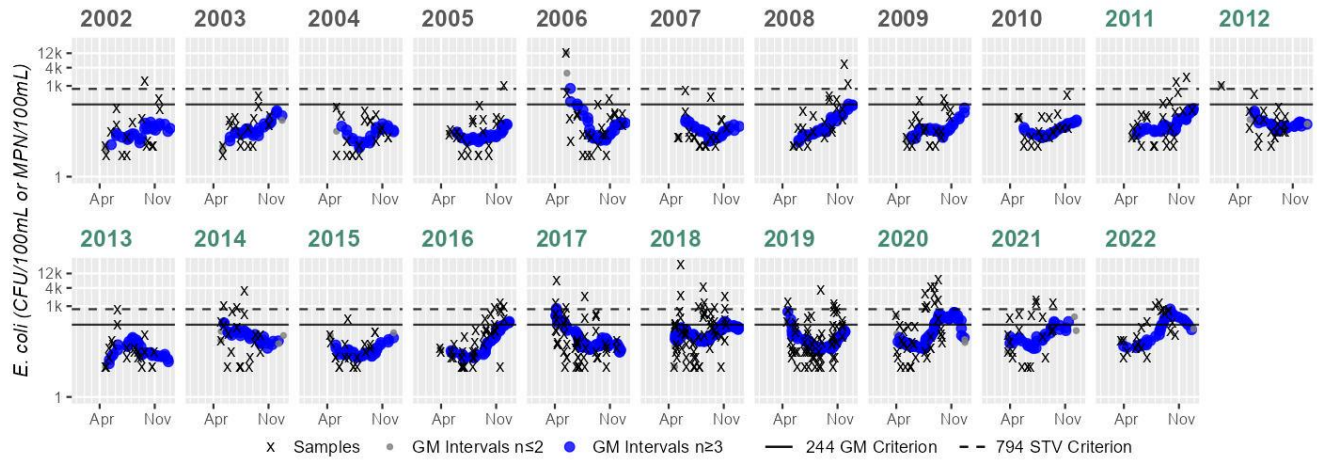
Current (Recent 5 Years)

30%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_067 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	17	Samples	16	Samples	19	Samples	21	Samples	24	Samples	19	Samples	22	Samples	20	Samples	20	Samples	24	Samples	21	Samples	21
SeasGM	32	SeasGM	38	SeasGM	24	SeasGM	28	SeasGM	51	SeasGM	31	SeasGM	74	SeasGM	40	SeasGM	38	SeasGM	65	SeasGM	57	SeasGM	57
#GMI	29	#GMI	25	#GMI	28	#GMI	35	#GMI	41	#GMI	33	#GMI	38	#GMI	34	#GMI	35	#GMI	42	#GMI	34	#GMI	34
#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	3	#GMI Ex	0	#GMI Ex	6	#GMI Ex	0	#GMI Ex	0	#GMI Ex	5	#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	7%	%GMI Ex	0%	%GMI Ex	15%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	11%	%GMI Ex	0%	%GMI Ex	0%
n>STV	1	n>STV	0	n>STV	0	n>STV	1	n>STV	1	n>STV	0	n>STV	2	n>STV	0	n>STV	0	n>STV	2	n>STV	1	n>STV	1
%n>STV	5%	%n>STV	0%	%n>STV	0%	%n>STV	4%	%n>STV	4%	%n>STV	0%	%n>STV	9%	%n>STV	0%	%n>STV	0%	%n>STV	8%	%n>STV	4%	%n>STV	4%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	20	Samples	20	Samples	37	Samples	50	Samples	57	Samples	63	Samples	37	Samples	21	Samples	20	Samples	20	Samples	20
SeasGM	33	SeasGM	102	SeasGM	33	SeasGM	72	SeasGM	75	SeasGM	130	SeasGM	74	SeasGM	150	SeasGM	100	SeasGM	151	SeasGM	151	SeasGM	151
#GMI	37	#GMI	32	#GMI	34	#GMI	66	#GMI	92	#GMI	100	#GMI	110	#GMI	69	#GMI	33	#GMI	33	#GMI	33	#GMI	33
#GMI Ex	0	#GMI Ex	2	#GMI Ex	0	#GMI Ex	15	#GMI Ex	11	#GMI Ex	11	#GMI Ex	4	#GMI Ex	26	#GMI Ex	3	#GMI Ex	13	#GMI Ex	13	#GMI Ex	13
%GMI Ex	0%	%GMI Ex	6%	%GMI Ex	0%	%GMI Ex	22%	%GMI Ex	11%	%GMI Ex	11%	%GMI Ex	3%	%GMI Ex	37%	%GMI Ex	9%	%GMI Ex	39%	%GMI Ex	39%	%GMI Ex	39%
n>STV	0	n>STV	3	n>STV	0	n>STV	3	n>STV	4	n>STV	9	n>STV	5	n>STV	10	n>STV	3	n>STV	2	n>STV	2	n>STV	2
%n>STV	0%	%n>STV	15%	%n>STV	0%	%n>STV	8%	%n>STV	8%	%n>STV	15%	%n>STV	7%	%n>STV	27%	%n>STV	14%	%n>STV	10%	%n>STV	10%	%n>STV	10%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
3%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
4%

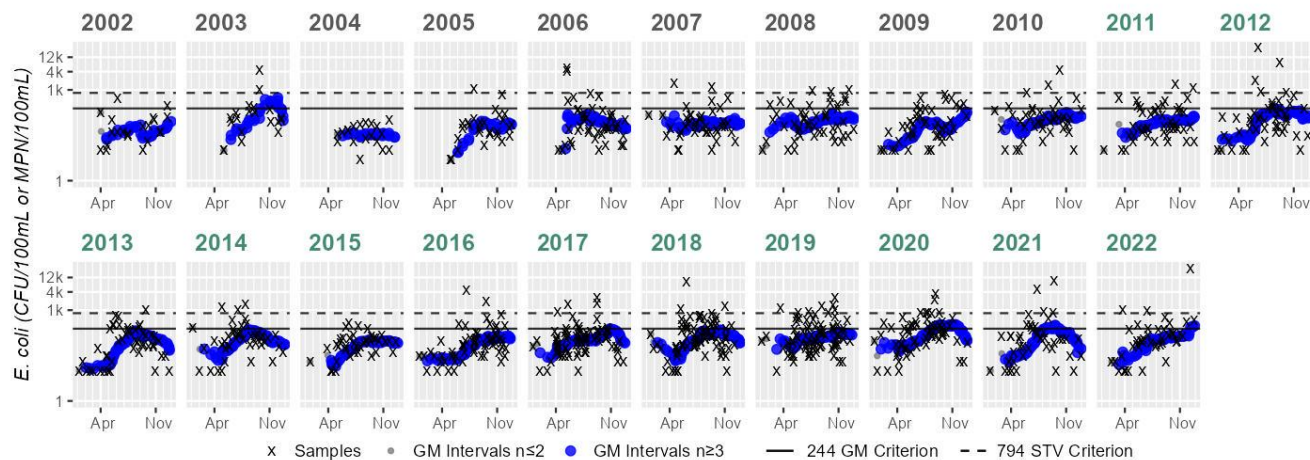
Cumulative %GMI Exceedance  
Current (2011-2022)  
13%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
16%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MWRA\_083 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	21	Samples	20	Samples	19	Samples	28	Samples	44	Samples	42	Samples	48	Samples	45	Samples	44
SeasGM	50	SeasGM	115	SeasGM	32	SeasGM	54	SeasGM	78	SeasGM	77	SeasGM	92	SeasGM	63	SeasGM	101
#GMI	37	#GMI	33	#GMI	28	#GMI	47	#GMI	77	#GMI	77	#GMI	87	#GMI	80	#GMI	77
#GMI Ex	0	#GMI Ex	10	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	30%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	1%	%GMI Ex	0%
n>STV	0	n>STV	2	n>STV	0	n>STV	1	n>STV	2	n>STV	2	n>STV	3	n>STV	0	n>STV	3
%n>STV	0%	%n>STV	10%	%n>STV	0%	%n>STV	3%	%n>STV	4%	%n>STV	4%	%n>STV	6%	%n>STV	0%	%n>STV	6%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	47	Samples	44	Samples	41	Samples	61	Samples	76	Samples	82	Samples	87	Samples	64	Samples	45
SeasGM	69	SeasGM	102	SeasGM	66	SeasGM	74	SeasGM	100	SeasGM	116	SeasGM	130	SeasGM	152	SeasGM	93
#GMI	79	#GMI	76	#GMI	72	#GMI	110	#GMI	135	#GMI	142	#GMI	149	#GMI	115	#GMI	79
#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	39	#GMI Ex	14
%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	33%	%GMI Ex	17%
n>STV	1	n>STV	3	n>STV	0	n>STV	2	n>STV	4	n>STV	3	n>STV	8	n>STV	5	n>STV	4
%n>STV	2%	%n>STV	6%	%n>STV	0%	%n>STV	3%	%n>STV	5%	%n>STV	3%	%n>STV	9%	%n>STV	7%	%n>STV	8%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
2%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
5%

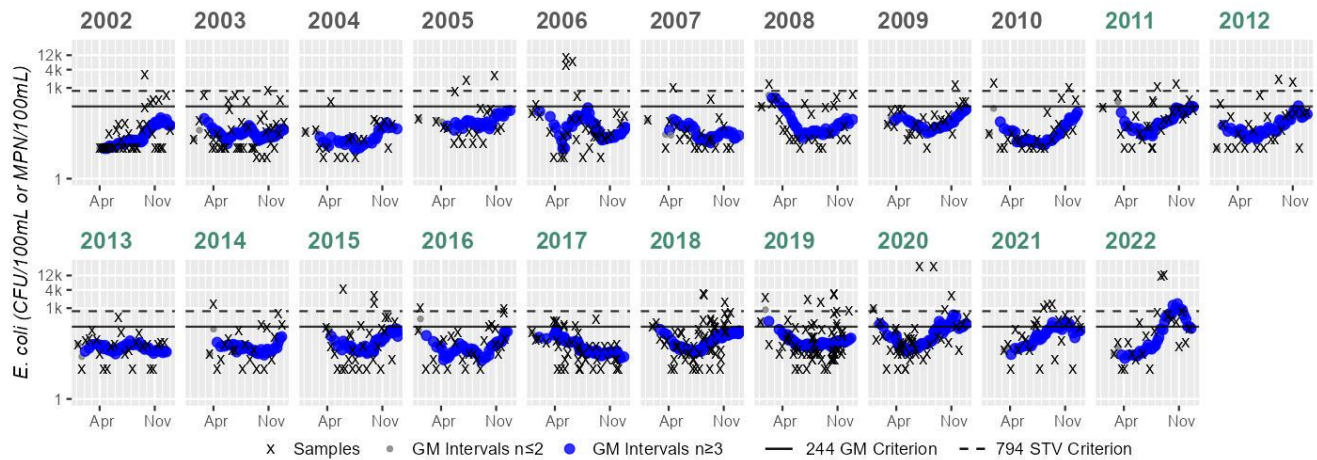
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
11%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_167 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	36	Samples	42	Samples	19	Samples	19	Samples	32	Samples	21	Samples	25	Samples	23	Samples	24	Samples	26	Samples	26	Samples	26
SeasGM	29	SeasGM	32	SeasGM	23	SeasGM	78	SeasGM	55	SeasGM	32	SeasGM	68	SeasGM	85	SeasGM	38	SeasGM	89	SeasGM	57	SeasGM	57
#GMI	67	#GMI	75	#GMI	33	#GMI	31	#GMI	56	#GMI	36	#GMI	45	#GMI	41	#GMI	43	#GMI	47	#GMI	47	#GMI	47
#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	3	#GMI Ex	3	#GMI Ex	1	#GMI Ex	2	#GMI Ex	1	#GMI Ex	1
%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	6%	%GMI Ex	7%	%GMI Ex	2%	%GMI Ex	4%	%GMI Ex	2%	%GMI Ex	2%
n>STV	1	n>STV	1	n>STV	0	n>STV	2	n>STV	3	n>STV	1	n>STV	1	n>STV	1	n>STV	2	n>STV	2	n>STV	2	n>STV	2
%n>STV	2%	%n>STV	2%	%n>STV	0%	%n>STV	10%	%n>STV	9%	%n>STV	4%	%n>STV	4%	%n>STV	4%	%n>STV	8%	%n>STV	7%	%n>STV	7%	%n>STV	7%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	25	Samples	21	Samples	30	Samples	27	Samples	43	Samples	55	Samples	66	Samples	44	Samples	23	Samples	22	Samples	22	Samples	22
SeasGM	47	SeasGM	59	SeasGM	76	SeasGM	65	SeasGM	46	SeasGM	90	SeasGM	79	SeasGM	98	SeasGM	130	SeasGM	137	SeasGM	137	SeasGM	137
#GMI	45	#GMI	37	#GMI	53	#GMI	49	#GMI	77	#GMI	98	#GMI	120	#GMI	77	#GMI	40	#GMI	39	#GMI	39	#GMI	39
#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	7	#GMI Ex	2	#GMI Ex	14	#GMI Ex	7	#GMI Ex	14	#GMI Ex	14	#GMI Ex	14
%GMI Ex	0%	%GMI Ex	2%	%GMI Ex	0%	%GMI Ex	2%	%GMI Ex	0%	%GMI Ex	7%	%GMI Ex	1%	%GMI Ex	18%	%GMI Ex	17%	%GMI Ex	35%	%GMI Ex	35%	%GMI Ex	35%
n>STV	0	n>STV	1	n>STV	3	n>STV	2	n>STV	0	n>STV	3	n>STV	6	n>STV	5	n>STV	3	n>STV	2	n>STV	2	n>STV	2
%n>STV	0%	%n>STV	4%	%n>STV	10%	%n>STV	7%	%n>STV	0%	%n>STV	5%	%n>STV	9%	%n>STV	11%	%n>STV	13%	%n>STV	9%	%n>STV	9%	%n>STV	9%

Cumulative %GMI Exceedance

Historic (1997-2010)

1%

Cumulative %GMI Exceedance

Historic (Recent 5 Years)

3%

Cumulative %GMI Exceedance

Current (2011-2022)

6%

Cumulative %GMI Exceedance

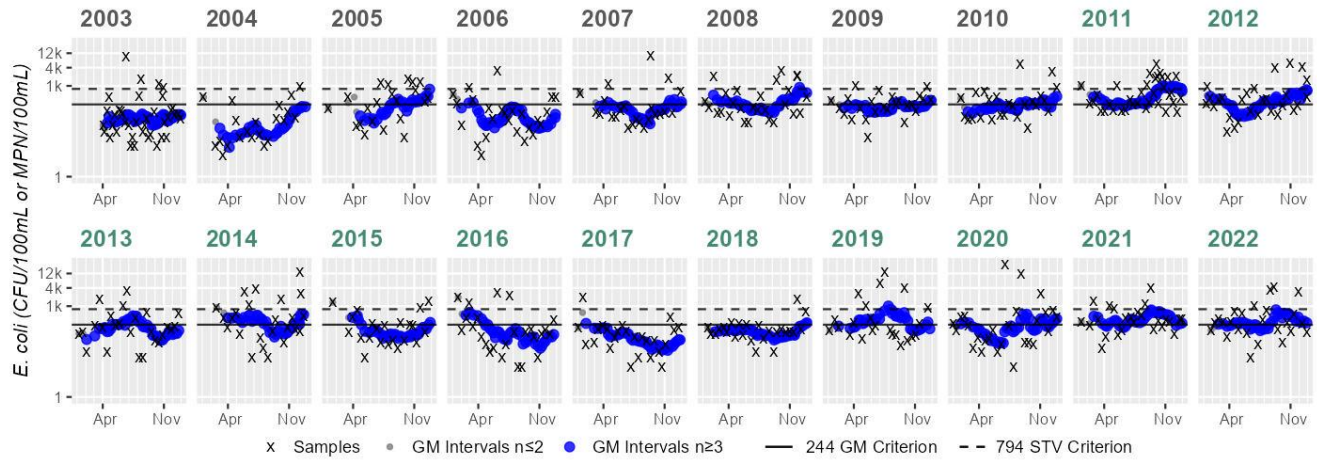
Current (Recent 5 Years)

11%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_177 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	39	Samples	21	Samples	21	Samples	25	Samples	23	Samples	27	Samples	25	Samples	25	Samples	35	Samples	28	Samples	28
SeasGM	87	SeasGM	52	SeasGM	231	SeasGM	99	SeasGM	185	SeasGM	291	SeasGM	221	SeasGM	250	SeasGM	499	SeasGM	323	SeasGM	323
#GMI	70	#GMI	37	#GMI	35	#GMI	45	#GMI	41	#GMI	49	#GMI	45	#GMI	45	#GMI	64	#GMI	51	#GMI	51
#GMI Ex	0	#GMI Ex	2	#GMI Ex	20	#GMI Ex	3	#GMI Ex	9	#GMI Ex	29	#GMI Ex	12	#GMI Ex	20	#GMI Ex	56	#GMI Ex	34	#GMI Ex	34
%GMI Ex	0%	%GMI Ex	5%	%GMI Ex	57%	%GMI Ex	6%	%GMI Ex	21%	%GMI Ex	59%	%GMI Ex	26%	%GMI Ex	44%	%GMI Ex	87%	%GMI Ex	66%	%GMI Ex	66%
n>STV	4	n>STV	1	n>STV	5	n>STV	2	n>STV	3	n>STV	5	n>STV	2	n>STV	3	n>STV	12	n>STV	6	n>STV	6
%n>STV	10%	%n>STV	4%	%n>STV	23%	%n>STV	8%	%n>STV	13%	%n>STV	18%	%n>STV	8%	%n>STV	12%	%n>STV	34%	%n>STV	21%	%n>STV	21%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	25	Samples	24	Samples	22	Samples	25	Samples	25	Samples	25	Samples	23	Samples	27	Samples	25	Samples	25	Samples	25
SeasGM	183	SeasGM	338	SeasGM	169	SeasGM	137	SeasGM	89	SeasGM	154	SeasGM	324	SeasGM	211	SeasGM	345	SeasGM	303	SeasGM	303
#GMI	45	#GMI	43	#GMI	39	#GMI	45	#GMI	45	#GMI	43	#GMI	39	#GMI	49	#GMI	44	#GMI	45	#GMI	45
#GMI Ex	15	#GMI Ex	30	#GMI Ex	8	#GMI Ex	7	#GMI Ex	1	#GMI Ex	5	#GMI Ex	25	#GMI Ex	20	#GMI Ex	37	#GMI Ex	33	#GMI Ex	33
%GMI Ex	33%	%GMI Ex	69%	%GMI Ex	20%	%GMI Ex	15%	%GMI Ex	2%	%GMI Ex	11%	%GMI Ex	64%	%GMI Ex	40%	%GMI Ex	84%	%GMI Ex	73%	%GMI Ex	73%
n>STV	3	n>STV	7	n>STV	3	n>STV	4	n>STV	1	n>STV	1	n>STV	6	n>STV	3	n>STV	5	n>STV	4	n>STV	4
%n>STV	12%	%n>STV	29%	%n>STV	13%	%n>STV	16%	%n>STV	4%	%n>STV	4%	%n>STV	26%	%n>STV	11%	%n>STV	20%	%n>STV	16%	%n>STV	16%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
25%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
32%

Cumulative %GMI Exceedance  
Current (2011-2022)  
49%

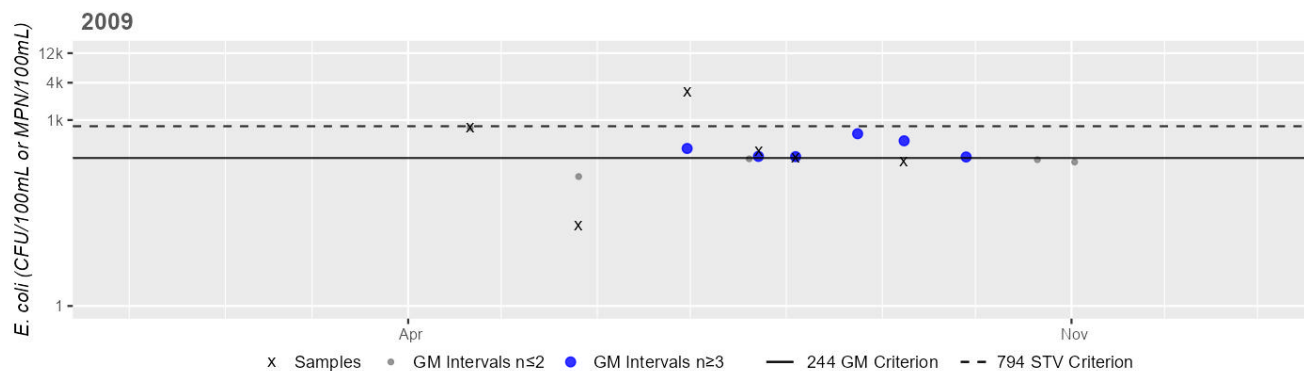
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
54%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MASSDEP\_W1973 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	6
SeasGM	296
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance

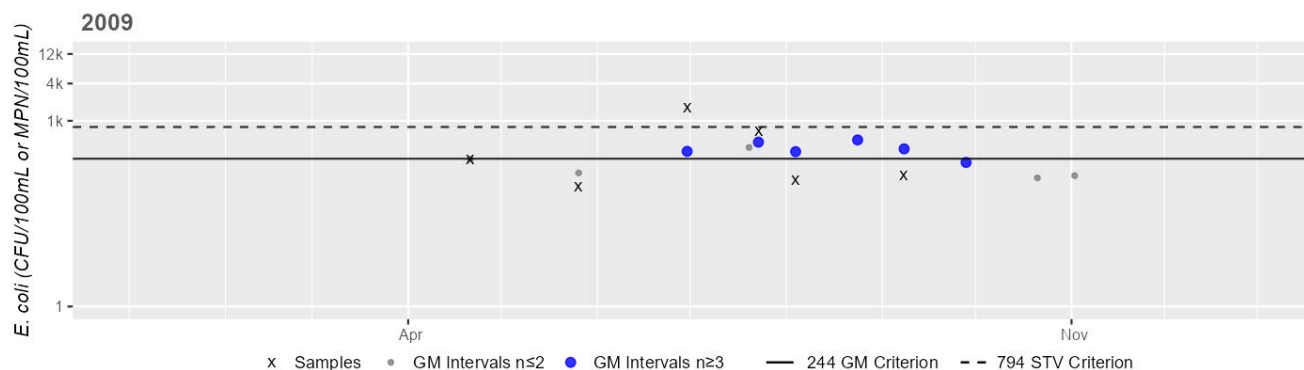
Historic (1997-2010)

100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MASSDEP\_W1974 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	6
SeasGM	261
#GMI	6
#GMI Ex	5
%GMI Ex	83%
n>STV	1
%n>STV	16%

Cumulative %GMI Exceedance

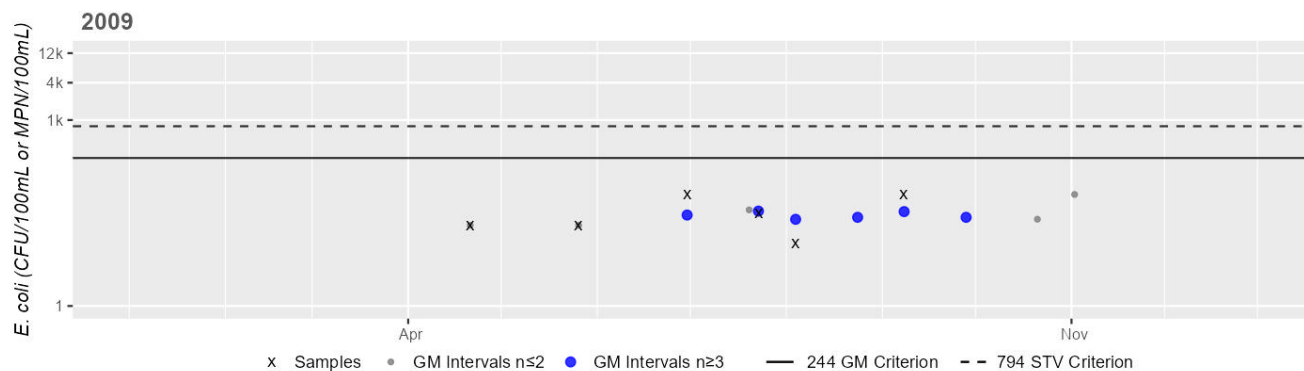
Historic (1997-2010)

83%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MASSDEP\_W1975 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	6
SeasGM	28
#GMI	6
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

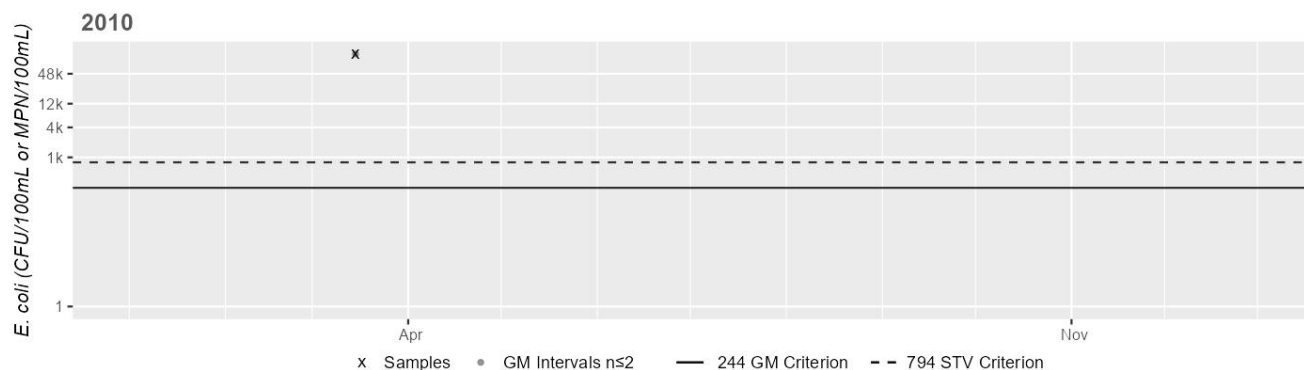
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_LMLSiphon - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	120000
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

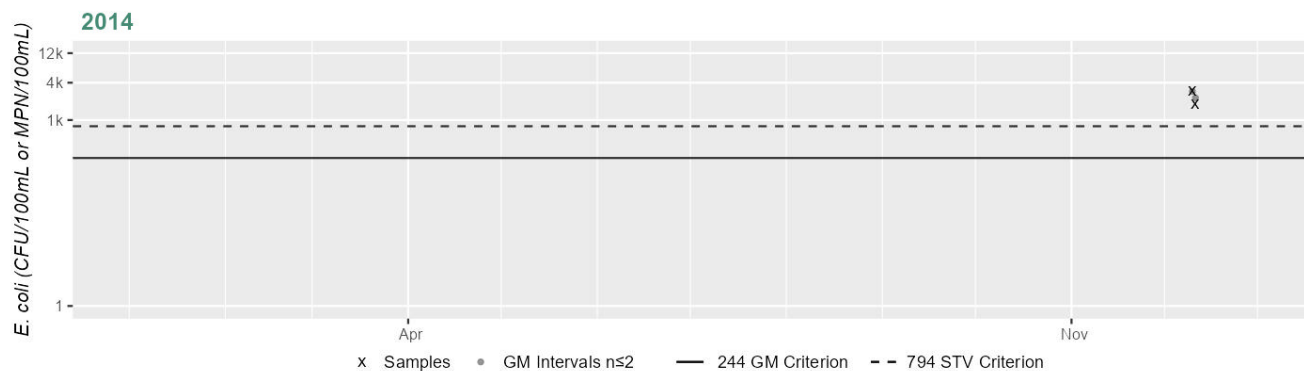
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MWRA056 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	2284
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

#### Cumulative %GMI Exceedance

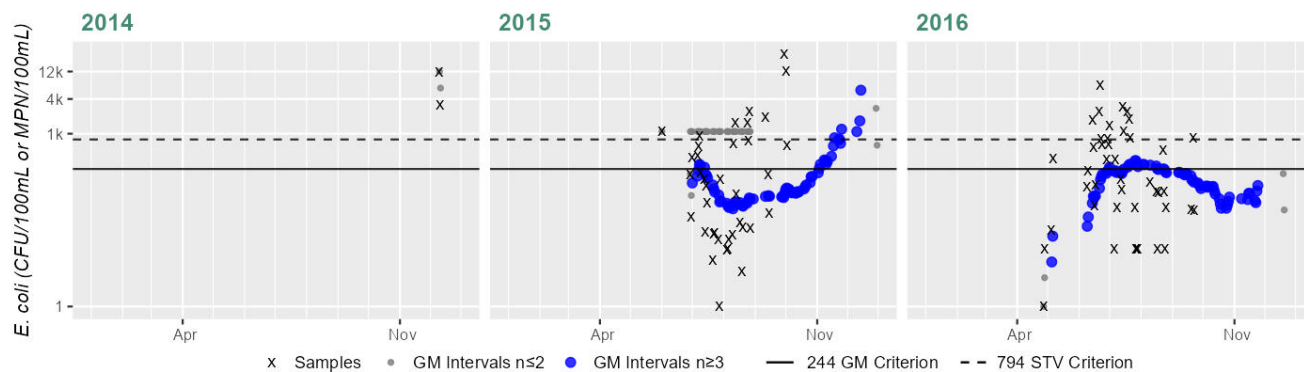
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MWRA060 & MyRWA\_MYRBOBDOCK - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	6196
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	38
SeasGM	122
#GMI	70
#GMI Ex	19
%GMI Ex	27%
n>STV	8
%n>STV	21%

Variable*	Result
Samples	43
SeasGM	159
#GMI	76
#GMI Ex	14
%GMI Ex	18%
n>STV	12
%n>STV	27%

#### Cumulative %GMI Exceedance

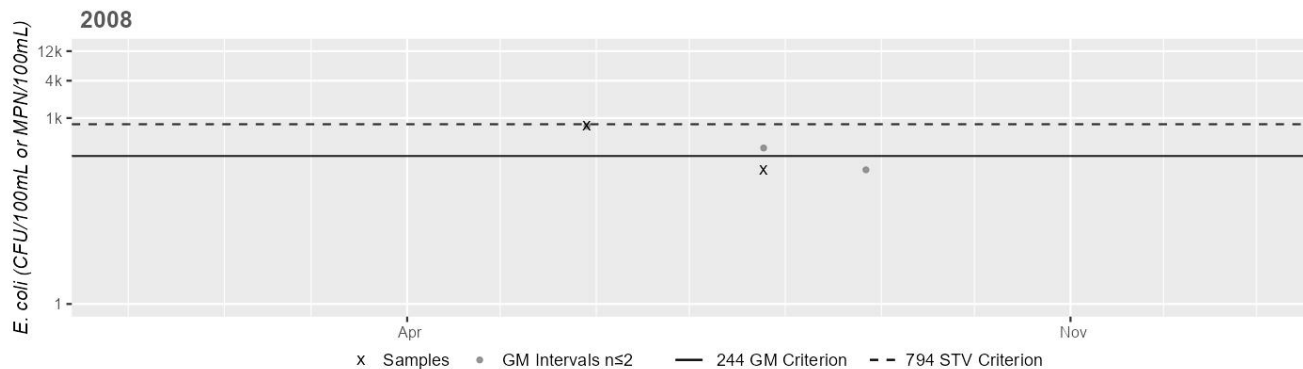
Current (2011-2022)

22%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MWRA167 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



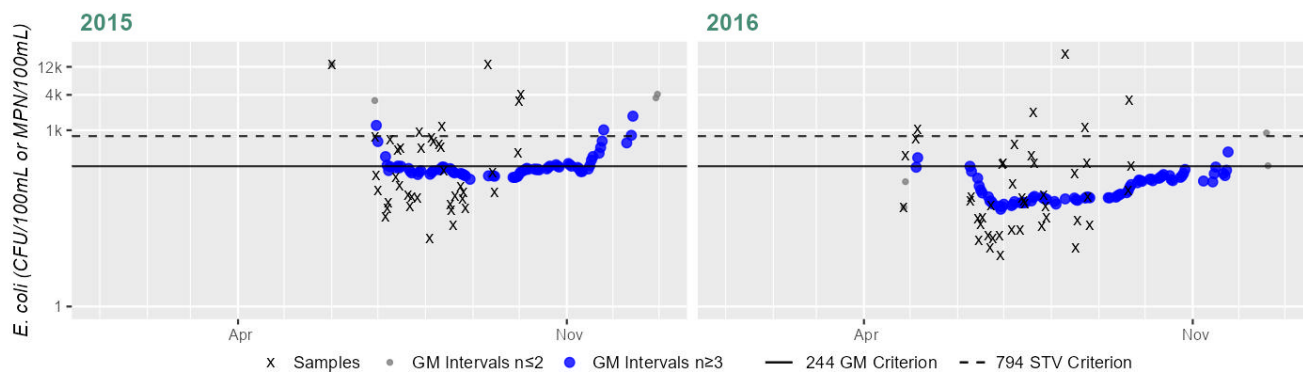
Variable*	Result
Samples	2
SeasGM	328
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR0435 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	39
SeasGM	221
#GMI	73
#GMI Ex	22
%GMI Ex	30%
n>STV	6
%n>STV	15%

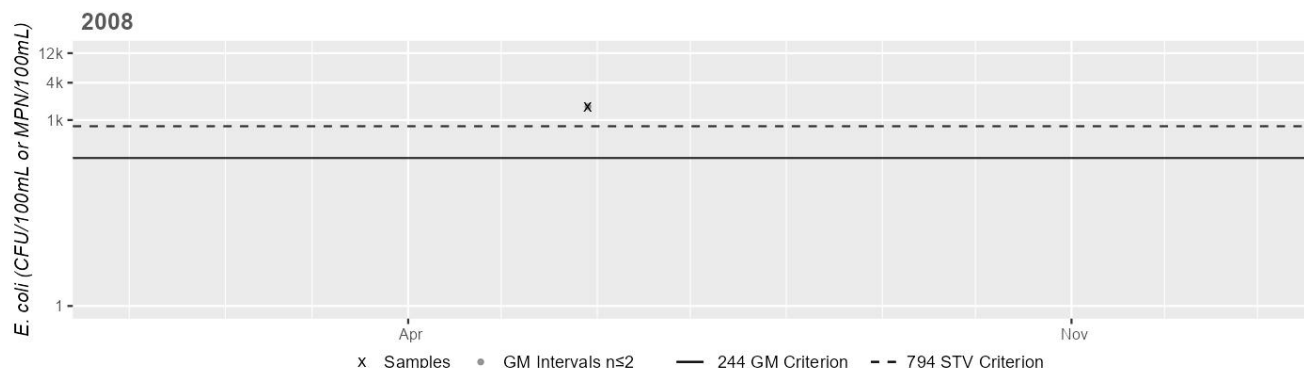
Variable*	Result
Samples	43
SeasGM	92
#GMI	76
#GMI Ex	2
%GMI Ex	2%
n>STV	5
%n>STV	11%

Cumulative %GMI Exceedance  
Current (2011-2022)  
16%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR069 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



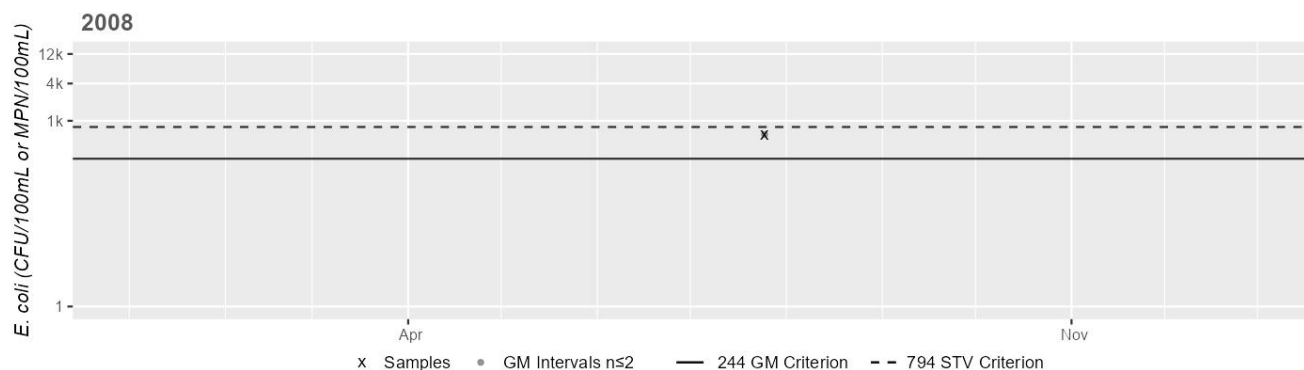
Variable*	Result
Samples	1
SeasGM	1642
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR070 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



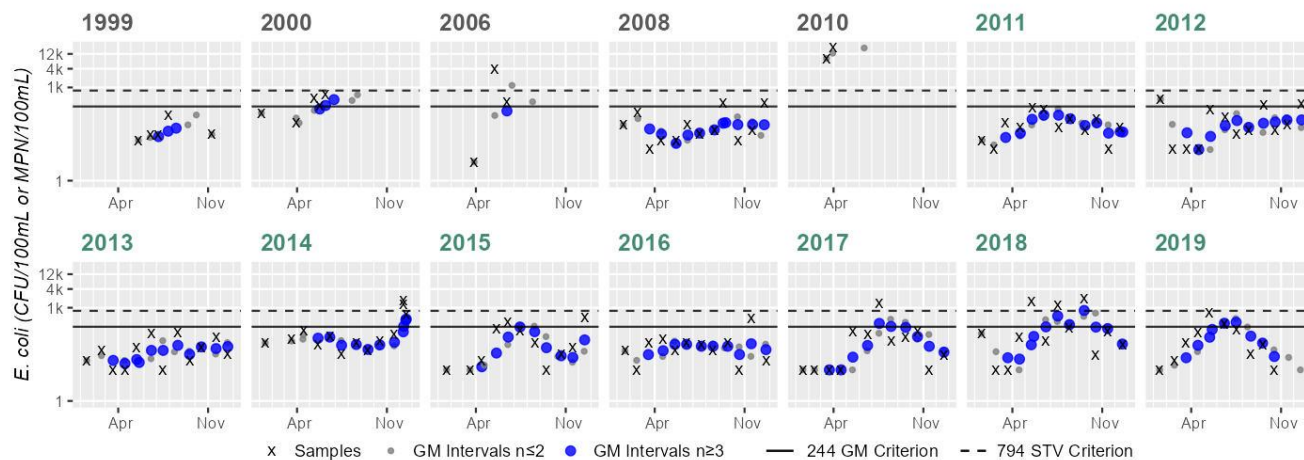
Variable*	Result
Samples	1
SeasGM	598
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MyRWA\_MYR071 & USGS-01103017 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	37
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	235
#GMI	3
#GMI Ex	2
%GMI Ex	66%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	3
SeasGM	175
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	33%

Variable*	Result
Samples	12
SeasGM	50
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	12647
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	12
SeasGM	51
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	60
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	35
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	13
SeasGM	146
#GMI	13
#GMI Ex	5
%GMI Ex	38%
n>STV	2
%n>STV	15%

Variable*	Result
Samples	11
SeasGM	55
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	48
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	47
#GMI	10
#GMI Ex	2
%GMI Ex	20%
n>STV	1
%n>STV	8%

Variable*	Result
Samples	12
SeasGM	134
#GMI	11
#GMI Ex	3
%GMI Ex	27%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	10
SeasGM	66
#GMI	9
#GMI Ex	2
%GMI Ex	22%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 11%

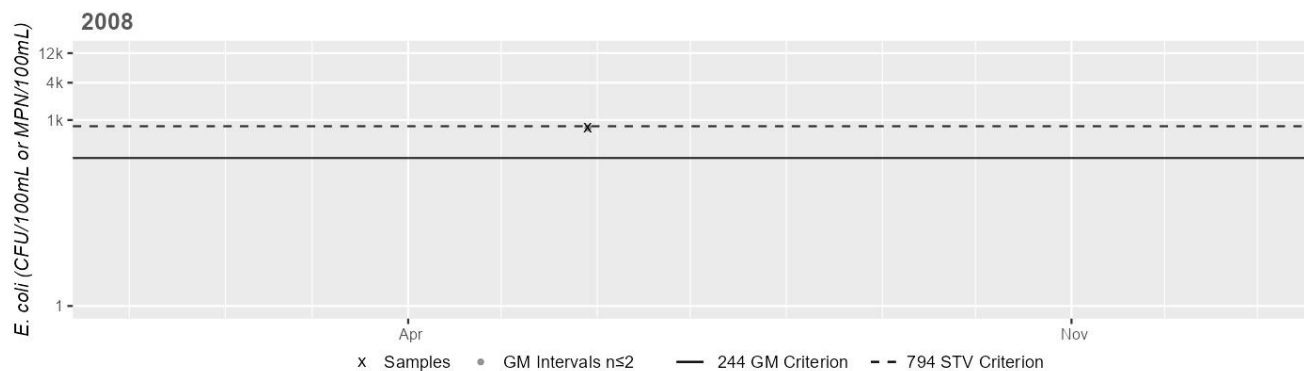
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 12%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 14%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR073 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



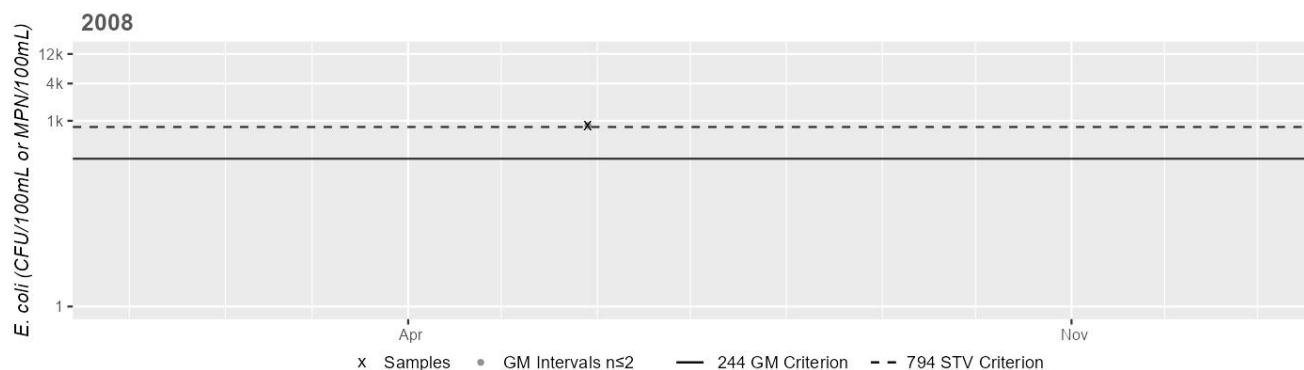
Variable*	Result
Samples	1
SeasGM	744
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR077 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



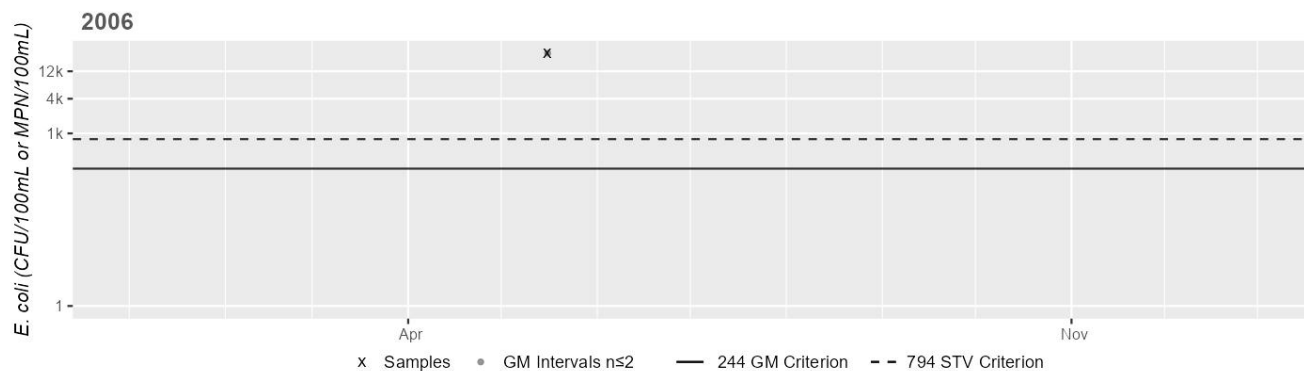
Variable*	Result
Samples	1
SeasGM	839
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR29S - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



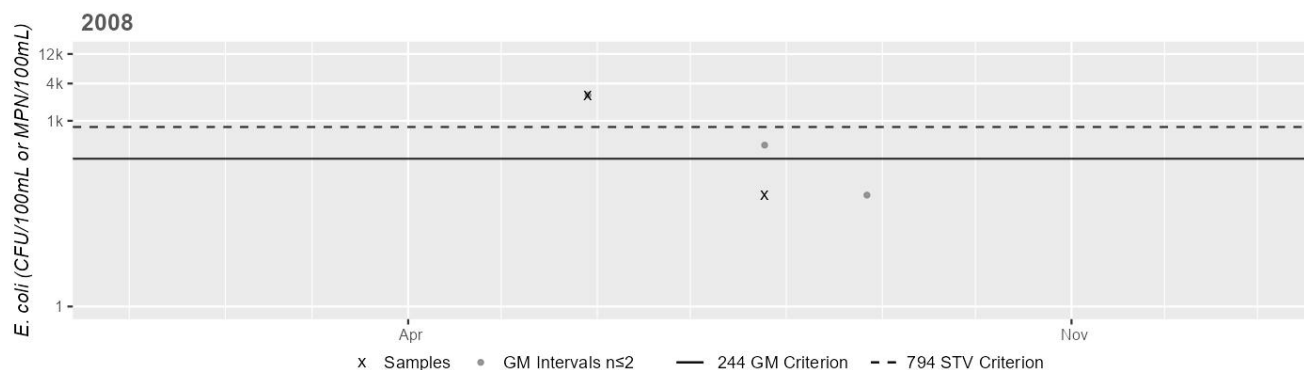
Variable*	Result
Samples	1
SeasGM	24810
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR33 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	404
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

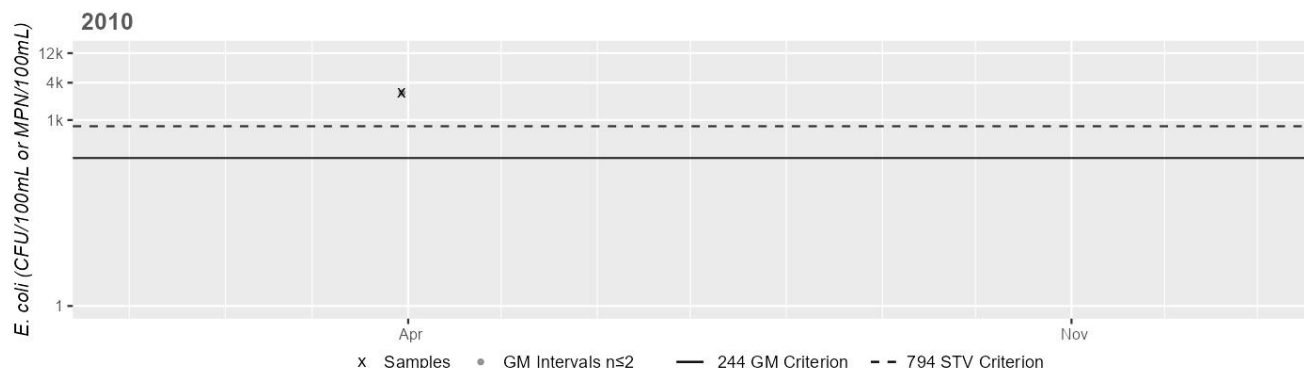
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_MYR36S - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	2747
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

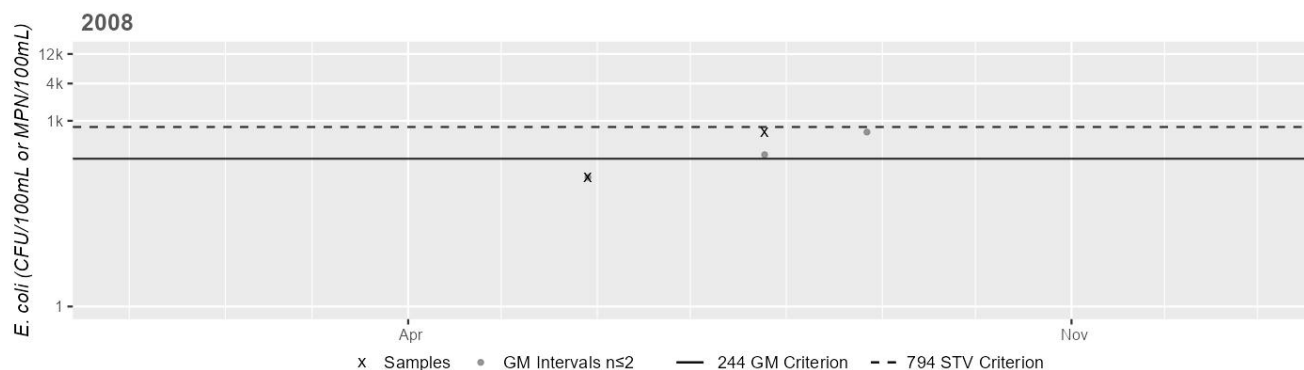
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR37 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	283
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

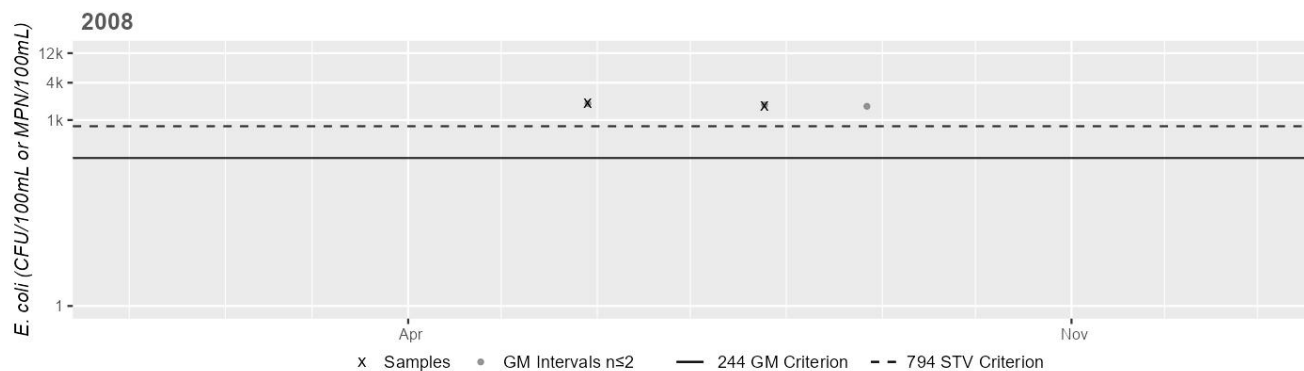
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR41 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



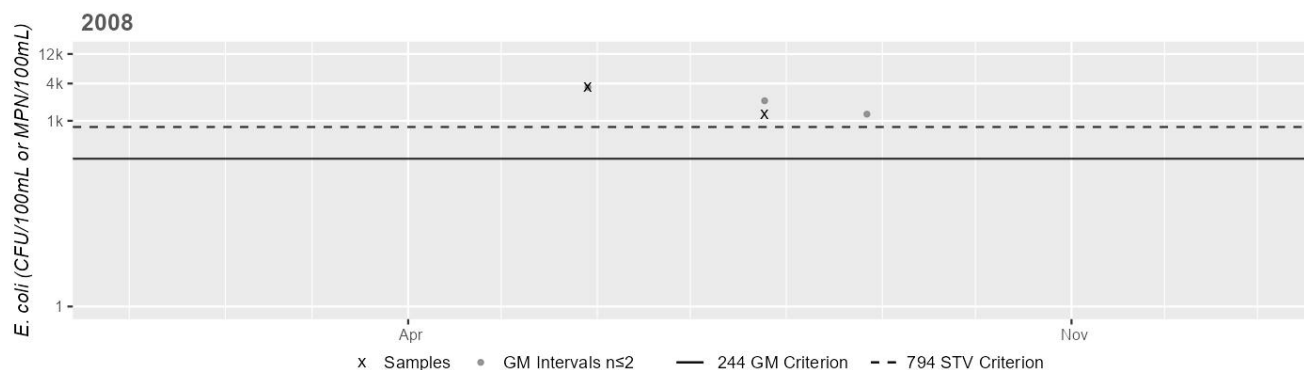
Variable*	Result
Samples	2
SeasGM	1751
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR45 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



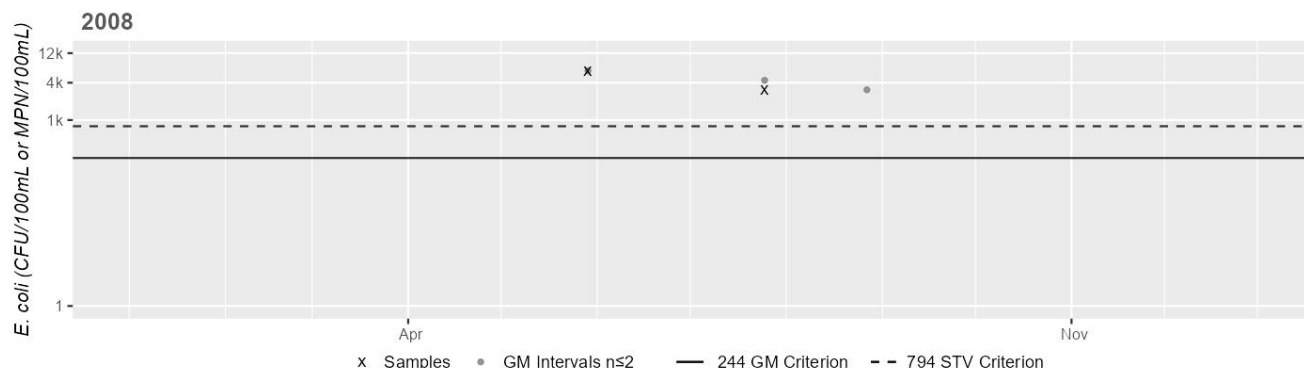
Variable*	Result
Samples	2
SeasGM	2107
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR49 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	4371
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

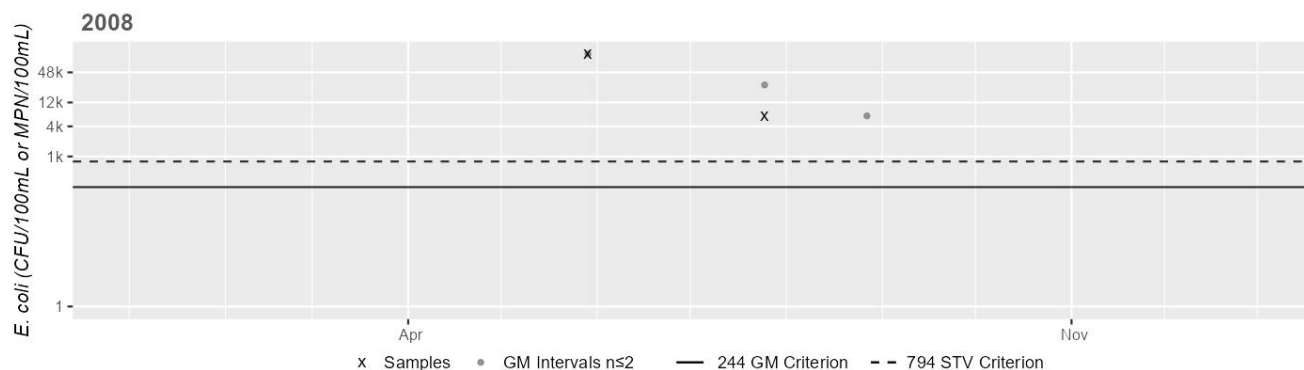
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR53 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	26955
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

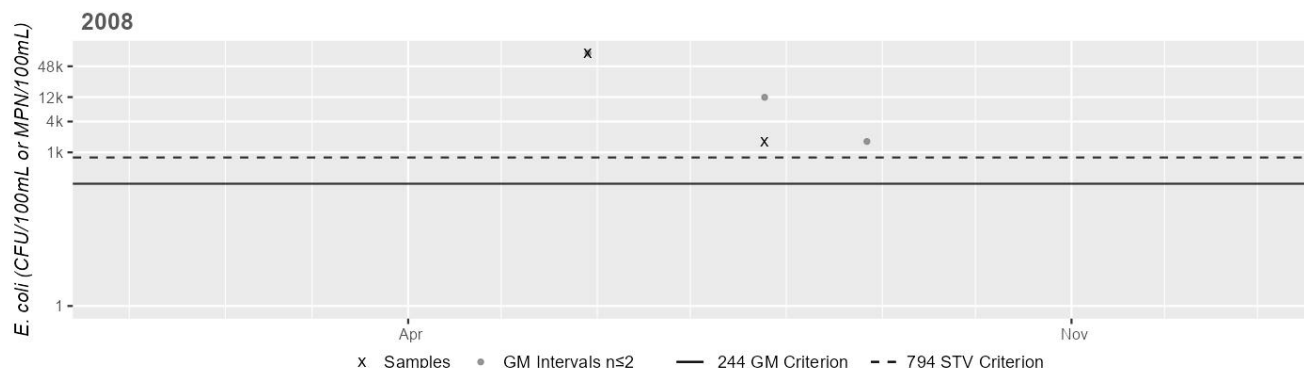
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR57 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	11898
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

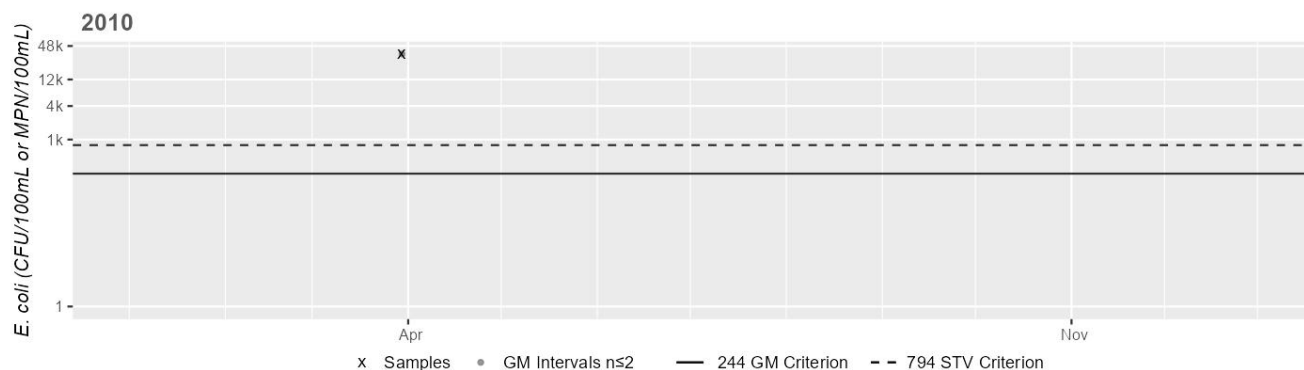
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR60S - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	34480
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

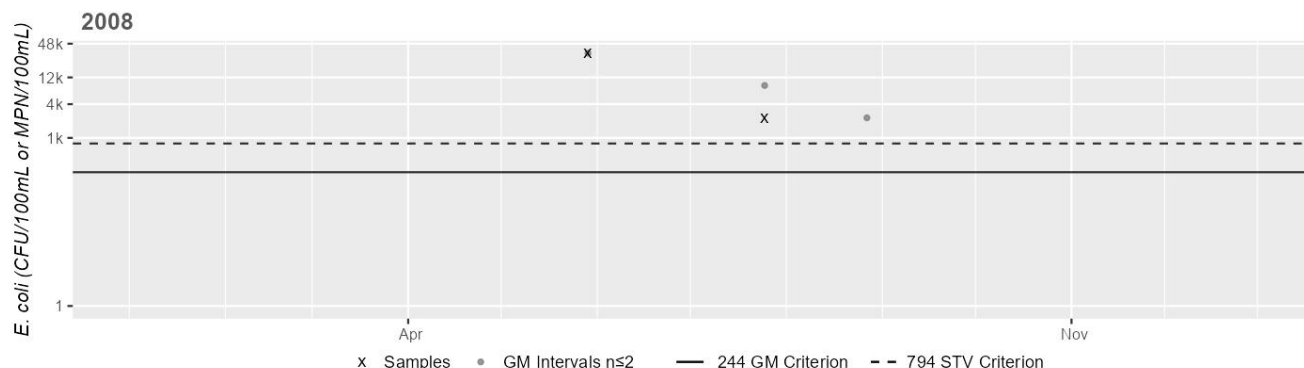
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR61 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	8618
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

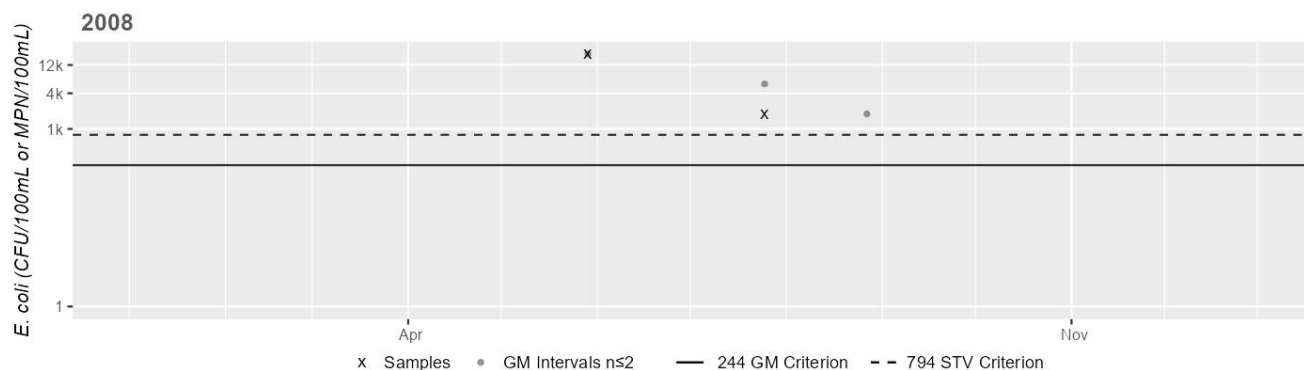
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR65 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	5740
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

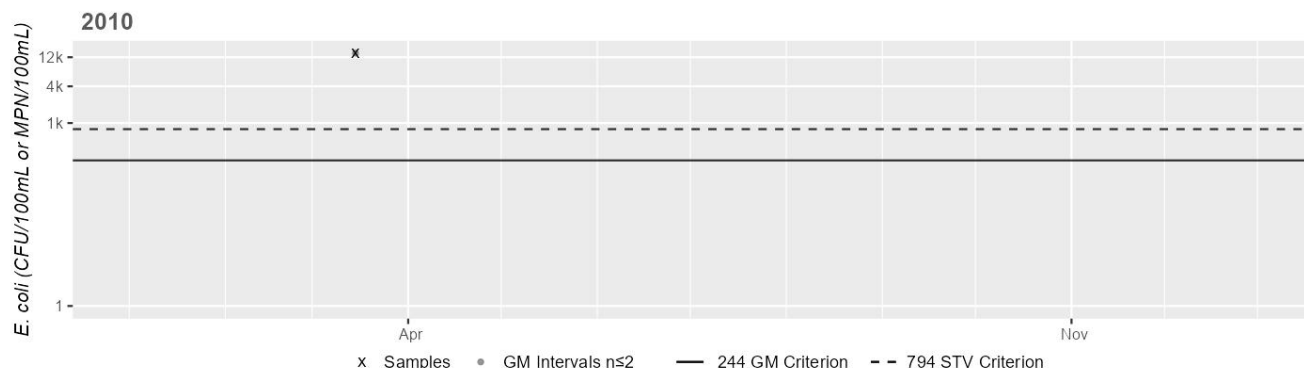
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYRBANK - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	14000
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

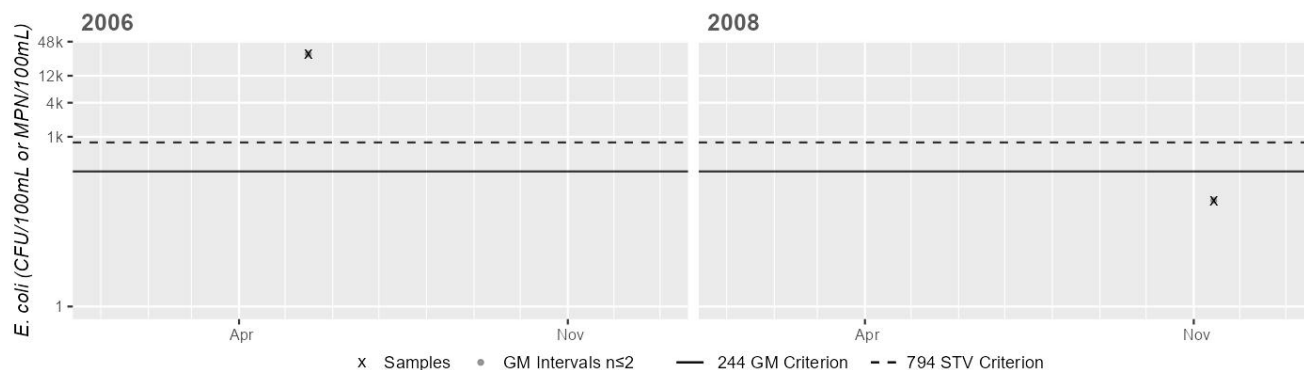
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYRBOB1 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	29090
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	75
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

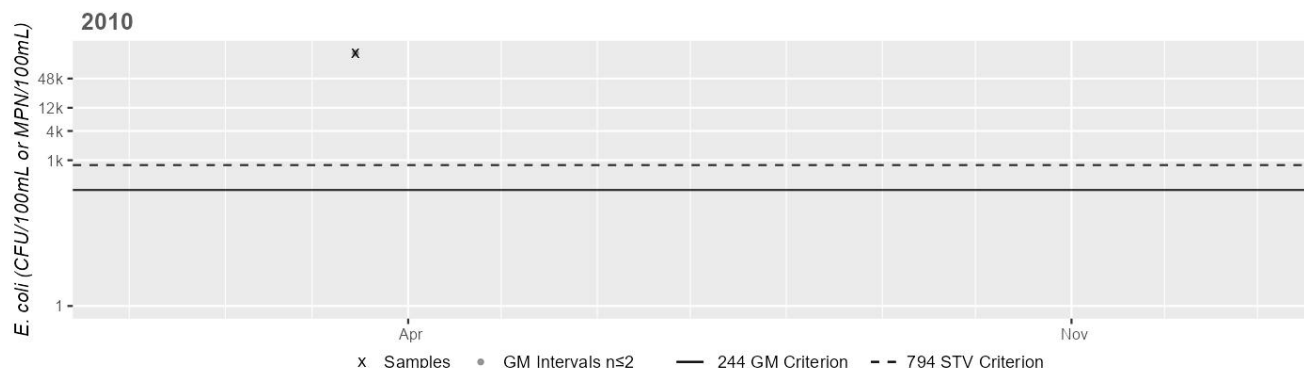
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYRMTC - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	160000
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

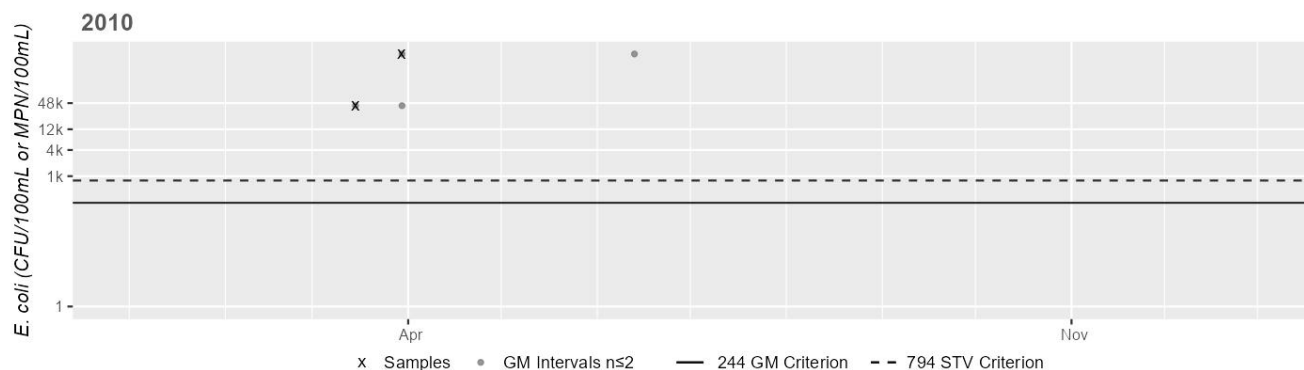
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYRWhIFds & MyRWA\_MYRWHOLLY - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	165074
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Mystic River (MA71-03)

<b>Location:</b>	Amelia Earhart Dam, Somerville/Everett to confluence with Boston Inner Harbor, Chelsea/Charlestown (Includes Island End River SARIS# 7138175).
<b>AU Type:</b>	ESTUARY
<b>AU Size:</b>	0.49 SQUARE MILES
<b>Classification/Qualifier:</b>	SB(CSO): SFR

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Ammonia, Un-ionized	--	Unchanged
5	5	Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Enterococcus	R1_MA_2019_01	Unchanged
5	5	Fecal Coliform	R1_MA_2019_01	Unchanged
5	5	Flocculant Masses	--	Removed
5	5	Nutrient/Eutrophication Biological Indicators	R1_MA_2020_5a	Unchanged
5	5	Odor	--	Unchanged
5	5	Oil and Grease	--	Unchanged
5	5	PCBs in Fish Tissue	--	Unchanged
5	5	Petroleum Hydrocarbons	--	Unchanged
5	5	Scum/Foam	--	Removed



<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>SH</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Ammonia, Un-ionized	Source Unknown (N)	X	--	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Contaminated Sediments (Y)	X	X	--	--	--	--
Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)]	Source Unknown (N)	X	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	--	--	--	--	X	X
Fecal Coliform	Source Unknown (N)	--	--	X	--	--	--
Nutrient/Eutrophication Biological Indicators	Combined Sewer Overflows (Y)	X	--	--	--	--	--
Nutrient/Eutrophication Biological Indicators	Discharges from Municipal Separate Storm Sewer Systems (MS4) (Y)	X	--	--	--	--	--
Odor	Contaminated Sediments (Y)	--	--	--	X	X	X
Oil and Grease	Contaminated Sediments (Y)	--	--	--	X	X	X
PCBs in Fish Tissue	Source Unknown (N)	--	X	--	--	--	--
Petroleum Hydrocarbons	Contaminated Sediments (Y)	X	--	--	--	--	--

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Flocculant Masses	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to the estuarine Mystic River AU (MA71-03) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 1996. The Oil and Grease impairment was based on knowledge of noxious odors and sheens from contaminated sediments associated with the former Eastern Gas and Fuel Company being common on the Island End River, which discharges into the northern shore of this portion of the AU (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA’s new ATTAINS database. Since there was no mention of “Flocculant Masses” or “Scum/foam” ever associated with this AU (no direct aesthetics observation data had been collected for this AU for the 2016IR cycle or prior), these impairments are being removed but the impairment for “Oil and Grease” is being carried forward.
Scum/Foam	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	The Assessment Database (ADB) impairment “Foam/Flocs/Scum/Oil Slicks” was previously applied to the estuarine Mystic River AU (MA71-03) during the 2010 reporting cycle, as a carry over from the EPA’s Waterbody System assessment database (WBS) impairment “Oil and Grease” which was applied first in 1996. The Oil and Grease impairment was based on knowledge of noxious odors and sheens from contaminated sediments associated with the former Eastern Gas and Fuel Company being common on the Island End River, which discharges into the northern shore of this portion of the AU (O'Brien, Weinstein and McVoy 2002). The “Foam/Flocs/Scum/Oil Slicks” impairment code was subsequently divided into

2022 Removed Impairment	Removal Reason	Removal Comment
		more specific codes and applied automatically to this AU for the final 2016 reporting cycle submittal to EPA's new ATTAINS database. Since there was no mention of "Flocculant Masses" or "Scum/foam" ever associated with this AU (no direct aesthetics observation data had been collected for this AU for the 2016IR cycle or prior), these impairments are being removed but the impairment for "Oil and Grease" is being carried forward.

## Flocculant Masses

See removal comment.

## Scum/Foam

See removal comment.

## Recommendations

2024/26 Recommendations
2016 IR [Fecal Coliform, medium priority] Identify the cause of the prohibited shellfish growing areas in the estuarine Mystic River AU (MA71-03). {Mystic River (MA71-03) shellfishing beds}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Supporting	No

2024/26 Use Attainment Summary
The Fish Consumption Use for this estuarine Mystic River AU (MA71-03) continues to be assessed as Not Supporting and the prior PCBs in Fish Tissue and Cause Unknown [Contaminants in Fish and/or Shellfish; Sediment Screening Value (Exceedance)] impairments are being carried forward. MA DPH included a site-specific advisory for the Mystic River (referred to by MA DPH as "Boston Harbor") in their 2017 Guide to Eating Fish Safely in Massachusetts. The public should refer to the most recent DPH information for the most up to date meal advice for sensitive and general populations.

## Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Supporting	YES

2024/26 Use Attainment Summary
<p>Mystic River (MA71-03): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.472 sq mi (96%). The sum of the approved, conditionally approved, and restricted shellfish growing areas represents 0 sq mi (0%). The prohibited shellfish growing area represents 0.472 sq mi (96%). There is insufficient information available to assess the Shellfish Harvesting Use because the growing areas within this AU are classified as either entirely prohibited or a combination of prohibited and approved, conditionally approved, and/or restricted. There is insufficient information available to delist the existing Fecal Coliform impairment so the Shellfish Harvesting Use is evaluated as not supporting. The prior Alert from the 2016 IR cycle, recommending an investigation of the cause of the prohibited shellfish growing area, is being carried forward.</p>

## Shellfish Growing Area Classifications

MassDFG-Division of Marine Fisheries Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 5)

Area Name	Waterbody/Area Description	Classification	Area (Sq. Mi.)	Area (% of AU)
GBH4.0	Boston Inner Harbor	Prohibited	0.47201	95.5%

## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>No new aesthetics observation data are available to evaluate the Aesthetics Use for this estuarine Mystic River AU (MA71-03) so it continues to be assessed as Not Supporting with the Oil and Grease and Odor impairments being carried forward. The Flocculant Masses and Scum/Foam impairments are being removed (see supporting information for removed impairments).</p>

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
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The Primary Contact Recreation Use for this estuarine Mystic River AU (MA71-03) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at MWRA\_052, MyRWA\_MYR275, MWRA\_069, and MyRWA\_MYRMMP. The prior Odor and Oil and Grease impairments (from the Aesthetics Use) are being carried forward. Since the Flocculant Masses and Scum/Foam impairments were removed from the Aesthetics Use, they are being removed from the recreational uses as well. The shellfish growing areas (0.472 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Primary Contact Recreation Use of this MA71-03 AU.

MWRA and MyRWA staff/volunteers collected *Enterococcus* bacteria samples at 6 stations throughout this Mystic River AU (MA71-03) from 2011-2022. Samples were collected from the following stations/sample years: MWRA\_052 [Inner Harbor, Mystic River, below Earhart Dam, at Somerville Marginal MWR205] from 2011-2022 (n=17-38/yr), MyRWA\_MYR275 [Mystic River at Draw Seven Park in Somerville; sampled downstream of MWR205] from 2012-2019 (n=6-7/yr), MWRA\_069 [Inner Harbor, Mystic River, near Schraffts Building, BOS017] from 2011-2022 (n=17-37/yr), MWRA\_137 [Inner Harbor, Mystic River, mouth, 1/3-mile upstream of Tobin Bridge] from 2011-2022 (n=9-14/yr), MWRA\_183 [Inner Harbor, Mystic River, Island End River, near marina] from 2012-2022 (n=5-7/yr), MyRWA\_MYRMMP [Mystic River at Mary O’Malley Park in Chelsea; sampled from E side of wooden pier at E end of park] from 2012-2019 (n=6-7/yr).

Analysis of the recent five years (2018-2022) of the multi-year high frequency *Enterococcus* dataset from MWRA\_052 indicated that in all 5 sufficient data years >10% of intervals had GMs >35 CFU/100mL (20-68%), all 5 years had >10% of samples exceed the 130 CFU/100mL STV (10-39%), and cumulatively across years 47% of intervals had GMs >35 CFU/100mL. Analysis of the recent five years of the multi-year moderate frequency *Enterococcus* dataset from MyRWA\_MYR275 indicated that in 4 of 5 sufficient data years >20% of intervals had GMs >35 CFU/100mL (2015-2017 and 2019, 33-100%), 4 years had ≥2 samples exceed the 130 CFU/100mL STV (2015-2016 and 2018-2019, n=2-4), and cumulatively across years 53% of intervals had GMs >35 CFU/100mL. Analysis of the recent five years of the multi-year high frequency *Enterococcus* dataset from MWRA\_069 indicated that in 4 of 5 sufficient data years >10% of intervals had GMs >35 CFU/100mL (2018-2021, 28-71%), 4 years had >10% of samples exceed the 130 CFU/100mL STV (2018-2021, 12-45%), and cumulatively across years 43% of intervals had GMs >35 CFU/100mL. Analysis of the recent five years of the multi-year moderate frequency *Enterococcus* dataset from MWRA\_137 indicated none of the 5 sufficient data years had >20% of intervals with GMs >35 CFU/100mL, only 1 sample ever exceeded the 130 CFU/100mL STV, and cumulatively across years 2% of intervals had GMs >35 CFU/100mL.

Analysis of the recent five years of the multi-year moderate frequency *Enterococcus* dataset from MWRA\_183 indicated that only in 1 of 5 sufficient data years >20% of intervals had GMs >35 CFU/100mL (2021, 33%), only 1 sample ever exceeded the 130 CFU/100mL STV, and cumulatively across years 8% of intervals had GMs >35 CFU/100mL. Analysis of the recent five years of the multi-year moderate frequency *Enterococcus* dataset from MyRWA\_MYRMMP indicated that in 3 of 5 sufficient data years >20% of intervals had GMs >35 CFU/100mL (2016-2017 and 2019, 33-66%), 3 years had ≥2 samples exceed the 130 CFU/100mL STV (2016-2017 and 2019, n=2-3), and cumulatively across years 38% of intervals had GMs >35 CFU/100mL.

While *Enterococcus* data from MWRA\_137 and MWRA\_183 meet 2024 CALM guidance,

*Enterococcus* data from MWRA\_052, MyRWA\_MYR275, MWRA\_069, and MyRWA\_MYRMMP are indicative of an *Enterococcus* impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_052	Massachusetts Water Resources Authority	Water Quality	Mystic Mouth	Inner Harbor, Mystic River, below Earhart Dam, at Somerville Marginal MWR205	42.394215	-71.075816
MWRA_069	Massachusetts Water Resources Authority	Water Quality	Mystic Mouth	Inner Harbor, Mystic River, near Schraffts Building, BOS017	42.385905	-71.068735
MWRA_137	Massachusetts Water Resources Authority	Water Quality	Mystic Mouth	Inner Harbor, Mystic River, mouth, 1/3-mile upstream of Tobin Bridge	42.386763	-71.062829
MWRA_183	Massachusetts Water Resources Authority	Water Quality	Island End River	Inner Harbor, Mystic River, Island End River, near marina	42.392047	-71.050425
MyRWA_MYR275	Mystic River Watershed Association	Water Quality	Mystic River (Salt)	Mystic River at Draw Seven Park in Somerville; sampled downstream of MWR205	42.393173	-71.075633
MyRWA_MYRMMP	Mystic River Watershed Association	Water Quality	Mystic River (Salt)	Mystic River at Mary O'Malley Park in Chelsea; sampled from east side of wooden pier at east end of park	42.387150	-71.049010

### Bacteria Data

#### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 2) (MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	05/03/11	11/11/11	31	10	5170	66
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/23/12	10/04/12	29	10	1420	27
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	25	10	457	33
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/08/14	10/24/14	25	10	3440	44
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/29/15	28	10	5480	36
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	29	10	6590	24

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/19/17	36	10	435	28
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	38	10	24200	102
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	05/03/19	10/16/19	23	10	6130	73
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	07/21/20	09/25/20	19	10	712	21
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	19	10	1150	31
MWRA_052	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	2060	20
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	05/03/11	11/11/11	27	10	1080	39
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/23/12	10/04/12	29	10	1550	25
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/24/13	10/31/13	25	10	529	34
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/08/14	10/24/14	25	10	2050	31
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/13/15	10/29/15	28	10	5170	31
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	05/09/16	10/28/16	29	10	292	17
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/03/17	10/19/17	36	10	1020	22
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/24/18	10/24/18	37	10	5480	90
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	05/03/19	10/25/19	24	10	1240	29
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	07/21/20	09/25/20	19	10	988	28
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/01/21	09/16/21	19	10	1080	26

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_069	Massachusetts Water Resources Authority	Enterococcus	04/14/22	10/17/22	17	10	20	11
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/07/11	10/18/11	14	10	384	17
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/04/12	10/25/12	14	10	51	13
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/04/13	10/17/13	14	10	31	13
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/02/14	10/21/14	14	10	10	10
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/02/15	10/20/15	14	10	20	10
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/06/16	10/19/16	13	10	20	10
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/13/17	10/23/17	14	10	31	10
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/03/18	10/25/18	13	10	122	14
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/05/19	10/24/19	14	10	10	10
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	06/23/20	10/21/20	9	10	74	13
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/06/21	10/13/21	13	10	135	14
MWRA_137	Massachusetts Water Resources Authority	Enterococcus	04/04/22	10/27/22	14	10	41	11
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/19/12	10/25/12	7	10	9210	151
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/22/13	10/17/13	7	31	565	173
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/22/14	10/21/14	7	63	7700	677
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/22/15	10/20/15	7	10	4350	285

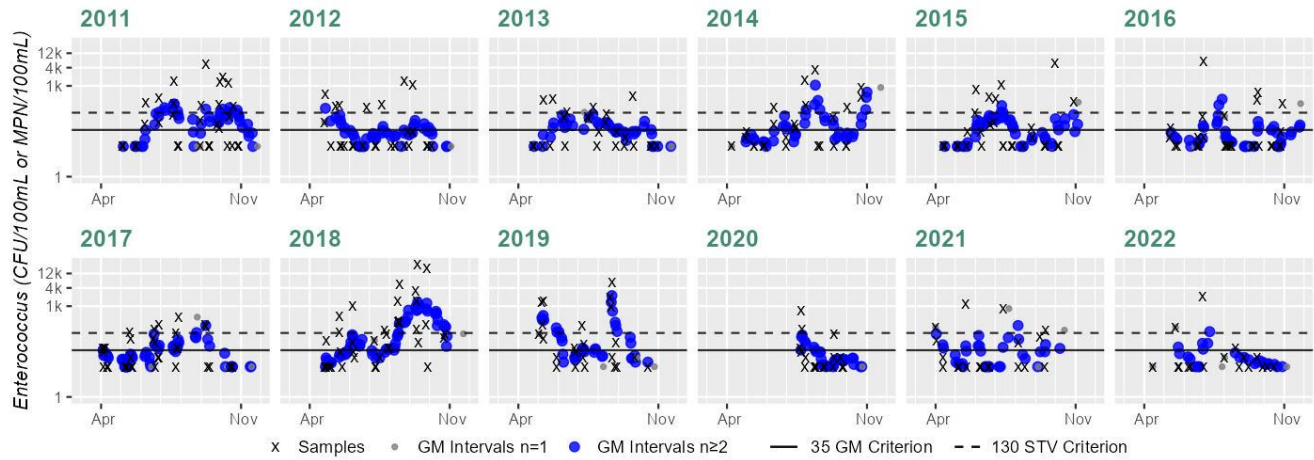


Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/25/16	10/19/16	7	10	134	15
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/13/17	10/03/17	7	74	6130	760
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/03/18	10/04/18	7	10	97	19
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/05/19	10/01/19	7	10	20	12
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	06/23/20	10/02/20	5	10	63	23
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/06/21	10/13/21	7	10	2140	26
MWRA_183	Massachusetts Water Resources Authority	Enterococcus	04/04/22	10/13/22	7	10	10	10
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/10/12	10/04/12	7	10	130000	116
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/29/13	10/09/13	6	10	170	32
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/03/14	10/28/14	7	10	200	30
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/08/15	10/02/15	7	10	980	70
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/26/16	10/26/16	7	10	5200	60
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/14/17	10/24/17	7	10	440	18
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/04/18	10/29/18	7	10	1300	81
MyRWA_MYR275	Mystic River Watershed Association	Enterococcus	04/23/19	10/18/19	7	10	21872	203
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/10/12	10/04/12	7	10	380	30
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/29/13	10/09/13	6	10	110	27

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/03/14	10/28/14	7	1	100	14
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/08/15	10/02/15	7	10	680	20
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/26/16	10/26/16	7	10	590	43
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/14/17	10/24/17	7	10	1200	52
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	05/04/18	10/29/18	6	10	400	26
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococcus	04/23/19	10/18/19	7	10	1726	73

## Station MWRA\_052 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	31
SeasGM	66
#GMI	50
#GMI Ex	36
%GMI Ex	72%
n>STV	11
%n>STV	35%

Variable*	Result
Samples	29
SeasGM	27
#GMI	51
#GMI Ex	15
%GMI Ex	29%
n>STV	7
%n>STV	24%

Variable*	Result
Samples	25
SeasGM	33
#GMI	43
#GMI Ex	24
%GMI Ex	55%
n>STV	5
%n>STV	20%

Variable*	Result
Samples	25
SeasGM	44
#GMI	43
#GMI Ex	20
%GMI Ex	46%
n>STV	7
%n>STV	28%

Variable*	Result
Samples	28
SeasGM	36
#GMI	49
#GMI Ex	29
%GMI Ex	59%
n>STV	6
%n>STV	21%

Variable*	Result
Samples	29
SeasGM	24
#GMI	45
#GMI Ex	14
%GMI Ex	31%
n>STV	4
%n>STV	13%

Variable*	Result
Samples	36
SeasGM	28
#GMI	57
#GMI Ex	22
%GMI Ex	38%
n>STV	7
%n>STV	19%

Variable*	Result
Samples	38
SeasGM	102
#GMI	66
#GMI Ex	45
%GMI Ex	68%
n>STV	15
%n>STV	39%

Variable*	Result
Samples	23
SeasGM	73
#GMI	37
#GMI Ex	22
%GMI Ex	59%
n>STV	7
%n>STV	30%

Variable*	Result
Samples	19
SeasGM	21
#GMI	32
#GMI Ex	7
%GMI Ex	21%
n>STV	2
%n>STV	10%

Variable*	Result
Samples	19
SeasGM	31
#GMI	32
#GMI Ex	13
%GMI Ex	40%
n>STV	4
%n>STV	21%

Variable*	Result
Samples	17
SeasGM	20
#GMI	25
#GMI Ex	5
%GMI Ex	20%
n>STV	2
%n>STV	11%

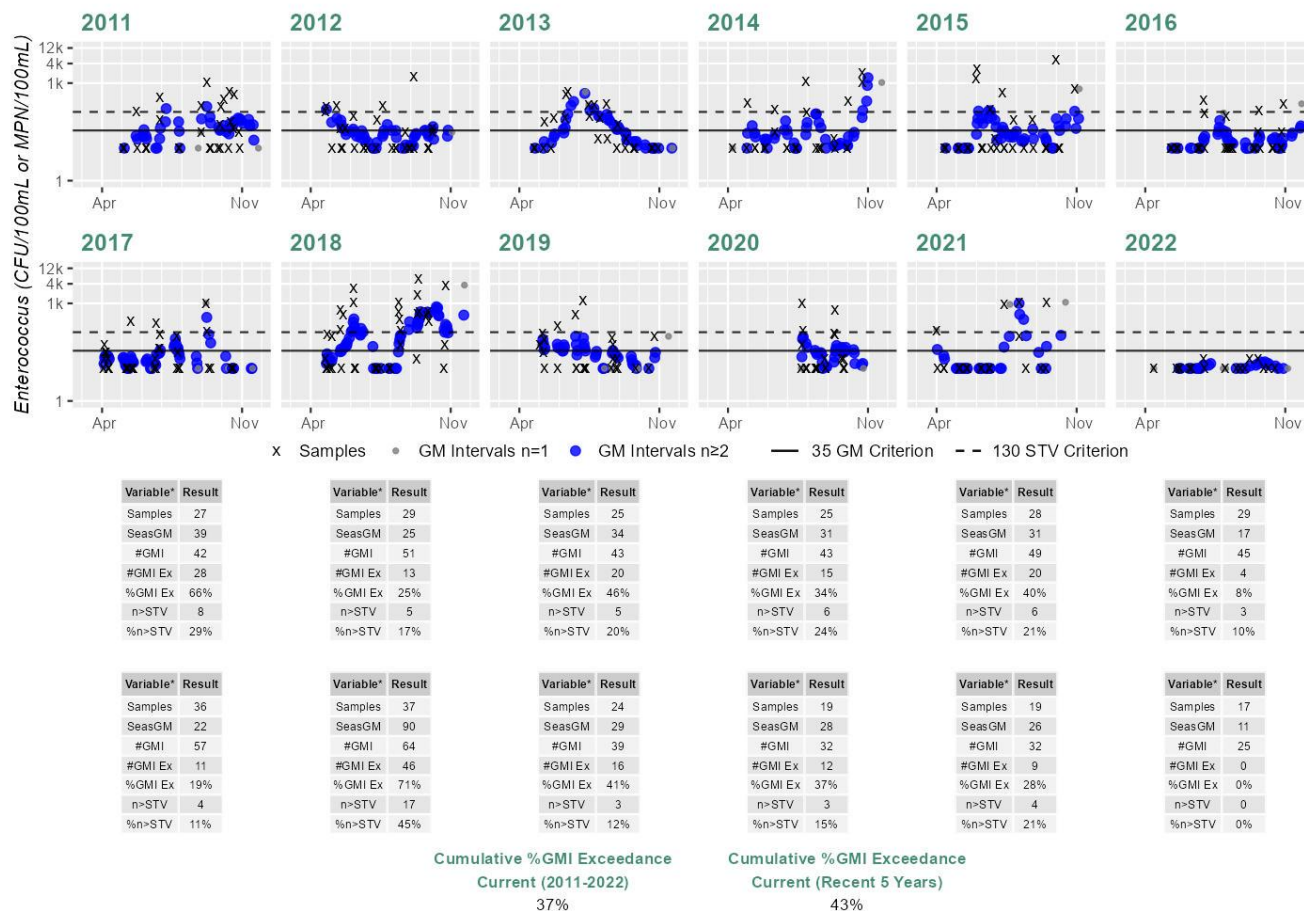
Cumulative %GMI Exceedance  
Current (2011-2022)  
47%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
47%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MWRA\_069 - Enterococcus

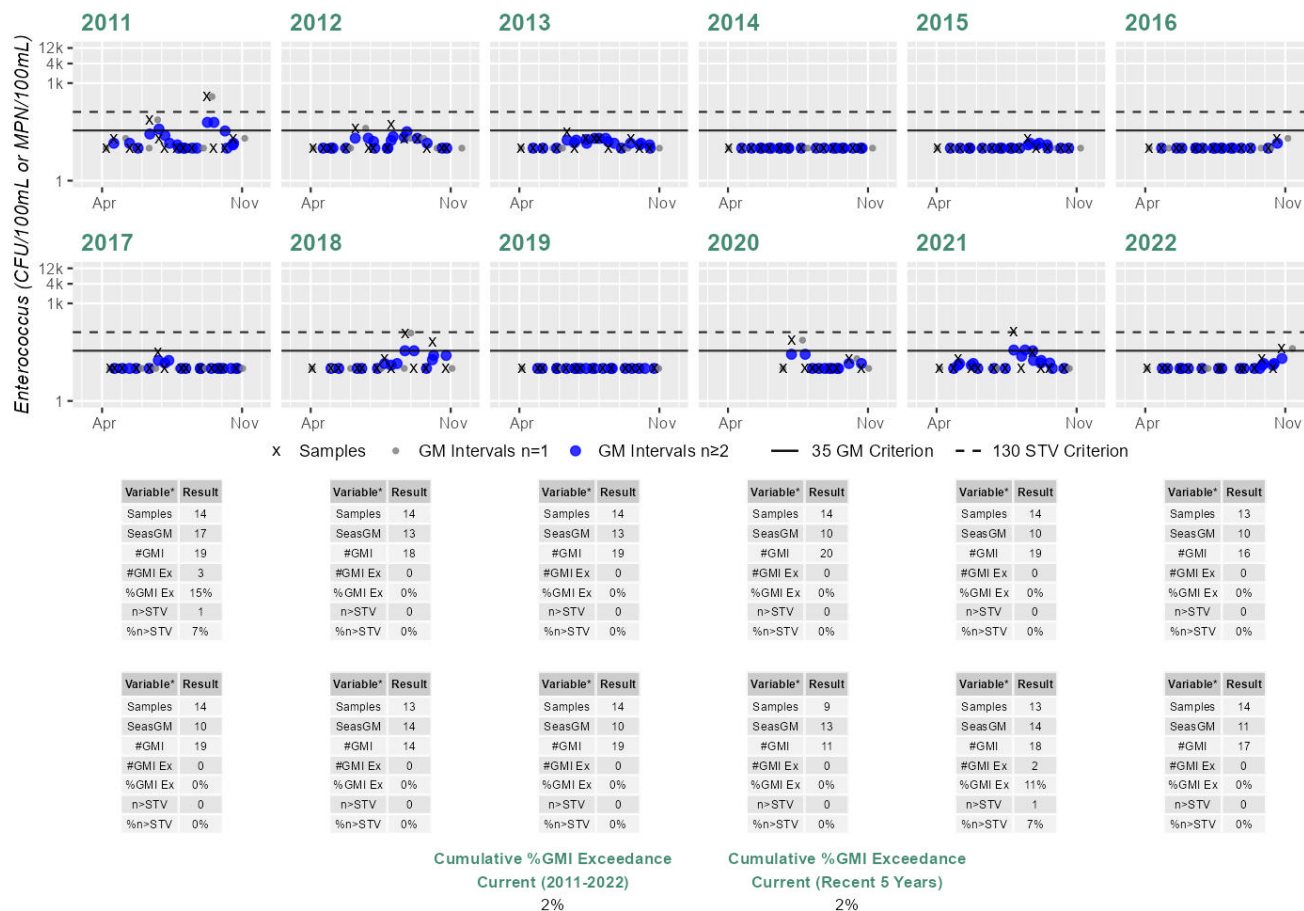
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_137 - Enterococcus

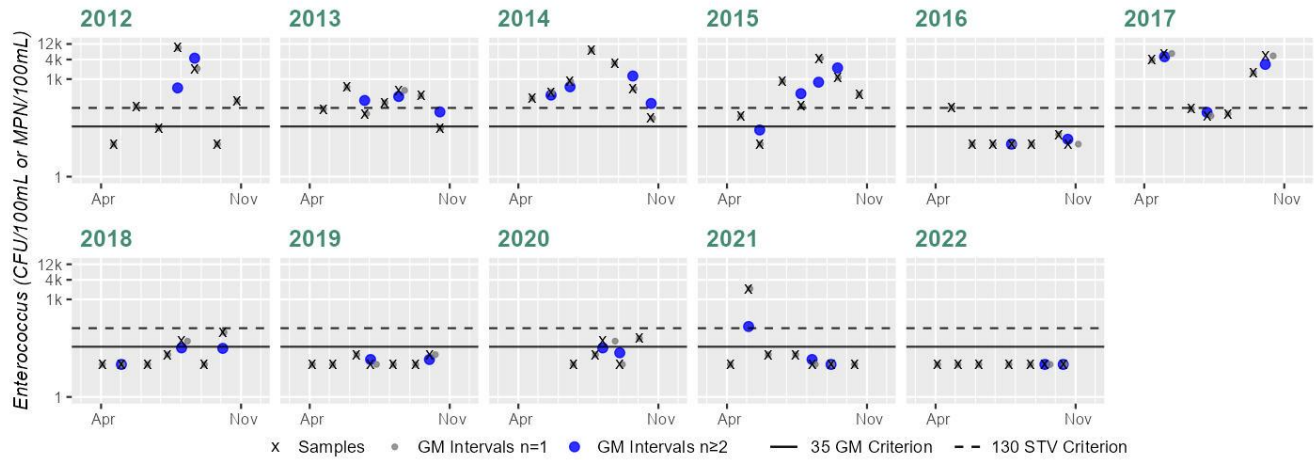
Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_183 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	7
SeasGM	151
#GMI	2
#GMI Ex	2
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	173
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	677
#GMI	4
#GMI Ex	4
%GMI Ex	100%
n>STV	6
%n>STV	85%

Variable*	Result
Samples	7
SeasGM	285
#GMI	4
#GMI Ex	3
%GMI Ex	75%
n>STV	5
%n>STV	71%

Variable*	Result
Samples	7
SeasGM	15
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	760
#GMI	3
#GMI Ex	3
%GMI Ex	100%
n>STV	4
%n>STV	57%

Variable*	Result
Samples	7
SeasGM	19
#GMI	3
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	12
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	5
SeasGM	23
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	7
SeasGM	26
#GMI	3
#GMI Ex	1
%GMI Ex	33%
n>STV	1
%n>STV	14%

Variable*	Result
Samples	7
SeasGM	10
#GMI	2
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
53%

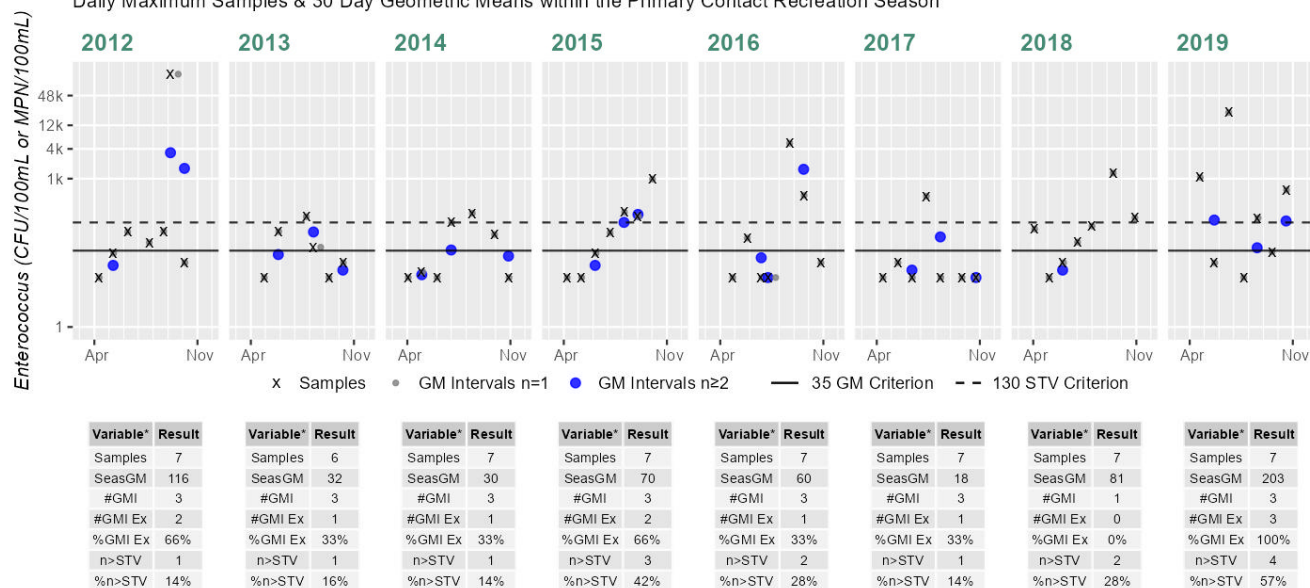
Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
8%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MyRWA\_MYR275 - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

50%

Cumulative %GMI Exceedance

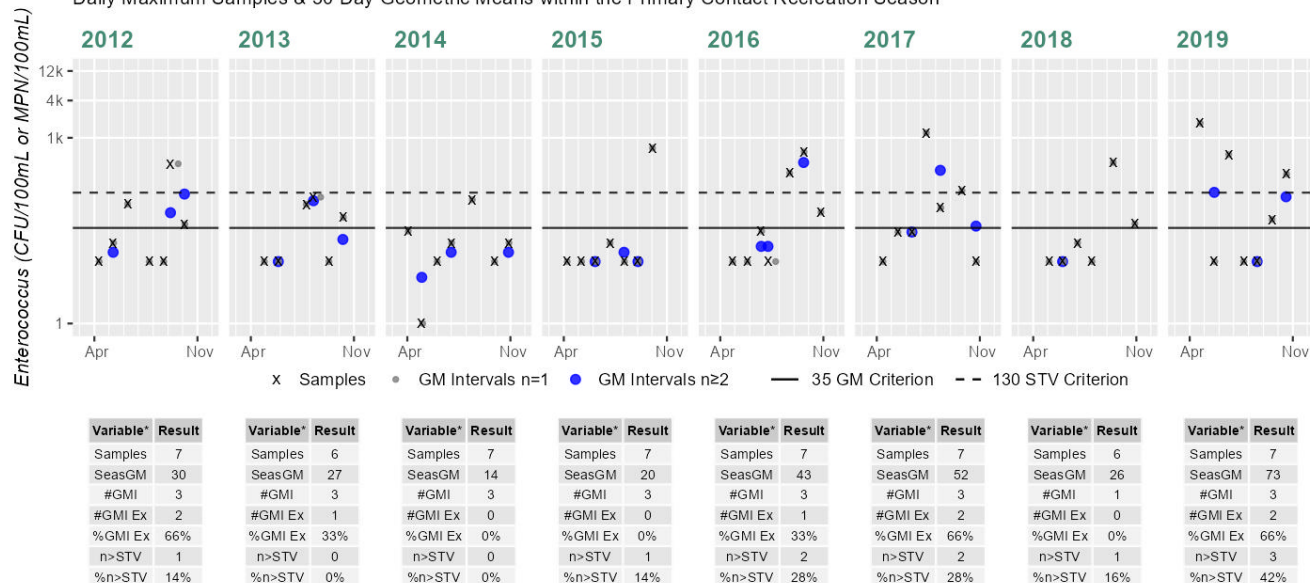
Current (Recent 5 Years)

53%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_MYRMMP - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

36%

Cumulative %GMI Exceedance

Current (Recent 5 Years)

38%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

**Shellfish Growing Area Classifications**

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Mystic River (MA71-03): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.472 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

**Secondary Contact Recreation**

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	



The Secondary Contact Recreation Use for this estuarine Mystic River AU (MA71-03) continues to be assessed as Not Supporting. The prior *Enterococcus* impairment is being carried forward based on bacteria data not meeting the threshold at MWRA\_052, MyRWA\_MYR275, MWRA\_069, and MyRWA\_MYRMMP. The prior Odor and Oil and Grease impairments (from the Aesthetics Use) are being carried forward. Since the Flocculant Masses and Scum/Foam impairments were removed from the Aesthetics Use, they are being removed from the recreational uses as well. The shellfish growing areas (0.472 sq mi) in this AU are less than 100% approved (0 sq mi, 0%). Because the shellfish classification is less than “approved”, these data cannot be used to assess the Secondary Contact Recreation Use of this MA71-03 AU.

MWRA and MyRWA staff/volunteers collected *Enterococcus* (Ent) bacteria samples at 6 stations in this MA71-03 AU in the current IR window (2011-2022). Samples were collected from the following stations/sample years: MWRA\_052 [Inner Harbor, Mystic R., below Earhart Dam, at Somerville Marginal MWR205] from 2011-2022 (current n=19-38/yr), MyRWA\_MYR275 [Mystic R. at Draw Seven Park in Somerville; downstr. of MWR205] from 2012-2019 (n=10-12/yr), MWRA\_069 [Inner Harbor, Mystic R., near Schraffts Building, BOS017] from 2011-2022 (current n=19-38/yr), MWRA\_137 [Inner Harbor, Mystic R., mouth, 1/3-mile upstr. of Tobin Bridge] from 2011-2022 (current n=18-24/yr), MWRA\_183 [Inner Harbor, Mystic R., Island End R., near marina] from 2012-2022 (n=9-12/yr), and MyRWA\_MYRMMP [Mystic R. at Mary O’Malley Park in Chelsea; sampled from E side of wooden pier at E end of park] from 2012-2019 (n=10-12/yr).

Analysis of the recent five years of the multi-year high frequency Ent dataset from MWRA\_052 indicated that in 2 of 5 sufficient data years >10% of intervals had GMs >68 CFU/100mL (2018 and 2019, 53 & 60%), 2 years had >10% of samples exceed the 252 CFU/100mL STV (2018 and 2019, 28 & 21%), and cumulatively across years 30% of intervals had GMs >68 CFU/100mL.

Analysis of the recent five years of the multi-year moderate frequency Ent dataset from MyRWA\_MYR275 indicated that in 4 of 5 sufficient data yrs >20% of intervals had GMs >68 CFU/100mL (2015-2016 & 2018-2019, 35-76%), 3 years had ≥2 samples exceed the 252 CFU/100mL STV (2016 and 2018-2019, n=2-4), and cumulatively across years 39% of intervals had GMs >68 CFU/100mL. Analysis of the recent five years of the multi-year high frequency Ent dataset from MWRA\_069 indicated only 1 of 5 sufficient data years had >10% of intervals with GMs >68 CFU/100mL (2018, 42%), but 3 years had >10% of samples exceed the 252 CFU/100mL STV (2018 and 2020-2021, 10-40%), and cumulatively across years 16% of intervals had GMs >68 CFU/100mL.

Analysis of the recent five years of the multi-year high frequency Ent dataset from MWRA\_137 indicated no data years had >10% of intervals with GMs >68 CFU/100mL, no years had >10% of samples exceed the 252 CFU/100mL STV, and cumulatively across years only 1% of intervals had GMs >68 CFU/100mL. Analysis of the recent five years of the multi-year moderate frequency Ent dataset from MWRA\_183 indicated no data years had >20% of intervals with GMs >68 CFU/100mL, no years had ≥2 samples exceed the 252 CFU/100mL STV, and cumulatively across years only 3% of intervals had GMs >68 CFU/100mL.

Analysis of the recent five years of the multi-year moderate frequency Ent dataset from MyRWA\_MYRMMP indicated that in 3 of 5 sufficient data years >20% of intervals had GMs >68 CFU/100mL (2016-2017 & 2019, 26-41%), 2 years had ≥2 samples exceed the 252 CFU/100mL STV (2016 & 2019, n=3 & 4), and cumulatively across years 24% of intervals had GMs >68 CFU/100mL. While *Enterococcus* data from MWRA\_137 and MWRA\_183 meet 2024 CALM

guidance, *Enterococcus* data from MWRA\_052, MyRWA\_MYR275, MWRA\_069, and MyRWA\_MYRMMP reflect the existing *Enterococcus* impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MWRA_052	Massachusetts Water Resources Authority	Water Quality	Mystic Mouth	Inner Harbor, Mystic River, below Earhart Dam, at Somerville Marginal MWR205	42.394215	-71.075816
MWRA_069	Massachusetts Water Resources Authority	Water Quality	Mystic Mouth	Inner Harbor, Mystic River, near Schraffts Building, BOS017	42.385905	-71.068735
MWRA_137	Massachusetts Water Resources Authority	Water Quality	Mystic Mouth	Inner Harbor, Mystic River, mouth, 1/3-mile upstream of Tobin Bridge	42.386763	-71.062829
MWRA_183	Massachusetts Water Resources Authority	Water Quality	Island End River	Inner Harbor, Mystic River, Island End River, near marina	42.392047	-71.050425
MyRWA_MYR275	Mystic River Watershed Association	Water Quality	Mystic River (Salt)	Mystic River at Draw Seven Park in Somerville; sampled downstream of MWR205	42.393173	-71.075633
MyRWA_MYRMMP	Mystic River Watershed Association	Water Quality	Mystic River (Salt)	Mystic River at Mary O'Malley Park in Chelsea; sampled from east side of wooden pier at east end of park	42.387150	-71.049010

### Bacteria Data

#### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MWRA 2024) (MassDEP Undated 1) (MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/29/97	11/06/97	27	5	6900	117
MWRA_052	Massachusetts Water Resources Authority	Enterococci	05/11/98	12/17/98	19	5	2300	48
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/19/99	12/06/99	31	5	4400	22

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/04/00	12/20/00	32	5	5600	40
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/18/01	12/26/01	38	5	58800	53
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/02/02	12/16/02	31	5	1010	38
MWRA_052	Massachusetts Water Resources Authority	Enterococci	02/05/03	12/17/03	26	10	34100	183
MWRA_052	Massachusetts Water Resources Authority	Enterococci	05/05/04	11/23/04	18	5	590	36
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/19/05	12/27/05	33	5	2100	51
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/19/06	12/20/06	28	5	4500	35
MWRA_052	Massachusetts Water Resources Authority	Enterococci	04/17/07	12/24/07	25	10	3260	50
MWRA_052	Massachusetts Water Resources Authority	Enterococci	02/14/08	12/12/08	23	10	2910	41
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/07/09	12/22/09	25	10	581	25
MWRA_052	Massachusetts Water Resources Authority	Enterococci	05/05/10	11/12/10	20	10	135	11
MWRA_052	Massachusetts Water Resources Authority	Enterococci	05/03/11	12/22/11	37	10	5170	66
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/13/12	10/04/12	31	10	1420	29
MWRA_052	Massachusetts Water Resources Authority	Enterococci	04/24/13	10/31/13	25	10	457	33
MWRA_052	Massachusetts Water Resources Authority	Enterococci	04/08/14	12/26/14	31	10	3610	45
MWRA_052	Massachusetts Water Resources Authority	Enterococci	03/27/15	10/29/15	29	10	5480	38
MWRA_052	Massachusetts Water Resources Authority	Enterococci	01/11/16	12/02/16	38	10	6590	28

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_052	Massachusetts Water Resources Authority	Enterococci	04/03/17	11/27/17	37	10	435	27
MWRA_052	Massachusetts Water Resources Authority	Enterococci	04/24/18	10/24/18	38	10	24200	102
MWRA_052	Massachusetts Water Resources Authority	Enterococci	05/03/19	10/16/19	23	10	6130	73
MWRA_052	Massachusetts Water Resources Authority	Enterococci	07/21/20	09/25/20	19	10	712	21
MWRA_052	Massachusetts Water Resources Authority	Enterococci	03/23/21	09/16/21	21	10	1150	29
MWRA_052	Massachusetts Water Resources Authority	Enterococci	03/22/22	10/17/22	20	10	2060	18
MWRA_069	Massachusetts Water Resources Authority	Enterococci	06/30/97	08/23/97	23	5	4360	28
MWRA_069	Massachusetts Water Resources Authority	Enterococci	05/11/98	05/11/98	1	620	620	620
MWRA_069	Massachusetts Water Resources Authority	Enterococci	09/22/99	09/22/99	1	30	30	30
MWRA_069	Massachusetts Water Resources Authority	Enterococci	04/12/00	09/27/00	3	5	30	11
MWRA_069	Massachusetts Water Resources Authority	Enterococci	04/18/01	04/18/01	1	70	70	70
MWRA_069	Massachusetts Water Resources Authority	Enterococci	06/06/02	06/06/02	1	230	230	230
MWRA_069	Massachusetts Water Resources Authority	Enterococci	03/29/05	11/04/05	7	5	930	44
MWRA_069	Massachusetts Water Resources Authority	Enterococci	05/03/06	10/17/06	6	5	115	28
MWRA_069	Massachusetts Water Resources Authority	Enterococci	05/11/09	10/28/09	20	10	30	11
MWRA_069	Massachusetts Water Resources Authority	Enterococci	05/05/10	11/12/10	20	10	132	14
MWRA_069	Massachusetts Water Resources Authority	Enterococci	05/03/11	12/22/11	33	10	1080	40

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_069	Massachusetts Water Resources Authority	Enterococci	01/13/12	10/04/12	31	10	1550	26
MWRA_069	Massachusetts Water Resources Authority	Enterococci	04/24/13	10/31/13	25	10	529	34
MWRA_069	Massachusetts Water Resources Authority	Enterococci	04/08/14	12/26/14	31	10	4880	36
MWRA_069	Massachusetts Water Resources Authority	Enterococci	03/27/15	10/29/15	29	10	5170	33
MWRA_069	Massachusetts Water Resources Authority	Enterococci	01/11/16	12/02/16	38	10	355	20
MWRA_069	Massachusetts Water Resources Authority	Enterococci	04/03/17	11/27/17	37	10	1020	21
MWRA_069	Massachusetts Water Resources Authority	Enterococci	04/24/18	10/24/18	37	10	5480	90
MWRA_069	Massachusetts Water Resources Authority	Enterococci	05/03/19	10/25/19	24	10	1240	29
MWRA_069	Massachusetts Water Resources Authority	Enterococci	07/21/20	09/25/20	19	10	988	28
MWRA_069	Massachusetts Water Resources Authority	Enterococci	03/23/21	09/16/21	21	10	1080	24
MWRA_069	Massachusetts Water Resources Authority	Enterococci	03/22/22	10/17/22	20	10	20	11
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/06/97	12/29/97	38	5	40	7
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/14/98	12/28/98	40	5	2050	17
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/11/99	12/22/99	37	5	440	10
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/03/00	12/28/00	40	5	135	8
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/09/01	12/27/01	39	5	45	9
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/08/02	12/19/02	39	5	260	10

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/06/03	12/22/03	28	5	360	19
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/27/04	12/29/04	24	5	180	15
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/20/05	12/22/05	23	5	255	14
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/05/06	12/22/06	24	5	110	12
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/18/07	12/28/07	23	10	189	13
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/08/08	12/18/08	23	10	960	21
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/06/09	12/21/09	24	10	122	17
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/05/10	12/14/10	24	10	332	25
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/05/11	12/19/11	24	10	384	16
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/05/12	12/20/12	24	10	63	13
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/03/13	12/20/13	24	10	41	13
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/09/14	12/16/14	24	10	63	11
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/06/15	12/16/15	23	10	30	10
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/06/16	12/14/16	23	10	31	10
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/05/17	12/07/17	23	10	74	12
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/16/18	12/19/18	23	10	240	16
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/03/19	12/18/19	24	10	41	10

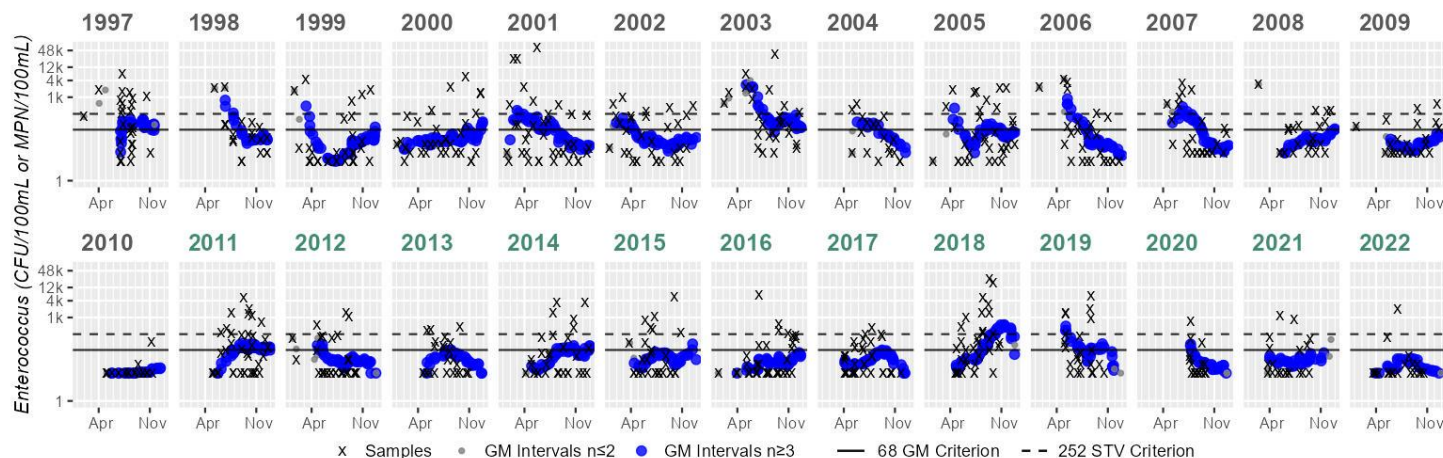
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/06/20	12/14/20	18	10	547	20
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/04/21	12/20/21	24	10	175	16
MWRA_137	Massachusetts Water Resources Authority	Enterococci	01/20/22	12/21/22	24	10	74	12
MWRA_183	Massachusetts Water Resources Authority	Enterococci	04/19/12	12/20/12	9	10	9210	167
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/28/13	12/20/13	12	31	7270	460
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/21/14	12/16/14	12	63	7700	762
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/21/15	12/16/15	11	10	4350	454
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/14/16	12/07/16	12	10	1720	40
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/26/17	12/07/17	12	20	6130	635
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/16/18	12/06/18	12	10	98	23
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/03/19	12/04/19	12	10	63	14
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/06/20	12/02/20	9	10	399	23
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/04/21	12/15/21	12	10	2140	19
MWRA_183	Massachusetts Water Resources Authority	Enterococci	01/20/22	12/08/22	12	10	213	14
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/13/12	12/04/12	12	10	130000	59
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/31/13	12/06/13	11	10	170	34
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/06/14	12/12/14	12	10	14000	69

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/23/15	12/16/15	11	10	980	42
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/15/16	12/05/16	12	10	5200	33
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/17/17	12/08/17	12	10	440	14
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/22/18	12/13/18	12	10	3000	101
MyRWA_MYR275	Mystic River Watershed Association	Enterococci	01/25/19	10/18/19	10	10	21872	142
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/13/12	12/04/12	12	10	380	29
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/31/13	12/06/13	11	10	220	33
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/06/14	12/12/14	12	1	790	24
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/23/15	12/16/15	11	10	680	23
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/15/16	12/05/16	12	10	590	49
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/17/17	12/08/17	12	10	1200	35
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/22/18	12/13/18	11	10	400	27
MyRWA_MYRMMP	Mystic River Watershed Association	Enterococci	01/25/19	10/18/19	10	10	1726	71



# Station MWRA\_052 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	27	Samples	19	Samples	31	Samples	32	Samples	38	Samples	31	Samples	26	Samples	18	Samples	33	Samples	28	Samples	25	Samples	23	Samples	25	Samples	25	Samples	25
SeasGM	117	SeasGM	48	SeasGM	22	SeasGM	40	SeasGM	53	SeasGM	38	SeasGM	183	SeasGM	36	SeasGM	51	SeasGM	35	SeasGM	50	SeasGM	41	SeasGM	25	SeasGM	25	SeasGM	25
#GMI	46	#GMI	33	#GMI	57	#GMI	58	#GMI	68	#GMI	55	#GMI	42	#GMI	26	#GMI	55	#GMI	47	#GMI	44	#GMI	38	#GMI	41	#GMI	41	#GMI	41
#GMI Ex	38	#GMI Ex	6	#GMI Ex	6	#GMI Ex	9	#GMI Ex	31	#GMI Ex	10	#GMI Ex	38	#GMI Ex	8	#GMI Ex	18	#GMI Ex	11	#GMI Ex	17	#GMI Ex	5	#GMI Ex	2	#GMI Ex	2	#GMI Ex	2
%GMI Ex	82%	%GMI Ex	18%	%GMI Ex	10%	%GMI Ex	15%	%GMI Ex	45%	%GMI Ex	18%	%GMI Ex	90%	%GMI Ex	30%	%GMI Ex	32%	%GMI Ex	23%	%GMI Ex	38%	%GMI Ex	13%	%GMI Ex	4%	%GMI Ex	4%	%GMI Ex	4%
n>STV	12	n>STV	2	n>STV	5	n>STV	6	n>STV	7	n>STV	5	n>STV	10	n>STV	2	n>STV	9	n>STV	5	n>STV	6	n>STV	4	n>STV	2	n>STV	2	n>STV	2
%n>STV	44%	%n>STV	10%	%n>STV	16%	%n>STV	18%	%n>STV	18%	%n>STV	16%	%n>STV	38%	%n>STV	11%	%n>STV	27%	%n>STV	17%	%n>STV	24%	%n>STV	17%	%n>STV	8%	%n>STV	8%	%n>STV	8%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	20	Samples	37	Samples	31	Samples	25	Samples	31	Samples	29	Samples	38	Samples	37	Samples	38	Samples	23	Samples	19	Samples	21	Samples	20	Samples	20	Samples	20
SeasGM	11	SeasGM	66	SeasGM	29	SeasGM	33	SeasGM	45	SeasGM	38	SeasGM	28	SeasGM	27	SeasGM	102	SeasGM	73	SeasGM	21	SeasGM	29	SeasGM	18	SeasGM	18	SeasGM	18
#GMI	35	#GMI	65	#GMI	52	#GMI	42	#GMI	53	#GMI	52	#GMI	67	#GMI	69	#GMI	66	#GMI	38	#GMI	33	#GMI	33	#GMI	33	#GMI	33	#GMI	33
#GMI Ex	0	#GMI Ex	41	#GMI Ex	5	#GMI Ex	2	#GMI Ex	17	#GMI Ex	2	#GMI Ex	7	#GMI Ex	0	#GMI Ex	35	#GMI Ex	23	#GMI Ex	3	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	63%	%GMI Ex	9%	%GMI Ex	4%	%GMI Ex	32%	%GMI Ex	3%	%GMI Ex	10%	%GMI Ex	0%	%GMI Ex	53%	%GMI Ex	60%	%GMI Ex	9%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%
n>STV	0	n>STV	9	n>STV	3	n>STV	3	n>STV	5	n>STV	6	n>STV	4	n>STV	1	n>STV	11	n>STV	5	n>STV	1	n>STV	2	n>STV	1	n>STV	1	n>STV	1
%n>STV	0%	%n>STV	24%	%n>STV	9%	%n>STV	12%	%n>STV	16%	%n>STV	20%	%n>STV	10%	%n>STV	2%	%n>STV	28%	%n>STV	21%	%n>STV	5%	%n>STV	9%	%n>STV	5%	%n>STV	5%	%n>STV	5%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
30%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)  
17%

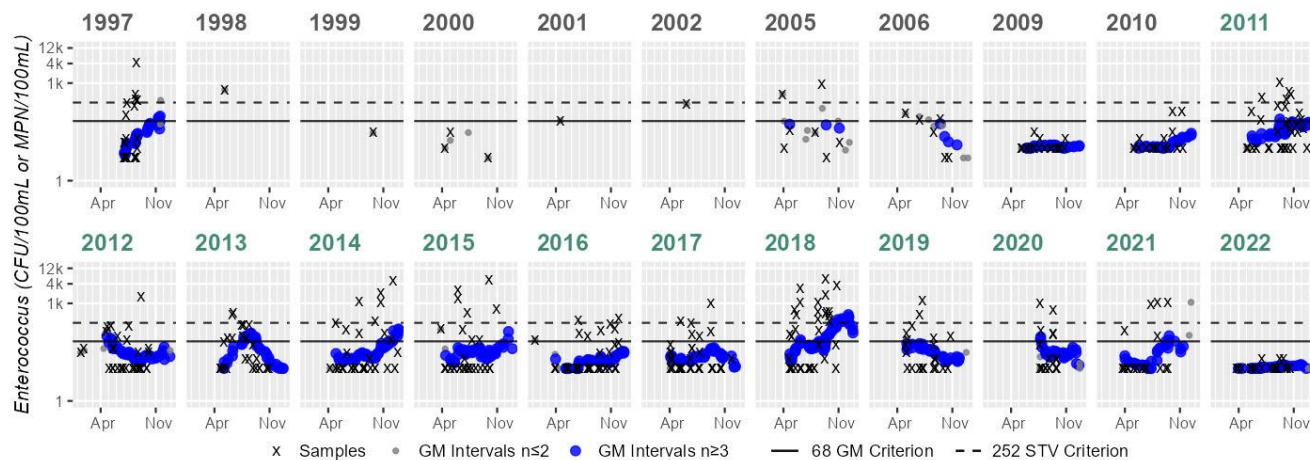
Cumulative %GMI Exceedance  
Current (2011-2022)  
22%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
30%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n>STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MWRA\_069 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	23	Samples	1	Samples	1	Samples	3	Samples	1	Samples	1	Samples	7	Samples	6	Samples	20	Samples	20	Samples	33	Samples	33
SeasGM	28	SeasGM	620	SeasGM	30	SeasGM	11	SeasGM	70	SeasGM	230	SeasGM	44	SeasGM	28	SeasGM	11	SeasGM	14	SeasGM	40	SeasGM	40
#GMI	41	#GMI	0	#GMI	0	#GMI	0	#GMI	0	#GMI	0	#GMI	3	#GMI	4	#GMI	34	#GMI	35	#GMI	60	#GMI	60
#GMI Ex	4	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1
%GMI Ex	9%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	1%
n>STV	5	n>STV	1	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	2	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	5
%n>STV	21%	%n>STV	100%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	28%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	15%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	31	Samples	25	Samples	31	Samples	29	Samples	38	Samples	37	Samples	37	Samples	24	Samples	19	Samples	21	Samples	20	Samples	20
SeasGM	26	SeasGM	34	SeasGM	36	SeasGM	33	SeasGM	20	SeasGM	21	SeasGM	90	SeasGM	29	SeasGM	28	SeasGM	24	SeasGM	11	SeasGM	11
#GMI	52	#GMI	42	#GMI	53	#GMI	52	#GMI	67	#GMI	69	#GMI	66	#GMI	40	#GMI	33	#GMI	33	#GMI	33	#GMI	33
#GMI Ex	3	#GMI Ex	14	#GMI Ex	11	#GMI Ex	2	#GMI Ex	1	#GMI Ex	0	#GMI Ex	28	#GMI Ex	0	#GMI Ex	2	#GMI Ex	3	#GMI Ex	0	#GMI Ex	0
%GMI Ex	5%	%GMI Ex	33%	%GMI Ex	20%	%GMI Ex	3%	%GMI Ex	1%	%GMI Ex	0%	%GMI Ex	42%	%GMI Ex	0%	%GMI Ex	6%	%GMI Ex	9%	%GMI Ex	0%	%GMI Ex	0%
n>STV	1	n>STV	2	n>STV	5	n>STV	5	n>STV	2	n>STV	2	n>STV	15	n>STV	2	n>STV	2	n>STV	3	n>STV	0	n>STV	0
%n>STV	3%	%n>STV	8%	%n>STV	16%	%n>STV	17%	%n>STV	5%	%n>STV	5%	%n>STV	40%	%n>STV	8%	%n>STV	10%	%n>STV	14%	%n>STV	0%	%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
3%

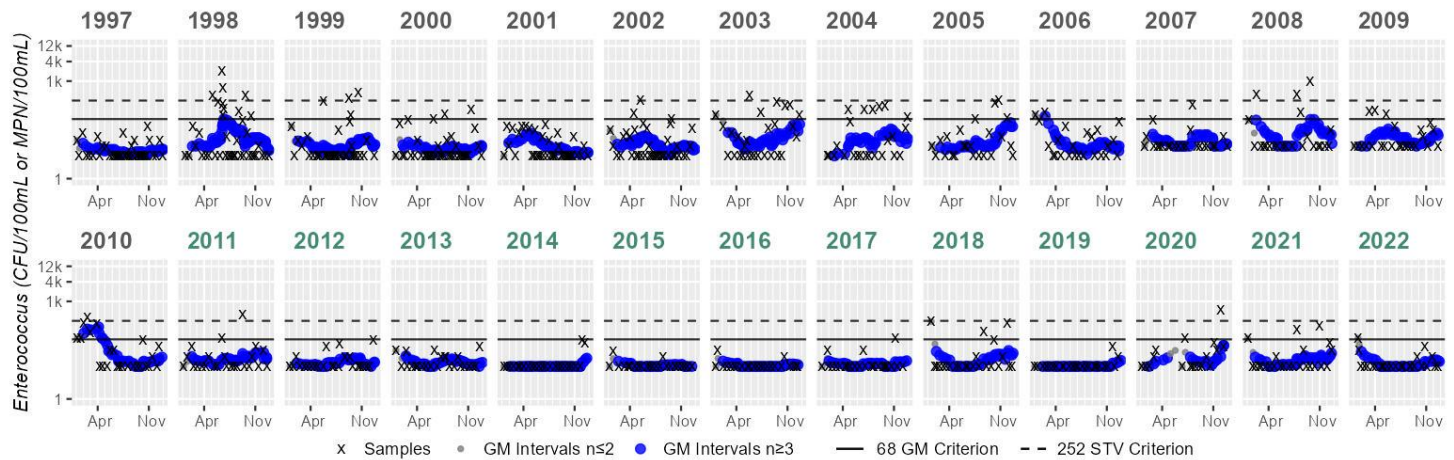
Cumulative %GMI Exceedance  
Current (2011-2022)  
10%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
16%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MWRA\_137 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	38	Samples	40	Samples	37	Samples	40	Samples	39	Samples	39	Samples	28	Samples	24	Samples	23	Samples	24	Samples	13	Samples	23	Samples	23	Samples	24	Samples	24
SeasGM	7	SeasGM	17	SeasGM	10	SeasGM	8	SeasGM	9	SeasGM	10	SeasGM	19	SeasGM	15	SeasGM	14	SeasGM	12	SeasGM	13	SeasGM	21	SeasGM	17	SeasGM	17	SeasGM	17
#GMI	69	#GMI	75	#GMI	66	#GMI	71	#GMI	73	#GMI	71	#GMI	48	#GMI	40	#GMI	40	#GMI	42	#GMI	41	#GMI	40	#GMI	40	#GMI	43	#GMI	43
#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	1%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	2%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	2%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%
n>STV	0	n>STV	4	n>STV	2	n>STV	0	n>STV	0	n>STV	1	n>STV	1	n>STV	0	n>STV	1	n>STV	0	n>STV	0	n>STV	0	n>STV	3	n>STV	0	n>STV	0
%n>STV	0%	%n>STV	10%	%n>STV	5%	%n>STV	0%	%n>STV	0%	%n>STV	2%	%n>STV	3%	%n>STV	0%	%n>STV	4%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	13%	%n>STV	0%	%n>STV	0%

Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	24	Samples	24	Samples	24	Samples	24	Samples	24	Samples	23	Samples	23	Samples	23	Samples	23	Samples	24	Samples	18	Samples	24	Samples	24	Samples	24	Samples	24
SeasGM	25	SeasGM	16	SeasGM	13	SeasGM	13	SeasGM	11	SeasGM	10	SeasGM	10	SeasGM	12	SeasGM	16	SeasGM	10	SeasGM	20	SeasGM	16	SeasGM	12	SeasGM	12	SeasGM	12
#GMI	43	#GMI	40	#GMI	41	#GMI	43	#GMI	42	#GMI	38	#GMI	40	#GMI	40	#GMI	41	#GMI	41	#GMI	26	#GMI	40	#GMI	43	#GMI	43	#GMI	43
#GMI Ex	8	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	2	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0	#GMI Ex	0
%GMI Ex	18%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	7%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	0%
n>STV	1	n>STV	1	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	0	n>STV	1	n>STV	0	n>STV	0	n>STV	0	n>STV	0
%n>STV	4%	%n>STV	4%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	5%	%n>STV	0%	%n>STV	0%	%n>STV	0%	%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)

1%

Cumulative %GMI Exceedance  
Historic (Recent 5 Years)

4%

Cumulative %GMI Exceedance  
Current (2011-2022)

0%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)

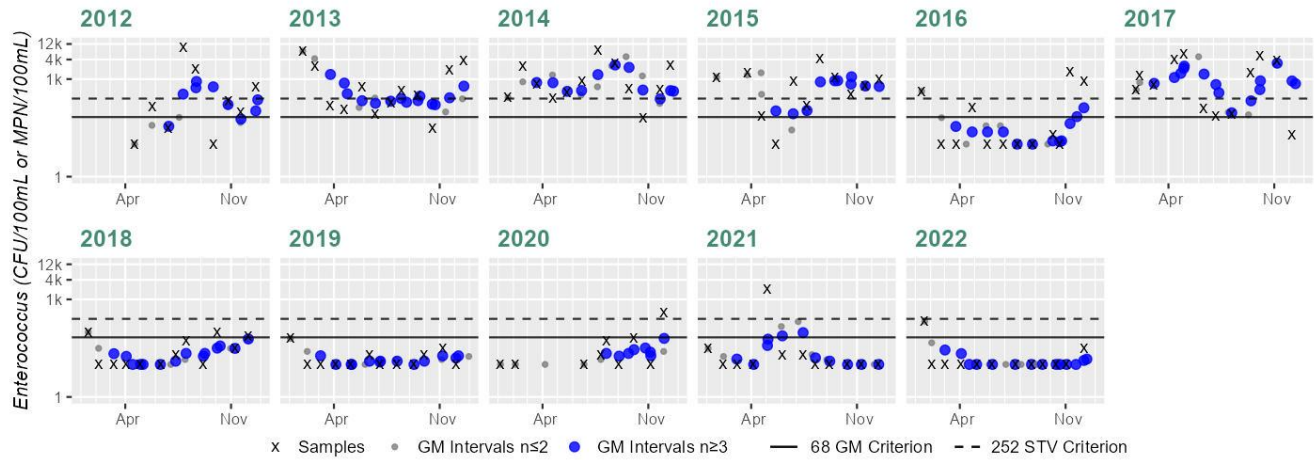
1%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n>STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



## Station MWRA\_183 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	9
SeasGM	167
#GMI	9
#GMI Ex	7
%GMI Ex	77%
n>STV	3
%n>STV	33%

Variable*	Result
Samples	12
SeasGM	460
#GMI	14
#GMI Ex	14
%GMI Ex	100%
n>STV	7
%n>STV	58%

Variable*	Result
Samples	12
SeasGM	762
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	11
%n>STV	91%

Variable*	Result
Samples	11
SeasGM	454
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	8
%n>STV	72%

Variable*	Result
Samples	12
SeasGM	40
#GMI	13
#GMI Ex	3
%GMI Ex	23%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	12
SeasGM	635
#GMI	15
#GMI Ex	15
%GMI Ex	100%
n>STV	8
%n>STV	66%

Variable*	Result
Samples	12
SeasGM	23
#GMI	14
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	14
#GMI	13
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	9
SeasGM	23
#GMI	8
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	11%

Variable*	Result
Samples	12
SeasGM	19
#GMI	11
#GMI Ex	2
%GMI Ex	18%
n>STV	1
%n>STV	8%

Variable*	Result
Samples	12
SeasGM	14
#GMI	14
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

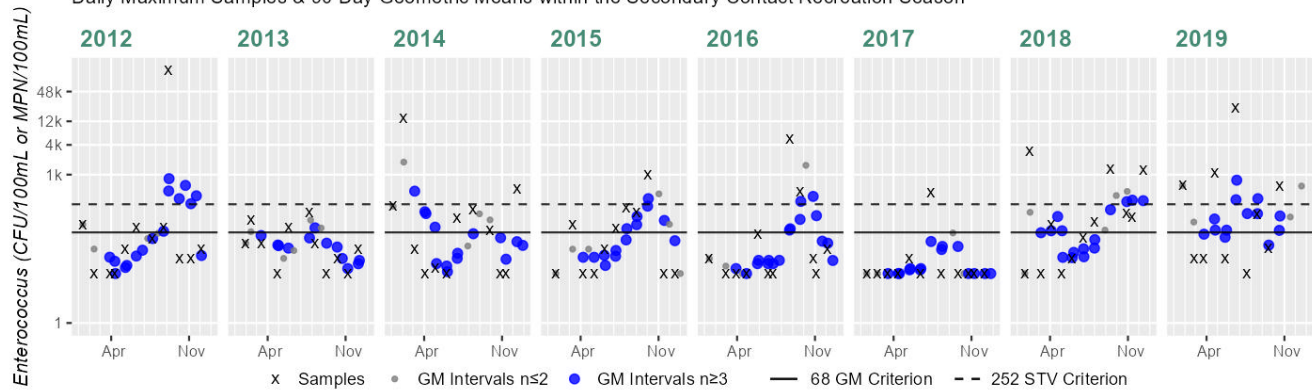
Cumulative %GMI Exceedance  
Current (2011-2022)  
46%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
3%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYR275 - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	12	Samples	11	Samples	12	Samples	11	Samples	12	Samples	12	Samples	12	Samples	12	Samples	10
SeasGM	59	SeasGM	34	SeasGM	69	SeasGM	42	SeasGM	33	SeasGM	14	SeasGM	101	SeasGM	142	SeasGM	13
#GMI	16	#GMI	12	#GMI	14	#GMI	14	#GMI	17	#GMI	15	#GMI	15	#GMI	13	#GMI	10
#GMI Ex	7	#GMI Ex	1	#GMI Ex	4	#GMI Ex	6	#GMI Ex	6	#GMI Ex	0	#GMI Ex	7	#GMI Ex	10	#GMI Ex	76%
%GMI Ex	43%	%GMI Ex	8%	%GMI Ex	28%	%GMI Ex	42%	%GMI Ex	35%	%GMI Ex	0%	%GMI Ex	46%	%GMI Ex	76%	%GMI Ex	40%
n>STV	1	n>STV	0	n>STV	2	n>STV	1	n>STV	2	n>STV	1	n>STV	3	n>STV	4	n>STV	4
%n>STV	8%	%n>STV	0%	%n>STV	16%	%n>STV	9%	%n>STV	16%	%n>STV	8%	%n>STV	25%	%n>STV	40%	%n>STV	40%

Cumulative %GMI Exceedance

Current (2011-2022)

35%

Cumulative %GMI Exceedance

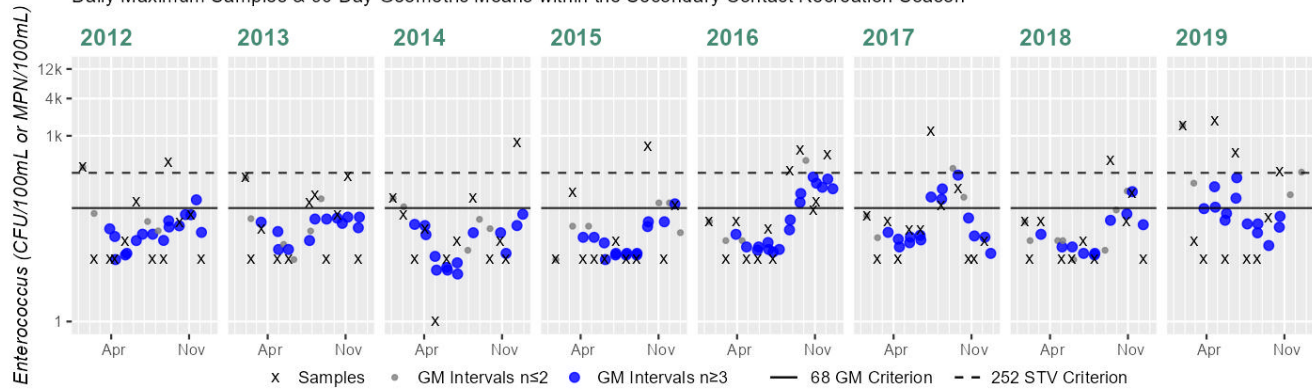
Current (Recent 5 Years)

39%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MYRMMP - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	12	Samples	11	Samples	12	Samples	11	Samples	12	Samples	12	Samples	11	Samples	10	Samples	10
SeasGM	29	SeasGM	33	SeasGM	24	SeasGM	23	SeasGM	49	SeasGM	35	SeasGM	27	SeasGM	71	SeasGM	13
#GMI	16	#GMI	12	#GMI	14	#GMI	14	#GMI	17	#GMI	15	#GMI	10	#GMI	4	#GMI	4
#GMI Ex	1	#GMI Ex	0	#GMI Ex	0	#GMI Ex	1	#GMI Ex	7	#GMI Ex	4	#GMI Ex	1	#GMI Ex	30%	#GMI Ex	40%
%GMI Ex	6%	%GMI Ex	0%	%GMI Ex	0%	%GMI Ex	7%	%GMI Ex	41%	%GMI Ex	26%	%GMI Ex	10%	%GMI Ex	30%	%GMI Ex	40%
n>STV	2	n>STV	0	n>STV	1	n>STV	1	n>STV	3	n>STV	1	n>STV	1	n>STV	4	n>STV	4
%n>STV	16%	%n>STV	0%	%n>STV	8%	%n>STV	9%	%n>STV	25%	%n>STV	8%	%n>STV	9%	%n>STV	40%	%n>STV	40%

Cumulative %GMI Exceedance

Current (2011-2022)

16%

Cumulative %GMI Exceedance

Current (Recent 5 Years)

24%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

**Shellfish Growing Area Classifications**

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

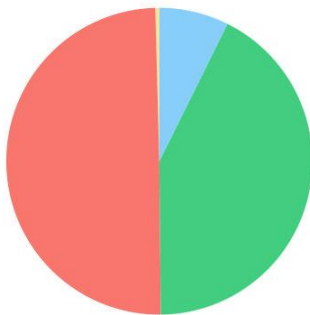
Summary
Mystic River (MA71-03): The total of all shellfish growing area classifications (MassGIS, 2024) within this AU is 0.472 sq mi (96%). The approved shellfish growing area represents 0 sq mi (0%). Because the total of all shellfish growing area classifications is anything less than “approved”, the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Pond Brook (MA71-16)

<b>Location:</b>	Headwaters, outlet Horn Pond, Woburn to mouth at inlet Wedge Pond, Winchester.
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	1 MILES
<b>Classification/Qualifier:</b>	B

### Pond Brook (MA71-16)

Watershed Area: 10.40 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	10.40	8.34	3.05	2.57
Agriculture	0.4%	0.5%	0.5%	0.6%
Developed	49.7%	49%	37.6%	36.6%
Natural	42.5%	44.6%	47.3%	49.6%
Wetland	7.4%	5.9%	14.6%	13.2%
Impervious	31%	30%	22.7%	21.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fish Passage Barrier*)	--	Unchanged
5	5	Benthic Macroinvertebrates	--	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Fish Passage Barrier*)	Dam or Impoundment (Y)	X	--	--	--	--
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--

## Recommendations

2024/26 Recommendations
2024/2026 IR [E. coli, medium priority] Conduct a bacteria survey toward the downstream end of Pond Brook (MA71-16), known locally as Horn Pond Brook, with data of sufficient frequency to facilitate assessment of this AU. The assessment analyst noted elevated individual samples collected by MyRWA during 2006-2010 surveys during the review of historical data for the 2024/2026 IR. {downstream end of Pond Brook (MA71-16)}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Pond Brook (MA71-16), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
No aesthetics observation data are available, so the Aesthetics Use for Pond Brook (MA71-16) is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
No bacteria or other indicator data for Pond Brook (MA71-16) are available, so the Primary Contact Recreation Use is Not Assessed.	

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO



### 2024/26 Use Attainment Summary

No bacteria or other indicator data for Pond Brook (MA71-16), known locally as Horn Pond Brook, are available in the current IR window (2011-2022), so the Secondary Contact Recreation Use is Not Assessed.

MyRWA staff/volunteers collected *E. coli* bacteria samples at 11 stations in Pond Brook (MA71-16) from 2006-2010, which falls during the historical IR window (1997-2010). Samples were collected from the following stations/sample years from upstream to downstream:

MyRWA\_HOPOUT [Horn pond outlet] in 2006 and 2008-2010 (n=1/yr), MyRWA\_HOB103 [No description submitted by MyRWA] in Jun 2008 (n=1), MyRWA\_HOB083 [No description submitted by MyRWA] in Jun 2008 (n=1), the combined MyRWA\_HOB063 & MyRWA\_HOBx13 station [No description submitted by MyRWA] from 2007-2008 (n=1/yr), MyRWA\_HOB064 [No description submitted by MyRWA] in 2006 and 2008 (n=2/yr), MyRWA\_HOB004 [No description submitted by MyRWA] in Jun 2008 (n=1), MyRWA\_HOB003 [No description submitted by MyRWA] from 2007-2008 (n=1/yr), MyRWA\_HOB001 [No description submitted by MyRWA] in 2008 and 2010 (n=1/yr), MyRWA\_HOB002 [No description submitted by MyRWA] in 2006 and 2008 (n=1/yr), and MyRWA\_WEPIN [No description submitted by MyRWA] in Dec 2009 (n=1). Historic *E. coli* data from all these stations are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use. Note that individual samples from four of the stations were elevated above the 794 CFU/100mL STV.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_HOB001	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.458040	-71.141320
MyRWA_HOB002	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.456781	-71.138969
MyRWA_HOB003	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.459200	-71.144200
MyRWA_HOB004	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.459400	-71.145060
MyRWA_HOB063	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.460600	-71.147100
MyRWA_HOB064	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.460528	-71.146072
MyRWA_HOB083	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.461490	-71.149490

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_HOB103	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.465000	-71.151360
MyRWA_HOBDPW	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.458390	-71.142120
MyRWA_HOBx13	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.460544	-71.147340
MyRWA_HOPOUT	Mystic River Watershed Association	Water Quality	Horn Pond	Horn pond outlet	42.465350	-71.151694
MyRWA_WEPIN	Mystic River Watershed Association	Water Quality	Wedge Pond	No description submitted by MyRWA	42.456690	-71.139137

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MyRWA 2019) (MassDEP Undated 1)

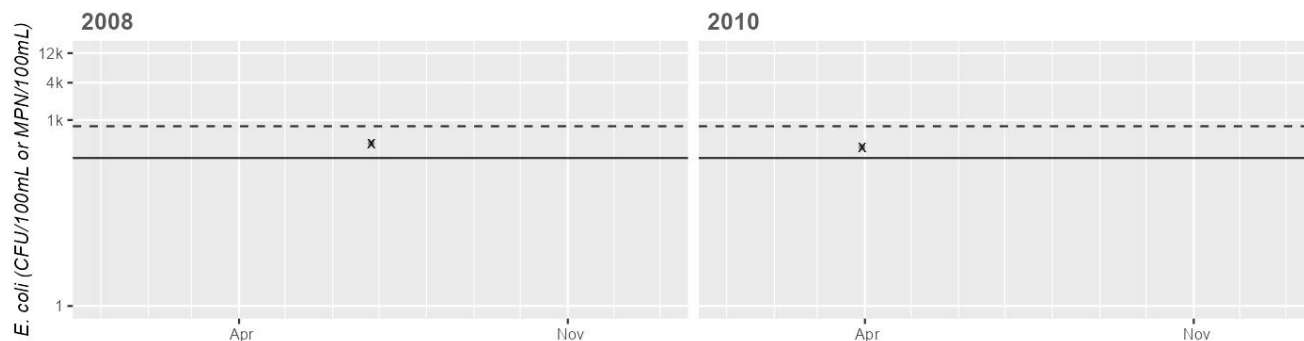
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_HOB001	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	420	420	419
MyRWA_HOB001	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	364	364	363
MyRWA_HOB002	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	98	98	98
MyRWA_HOB002	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	533	533	532
MyRWA_HOB003	Mystic River Watershed Association	E. coli	10/24/07	10/24/07	1	4479	4479	4479
MyRWA_HOB003	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	406	406	405
MyRWA_HOB004	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	498	498	497
MyRWA_HOB063	Mystic River Watershed Association	E. coli	10/24/07	10/24/07	1	38730	38730	38729

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_HOB063	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	527	527	527
MyRWA_HOB064	Mystic River Watershed Association	E. coli	04/25/06	07/18/06	2	101	1860	433
MyRWA_HOB064	Mystic River Watershed Association	E. coli	01/30/08	06/25/08	2	252	354	298
MyRWA_HOB083	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	576	576	576
MyRWA_HOB103	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	291	291	291
MyRWA_HOBDPW	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	353	353	352
MyRWA_HOBx13	Mystic River Watershed Association	E. coli	01/30/08	01/30/08	1	276	276	275
MyRWA_HOPOUT	Mystic River Watershed Association	E. coli	04/25/06	04/25/06	1	1	1	1
MyRWA_HOPOUT	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	337	337	336
MyRWA_HOPOUT	Mystic River Watershed Association	E. coli	12/03/09	12/03/09	1	21	21	21
MyRWA_HOPOUT	Mystic River Watershed Association	E. coli	03/30/10	03/30/10	1	12	12	12
MyRWA_WEPIN	Mystic River Watershed Association	E. coli	12/03/09	12/03/09	1	1549	1549	1548

### Station MyRWA\_HOB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	420
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

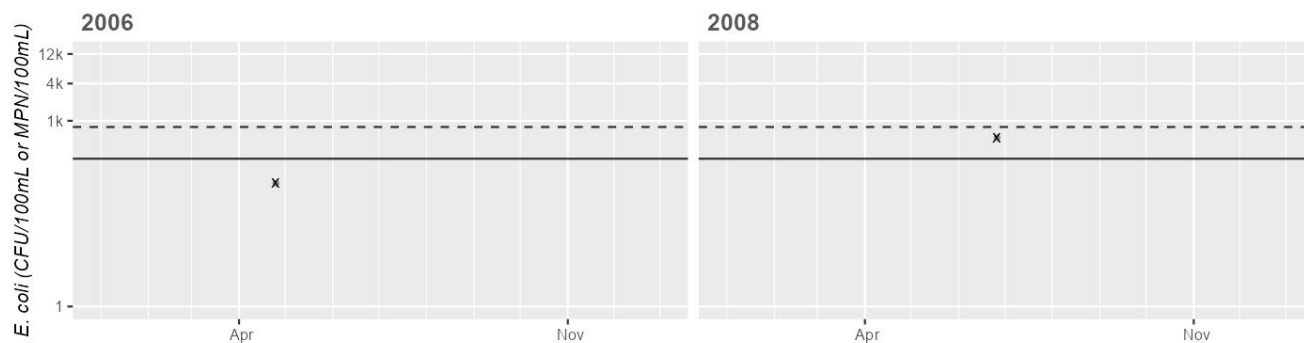
Variable*	Result
Samples	1
SeasGM	364
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB002 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	98
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

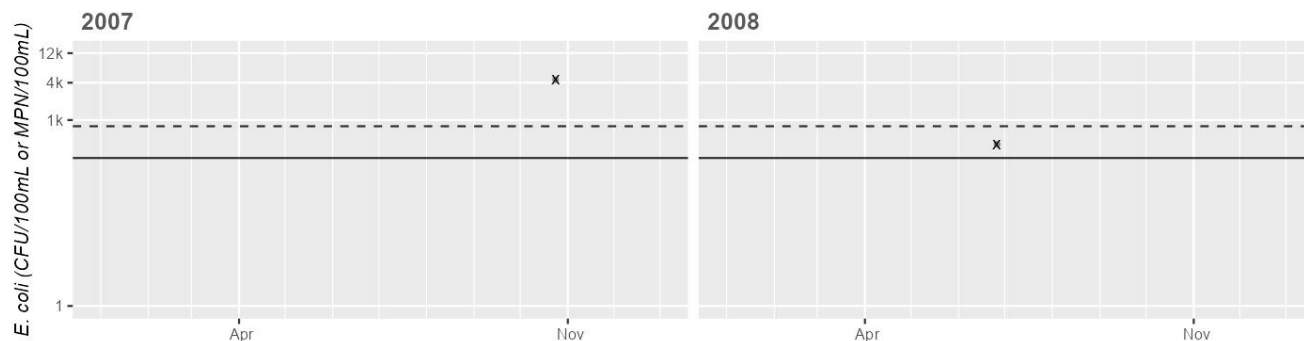
Variable*	Result
Samples	1
SeasGM	533
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB003 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	4479
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	406
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

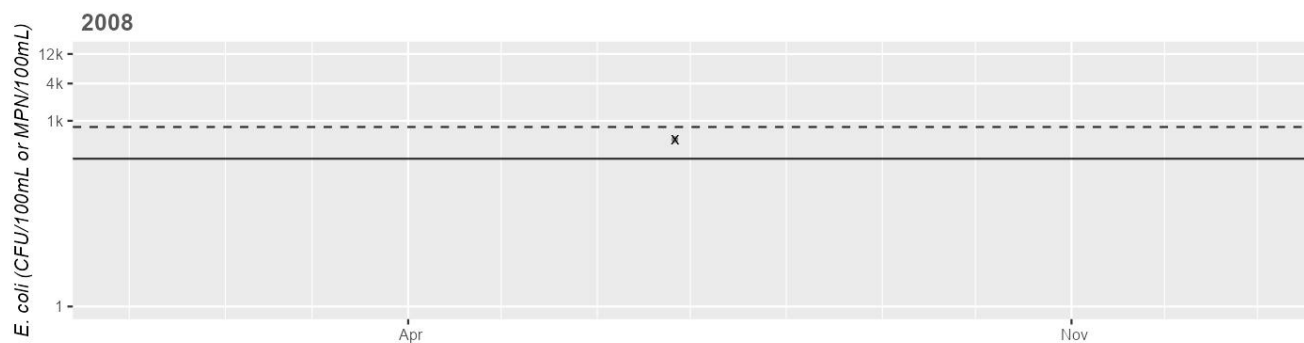
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB004 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	498
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

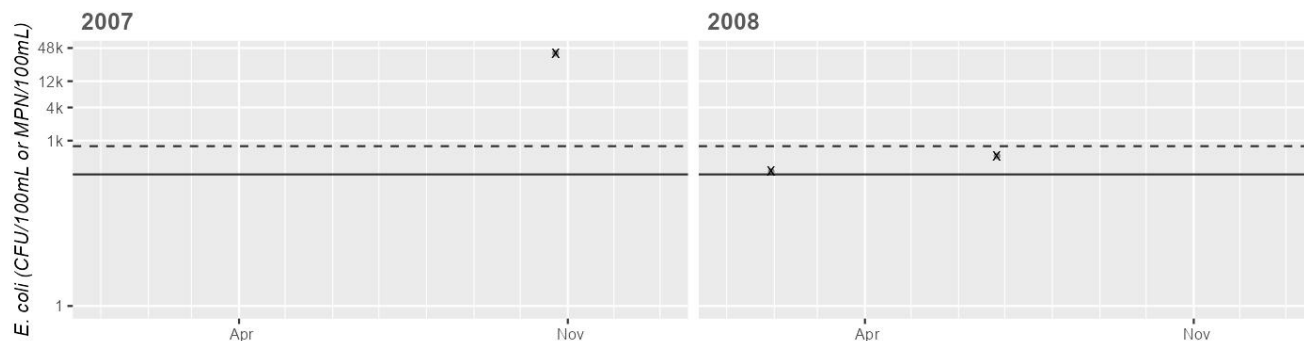
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB063 & MyRWA\_HOBx13 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



x Samples • GM Intervals n≤2 — 244 GM Criterion - - 794 STV Criterion

Variable*	Result
Samples	1
SeasGM	38730
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	2
SeasGM	381
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

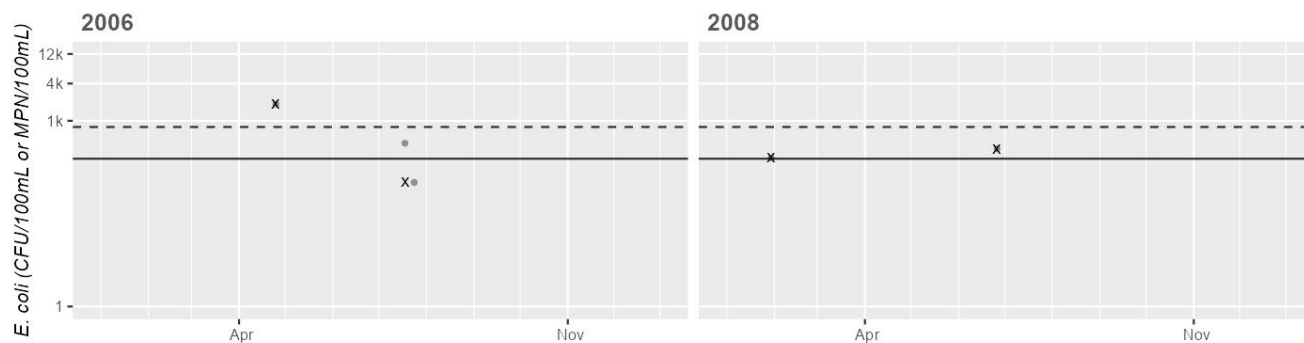
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB064 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



x Samples • GM Intervals n≤2 — 244 GM Criterion - - 794 STV Criterion

Variable*	Result
Samples	2
SeasGM	433
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	2
SeasGM	298
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

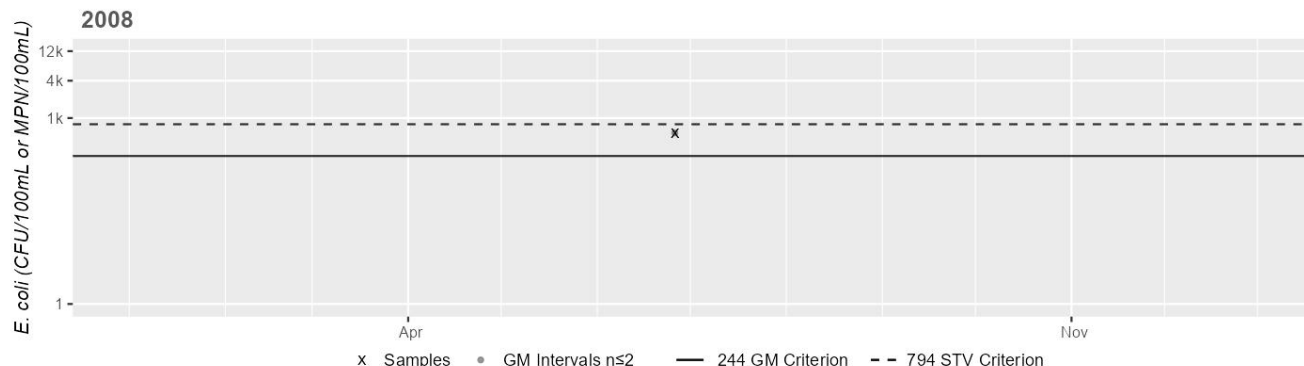
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB083 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



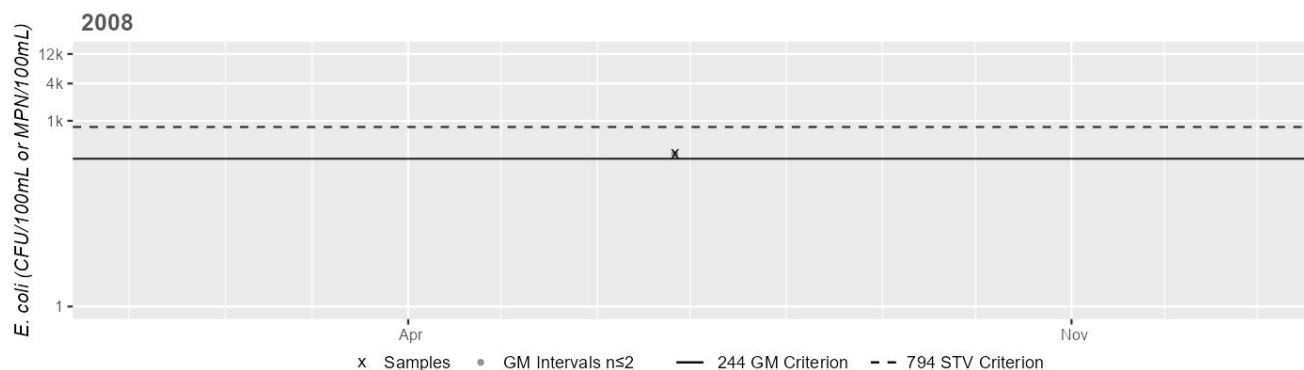
Variable*	Result
Samples	1
SeasGM	576
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOB103 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



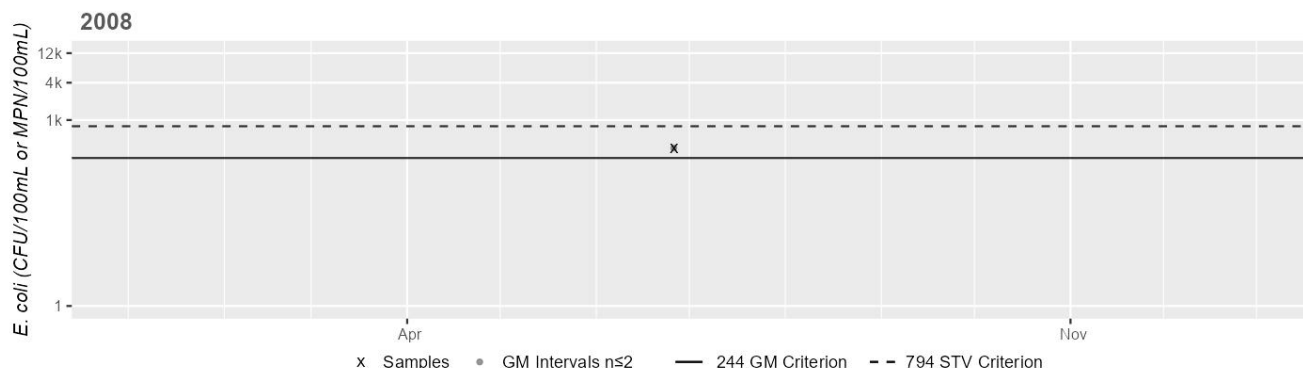
Variable*	Result
Samples	1
SeasGM	291
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOBDPW - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



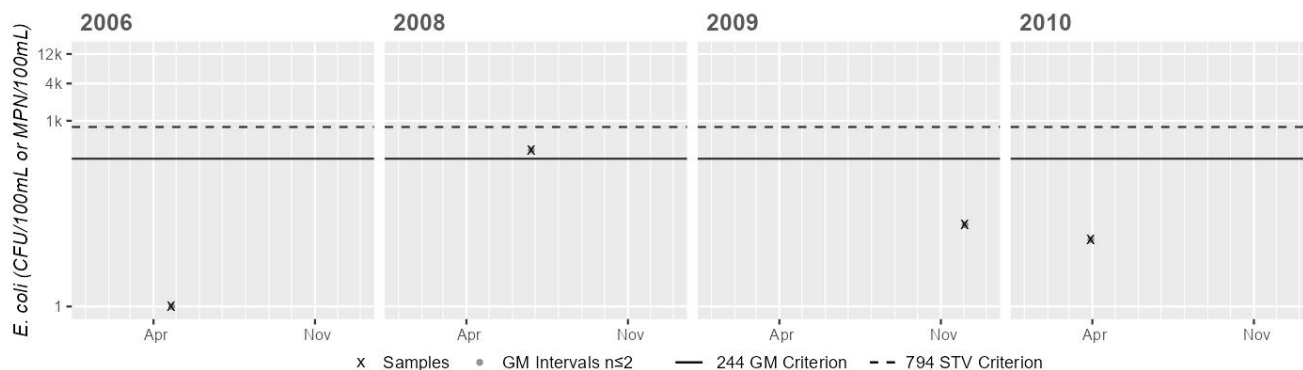
Variable*	Result
Samples	1
SeasGM	353
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_HOPOUT - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	1
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	337
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	21
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	12
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

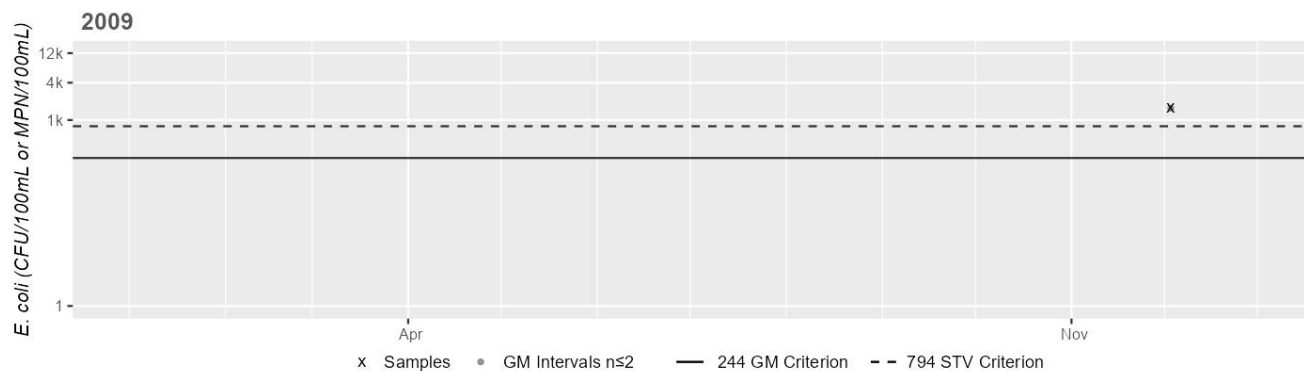
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



# Station MyRWA\_WEPIN - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	1549
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

## Cumulative %GMI Exceedance

Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Sales Creek (MA71-12)

<b>Location:</b>	Headwaters near Route 145, Revere to Bennington Street tidegate/confluence with Belle Isle Inlet, Boston/Revere.
<b>AU Type:</b>	ESTUARY
<b>AU Size:</b>	0.01 SQUARE MILES
<b>Classification/Qualifier:</b>	SA: ORW, SFO (Tributary to SA SFO ORW)

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	3	None	--	Unchanged

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in Sales Creek (MA71-12), so the Fish Consumption Use is Not Assessed.

### Shellfish Harvesting

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
Sales Creek (MA71-12): There are no shellfish growing area classifications within this AU, therefore the Shellfish Harvesting Use is not assessed for 2024.

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

**2024/26 Use Attainment Summary**

No aesthetics observation data are available, so the Aesthetics Use for Sales Creek (MA71-12) is Not Assessed.

**Primary Contact Recreation**

2024/26 Use Attainment	Alert
Insufficient Information	NO

**2024/26 Use Attainment Summary**

Too limited bacteria data are available to assess the Primary Contact Recreation Use for Sales Creek (MA71-12) so it is assessed as having Insufficient Information.

MyRWA staff/volunteers collected *Enterococcus* bacteria samples in Sales Creek (MA71-12) at the upstream end of the AU at MyRWA\_SACTRAILER [No description submitted by MyRWA] in Apr 2014 (n=1). The available *Enterococcus* data from MyRWA\_SACTRAILER are too limited to assess the Primary Contact Recreation Use, according to the 2024 CALM.

**Monitoring Stations**

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_SACTRAILER	Mystic River Watershed Association	Water Quality	Sales Creek	No description submitted by MyRWA	42.402580	-71.003460

**Bacteria Data****Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)**

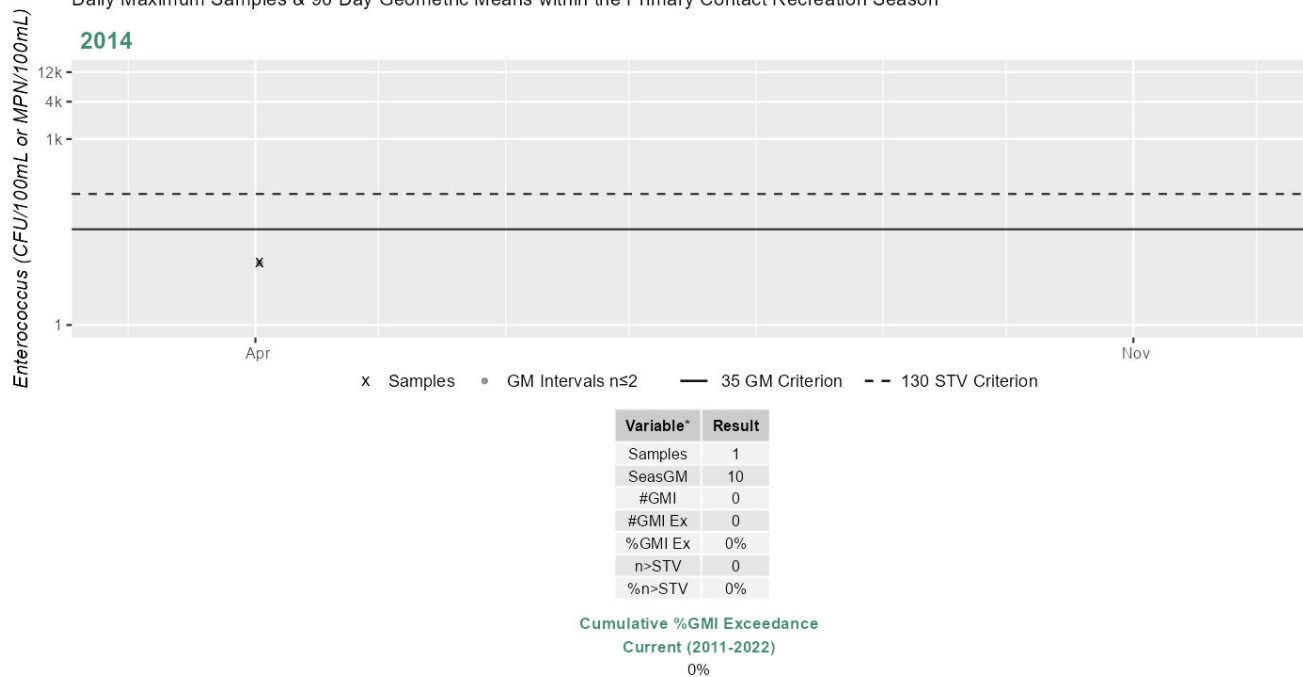
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_SACTRAILER	Mystic River Watershed Association	Enterococci	04/02/14	04/02/14	1	10	10	10

### Station MyRWA\_SACTRAILER - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Shellfish Growing Area Classifications

**Summary Statement for MassDFG Shellfish Growing Area Classification Data (MassGIS 2024) (MassDEP Undated 5)**

Summary
Sales Creek (MA71-12): There are no shellfish growing area classifications within this AU, therefore the Primary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	NO
2024/26 Use Attainment Summary	
<p>Too limited bacteria data are available to assess the Secondary Contact Recreation Use for Sales Creek (MA71-12) so it is assessed as having Insufficient Information.</p> <p>MyRWA staff/volunteers collected <i>Enterococcus</i> bacteria samples in Sales Creek (MA71-12) at MyRWA_SACTRAILER [No description submitted by MyRWA] in Apr 2014 (n=1). The available <i>Enterococcus</i> data from MyRWA_SACTRAILER are too limited to assess the Secondary Contact Recreation Use, according to the 2024 CALM.</p>	

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_SACTRAILER	Mystic River Watershed Association	Water Quality	Sales Creek	No description submitted by MyRWA	42.402580	-71.003460

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

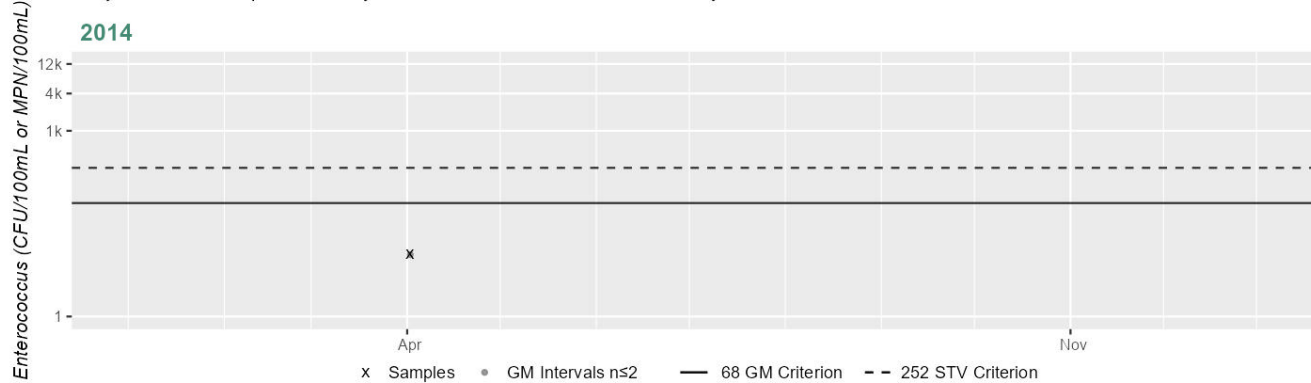
(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_SACTRAILER	Mystic River Watershed Association	Enterococci	04/02/14	04/02/14	1	10	10	10

### Station MyRWA\_SACTRAILER - Enterococcus

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	10
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

**Shellfish Growing Area Classifications**

**Summary Statement for MassDFG Shellfish Growing Area Classification Data** (MassGIS 2024) (MassDEP Undated 5)

Summary
Sales Creek (MA71-12): There are no shellfish growing area classifications within this AU, therefore the Secondary Contact Recreational Use cannot be assessed for 2024 using the shellfish classification data.

# Shaker Glen Brook (MA71-11)

<b>Location:</b>	Headwaters, west of Dix Road Extention, Woburn to confluence with Fowle Brook, Woburn (portion culverted underground).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	1.5 MILES
<b>Classification/Qualifier:</b>	B

## Shaker Glen Brook (MA71-11)

Watershed Area: 3.12 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	3.12	3.12	0.99	0.99
Agriculture	1.1%	1.1%	0.7%	0.7%
Developed	40.1%	40.1%	31.9%	31.9%
Natural	51.4%	51.4%	50%	50%
Wetland	7.4%	7.4%	17.4%	17.4%
Impervious	22.4%	22.4%	18.2%	18.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4a	Escherichia Coli (E. Coli)	R1_MA_2024_04	Changed

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X

## Supporting Information for Removed Impairments

2022 Removed Impairment	Removal Reason	Removal Comment
Escherichia Coli (E. Coli)	TMDL approved or established by EPA (4a)	Impairment covered under TMDL: Massachusetts Statewide TMDL for Pathogen-Impaired Waterbodies (Report CN 515.1, approved 2/13/2024, ATTAINS Action ID: R1_MA_2024_04)

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Shaker Glen Brook (MA71-11), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
There are no aesthetics observation data available to assess the status of the Aesthetics Use for this Shaker Glen Brook AU (MA71-11), so it is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
No bacteria or other indicator data for Shaker Glen Brook (MA71-11) are available, so the Primary Contact Recreation Use continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward.	

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO



### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Shaker Glen Brook (MA71-11) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on historical bacteria data not meeting the threshold at W1972.

MassDEP and MyRWA staff/volunteers collected historical *E. coli* bacteria samples in Shaker Glen Brook (MA71-11) from 2006-2009 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: at the upstream end of the AU at MyRWA\_SHB145 [No station description submitted by MyRWA] from 2006-2007 (n=1-2/yr) and toward the downstream end of the AU at W1972 [Totman Drive, Woburn] from Apr-Sep 2009 (n=6). The historic *E. coli* data from MyRWA\_SHB145 are too limited to assess according to the 2024 CALM. Note that a sample exceeded the 794 CFU/100mL STV in 2006 (n=1). Analysis of the historic single year limited frequency *E. coli* dataset from W1972 indicated 100% of intervals had GMs >244 CFU/100mL and 2 samples exceeded the 794 CFU/100mL STV (the overall GM was 645 CFU/100mL). The historic *E. coli* data from W1972 are indicative of an Escherichia Coli (E. Coli) impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1972	MassDEP	Water Quality	Shaker Glen Brook	[Totman Drive, Woburn]	42.471372	-71.174185
MyRWA_SHB145	Mystic River Watershed Association	Water Quality	Shaker Glen Brook	No description submitted by MyRWA	42.458392	-71.190297

### Bacteria Data

#### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

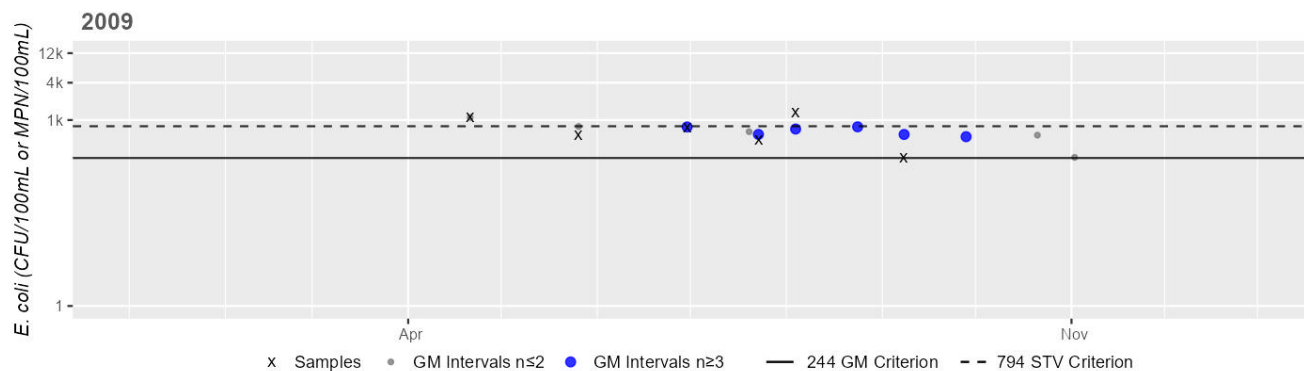
(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1972	MassDEP	E. coli	04/21/09	09/08/09	6	250	1300	645
MyRWA_SHB145	Mystic River Watershed Association	E. coli	04/25/06	07/18/06	2	158	944	386
MyRWA_SHB145	Mystic River Watershed Association	E. coli	10/24/07	10/24/07	1	510	510	509

### Station MASSDEP\_W1972 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



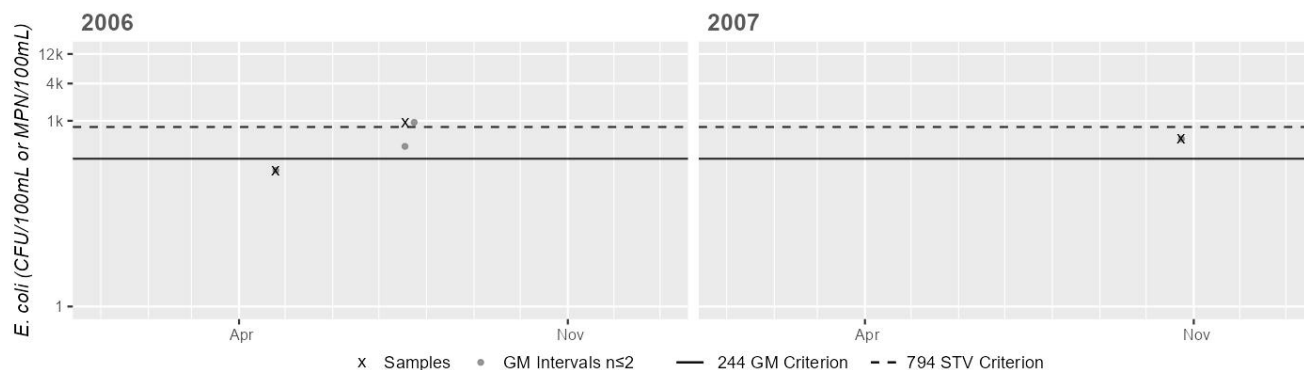
Variable*	Result
Samples	6
SeasGM	645
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	2
%n>STV	33%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_SHB145 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	386
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

Variable*	Result
Samples	1
SeasGM	510
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## South Reservoir (MA71038)

<b>Location:</b>	Medford.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	80 ACRES
<b>Classification/Qualifier:</b>	A: PWS, ORW

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
--	2	None	--	Unchanged

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in South Reservoir (MA71038), so the Fish Consumption Use is Not Assessed.

### Aesthetic

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
--------------------------------

The Aesthetics Use for South Reservoir (MA71038) is assessed as Fully Supporting based on observations made during MassDEP's MAP2 lake monitoring project during summer 2017. Aesthetic observations were made by MassDEP field sampling crews as part of the MAP2 lake monitoring project, during the summer of 2017 at two stations on South Reservoir in Medford: at the deep hole index site W2704 (MAP2L-160) n=3 and on the eastern lobe of the pond at the South Reservoir East Dike Dam (NAT ID: MA01278) (W2677, MAP2L-134S) n=5. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded at either location. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots and during the MAP2 macrophyte mapping survey (n=1) in Sep 2017, less than 25% (0.2%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.

### **Monitoring Stations**

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2704	MassDEP	Water Quality	South Reservoir	[index site, Medford]	42.444692	-71.115818
W2705	MassDEP	Water Quality	South Reservoir	[eastern lobe of pond at the South Reservoir East Dike Dam (NAT ID: MA01278), Medford]	42.443283	-71.112927

### **Aesthetic Observations**

#### **Aesthetics Summary Statements for MassDEP Stations (2011-2020)** (MassDEP Undated 4)

[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2704	2017	3	Aesthetic observations were made by MassDEP field sampling crews at Station W2704 (MAP2L-160) on South Reservoir (MA71038) during 3 site visits between Jun 2017 and Sep 2017. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 macrophyte mapping survey (n=1) in Sep 2017, less than 25% (0.2%) of the waterbody was determined to have an aquatic macrophyte biovolume >50%.
W2705	2017	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2705 (MAP2L-160S) on South Reservoir (MA71038) during 5 site visits between May 2017 and Sep 2017. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the MAP2 littoral survey (n=1), duckweed was not noted in any of the 10 shoreline plots.

#### **MassDEP Aesthetics Observations (2011-2020)** (MassDEP Undated 8)

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2704	South Reservoir	2017	Aesthetics Impaired?	No	3	3
W2704	South Reservoir	2017	Aquatic Plant Density, Overall	None	2	3
W2704	South Reservoir	2017	Aquatic Plant Density, Overall	Unobservable	1	3
W2704	South Reservoir	2017	Aquatic Plant Density, Whole Lake	Unobservable	1	1
W2704	South Reservoir	2017	Color	None	2	3
W2704	South Reservoir	2017	Color	NR	1	3
W2704	South Reservoir	2017	Duckweed Density, Whole Lake	Unobservable	1	1
W2704	South Reservoir	2017	Objectionable Deposits	No	3	3
W2704	South Reservoir	2017	Odor	None	3	3
W2704	South Reservoir	2017	Scum	No	3	3
W2704	South Reservoir	2017	Turbidity	None	3	3
W2705	South Reservoir	2017	Aesthetics Impaired?	No	5	5
W2705	South Reservoir	2017	Color	None	5	5
W2705	South Reservoir	2017	Objectionable Deposits	No	5	5
W2705	South Reservoir	2017	Odor	None	5	5
W2705	South Reservoir	2017	Scum	No	5	5
W2705	South Reservoir	2017	Turbidity	None	5	5

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
--------------------------------

The Primary Contact Recreation Use for South Reservoir (MA71038) is assessed as Fully Supporting based on bacteria data collected in 2017 at W2705.

MassDEP staff collected *E. coli* bacteria samples in South Reservoir (MA71038) at W2705 [eastern lobe of pond at the S Reservoir E Dike Dam (T ID: MA01278), Medford] from May-Sep 2017 (n=5). Analysis of this limited frequency *E. coli* dataset indicated no intervals had GMs >126 CFU/100mL and no samples exceeded the 410 CFU/100mL STV (the seasonal GM was 13 CFU/100mL). *E. coli* data from W2705 are indicative of good water quality conditions.

In South Reservoir (MA71038) in 2017, MassDEP also collected Secchi and cyanobacteria cell count data at W2704 [MAP2L-160, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2705 [MAP2L-160S, Shoreline]. At station W2704 (station depth=11.9 m) the Secchi depth measurements ranged from 5.4-5.9 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/mL in any of the water samples (n=6). Analysis of microcystins and cylindrospermopsin samples from the shoreline station W2705 (n=6) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2704	MassDEP	Water Quality	South Reservoir	[index site, Medford]	42.444692	-71.115818
W2705	MassDEP	Water Quality	South Reservoir	[eastern lobe of pond at the South Reservoir East Dike Dam (NAT ID: MA01278), Medford]	42.443283	-71.112927

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

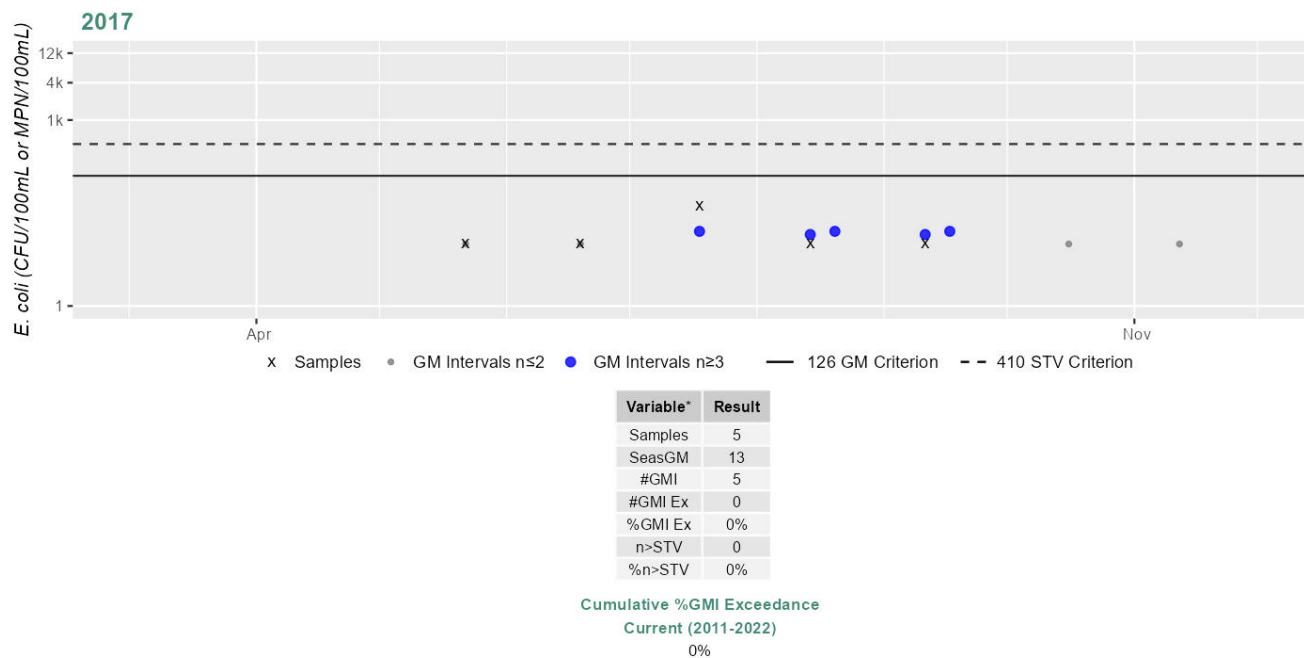
(MassDEP Undated 8) (MassDEP Undated 4)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2705	MassDEP	E. coli	05/22/17	09/11/17	5	10	41	13

### Station MASSDEP\_W2705 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Other Indicators

### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MassDEP Undated 8) (MassDEP Undated 4)

Data Year(s)	Summary
2017	In South Reservoir (MA71038) in 2017, MassDEP collected Secchi and cyanobacteria cell count data at W2704 [MAP2L-160, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2705 [MAP2L-160S, Shoreline]. At station W2704 (station depth=11.9 m) the Secchi depth measurements ranged from 5.4-5.9 m (n=3) indicating water clarity meeting the 1.2 m (4 ft) threshold. The cyanobacteria cell count did not exceed 70,000 cells/mL in any of the water samples (n=6). Analysis of microcystins and cylindrospermopsin samples from the shoreline station W2705 (n=6) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L.

### MassDEP Cyanobacteria Cell Count Data Collected at Lakes and Impoundments (2016-2018) (MassDEP Undated 8) (MassDEP Undated 4)

Station Code	Waterbody	Station Type	Data Year	Sample Count	Count >70,000 cells/mL	Exceedance Date(s)
W2704	South Reservoir	Index	2017	3	0	NA
W2705	South Reservoir	Shoreline	2017	3	0	NA

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Fully Supporting	NO

2024/26 Use Attainment Summary
<p>The Secondary Contact Recreation Use for South Reservoir (MA71038) is assessed as Fully Supporting based on bacteria data collected in 2017 at W2705.</p> <p>MassDEP staff collected <i>E. coli</i> bacteria samples in South Reservoir (MA71038) at W2705 [eastern lobe of pond at the S Reservoir E Dike Dam (T ID: MA01278), Medford] from May-Sep 2017 (n=5). Analysis of this limited frequency <i>E. coli</i> dataset indicated no intervals had GMs &gt;244 CFU/100mL and no samples exceeded the 794 CFU/100mL STV (the overall GM was 13 CFU/100mL). <i>E. coli</i> data from W2705 are indicative of good water quality conditions.</p> <p>In South Reservoir (MA71038) in 2017, MassDEP also collected cyanobacteria cell count data at W2704 [MAP2L-160, Index-deep hole], and cyanobacteria cell count and cyanotoxin data at W2705 [MAP2L-160S, Shoreline]. The cyanobacteria cell count did not exceed 70,000 cells/mL in any of the water samples (n=6). Analysis of microcystins and cylindrospermopsin samples from the shoreline station W2705 (n=6) indicated that the cyanotoxin concentrations did not exceed their respective thresholds of 8 µg/L and 15 µg/L.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2705	MassDEP	Water Quality	South Reservoir	[eastern lobe of pond at the South Reservoir East Dike Dam (NAT ID: MA01278), Medford]	42.443283	-71.112927

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 8) (MassDEP Undated 3)

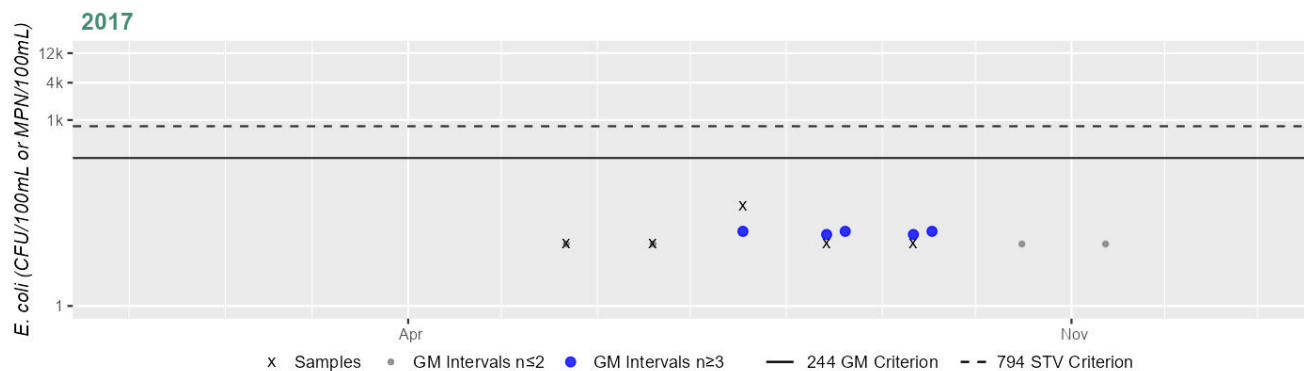
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W2705	MassDEP	E. coli	05/22/17	09/11/17	5	10	41	13



# Station MASSDEP\_W2705 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	5
SeasGM	13
#GMI	5
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

## Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Spot Pond (MA71039)

<b>Location:</b>	Stoneham/Medford.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	290 ACRES
<b>Classification/Qualifier:</b>	A: PWS, ORW

No usable data were available for Spot Pond (MA71039) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

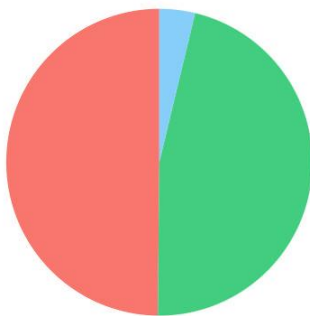
<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
3	3	None	--	Unchanged

# Spot Pond Brook (MA71-17)

<b>Location:</b>	Headwaters outlet Spot Pond, Stoneham to mouth at confluence with Malden River, south of Charles Street, Malden (approximately 55% culverted).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	3.5 MILES
<b>Classification/Qualifier:</b>	B

## Spot Pond Brook (MA71-17)

Watershed Area: 7.22 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	7.22	5.53	1.78	1.51
Agriculture	0%	0%	0%	0%
Developed	49.8%	49.8%	31%	31.4%
Natural	46.4%	47.6%	63.9%	66.1%
Wetland	3.8%	2.6%	5.1%	2.5%
Impervious	36.1%	37.4%	22.8%	23.6%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
3	5	Escherichia Coli (E. Coli)	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	--	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	--	X

## Recommendations

2024/26 Recommendations
2024/2026 IR [E. coli, high priority] Follow-up bacteria monitoring should be conducted in Spot Pond Brook (MA71-17) in the vicinity of stations MyRWA_MELx08S, MyRWA_MAC033, and MyRWA_MAC001 to determine whether an impairment needs to be added to the Primary Contact Recreation Use (an impairment was added to the Secondary Contact Recreation Use in the 2024/2026 IR cycle based on the reevaluation of historical data at W1978). Note that an Alert was identified for Escherichia coli (E. coli) on the PCR Use in the 2022 IR cycle and retained in the 2024/2026 cycle based on limited samples (generally 1-2/yr) collected by MyRWA from 2011-2015 at these stations (individual <i>E. coli</i> samples were extremely elevated, as high as 34,480 CFU/100mL). { MyRWA_MELx08S, MyRWA_MAC033, MyRWA_MAC001 }

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Spot Pond Brook (MA71-17), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
No aesthetics observation data are available, so the Aesthetics Use for Spot Pond Brook (MA71-17) is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Insufficient Information	YES
2024/26 Use Attainment Summary	

Too limited bacteria data are available to assess the Primary Contact Recreation Use for Spot Pond Brook (MA71-17) so it is assessed as having Insufficient Information. The prior Alert is being carried forward for Escherichia coli (E. coli) and additional sampling is recommended for this AU.

MyRWA staff/volunteers collected *E. coli* bacteria samples at 5 stations in the middle of the Spot Pond Brook AU (MA71-17) from 2011-2015. Samples were collected from the following stations/sample years from upstream to downstream: MyRWA\_MACENDC [End of Malden River “canal”, center] from 2012-2013 (n=1/yr), MyRWA\_MELx08S [Stream just downstream of MELx08 outfall] in Jun 2015 (n=1), MyRWA\_MAC054 [Ell Pond Brook US of Banks Place] in 2012 and 2014 (n=1/yr), MyRWA\_MAC033 [Ell Pond Brook DS of Banks Place] from 2011-2012 and 2014-2015 (n=1/yr), MyRWA\_MAC001 [None submitted by MyRWA] in 2011 and 2013 (n=1-2/yr). The available *E. coli* data at all these stations are too limited to assess according to the 2024 CALM. However, it is notable that samples from several sites contained extremely elevated *E. coli* concentrations. Such elevated bacteria data can be summarized as follows: 24,810 CFU/100mL in June 2015 downstream from the MELx08 outfall in Melrose (MyRWA\_MELx08S), 34,480 CFU/100mL in June 2015 just downstream from the Banks Place culvert in Melrose (MyRWA\_MAC033; range= 353-34,480 CFU/100mL; 2011-2015), 2,452 CFU/100mL in June 2013 and 4,480 CFU/100mL in September 2013 upstream from Winter Street in Melrose (MyRWA\_MAC001) (range= 343-4,480 CFU/100mL). An Alert is being identified for Escherichia coli (E. coli) at MyRWA\_MELx08S, MyRWA\_MAC033, and MyRWA\_MAC001.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_MAC001	Mystic River Watershed Association	Water Quality	Malden Canal	No description submitted by MyRWA	42.436171	-71.069768
MyRWA_MAC033	Mystic River Watershed Association	Water Quality	Malden Canal	Ell Pond Brook DS of Banks Place	42.440700	-71.070080
MyRWA_MAC054	Mystic River Watershed Association	Water Quality	Malden Canal	Ell Pond Brook US of Banks Place	42.443530	-71.069750
MyRWA_MACENDC	Mystic River Watershed Association	Water Quality	Malden Canal	End of Malden River "canal", center	42.449066	-71.070012
MyRWA_MELx08S	Mystic River Watershed Association	Water Quality	Spot Pond Brook	Stream just downstream of MELx08 outfall	42.445704	-71.070359

### Bacteria Data

#### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

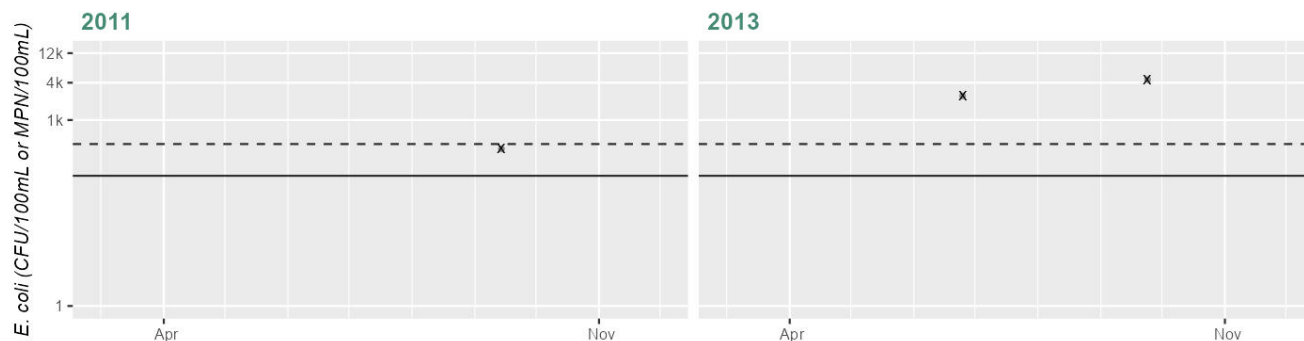
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MAC001	Mystic River Watershed Association	E. coli	09/14/11	09/14/11	1	343	343	342
MyRWA_MAC001	Mystic River Watershed Association	E. coli	06/25/13	09/24/13	2	2452	4480	3314
MyRWA_MAC033	Mystic River Watershed Association	E. coli	09/14/11	09/14/11	1	353	353	352
MyRWA_MAC033	Mystic River Watershed Association	E. coli	08/07/12	08/07/12	1	767	767	766
MyRWA_MAC033	Mystic River Watershed Association	E. coli	08/21/14	08/21/14	1	494	494	494
MyRWA_MAC033	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	34480	34480	34480
MyRWA_MAC054	Mystic River Watershed Association	E. coli	08/07/12	08/07/12	1	787	787	786
MyRWA_MAC054	Mystic River Watershed Association	E. coli	08/21/14	08/21/14	1	395	395	395
MyRWA_MACENDC	Mystic River Watershed Association	E. coli	08/07/12	08/07/12	1	767	767	766
MyRWA_MACENDC	Mystic River Watershed Association	E. coli	08/28/13	08/28/13	1	875	875	874
MyRWA_MELx08S	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	24810	24810	24810

### Station MyRWA\_MAC001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	343
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	2
SeasGM	3314
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance

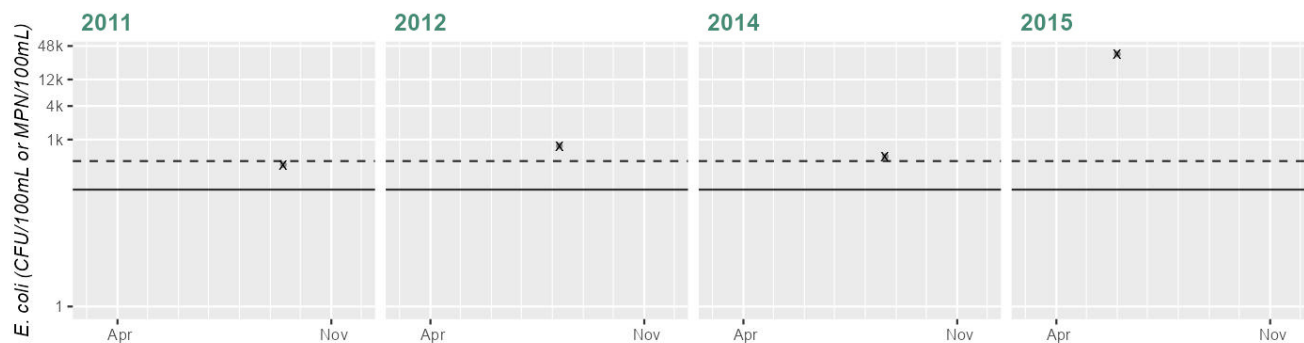
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAC033 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	353
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	767
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	494
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	34480
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

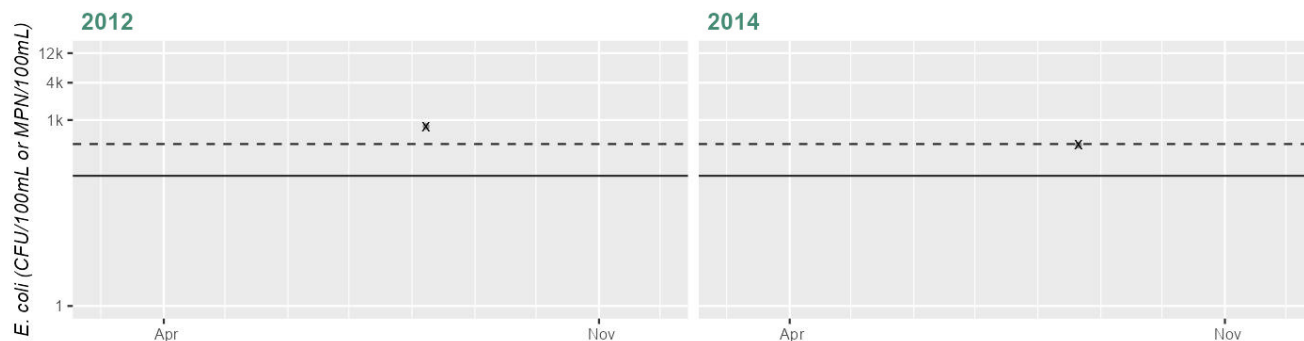
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAC054 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



x Samples • GM Intervals  $n \leq 2$  — 126 GM Criterion - - 410 STV Criterion

Variable*	Result
Samples	1
SeasGM	787
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	395
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

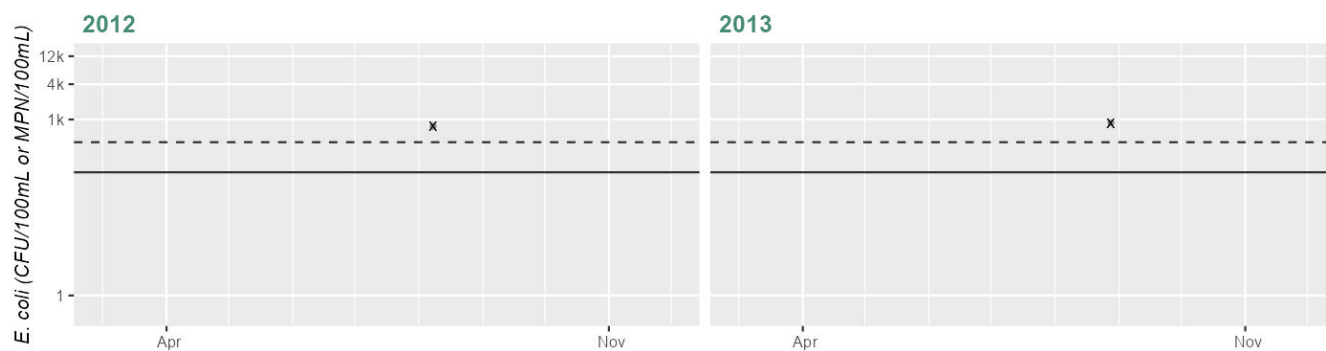
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MACENDC - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



x Samples • GM Intervals  $n \leq 2$  — 126 GM Criterion - - 410 STV Criterion

Variable*	Result
Samples	1
SeasGM	767
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	875
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

Current (2011-2022)

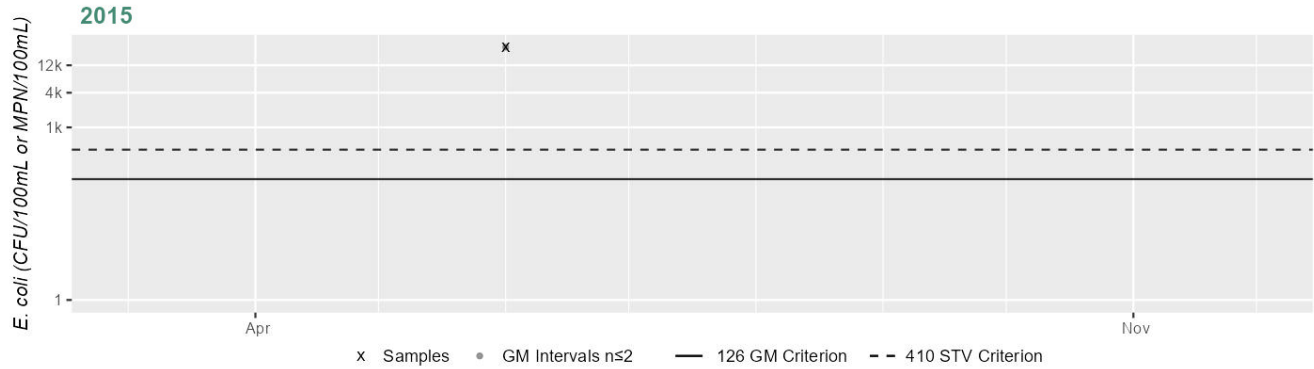
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



### Station MyRWA\_MELx08S - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	24810
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

#### Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for Spot Pond Brook (MA71-17) is assessed as Not Supporting. An *Escherichia Coli* (*E. Coli*) impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at W1978. The prior Alert for *E. coli* is being removed since an impairment has been added.

MassDEP and MyRWA staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in Spot Pond Brook (MA71-17) from 2006-2015 at 9 stations. Samples were collected from the following stations/sample years from upstream to downstream: in the upstream quarter of the AU at MyRWA\_SPB033 [No description submitted by MyRWA] in Jan 2006 (historic n=1) and Jan 2011 (current n=1), MyRWA\_SPB020 & MyRWA\_SPB021 [No description submitted by MyRWA] from 2006-2007 (historic n=1/yr) and in Jan 2011 (current n=1), and MyRWA\_SPBRAVINE [W. Wyoming Ave and Ravine Terrace walk through playground to brook behind homes, close to SPB016] in Jan 2011 (n=1), and in the middle of the AU at MyRWA\_MACEND & MyRWA\_MACENDC [No description submitted by MyRWA & End of Malden River “canal”, center] in Nov 2007 (historic n=1) and from 2012-2013 (current n=1/yr), MyRWA\_MELx08S [Stream just downstream of MELx08 outfall] in Jun 2015 (n=1), MyRWA\_MAC054 [Ell Pond Brook US of Banks Place] from 2007-2008 (historic n=1-2/yr) and in 2012 and 2014 (current n=1/yr), MyRWA\_MAC033 [Ell Pond Brook DS of Banks Place] from 2011-2012 and 2014-2015 (n=1/yr), W1978 [W off end of Fairlawn St, Malden (locally known as Spot and Ell Pond Brook)] from Apr-Sep 2009 (n=6), and MyRWA\_MAC001 [No description submitted by MyRWA] in 2011 and 2013 (n=1-2/yr).

The available data from all the stations in the current window and all but W1978 in the historic window are too limited to assess according to the 2024 CALM. From the current window, it is notable that samples from several sites contained extremely elevated *E. coli* concentrations. Such elevated bacteria data can be summarized as follows: 24,810 CFU/100mL in June 2015 downstream from the MELx08 outfall in Melrose (MyRWA\_MELx08S), 34,480 CFU/100mL in June 2015 just downstream from the Banks Place culvert in Melrose (MyRWA\_MAC033; range= 353-34,480 CFU/100mL; 2011-2015), 2,452 CFU/100mL in June 2013 and 4,480 CFU/100mL in September 2013 upstream from Winter Street in Melrose (MyRWA\_MAC001) (range= 343-4,480 CFU/100mL). Analysis of the historic single year (2009) limited frequency *E. coli* dataset from W1978 (located between MyRWA\_MAC033 and MyRWA\_MAC001) indicated 100% of intervals had GMs >244 CFU/100mL, 5 of 6 samples exceeded the 794 CFU/100mL STV, and the overall GM was 1480 CFU/100mL. The historic *E. coli* data from W1978 are indicative of an *Escherichia Coli* (*E. Coli*) impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1978	MassDEP	Water Quality	Spot Pond Brook	[west off end of Fairlawn Street, Malden (locally known as Spot and Ell Pond Brook)]	42.438264	-71.069560
MyRWA_MAC001	Mystic River Watershed Association	Water Quality	Malden Canal	No description submitted by MyRWA	42.436171	-71.069768

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_MAC033	Mystic River Watershed Association	Water Quality	Malden Canal	Ell Pond Brook DS of Banks Place	42.440700	-71.070080
MyRWA_MAC054	Mystic River Watershed Association	Water Quality	Malden Canal	Ell Pond Brook US of Banks Place	42.443530	-71.069750
MyRWA_MACEND	Mystic River Watershed Association	Water Quality	Malden Canal	No description submitted by MyRWA	42.449100	-71.069870
MyRWA_MACENDC	Mystic River Watershed Association	Water Quality	Malden Canal	End of Malden River "canal", center	42.449066	-71.070012
MyRWA_MELx08S	Mystic River Watershed Association	Water Quality	Spot Pond Brook	Stream just downstream of MELx08 outfall	42.445704	-71.070359
MyRWA_SPB020	Mystic River Watershed Association	Water Quality	Spot Pond Brook	No description submitted by MyRWA	42.455390	-71.080760
MyRWA_SPB021	Mystic River Watershed Association	Water Quality	Spot Pond Brook	No description submitted by MyRWA	42.455500	-71.080667
MyRWA_SPB033	Mystic River Watershed Association	Water Quality	Spot Pond Brook	No description submitted by MyRWA	42.455333	-71.083333
MyRWA_SPBRAVINE	Mystic River Watershed Association	Water Quality	Spot Pond Brook	W. Wyoming Ave and Ravine Terrace walk through playground to brook behind homes, close to SPB016	42.456160	-71.078890

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

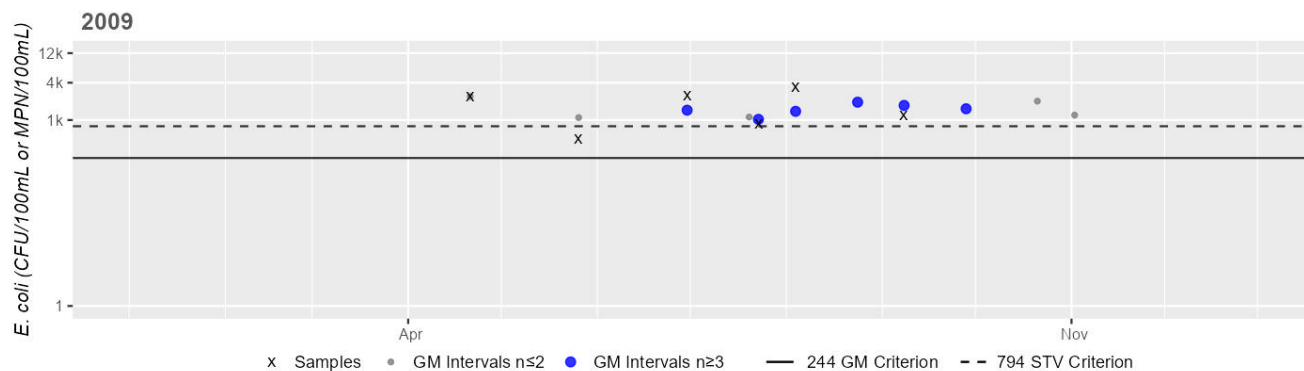
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1978	MassDEP	E. coli	04/21/09	09/08/09	6	500	3400	1480
MyRWA_MAC001	Mystic River Watershed Association	E. coli	09/14/11	09/14/11	1	343	343	342
MyRWA_MAC001	Mystic River Watershed Association	E. coli	06/25/13	09/24/13	2	2452	4480	3314
MyRWA_MAC033	Mystic River Watershed Association	E. coli	09/14/11	09/14/11	1	353	353	352

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MAC033	Mystic River Watershed Association	E. coli	08/07/12	08/07/12	1	767	767	766
MyRWA_MAC033	Mystic River Watershed Association	E. coli	08/21/14	08/21/14	1	494	494	494
MyRWA_MAC033	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	34480	34480	34480
MyRWA_MAC054	Mystic River Watershed Association	E. coli	04/24/07	09/19/07	2	34	839	168
MyRWA_MAC054	Mystic River Watershed Association	E. coli	02/06/08	02/06/08	1	1455	1455	1455
MyRWA_MAC054	Mystic River Watershed Association	E. coli	08/07/12	08/07/12	1	787	787	786
MyRWA_MAC054	Mystic River Watershed Association	E. coli	08/21/14	08/21/14	1	395	395	395
MyRWA_MACEND	Mystic River Watershed Association	E. coli	11/13/07	11/13/07	1	19863	19863	19862
MyRWA_MACENDC	Mystic River Watershed Association	E. coli	08/07/12	08/07/12	1	767	767	766
MyRWA_MACENDC	Mystic River Watershed Association	E. coli	08/28/13	08/28/13	1	875	875	874
MyRWA_MELx08S	Mystic River Watershed Association	E. coli	06/01/15	06/01/15	1	24810	24810	24810
MyRWA_SPB020	Mystic River Watershed Association	E. coli	01/31/06	01/31/06	1	149	149	149
MyRWA_SPB021	Mystic River Watershed Association	E. coli	09/19/07	09/19/07	1	432	432	432
MyRWA_SPB021	Mystic River Watershed Association	E. coli	01/26/11	01/26/11	1	169	169	169
MyRWA_SPB033	Mystic River Watershed Association	E. coli	01/31/06	01/31/06	1	1	1	1
MyRWA_SPB033	Mystic River Watershed Association	E. coli	01/26/11	01/26/11	1	1	1	1
MyRWA_SPBRAVINE	Mystic River Watershed Association	E. coli	01/26/11	01/26/11	1	230	230	230

### Station MASSDEP\_W1978 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



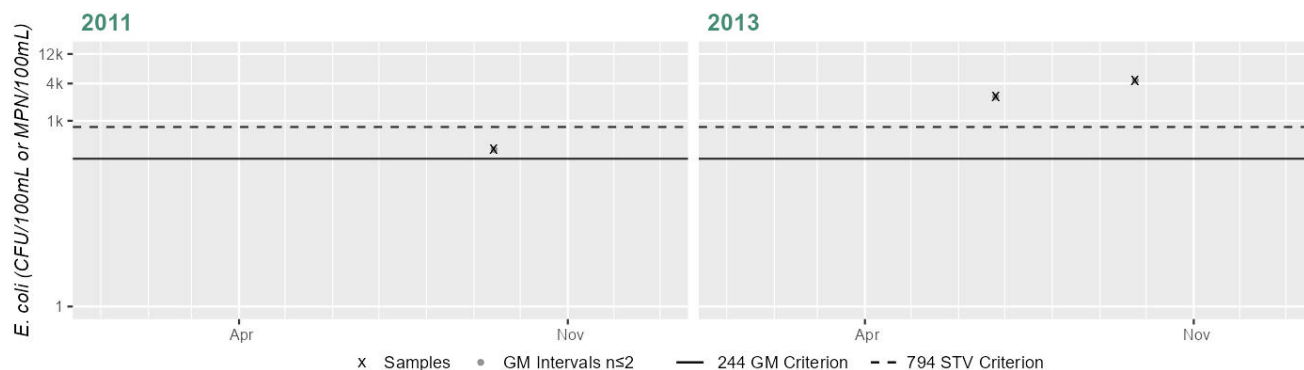
Variable*	Result
Samples	6
SeasGM	1480
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	5
%n>STV	83%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
100%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAC001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	343
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

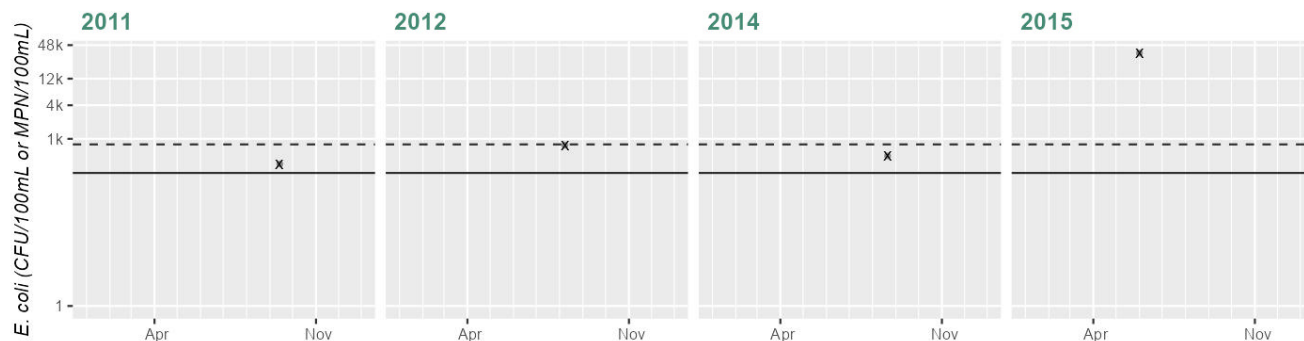
Variable*	Result
Samples	2
SeasGM	3314
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAC033 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	353
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	767
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	494
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	34480
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance

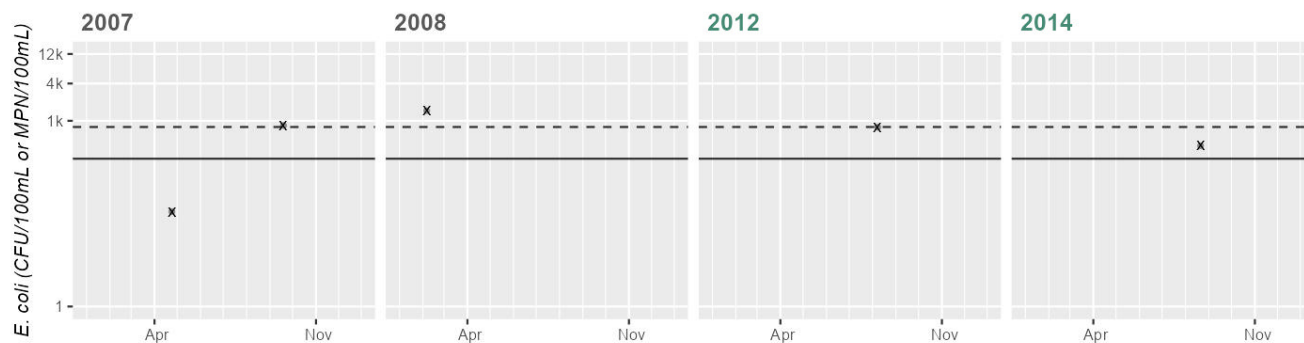
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MAC054 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	168
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	1
SeasGM	1455
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	787
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	395
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

Cumulative %GMI Exceedance

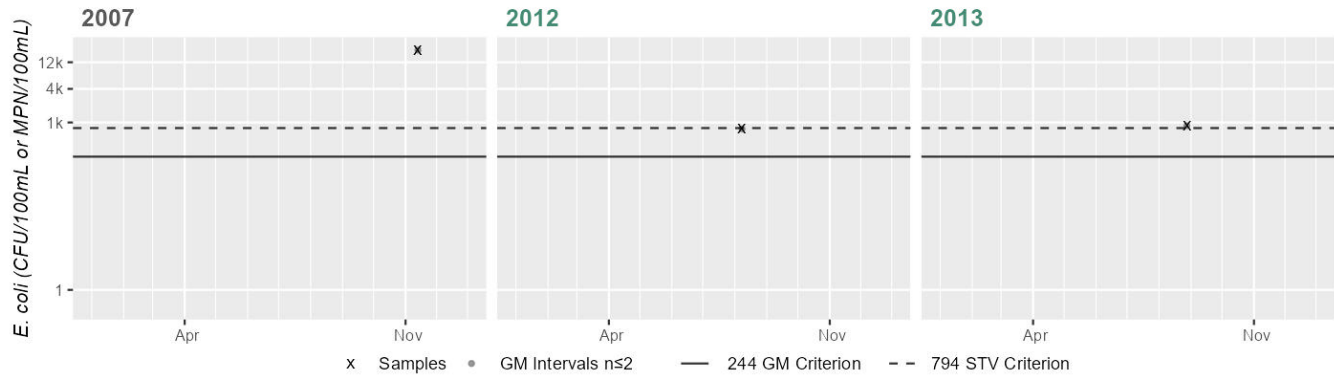
Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MACEND & MyRWA\_MACENDC - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	19863
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	767
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	1
SeasGM	875
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

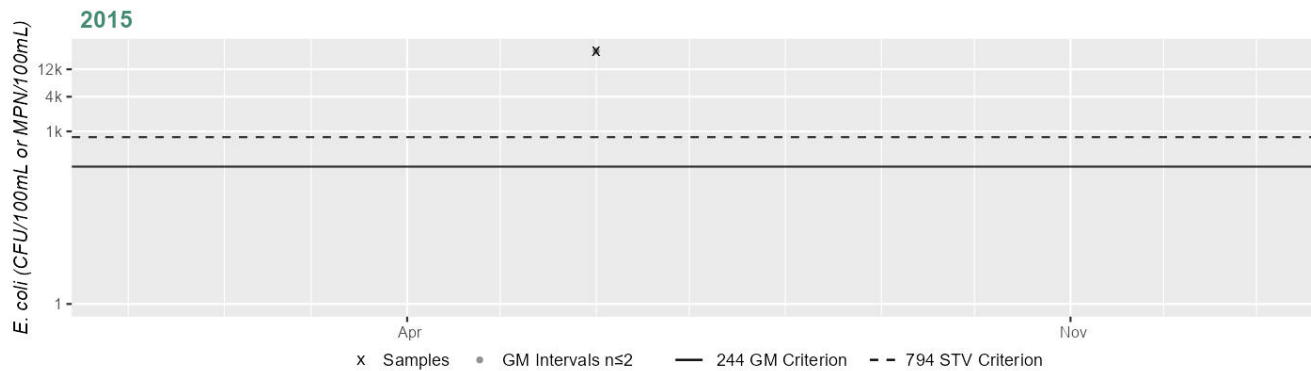
Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_MELx08S - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



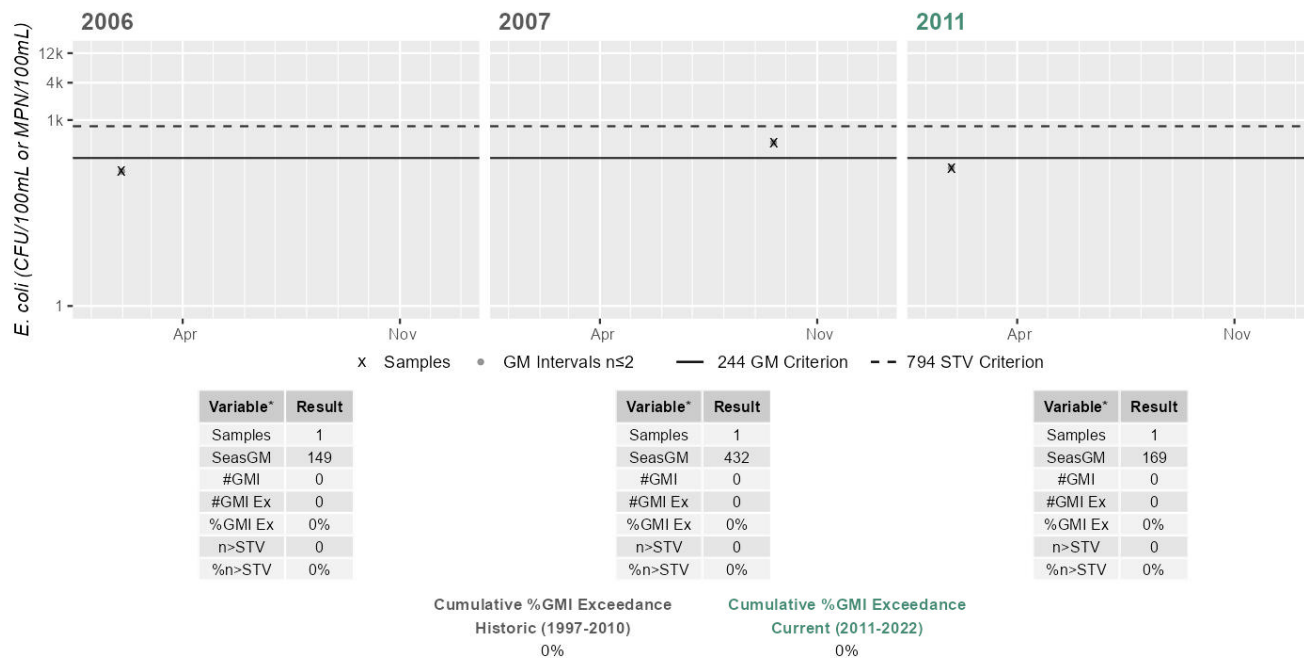
Variable*	Result
Samples	1
SeasGM	24810
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_SPB020 & MyRWA\_SPB021 - *Escherichia coli*

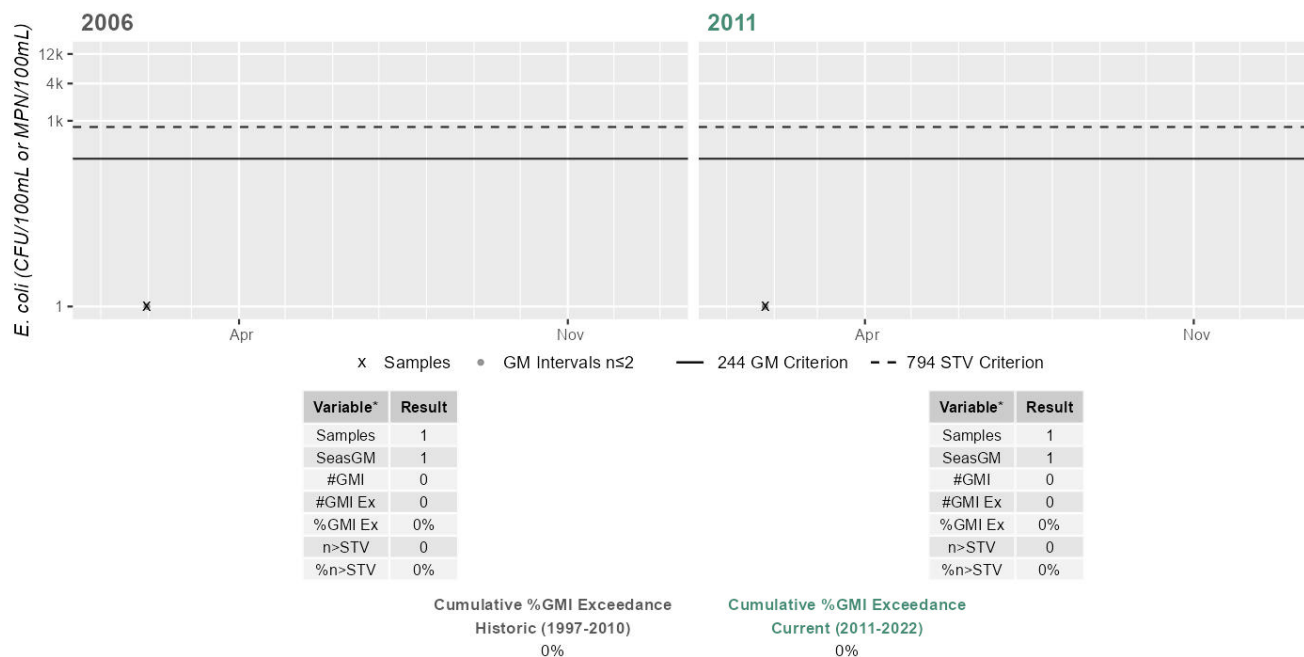
Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_SPB033 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season

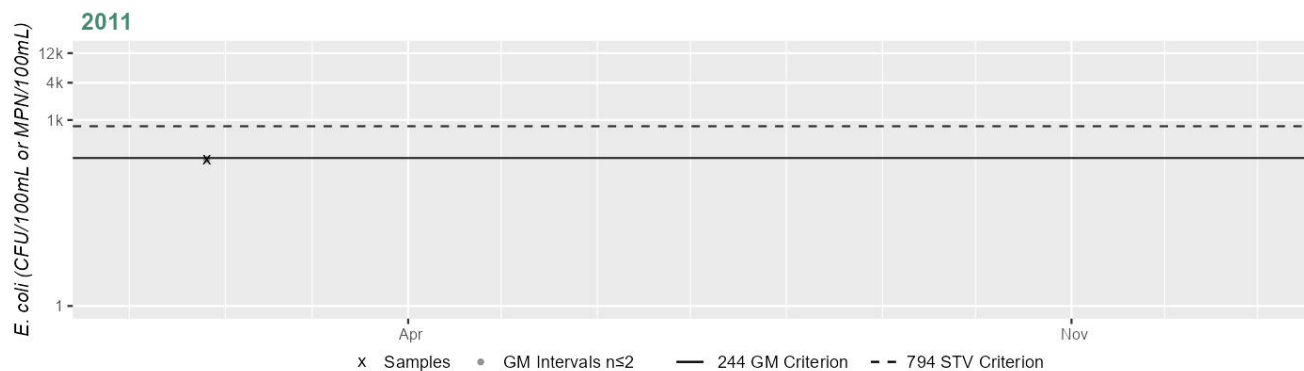


\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.



# Station MyRWA\_SPBRAVINE - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	230
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

## Cumulative %GMI Exceedance

Current (2011-2022)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Spy Pond (MA71040)

<b>Location:</b>	Arlington.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	98 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Curly-leaf Pondweed*)	--	Unchanged
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)	--	Unchanged
5	5	(Water Chestnut*)	--	Unchanged
5	5	Chlordane in Fish Tissue	--	Unchanged
5	5	DDT in Fish Tissue	--	Unchanged
5	5	Dissolved Oxygen	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged
5	5	Phosphorus, Total	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Eurasian Water Milfoil, Myriophyllum Spicatum*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
(Water Chestnut*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Chlordane in Fish Tissue	Source Unknown (N)	--	X	--	--	--
DDT in Fish Tissue	Source Unknown (N)	--	X	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	X	X	X
Harmful Algal Blooms	Highway/Road/Bridge Runoff (Non-construction Related) (N)	X	--	X	X	X
Harmful Algal Blooms	Source Unknown (N)	X	--	X	X	X
Phosphorus, Total	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	--	--	--
Phosphorus, Total	Highway/Road/Bridge Runoff (Non-construction Related) (N)	X	--	--	--	--
Phosphorus, Total	Source Unknown (N)	X	--	--	--	--

## Designated Use Attainment Decisions

### Fish Consumption

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	No

<b>2024/26 Use Attainment Summary</b>
<p>The Fish Consumption Use for Spy Pond (MA71040) continues to be assessed as Not Supporting and the prior DDT in Fish Tissue and Chlordane in Fish Tissue impairments are being carried forward. MA DPH included a site-specific advisory for Spy Pond in their January 2025 Freshwater Fish Consumption Advisory List. The public should refer to the most recent DPH Freshwater Fish Consumption Advisory List for the most up to date meal advice for sensitive and general populations.</p>

## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Aesthetics Use for Spy Pond (MA71040) continues to be assessed as Not Supporting with the Harmful Algal Blooms impairment being carried forward, since extended C-HAB postings (&gt;20 days in length) were reported in 2019 and 2021. Since the Total Phosphorus impairment was redundantly duplicated across multiple uses for this waterbody, the Total Phosphorus impairment is being removed from the Aesthetics Use, but will continue to be maintained under the Aquatic Life Use.</p> <p>MassDEP staff recorded aesthetics observations at two stations on this Spy Pond AU in Arlington during the summer of 2019: deep hole, southern lobe (W2839, n=5) and deep hole, northern lobe (W2837, n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. During the period 2015 through 2022, C-HAB postings for Spy Pond were reported to MDPH based on visual observations for 36 days in 2019 and 46 days in 2021 and no blooms were reported in other years. Since blooms were reported in recent years this is reflective of the existing Harmful Algal Blooms impairment for Spy Pond.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W2837	MassDEP	Water Quality	Spy Pond	[deep hole, northern lobe, Arlington]	42.409999	-71.151994
W2839	MassDEP	Water Quality	Spy Pond	[deep hole, southern lobe, Arlington]	42.406000	-71.158996

## Aesthetic Observations

### Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 4)

[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W2837	2019	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2837 on Spy Pond (MA71040) during 5 site visits between Jun 2019 and Oct 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.
W2839	2019	5	Aesthetic observations were made by MassDEP field sampling crews at Station W2839 on Spy Pond (MA71040) during 5 site visits between Jun 2019 and Oct 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

**MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 8)**

<b>Station Code</b>	<b>Waterbody</b>	<b>Data Year</b>	<b>Parameter</b>	<b>Result</b>	<b>Result Count</b>	<b>Total Field Sheet Count</b>
W2837	Spy Pond	2019	Aesthetics Impaired?	No	5	5
W2837	Spy Pond	2019	Aquatic Plant Density, Overall	None	3	5
W2837	Spy Pond	2019	Aquatic Plant Density, Overall	Sparse	1	5
W2837	Spy Pond	2019	Aquatic Plant Density, Overall	Unobservable	1	5
W2837	Spy Pond	2019	Aquatic Plant Density, Whole Lake	Unobservable	2	2
W2837	Spy Pond	2019	Color	Dark Tan	1	5
W2837	Spy Pond	2019	Color	Light Green Tint	1	5
W2837	Spy Pond	2019	Color	Light Yellow/Tan	1	5
W2837	Spy Pond	2019	Color	None	2	5
W2837	Spy Pond	2019	Duckweed Density, Whole Lake	Unobservable	2	2
W2837	Spy Pond	2019	Objectionable Deposits	No	5	5
W2837	Spy Pond	2019	Odor	None	4	5
W2837	Spy Pond	2019	Odor	Sulfide (rotten egg)	1	5
W2837	Spy Pond	2019	Scum	No	5	5
W2837	Spy Pond	2019	Turbidity	None	1	5
W2837	Spy Pond	2019	Turbidity	Slightly Turbid	4	5
W2839	Spy Pond	2019	Aesthetics Impaired?	No	5	5
W2839	Spy Pond	2019	Aquatic Plant Density, Overall	None	3	5
W2839	Spy Pond	2019	Aquatic Plant Density, Overall	Unobservable	2	5
W2839	Spy Pond	2019	Aquatic Plant Density, Whole Lake	Unobservable	3	3
W2839	Spy Pond	2019	Color	Dark Tan	1	5
W2839	Spy Pond	2019	Color	Light Yellow/Tan	2	5
W2839	Spy Pond	2019	Color	None	2	5
W2839	Spy Pond	2019	Duckweed Density, Whole Lake	None	1	3
W2839	Spy Pond	2019	Duckweed Density, Whole Lake	Unobservable	2	3
W2839	Spy Pond	2019	Objectionable Deposits	No	5	5
W2839	Spy Pond	2019	Odor	None	4	5
W2839	Spy Pond	2019	Odor	Sulfide (rotten egg)	1	5
W2839	Spy Pond	2019	Scum	No	5	5

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W2839	Spy Pond	2019	Turbidity	None	2	5
W2839	Spy Pond	2019	Turbidity	Slightly Turbid	3	5

### Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Spy Pond (MA71040) were reported to MDPH based on visual observations for 36 days in 2019 and 46 days in 2021. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Bloom impairment is being carried forward and the Aesthetics Use and Primary/Secondary Contact Recreational Uses continue to be assessed as Not Supporting.

**Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2022) Provided by MDPH** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

[\* indicates a C-HAB posting of unknown duration]

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Spy Pond	Arlington					36		46	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Primary Contact Recreation Use for Spy Pond (MA71040) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment is being carried forward based on the occurrence of C-HAB postings extending >20 days in 2019 and 2021. Since the Total Phosphorus impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Primary Contact Recreation Use.

During the period 2015 through 2022, C-HAB postings for Spy Pond (MA71040) were reported to MDPH based on visual observations for 36 days in 2019 and 46 days in 2021. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Blooms impairment is being carried forward and the C-HAB data continues to be indicative of a Harmful Algal Blooms impairment.

In Spy Pond (MA71040) in 2019, MassDEP collected Secchi data at W2837 [42.409999, -71.151994, deep hole, northern lobe, Arlington], and W2839 [42.406, -71.158996, deep hole, southern lobe, Arlington]. At the northern lobe station W2837 (station depth=11.6 m) the Secchi depth measurements ranged from 0.98-4.95 m (n=5) with 1 measurement taken on Aug 8, 2019 that was less than the 1.2 m (4 ft) threshold. At the southern lobe station W2839 (station depth=6.9 m) the Secchi depth measurements ranged from 1.1-2.7 m (n=4) with 1 measurement taken on Sep 12, 2019 that was less than the 1.2 m (4 ft) threshold. Secchi depth data are generally indicative of water clarity meeting the threshold.

### Other Indicators

#### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MassDEP Undated 8) (MassDEP Undated 4)

Data Year(s)	Summary
2019	In Spy Pond (MA71040) in 2019, MassDEP collected Secchi data at W2837 [42.409999, -71.151994, deep hole, northern lobe, Arlington], and W2839 [42.406, -71.158996, deep hole, southern lobe, Arlington]. At the northern lobe station W2837 (station depth=11.6 m) the Secchi depth measurements ranged from 0.98-4.95 m (n=5) with 1 measurement taken on Aug 8, 2019 that was less than the 1.2 m (4 ft) threshold. At the southern lobe station W2839 (station depth=6.9 m) the Secchi depth measurements ranged from 1.1-2.7 m (n=4) with 1 measurement taken on Sep 12, 2019 that was less than the 1.2 m (4 ft) threshold.

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
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The Secondary Contact Recreation Use for Spy Pond (MA71040) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment is being carried forward based on the occurrence of C-HAB postings extending >20 days in 2019 and 2021. Since the Total Phosphorus impairment is being removed from the Aesthetics Use this cycle, this impairment is also being removed from the Secondary Contact Recreation Use.

During the period 2015 through 2022, C-HAB postings for Spy Pond (MA71040) were reported to MDPH based on visual observations for 36 days in 2019 and 46 days in 2021. No blooms were reported in other years. Since blooms were reported in recent years, a prior Harmful Algal Blooms impairment is being carried forward and the C-HAB data continues to be indicative of a Harmful Algal Blooms impairment.

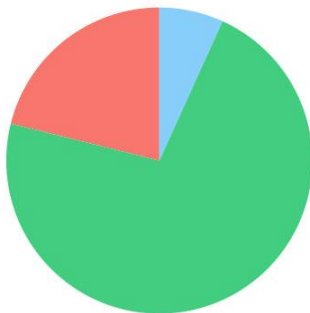


## Unnamed Tributary (MA71-13)

<b>Location:</b>	Unnamed tributary locally known as 'Meetinghouse Brook', from emergence south of Route 16/east of Winthrop Street, Medford to confluence with the Mystic River, Medford. (brook not apparent on 1985 Boston North USGS quad - 2005 orthophotos used to delineate stream).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	0.1 MILES
<b>Classification/Qualifier:</b>	B

### Unnamed Tributary (MA71-13)

Watershed Area: 2.76 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	2.76	2.76	1.33	1.33
Agriculture	0%	0%	0%	0%
Developed	21.1%	21.1%	7%	7%
Natural	72.1%	72.1%	83.1%	83.1%
Wetland	6.8%	6.8%	9.9%	9.9%
Impervious	15.2%	15.2%	5.4%	5.4%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in the Unnamed Tributary AU (MA71-13), known locally as Meetinghouse Brook, so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
No aesthetics observation data are available, so the Aesthetics Use for the Unnamed Tributary AU (MA71-13), known locally as Meetinghouse Brook, is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
<p>The Primary Contact Recreation Use for the Unnamed Tributary AU (MA71-13), known locally as Meetinghouse Brook, continues to be assessed as Not Supporting. The prior <i>Escherichia Coli</i> (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA_MEB001.</p> <p>MyRWA staff/volunteers collected <i>E. coli</i> bacteria samples in this Unnamed Tributary AU (MA71-13) at MyRWA_MEB001 [Meetinghouse Brook at Mystic River in Medford; upstream side of the culvert] from 2011-2019 (n=6-7/yr). Analysis of the recent five years of this multi-year moderate frequency <i>E. coli</i> dataset indicated that in all 5 sufficient data years &gt;20% of intervals had GMs &gt;126 CFU/100mL (2015-2019, 40-100%), 4 years had ≥2 samples exceed the 410 CFU/100mL STV (2015-2018, n=2-4), and cumulatively across years 72% of intervals had GMs &gt;126 CFU/100mL. <i>E. coli</i> data from MyRWA_MEB001 are indicative of an <i>Escherichia Coli</i> (E. Coli) impairment.</p>	

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_MEB001	Mystic River Watershed Association	Water Quality	Meetinghouse Brook	Meetinghouse Brook at Mystic River in Medford; upstream side of the culvert	42.418419	-71.116981

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)**

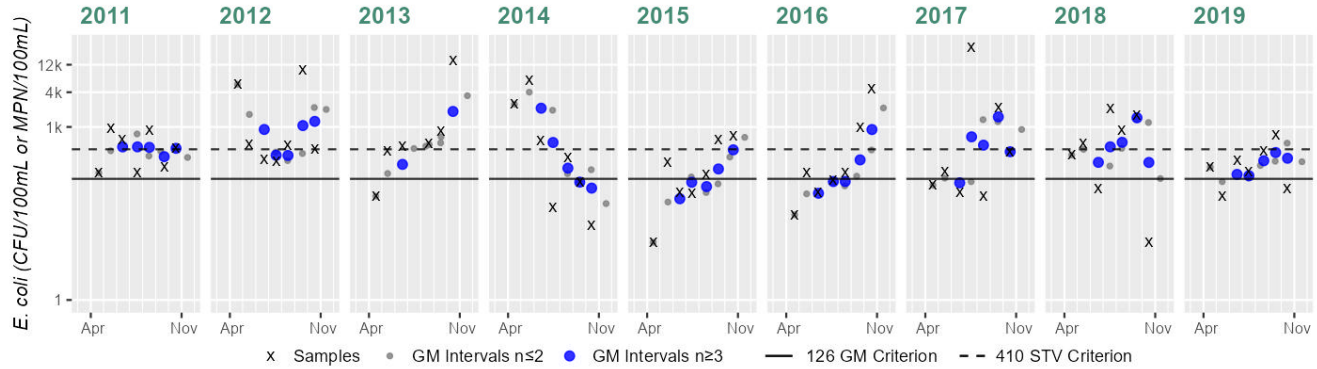
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	160	933	379
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	250	9800	864
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	6	63	14100	645
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	20	6490	306
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	7	10	712	135
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	30	4610	227
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	63	24200	396
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	10	2100	330
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	63	723	202

## Station MASSDEP\_W1968 & MyRWA\_MEB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	7	Samples	6	Samples	7	Samples	7	Samples	7	Samples	7	Samples	7	Samples	7	Samples	7
SeasGM	379	SeasGM	864	SeasGM	645	SeasGM	306	SeasGM	135	SeasGM	227	SeasGM	396	SeasGM	330	SeasGM	202	SeasGM	202
#GMI	5	#GMI	5	#GMI	2	#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	5
#GMI Ex	5	#GMI Ex	5	#GMI Ex	2	#GMI Ex	3	#GMI Ex	2	#GMI Ex	2	#GMI Ex	4	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	60%	%GMI Ex	40%	%GMI Ex	40%	%GMI Ex	80%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%
n>STV	4	n>STV	5	n>STV	4	n>STV	3	n>STV	2	n>STV	2	n>STV	2	n>STV	4	n>STV	1	n>STV	1
%n>STV	57%	%n>STV	71%	%n>STV	66%	%n>STV	42%	%n>STV	28%	%n>STV	28%	%n>STV	28%	%n>STV	57%	%n>STV	14%	%n>STV	14%

Cumulative %GMI Exceedance  
Current (2011-2022)  
78%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
72%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for the Unnamed Tributary AU (MA71-13), known locally as Meetinghouse Brook, is assessed as Not Supporting. An Escherichia Coli (E. Coli) impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at MyRWA\_MEB001.

MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in this Unnamed Tributary AU (MA71-13) at MyRWA\_MEB001 [Meetinghouse Brook at Mystic River in Medford; upstream side of the culvert] from 2011-2019 (current n=9-12/yr). Analysis of the recent five years of this multi-year moderate frequency *E. coli* dataset from MyRWA\_MEB001 indicated that in all 5 sufficient data years >20% of intervals had GMs >244 CFU/100mL (2015-2019, 33-50%), 3 years had ≥2 samples exceed the 794 CFU/100mL STV (2016-2018, n=2-3), and cumulatively across years 43% of intervals had GMs >244 CFU/100mL. *E. coli* data from MyRWA\_MEB001 are indicative of an Escherichia Coli (E. Coli) impairment.

MassDEP and MyRWA staff/volunteers collected historical *E. coli* bacteria samples in the historic IR window (1997-2010) in this Unnamed Tributary AU (MA71-13) at the combined W1968 & MyRWA\_MEB001 station [unnamed tributary locally known as Meetinghouse Brook, S of Mystic Valley Parkway (Rt. 16) bridge, ~80 ft from confluence with Mystic River, Medford & Meetinghouse Brook at Mystic River in Medford; upstream side of the culvert] from 2006-2009 (historic n=1-12/yr). These data were similarly indicative of poor water quality conditions.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1968	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary locally known as Meetinghouse Brook, south of Mystic Valley Parkway (Route 16) bridge, approximately 80 feet from confluence with Mystic River, Medford]	42.418487	-71.117080
MyRWA_MEB001	Mystic River Watershed Association	Water Quality	Meetinghouse Brook	Meetinghouse Brook at Mystic River in Medford; upstream side of the culvert	42.418419	-71.116981

### Bacteria Data

#### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

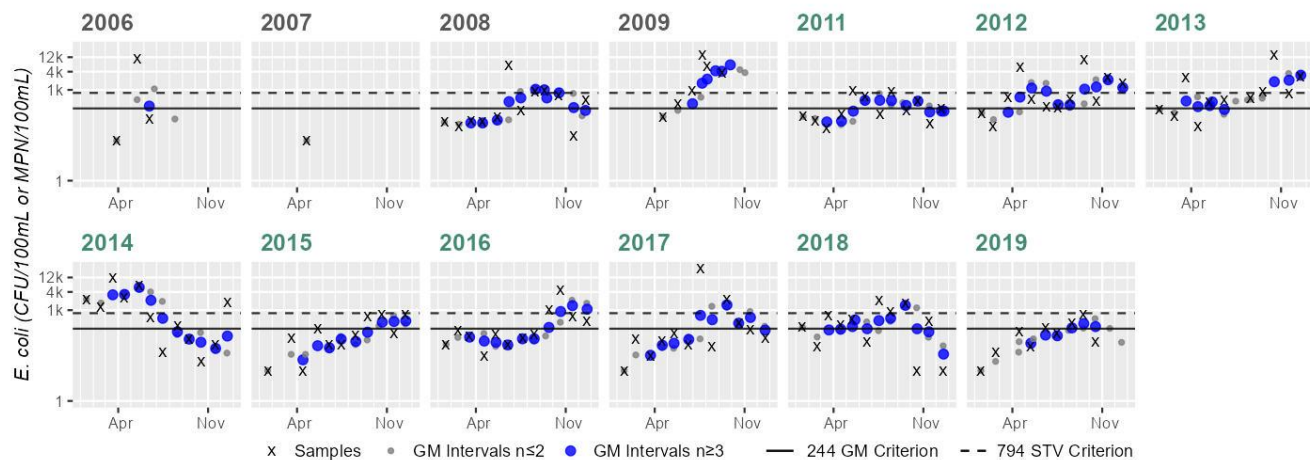
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1968	MassDEP	E. coli	04/21/09	09/08/09	6	130	14000	1528
MyRWA_MEB001	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	3	21	10710	290

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_MEB001	Mystic River Watershed Association	E. coli	04/24/07	04/24/07	1	21	21	21
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	12	30	6490	247
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/19/11	12/14/11	12	52	933	221
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	63	9800	673
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/16/13	12/18/13	11	63	14100	666
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	12	20	11200	568
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	11	10	712	125
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	30	4610	226
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	10	24200	183
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	10	2100	228
MyRWA_MEB001	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	9	10	723	121

# Station MASSDEP\_W1968 & MyRWA\_MEB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	3
SeasGM	290
#GMI	1
#GMI Ex	1
%GMI Ex	100%
n>STV	1
%n>STV	33%

Variable*	Result
Samples	1
SeasGM	21
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	247
#GMI	11
#GMI Ex	7
%GMI Ex	63%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	6
SeasGM	1528
#GMI	6
#GMI Ex	6
%GMI Ex	100%
n>STV	4
%n>STV	66%

Variable*	Result
Samples	12
SeasGM	221
#GMI	11
#GMI Ex	5
%GMI Ex	45%
n>STV	2
%n>STV	16%

Variable*	Result
Samples	12
SeasGM	673
#GMI	10
#GMI Ex	9
%GMI Ex	90%
n>STV	4
%n>STV	33%

Variable*	Result
Samples	11
SeasGM	666
#GMI	8
#GMI Ex	7
%GMI Ex	87%
n>STV	4
%n>STV	36%

Variable*	Result
Samples	12
SeasGM	568
#GMI	10
#GMI Ex	5
%GMI Ex	50%
n>STV	6
%n>STV	50%

Variable*	Result
Samples	11
SeasGM	125
#GMI	9
#GMI Ex	3
%GMI Ex	33%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	226
#GMI	10
#GMI Ex	4
%GMI Ex	40%
n>STV	2
%n>STV	16%

Variable*	Result
Samples	12
SeasGM	183
#GMI	10
#GMI Ex	5
%GMI Ex	50%
n>STV	2
%n>STV	16%

Variable*	Result
Samples	12
SeasGM	228
#GMI	11
#GMI Ex	5
%GMI Ex	45%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	9
SeasGM	121
#GMI	6
#GMI Ex	3
%GMI Ex	50%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 77%

Cumulative %GMI Exceedance  
 Current (2011-2022)  
 54%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 43%

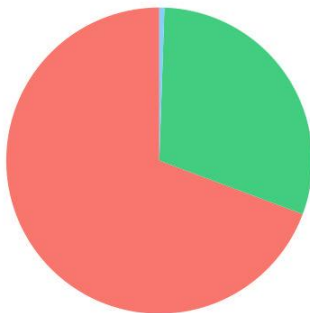
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Unnamed Tributary (MA71-19)

<b>Location:</b>	Unnamed tributary to Little River (locally known as 'Wellington Brook'), headwaters south of Trapelo Road, Belmont to inlet Claypit Pond, Belmont (portions culverted underground) (1893 Boston USGS quad used to delineate stream).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	2.1 MILES
<b>Classification/Qualifier:</b>	B

### Unnamed Tributary (MA71-19)

Watershed Area: 1.35 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.35	1.35	0.26	0.26
Agriculture	0%	0%	0%	0%
Developed	69.3%	69.3%	74.7%	74.7%
Natural	30.1%	30.1%	23%	23%
Wetland	0.5%	0.5%	2.3%	2.3%
Impervious	50.9%	50.9%	57.2%	57.2%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Benthic Macroinvertebrates	--	Unchanged
5	5	Escherichia Coli (E. Coli)	--	Added

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Benthic Macroinvertebrates	Source Unknown (N)	X	--	--	--	--



Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	--	X
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	--	X

## Recommendations

2024/26 Recommendations
2024/2026 IR [E. coli, high priority] Due to the reevaluation of historical data in the 2024/2026 IR, an <i>E. coli</i> impairment was added to the Secondary Contact Recreation Use for the Unnamed Tributary (MA71-19), known locally as Wellington Brook. Since all 6 samples collected by MassDEP during summer 2009 at W1970 were highly elevated above the STV, follow-up bacteria sampling should be conducted in this area to determine whether such conditions persist (which would potentially lead to an impairment of the Primary Contact Recreation Use as well). {W1970}

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No

2024/26 Use Attainment Summary
Fish toxics sampling has not been conducted in this Unnamed Tributary (MA71-19), known locally as Wellington Brook, so the Fish Consumption Use is Not Assessed.

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No aesthetics observation data are available, so the Aesthetics Use for this Unnamed Tributary (MA71-19), known locally as Wellington Brook, is Not Assessed.

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Assessed	NO

2024/26 Use Attainment Summary
No bacteria or other indicator data are available for this Unnamed Tributary (MA71-19), known locally as Wellington Brook, so the Primary Contact Recreation Use is Not Assessed.

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
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The Secondary Contact Recreation Use for this Unnamed Tributary (MA71-19), known locally as Wellington Brook, is assessed as Not Supporting. An Escherichia Coli (E. Coli) impairment is being added based on a re-evaluation of bacteria data not meeting the threshold at the combined station, W1970 & MyRWA\_WEB010, and the combined station, MyRWA\_WEB007 & MyRWA\_WEB07N & MyRWA\_WEB07S. The former Alert for Escherichia Coli (E. Coli) is being removed since an impairment has been added for the same cause.

MassDEP and MyRWA staff/volunteers collected *E. coli* bacteria samples in both the historic (1997-2010) & the current IR window (2011-2022) in this Unnamed Tributary (MA71-19) from 2006-2016 at 3 stations. Samples were collected from the following stations/sample years from upstream to downstream: MyRWA\_WEB013 [No description submitted by MyRWA] in 2006, 2008, and 2010 (historic n=1-2/yr) and 2011-2012 and 2014 (current n=1/yr), the combined W1970 & MyRWA\_WEB010 station [unnamed tributary locally known as Wellington Brook just upstream of underground culvert entrance behind Belmont Library, W of Cottage St, Belmont & No description submitted by MyRWA] in 2006 and 2008-2010 (historic n=1-6/yr) and in 2011-2012 and 2014 (current n=1/yr), and lastly at the combined MyRWA\_WEB007 & MyRWA\_WEB07N & MyRWA\_WEB07S station [No description submitted by MyRWA & Wellington Brook outlet to Claypit Pond at SW corner by Concord Ave. N side of culvert & Wellington Brook outlet to Claypit Pond at SW corner by Concord Ave. S side of culvert] in 2006, 2008, and 2010 (historic n=1-3/yr) and 2011-2012 and 2016 (current n=1/yr). *E. coli* data collected during the current IR window from all 3 stations are too limited to evaluate according to the 2024 CALM (however, note that most of these samples were elevated above the 794 CFU/100mL STV).

Historical *E. coli* data from MyRWA\_WEB013 are also too limited to re-evaluate. Analysis of the historic single year limited frequency *E. coli* dataset from the combined W1970 & MyRWA\_WEB010 station (2009, n=6) indicated 100% of intervals had GMs >244 CFU/100mL, 6 samples exceeded the 794 CFU/100mL STV, and the overall GM was 13,254 CFU/100mL.

Analysis of the historic single year limited frequency *E. coli* dataset from the combined MyRWA\_WEB007 & MyRWA\_WEB07N & MyRWA\_WEB07S station (2006, n=3) indicated 100% of intervals had GMs >244 CFU/100mL, all 3 samples exceeded the 794 CFU/100mL STV, and the overall GM was 5,791 CFU/100mL. While recent data are too limited according to the 2024 CALM to assess the Secondary Contact Recreation Use, historic *E. coli* data from the combined station, W1970 & MyRWA\_WEB010, and the combined station, MyRWA\_WEB007 & MyRWA\_WEB07N & MyRWA\_WEB07S, are indicative of an Escherichia Coli (E. Coli) impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1970	MassDEP	Water Quality	Unnamed Tributary	[unnamed tributary locally known as Wellington Brook just upstream of underground culvert entrance behind Belmont Library, west of Cottage Street, Belmont]	42.394279	-71.172019

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_WEB007	Mystic River Watershed Association	Water Quality	Wellington Brook	No description submitted by MyRWA	42.393561	-71.166747
MyRWA_WEB010	Mystic River Watershed Association	Water Quality	Wellington Brook	No description submitted by MyRWA	42.394278	-71.171950
MyRWA_WEB013	Mystic River Watershed Association	Water Quality	Wellington Brook	No description submitted by MyRWA	42.395247	-71.176317
MyRWA_WEB07N	Mystic River Watershed Association	Water Quality	Wellington Brook	Wellington Brook outlet to Claypit Pond @ SW corner by Concord Ave. north side of culvert	42.393580	-71.166820
MyRWA_WEB07S	Mystic River Watershed Association	Water Quality	Wellington Brook	Wellington Brook outlet to Claypit Pond @ SW corner by Concord Ave. south side of culvert	42.393550	-71.166770

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MassDEP Undated 8) (MassDEP Undated 3) (MyRWA 2019) (MassDEP Undated 1)

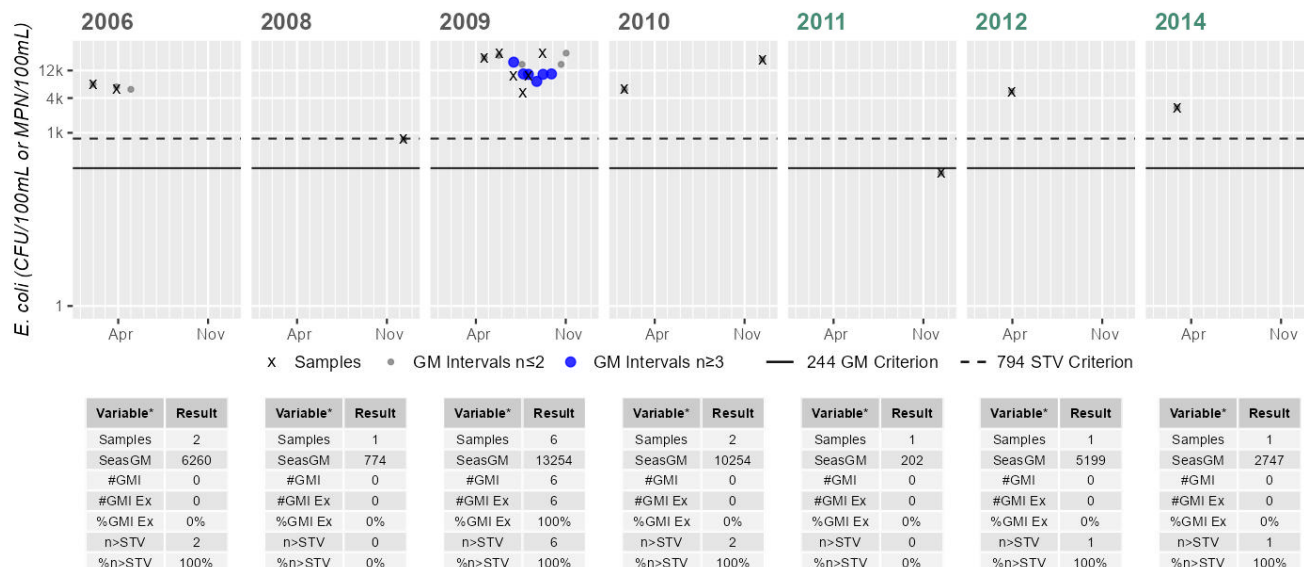
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
W1970	MassDEP	E. coli	04/21/09	09/08/09	6	4900	24000	13254
MyRWA_WEB007	Mystic River Watershed Association	E. coli	01/31/06	03/28/06	3	4480	9678	5791
MyRWA_WEB007	Mystic River Watershed Association	E. coli	12/10/08	12/10/08	1	7945	7945	7945
MyRWA_WEB007	Mystic River Watershed Association	E. coli	01/19/10	01/19/10	1	5199	5199	5198
MyRWA_WEB007	Mystic River Watershed Association	E. coli	03/15/16	03/15/16	1	9678	9678	9678
MyRWA_WEB010	Mystic River Watershed Association	E. coli	01/31/06	03/28/06	2	5654	6932	6260
MyRWA_WEB010	Mystic River Watershed Association	E. coli	12/10/08	12/10/08	1	774	774	774
MyRWA_WEB010	Mystic River Watershed Association	E. coli	01/19/10	12/13/10	2	5654	18600	10254
MyRWA_WEB010	Mystic River Watershed Association	E. coli	12/13/11	12/13/11	1	202	202	202

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_WEB010	Mystic River Watershed Association	E. coli	03/29/12	03/29/12	1	5199	5199	5198
MyRWA_WEB010	Mystic River Watershed Association	E. coli	02/26/14	02/26/14	1	2747	2747	2746
MyRWA_WEB013	Mystic River Watershed Association	E. coli	01/31/06	03/28/06	2	19350	38730	27375
MyRWA_WEB013	Mystic River Watershed Association	E. coli	12/10/08	12/10/08	1	23590	23590	23589
MyRWA_WEB013	Mystic River Watershed Association	E. coli	01/19/10	01/19/10	1	129970	129970	129970
MyRWA_WEB013	Mystic River Watershed Association	E. coli	12/13/11	12/13/11	1	1302	1302	1301
MyRWA_WEB013	Mystic River Watershed Association	E. coli	03/29/12	03/29/12	1	86640	86640	86640
MyRWA_WEB013	Mystic River Watershed Association	E. coli	02/26/14	02/26/14	1	7945	7945	7945
MyRWA_WEB07N	Mystic River Watershed Association	E. coli	12/13/10	12/13/10	1	13540	13540	13540
MyRWA_WEB07S	Mystic River Watershed Association	E. coli	12/13/11	12/13/11	1	713	713	713
MyRWA_WEB07S	Mystic River Watershed Association	E. coli	03/29/12	03/29/12	1	3922	3922	3922

### Station MASSDEP\_W1970 & MyRWA\_WEB010 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season

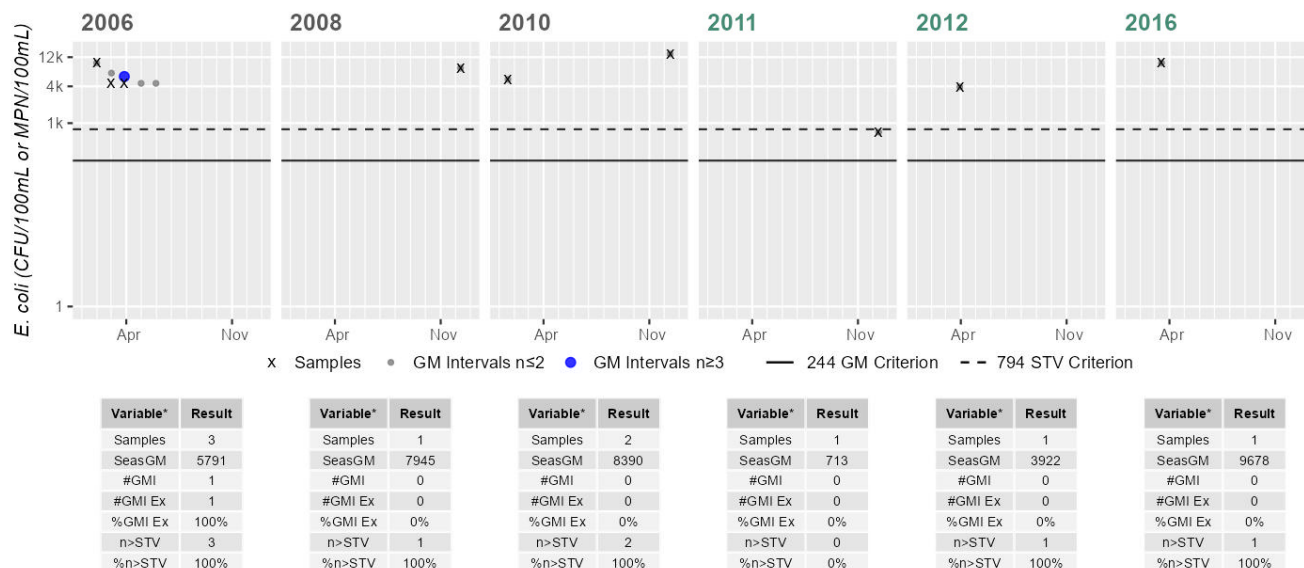


Cumulative %GMI Exceedance  
Historic (1997-2010) 100%  
Cumulative %GMI Exceedance  
Current (2011-2022) 0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WEB007 & MyRWA\_WEB07N & MyRWA\_WEB07S - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season

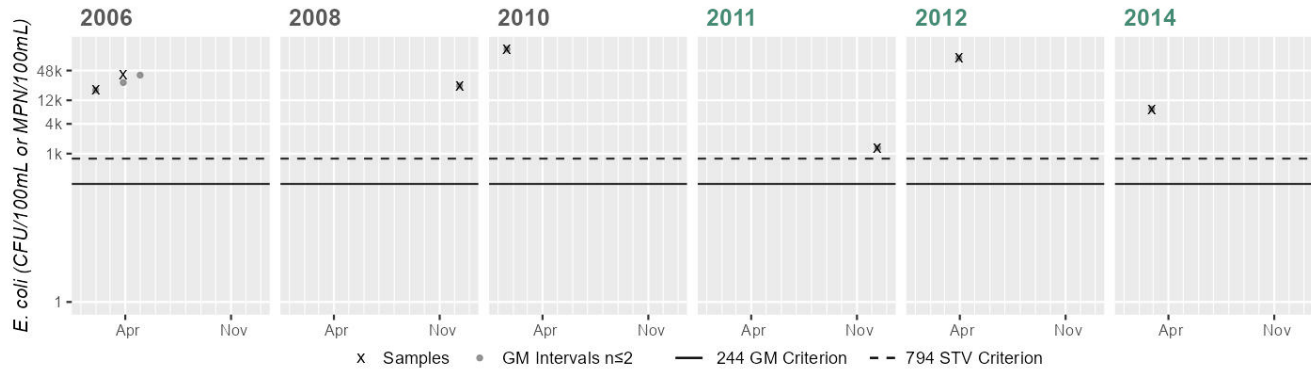


Cumulative %GMI Exceedance  
Historic (1997-2010) 100%  
Cumulative %GMI Exceedance  
Current (2011-2022) 0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

# Station MyRWA\_WEB013 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	27375
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	2
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	23590
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	129970
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	1302
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	86640
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	7945
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 0%

Cumulative %GMI Exceedance  
 Current (2011-2022)  
 0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Upper Mystic Lake (MA71043)

<b>Location:</b>	Winchester/Arlington/Medford.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	176 ACRES
<b>Classification/Qualifier:</b>	B: WWF

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Curly-leaf Pondweed*)	--	Unchanged
5	5	Dissolved Oxygen	R1_MA_2020_5a	Unchanged
5	5	Dissolved Oxygen Supersaturation	R1_MA_2020_5a	Unchanged
5	5	Enterococcus	--	Unchanged
5	5	Harmful Algal Blooms	R1_MA_2020_5a	Added

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Curly-leaf Pondweed*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Dissolved Oxygen Supersaturation	Source Unknown (N)	X	--	--	--	--
Enterococcus	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	--
Enterococcus	Source Unknown (N)	--	--	--	X	--
Harmful Algal Blooms	Source Unknown (N)	--	--	X	X	X



## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Upper Mystic Lake (MA71043), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	
<p>The Aesthetics Use for Upper Mystic Lake (MA71043) is Assessed as Not Supporting based on an extended C-HAB posting reported to MDPH in 2017. The prior Alert identified for Harmful Algal Blooms is being removed in light of the new impairment for the same cause.</p> <p>During the period 2015 through 2022, C-HAB postings for Upper Mystic Lake were reported to MDPH based on cell count data for 21 days in 2017 and no blooms were reported in other years. Since extended blooms (&gt;20 days in duration) based on cell count data were reported in a recent year, the Aesthetics Use is assessed as Not Supporting.</p>	

### Algal Bloom Information

**Cyanobacteria Harmful Algal Bloom (C-HAB) Summary Statements for 2015-2022 MDPH Data** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

C-HAB Summary Statement
During the period 2015 through 2022, C-HAB postings for Upper Mystic Lake (MA71043) were reported to MDPH based on cell count data for 21 days in 2017. No blooms were reported in other years. Since extended blooms (>20 days in duration) based on cell count data were reported in a recent year, the Aesthetics Use and Primary/Secondary Contact Recreational Uses are assessed as Not Supporting.

**Cyanobacteria Harmful Algal Bloom (C-HAB) Data (2015-2022) Provided by MDPH** (Bailey, Logan April 26, 2023) (MassDEP Undated 1)

[\* indicates a C-HAB posting of unknown duration]

DEP Waterbody (DPH Waterbody)	DPH Town	Posting Days 2015	Posting Days 2016	Posting Days 2017	Posting Days 2018	Posting Days 2019	Posting Days 2020	Posting Days 2021	Posting Days 2022
Upper Mystic Lake	Arlington/Medford/Winchester			21					

## Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

2024/26 Use Attainment Summary
<p>The Primary Contact Recreation Use for Upper Mystic Lake (MA71043) continues to be assessed as Not Supporting. The prior <i>Enterococcus</i> impairment is being carried forward based on DPH beach closure data not meeting the threshold at Shannon Beach @ Upper Mystic (DCR) [Beach ID: 5173]. Additionally, elevated bacteria data from MyRWA_UPLSHBC are reflective of the existing <i>Enterococcus</i> impairment. A Harmful Algal Blooms impairment is being added due to the occurrence of C-HAB postings extending &gt;20 days in 2017 (since an impairment is being added, the prior Alert for the same cause is being removed).</p> <p>During the period 2015 through 2022, C-HAB postings for Upper Mystic Lake (MA71043) were reported to MDPH based on cell count data for 21 days in 2017. No blooms were reported in other years. Since extended blooms (&gt;20 days in duration) based on cell count data were reported in a recent year, the C-HAB data are indicative of a Harmful Algal Bloom impairment. Upper Mystic Lake (MA71043) has a beach with DPH beach closure data: DCR's Shannon Beach @ Upper Mystic [Beach ID: 5173] in Winchester. In the most recent 5 years of data (2018-2022) the beach was posted for &gt;10% of the swimming season in 2019 (31%) and 2021 (31%) indicating an <i>Enterococcus</i> impairment.</p> <p>MyRWA staff/volunteers collected <i>E. coli</i> (EC) and <i>Enterococcus</i> (Ent) bacteria samples in Upper Mystic Lake (MA71043) from 2011-2019 at 2 stations. Samples were collected from the following stations/sample years: MyRWA_UPL001 [Upper Mystic Lake at Mystic Lakes Dam in Medford; Sample at S E corner of Uppper Mystic Lake] from 2011-2019 (EC n=7/yr) and MyRWA_UPLSHBC [waist deep, center of beach] from 2015-2016 (Ent n=34-43/yr). Analysis of the recent five years of the multi-year moderate frequency <i>E. coli</i> dataset from MyRWA_UPL001 indicated that in 2 of 5 sufficient data years &gt;20% of the intervals had GMs &gt;126 CFU/100mL (2017 and 2018, 25% &amp; 50%), 1 year had ≥2 samples exceed the 410 CFU/100mL STV (2018, n=2), and cumulatively across years 15% of intervals had GMs &gt;126 CFU/100mL. Analysis of the multi-year high frequency <i>Enterococcus</i> dataset from MyRWA_UPLSHBC indicated that in 1 of 2 sufficient data years &gt;10% of the intervals had GMs &gt;35 CFU/100mL (2015, 14%), no years had &gt;10% of samples exceed the 130 CFU/100mL STV, and cumulatively across years 10% of intervals had GMs &gt;35 CFU/100mL. <i>E. coli</i> data from MyRWA_UPL001 meet 2024 CALM guidance. While <i>Enterococcus</i> data from MyRWA_UPLSHBC also meet 2024 CALM guidance, several elevated samples are reflective of the prior impairment (max=2,419 CFU/100mL). The prior <i>Enterococcus</i> impairment is being carried forward.</p>

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_UPL001	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	Upper Mystic Lake at Mystic Lakes Dam in Medford; Sample at south east corner of Uppper Mystic Lake	42.430814	-71.148164
MyRWA_UPLSHBC	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	waist deep, center of beach	42.439907	-71.146155

## Bacteria Data

### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (30-day Interval Analysis)

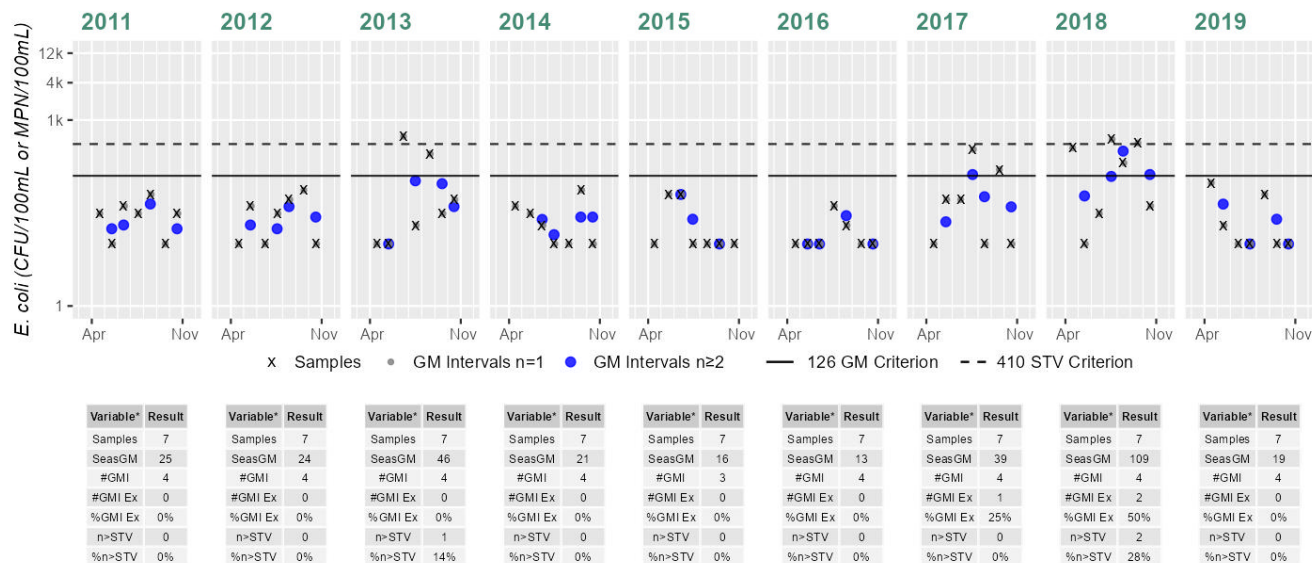
(MyRWA 2019) (MassDEP Undated 2)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	10	63	25
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	10	74	24
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	10	546	46
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	7	10	74	21
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	7	10	63	16
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	10	41	13
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	10	335	39
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	10	489	109
MyRWA_UPL001	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	10	97	19
MyRWA_UPLSHBC	Mystic River Watershed Association	Enterococcus	06/29/15	10/02/15	34	1	1334	8
MyRWA_UPLSHBC	Mystic River Watershed Association	Enterococcus	04/26/16	09/21/16	43	1	2419	9

## Station MyRWA\_UPL001 - Escherichia coli

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

8%

Cumulative %GMI Exceedance

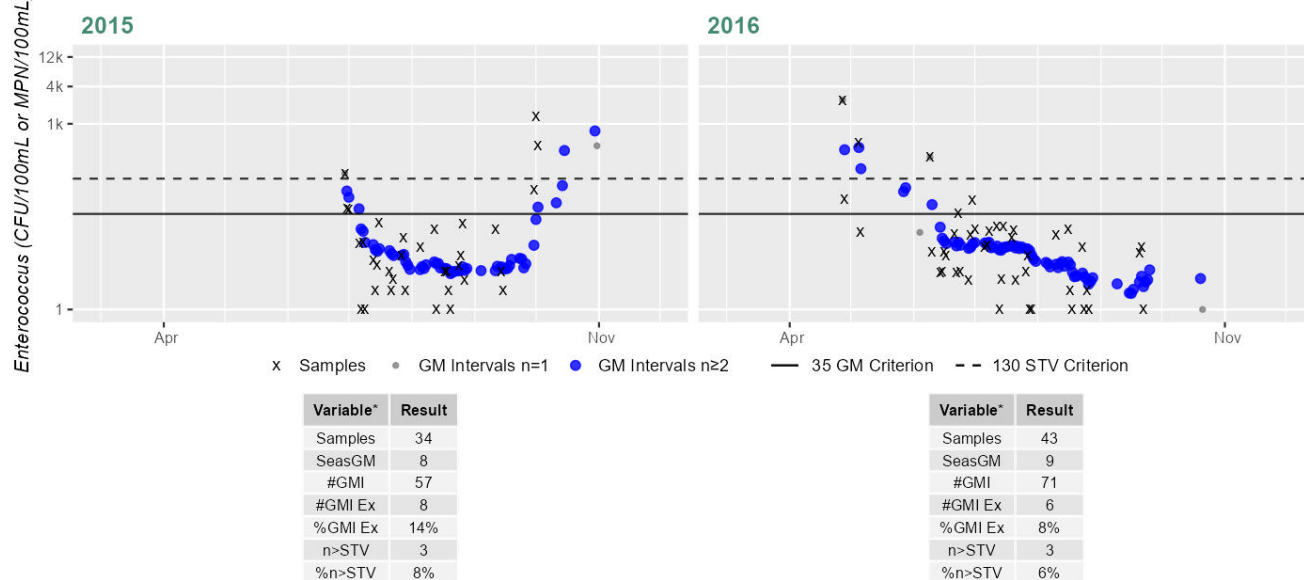
Current (Recent 5 Years)

15%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Station MyRWA\_UPLSHBC - Enterococcus

Daily Maximum Samples & 30 Day Geometric Means within the Primary Contact Recreation Season



Cumulative %GMI Exceedance

Current (2011-2022)

10%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Beach Postings

**MA DPH Beach Posting Data Summary (% Bathing Season Posted 2014-2022)** (Bailey, Logan Feb. 2, 2021) (Bailey Sept. 10, 2023) (MassDEP Undated 2)

Beach ID	Beach Name/ Town	Left Border (Lat., Long.)	Right Border (Lat., Long.)	2014	2015	2016	2017	2018	2019	2020	2021	2022	# years >10%
5173	Shannon Beach @ Upper Mystic (DCR)/ Winchester	42.44011, -71.14660	42.43961, -71.14580	5%	4%	0%	26%	1%	31%	6%	31%	6%	3

## Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Secondary Contact Recreation Use for Upper Mystic Lake (MA71043) is assessed as Not Supporting. A Harmful Algal Blooms impairment is being added due to the occurrence of C-HAB postings extending >20 days in 2017 (since an impairment is being added, the prior Alert for the same cause is being removed).

During the period 2015 through 2022, C-HAB postings for Upper Mystic Lake (MA71043) were reported to MDPH based on cell count data for 21 days in 2017. No blooms were reported in other years. Since extended blooms (>20 days in duration) based on cell count data were reported in a recent year, the C-HAB data are indicative of a Harmful Algal Bloom impairment. Upper Mystic Lake (MA71043) has a beach with DPH beach closure data: DCR's Shannon Beach @ Upper Mystic [Beach ID: 5173] in Winchester. Available DPH beach closure data cannot be used to positively assess the Secondary Contact Recreation Use since beaches were posted for >10% of the swimming season in 2019 and 2021.

MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in Upper Mystic Lake (MA71043) from 2011-2019 at one station. Samples were collected at MyRWA\_UPL001 [Upper Mystic Lake at Mystic Lakes Dam in Medford; Sample at S E corner of Upper Mystic Lake] from 2011-2019 (current n=10-12/yr). Analysis of the recent five years of the multi-year moderate frequency *E. coli* dataset from MyRWA\_UPL001 indicated that none of the 5 sufficient data years had >20% of intervals with GMs >244 CFU/100mL, there were no exceedances of the 794 CFU/100mL STV among any of the five years, and cumulatively across the five years 2% of intervals had GMs >244 CFU/100mL. *E. coli* data from MyRWA\_UPL001 are indicative of good water quality conditions.

MyRWA staff/volunteers collected *E. coli* bacteria samples in the historic (1997-2010) IR window at seven stations in Upper Mystic Lake (MA71043). Other than the data collected in 2006 and 2008 at MyRWA\_UPL001 (which were indicative of good water quality conditions), the data from the other six stations (MyRWA\_UPLUMLFL1N, MyRWA\_UPLFL1MIDS, MyRWA\_UPLUMLFL3, MyRWA\_UPLFL2MID, MyRWA\_UPLUMLFL5, and the combined MyRWA\_UPLSANBCH & MyRWA\_UPLSBS station) were not of sufficient frequency to be evaluated according to the 2024 CALM.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_UPL001	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	Upper Mystic Lake at Mystic Lakes Dam in Medford; Sample at south east corner of Upper Mystic Lake	42.430814	-71.148164
MyRWA_UPLFL1MIDS	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.442657	-71.145778
MyRWA_UPLFL2MID	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.440764	-71.151051
MyRWA_UPLSANBCH	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.440061	-71.146469

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_UPLSBS	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	Upper Mystic Lake Shannon Beach	42.440070	-71.146590
MyRWA_UPLUMLFL1N	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.444946	-71.145751
MyRWA_UPLUMLFL3	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.441577	-71.149248
MyRWA_UPLUMLFL5	Mystic River Watershed Association	Water Quality	Upper Mystic Lake	No description submitted by MyRWA	42.439603	-71.149958

## ***Bacteria Data***

### **Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)**

(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

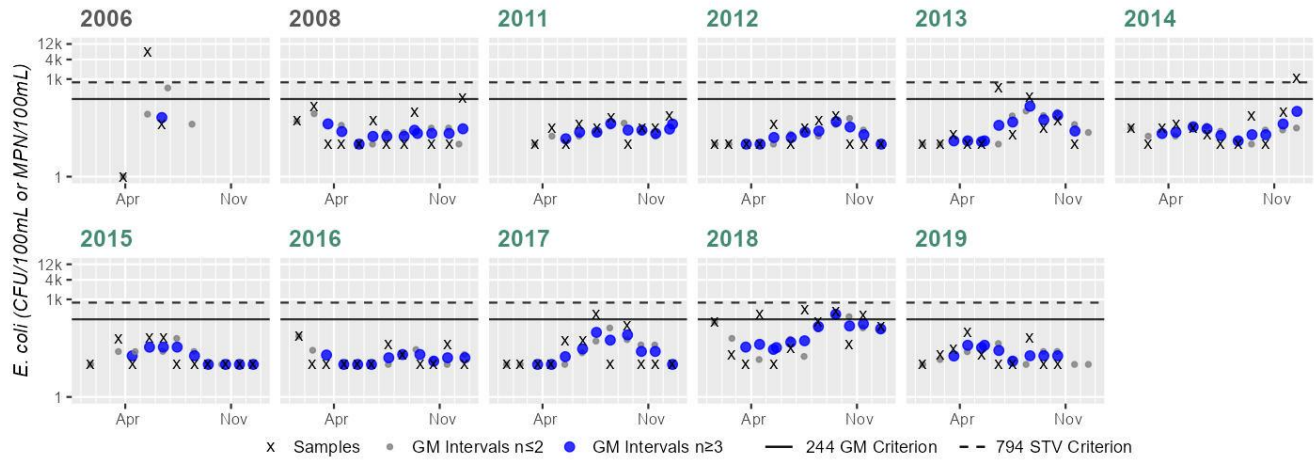
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_UPL001	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	3	1	6932	65
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	12	10	259	26
MyRWA_UPL001	Mystic River Watershed Association	E. coli	03/16/11	12/14/11	10	10	74	26
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	10	74	16
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/16/13	11/20/13	11	10	546	28
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	12	10	1070	33
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	11	10	63	16
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	10	74	15
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	12	10	335	22

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/17/18	12/19/18	12	10	489	91
MyRWA_UPL001	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	10	97	19
MyRWA_UPLFL1MIDS	Mystic River Watershed Association	E. coli	08/26/09	08/26/09	1	48	48	48
MyRWA_UPLFL2MID	Mystic River Watershed Association	E. coli	08/26/09	08/26/09	1	76	76	76
MyRWA_UPLSANBCH	Mystic River Watershed Association	E. coli	04/25/06	05/16/06	2	1	6932	83
MyRWA_UPLSBS	Mystic River Watershed Association	E. coli	07/24/08	07/24/08	1	473	473	472
MyRWA_UPLSBS	Mystic River Watershed Association	E. coli	08/26/09	12/03/09	2	12	48	24
MyRWA_UPLUMLFL1N	Mystic River Watershed Association	E. coli	08/26/09	08/26/09	1	30	30	30
MyRWA_UPLUMLFL3	Mystic River Watershed Association	E. coli	08/26/09	08/26/09	1	39	39	38
MyRWA_UPLUMLFL5	Mystic River Watershed Association	E. coli	08/26/09	08/26/09	1	25	25	24



# Station MyRWA\_UPL001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	3
SeasGM	65
#GMI	1
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	33%

Variable*	Result
Samples	12
SeasGM	26
#GMI	11
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	26
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	16
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	11
SeasGM	28
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	33
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	8%

Variable*	Result
Samples	11
SeasGM	16
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	15
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	22
#GMI	10
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	12
SeasGM	91
#GMI	11
#GMI Ex	1
%GMI Ex	9%
n>STV	0
%n>STV	0%

Variable*	Result
Samples	10
SeasGM	19
#GMI	9
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 0%

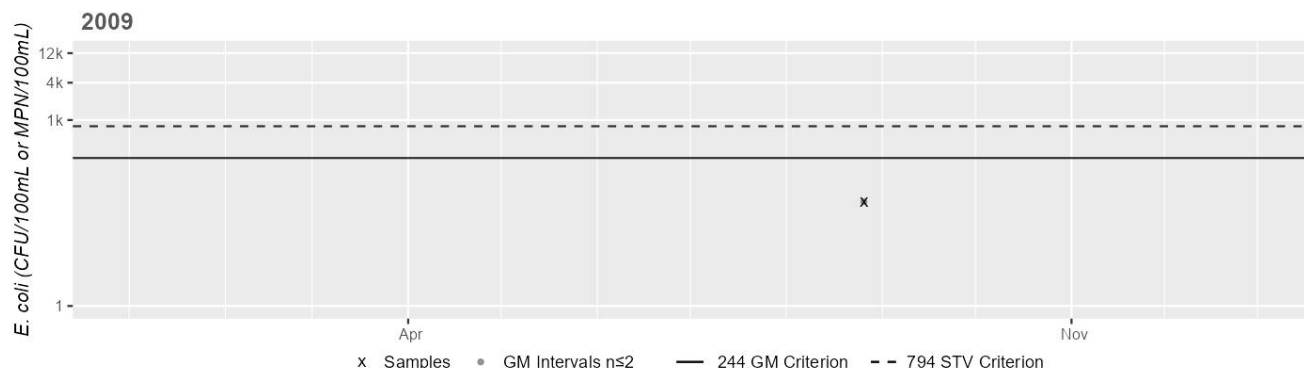
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 1%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 2%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_UPLFL1MIDS - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	48
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

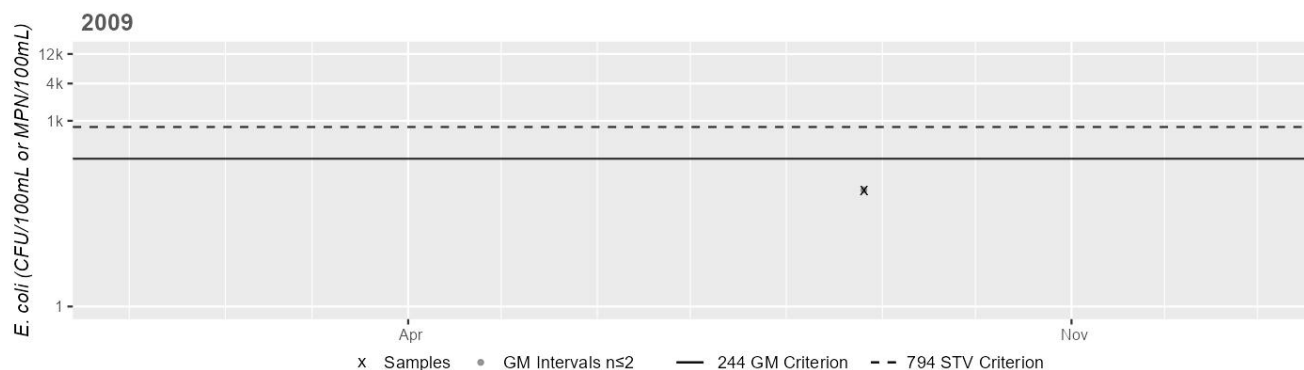
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_UPLFL2MID - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	76
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

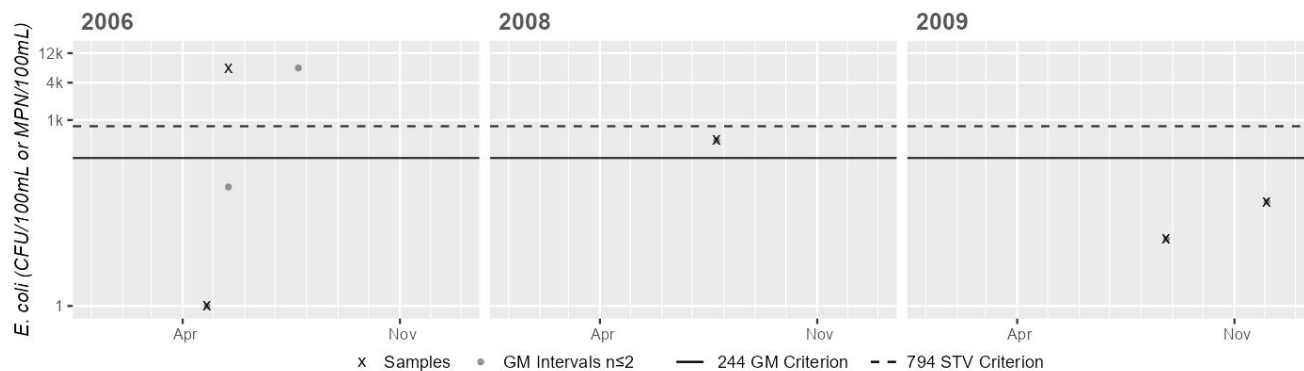
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_UPLSANBCH & MyRWA\_UPLSBS - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	83
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	1
SeasGM	473
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

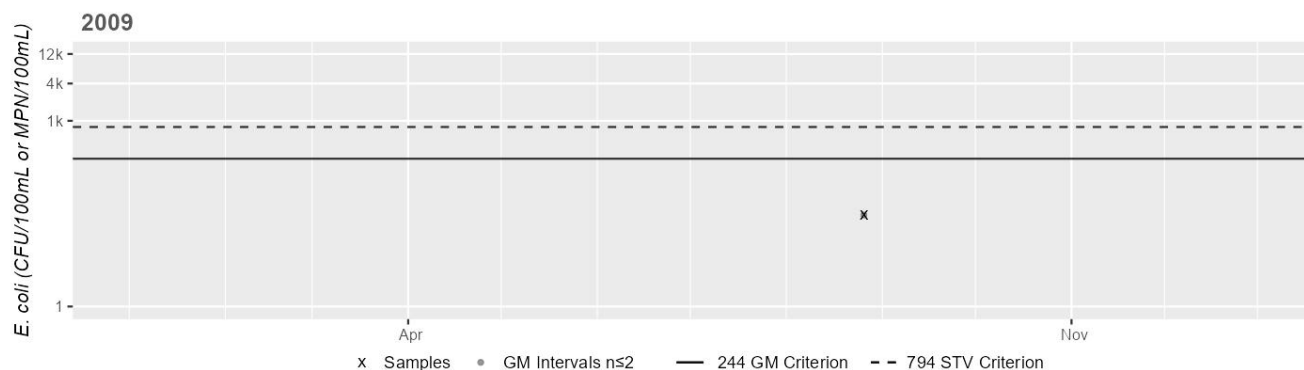
Variable*	Result
Samples	2
SeasGM	24
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_UPLUMLFL1N - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



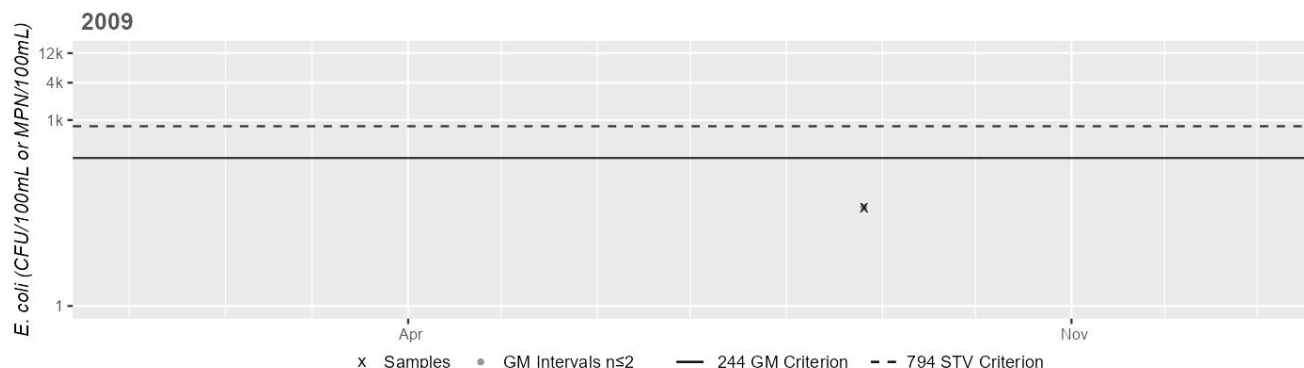
Variable*	Result
Samples	1
SeasGM	30
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_UPLUMLFL3 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	39
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

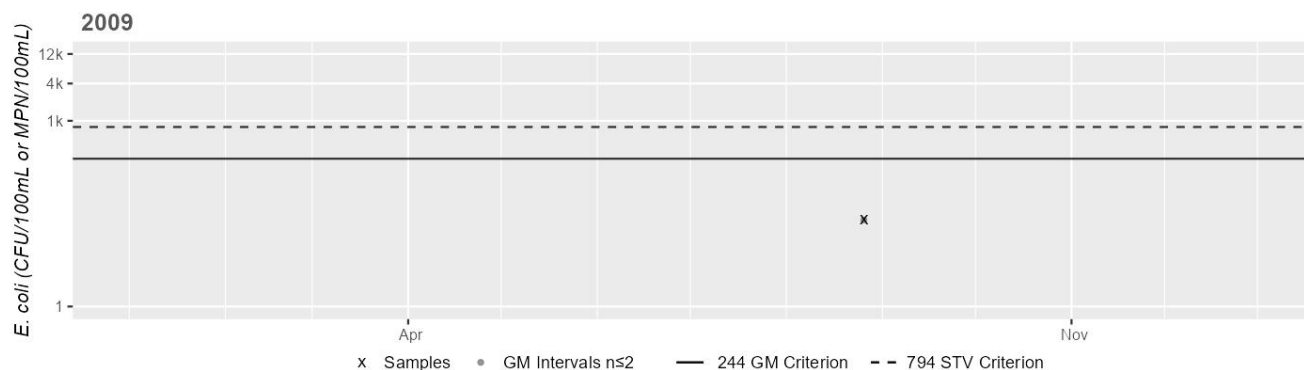
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_UPLUMLFL5 - *Escherichia coli*

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	25
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Wedge Pond (MA71045)

<b>Location:</b>	Winchester.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	23 ACRES
<b>Classification/Qualifier:</b>	B

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	Dissolved Oxygen	--	Unchanged
5	5	Harmful Algal Blooms	--	Unchanged
5	5	Phosphorus, Total	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
Dissolved Oxygen	Source Unknown (N)	X	--	--	--	--
Harmful Algal Blooms	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	X	--	X	X	X
Harmful Algal Blooms	Source Unknown (N)	X	--	X	X	X
Phosphorus, Total	Source Unknown (N)	X	--	--	--	--

## Designated Use Attainment Decisions

### Fish Consumption

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Assessed	No
<b>2024/26 Use Attainment Summary</b>	

Fish toxics sampling has not been conducted in Wedge Pond (MA71045), so the Fish Consumption Use is Not Assessed.

## Aesthetic

2024/26 Use Attainment	Alert
Not Supporting	NO

### 2024/26 Use Attainment Summary

The Aesthetics Use for Wedge Pond (MA71045) continues to be assessed as Not Supporting with the Harmful Algal Blooms impairment being carried forward. Since the prior Alert identified for low Secchi depth (Transparency/Clarity) was redundantly duplicated across multiple uses for this waterbody, this Alert is being removed from the Aesthetics Use and further discussion can be found under the Primary Contact Recreation Use.

MassDEP staff recorded aesthetics observations at one station on this Wedge Pond AU during the summer of 2019, at the deep hole in Winchester (W1226, n=5). There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded. Despite the good conditions observed by MassDEP staff at the Pond in 2019, the Town of Winchester confirms that the pond still has “algae problems” and is treated multiple times per year with a copper-based algaecide. There is a noted increase in recent years, of the number of these treatments necessary to control the algae growths (Murphy January 31, 2025). The Town further indicates that Wedge Pond is screened on a regular basis for cyanobacteria by the Mystic River Watershed Association using a fluorometer and looking for visual signs of bloom (Murphy January 31, 2025). The Winchester Health Department is alerted of any concerns and issues an advisory based on elevated levels. If necessary, the Town works with DPH on further pond water analysis.

## Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
W1226	MassDEP	Water Quality	Wedge Pond	[deep hole, Winchester]	42.452894	-71.141585

## Aesthetic Observations

### Aesthetics Summary Statements for MassDEP Stations (2011-2020) (MassDEP Undated 4)

[Note: scums of natural origins (e.g. pollen blankets or natural foams) are excluded.]

Station Code	Data Year	Field Sheet Count	Aesthetics Summary Statement
W1226	2019	5	Aesthetic observations were made by MassDEP field sampling crews at Station W1226 on Wedge Pond (MA71045) during 5 site visits between Jun 2019 and Oct 2019. There were generally no persistent objectionable conditions (odors, deposits, growths, or turbidity) recorded.

**MassDEP Aesthetics Observations (2011-2020) (MassDEP Undated 8)**

Station Code	Waterbody	Data Year	Parameter	Result	Result Count	Total Field Sheet Count
W1226	Wedge Pond	2019	Aesthetics Impaired?	No	5	5
W1226	Wedge Pond	2019	Aquatic Plant Density, Overall	None	3	5
W1226	Wedge Pond	2019	Aquatic Plant Density, Overall	Sparse	1	5
W1226	Wedge Pond	2019	Aquatic Plant Density, Overall	Unobservable	1	5
W1226	Wedge Pond	2019	Aquatic Plant Density, Whole Lake	Unobservable	3	3
W1226	Wedge Pond	2019	Color	Dark Tan	1	5
W1226	Wedge Pond	2019	Color	Light Green Tint	1	5
W1226	Wedge Pond	2019	Color	Light Yellow/Tan	3	5
W1226	Wedge Pond	2019	Duckweed Density, Whole Lake	None	1	3
W1226	Wedge Pond	2019	Duckweed Density, Whole Lake	Unobservable	2	3
W1226	Wedge Pond	2019	Objectionable Deposits	No	5	5
W1226	Wedge Pond	2019	Odor	None	5	5
W1226	Wedge Pond	2019	Scum	No	5	5
W1226	Wedge Pond	2019	Turbidity	None	2	5
W1226	Wedge Pond	2019	Turbidity	Slightly Turbid	3	5

**Primary Contact Recreation**

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Primary Contact Recreation Use for Wedge Pond (MA71045) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. The Alert for Secchi depth measurements is being removed based on the measurements recorded by MassDEP staff in 2019.

In Wedge Pond (MA71045), MassDEP collected Secchi data at W1226 [42.452894, -71.141585, deep hole, Winchester] in 2019. At station W1226 (station depth=5.4 m) the Secchi depth measurements ranged from 1.3-2.2 m (n=5) indicating water clarity meeting the 1.2 m (4 ft) threshold.

### Other Indicators

#### Summary Statement for 2011-2022 Cyanobacteria Cell Count and Cyanotoxin Data, and Secchi Depth Data

(MassDEP Undated 8) (MassDEP Undated 4)

Data Year(s)	Summary
2019	In Wedge Pond (MA71045), MassDEP collected Secchi data at W1226 [42.452894, -71.141585, deep hole, Winchester] in 2019. At station W1226 (station depth=5.4 m) the Secchi depth measurements ranged from 1.3-2.2 m (n=5) indicating water clarity meeting the 1.2 m (4 ft) threshold.

### Secondary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO

#### 2024/26 Use Attainment Summary

The Secondary Contact Recreation Use for Wedge Pond (MA71045) continues to be assessed as Not Supporting. The prior Harmful Algal Blooms impairment (from the Aesthetics Use) is being carried forward. Since the prior Alert identified for low Secchi depth (Transparency/Clarity) was redundantly duplicated across multiple uses for this waterbody, this Alert is being removed from the Secondary Contact Recreation Use and further discussion can be found under the Primary Contact Recreation Use.

MyRWA staff/volunteers collected historical *E. coli* bacteria samples in Wedge Pond (MA71045) at MyRWA\_HOBWEP [No description submitted by MYRWA] from 2007-2008 (n=1/yr). The historic *E. coli* data at MyRWA\_HOBWEP are too limited to assess according to the 2024 CALM. Note that samples exceeded the 794 CFU/100mL STV in 2007 (n=1).

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_HOBWEP	Mystic River Watershed Association	Water Quality	Horn Pond Brook	No description submitted by MyRWA	42.456660	-71.139240



## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_HOBWEP	Mystic River Watershed Association	E. coli	10/24/07	10/24/07	1	2318	2318	2318
MyRWA_HOBWEP	Mystic River Watershed Association	E. coli	06/25/08	06/25/08	1	533	533	532

#### Station MyRWA\_HOBWEP - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	2318
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Variable*	Result
Samples	1
SeasGM	533
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

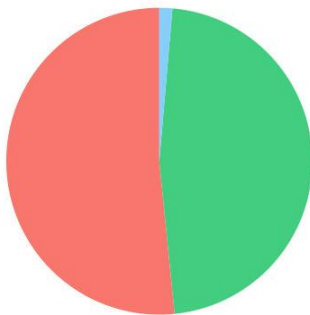
\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances; %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV; "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Winn Brook (MA71-09)

<b>Location:</b>	Headwaters near Juniper Road and the Belmont Hill School, Belmont to confluence with Little Pond, Belmont (portions culverted underground).
<b>AU Type:</b>	RIVER
<b>AU Size:</b>	1.4 MILES
<b>Classification/Qualifier:</b>	B

### Winn Brook (MA71-09)

Watershed Area: 1.39 square miles



Land Cover Type	Entire Basin	Proximal Subbasin (5 km radius)	Stream Buffer (100 m)	Proximal Stream Buffer
Land Cover Area (square miles)	1.39	1.39	0.23	0.23
Agriculture	0%	0%	0%	0%
Developed	51.6%	51.6%	46.8%	46.8%
Natural	47%	47%	51.9%	51.9%
Wetland	1.4%	1.4%	1.2%	1.2%
Impervious	34.8%	34.8%	29.9%	29.9%

AU Category 2022	AU Category 2024/26	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Physical Substrate Habitat Alterations*)	--	Unchanged
4a	4a	Escherichia Coli (E. Coli)	R1_MA_2019_01	Unchanged

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
(Physical Substrate Habitat Alterations*)	Habitat Modification - other than Hydromodification (Y)	X	--	--	--	--
Escherichia Coli (E. Coli)	Discharges from Municipal Separate Storm Sewer Systems (MS4) (N)	--	--	--	X	X

Impairment	Source (Confirmed Y/N)	ALU	FC	AES	PCR	SCR
Escherichia Coli (E. Coli)	Source Unknown (N)	--	--	--	X	X

## Designated Use Attainment Decisions

### Fish Consumption

2024/26 Use Attainment	Alert
Not Assessed	No
2024/26 Use Attainment Summary	
Fish toxics sampling has not been conducted in Winn Brook (MA71-09), so the Fish Consumption Use is Not Assessed.	

### Aesthetic

2024/26 Use Attainment	Alert
Not Assessed	NO
2024/26 Use Attainment Summary	
No aesthetics observation data are available, so the Aesthetics Use for Winn Brook (MA71-09) is Not Assessed.	

### Primary Contact Recreation

2024/26 Use Attainment	Alert
Not Supporting	NO
2024/26 Use Attainment Summary	

The Primary Contact Recreation Use for Winn Brook (MA71-09) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA\_WIB001.

MyRWA staff/volunteers collected *E. coli* bacteria samples at the downstream end of Winn Brook (MA71-09) at MyRWA\_WIB001 [Winn's Brook at Little Pond in Belmont; outlet from Pond, downstream side of the bridge; sample from the top of concrete structure] from 2011-2019 (n=6-7/yr). Analysis of the recent five years (2015-2019) of this multi-year moderate frequency *E. coli* dataset indicated that in all 5 sufficient data years >20% of the intervals had GMs >126 CFU/100mL (80-100%), all 5 years had ≥2 samples exceed the 410 CFU/100mL STV (n=2-7), and cumulatively across years 96% of intervals had GMs >126 CFU/100mL. *E. coli* data from MyRWA\_WIB001 are indicative of an Escherichia Coli (E. Coli) impairment.

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_WIB001	Mystic River Watershed Association	Water Quality	Winns Brook	Winn's Brook at Little Pond in Belmont; outlet from Pond, downstream side of the bridge; sample from the top of concrete structure	42.399400	-71.161090

### Bacteria Data

#### Bacteria Data Collected by MassDEP (2011-2020) and External Data Providers (2011-2022) (90-day Interval Analysis)

(MyRWA 2019) (MassDEP Undated 2)

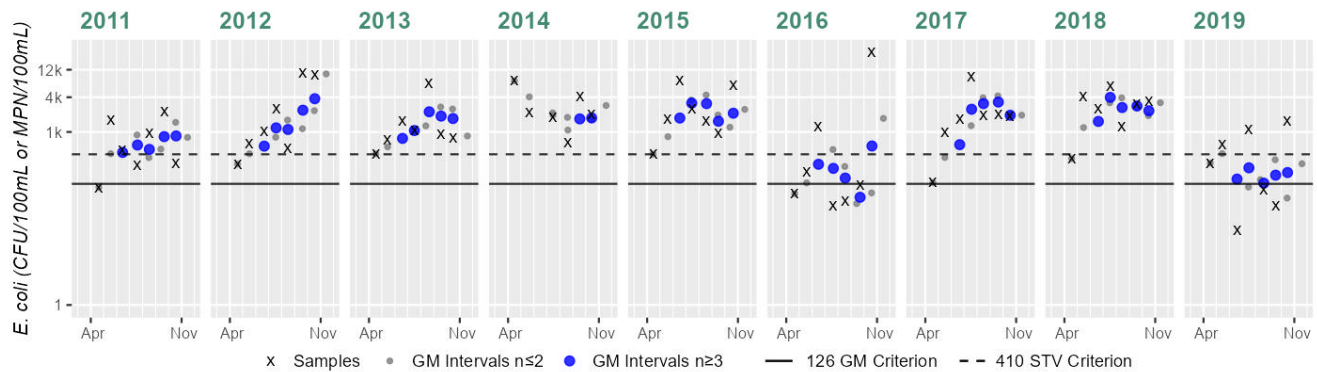
[Result units are CFU/100mL or MPN/100mL]

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/20/11	10/19/11	7	109	2250	544
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/18/12	10/17/12	7	278	10500	1576
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/17/13	10/16/13	7	419	6870	1137
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/16/14	10/15/14	6	650	7700	2326
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/15/15	10/21/15	7	413	7700	1990
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/20/16	10/19/16	7	52	24200	296

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/19/17	10/18/17	7	132	9210	1470
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/18/18	10/17/18	7	345	6130	2227
MyRWA_WIB001	Mystic River Watershed Association	E. coli	04/17/19	10/16/19	7	20	1520	226

### Station MyRWA\_WIB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Primary Contact Recreation Season



Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result	Variable*	Result
Samples	7	Samples	7	Samples	7	Samples	6	Samples	7	Samples	7	Samples	7	Samples	7	Samples	7	Samples	7
SeasGM	544	SeasGM	1576	SeasGM	1137	SeasGM	2326	SeasGM	1990	SeasGM	296	SeasGM	1470	SeasGM	2227	SeasGM	226	SeasGM	226
#GMI	5	#GMI	5	#GMI	5	#GMI	2	#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	5	#GMI	5
#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	2	#GMI Ex	5	#GMI Ex	4	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5	#GMI Ex	5
%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	80%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%	%GMI Ex	100%
n>STV	4	n>STV	6	n>STV	7	n>STV	6	n>STV	7	n>STV	2	n>STV	6	n>STV	6	n>STV	6	n>STV	3
%n>STV	57%	%n>STV	85%	%n>STV	100%	%n>STV	100%	%n>STV	100%	%n>STV	28%	%n>STV	85%	%n>STV	85%	%n>STV	85%	%n>STV	42%

Cumulative %GMI Exceedance  
Current (2011-2022)  
97%

Cumulative %GMI Exceedance  
Current (Recent 5 Years)  
96%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Secondary Contact Recreation

<b>2024/26 Use Attainment</b>	<b>Alert</b>
Not Supporting	NO
<b>2024/26 Use Attainment Summary</b>	

The Secondary Contact Recreation Use for Winn Brook (MA71-09) continues to be assessed as Not Supporting. The prior Escherichia Coli (E. Coli) impairment is being carried forward based on bacteria data not meeting the threshold at MyRWA\_WIB001.

MyRWA staff/volunteers collected *E. coli* bacteria samples in the current IR window (2011-2022) in Winn Brook (MA71-09) from 2011-2019 at 2 stations. Samples were collected from the following stations/sample years from upstream to downstream: in the middle of the AU at MyRWA\_WIB009 [No description submitted by MyRWA] in Dec 2011 (current n=1) and at the downstream end of the AU at MyRWA\_WIB001 [Winn's Brook at Little Pond in Belmont; outlet from Pond, downstream side of the bridge; sample from the top of concrete structure] from 2011-2019 (current n=10-12/yr). The available *E. coli* data at MyRWA\_WIB009 are too limited to assess according to the 2024 CALM. Analysis of the recent five years (2015-2019) of the multi-year moderate frequency *E. coli* dataset from MyRWA\_WIB001 indicated that in all 5 sufficient data years >20% of the intervals had GMs >244 CFU/100mL (44-100%), all 5 years had ≥2 samples exceed the 794 CFU/100mL STV (n=3-9), and cumulatively across years 80% of intervals had GMs >244 CFU/100mL. *E. coli* data from MyRWA\_WIB001 are indicative of an Escherichia Coli (E. Coli) impairment.

MyRWA staff/volunteers also collected *E. coli* bacteria samples in the historic IR window (1997-2010) in Winn Brook (MA71-09) from 2006-2010 at 7 stations. Samples were collected from the following stations/sample years from upstream to downstream: MyRWA\_WIB018 [No description submitted by MyRWA] in Mar 2006 (n=1), MyRWA\_WIB015 [No description submitted by MyRWA] in Jul 2009 (n=1), MyRWA\_WIB013 [No description submitted by MyRWA] in 2006 and 2009 (n=1/yr), MyRWA\_WIB012 [No description submitted by MyRWA] in 2006 and 2009 (n=1/yr), MyRWA\_WIB009 [No description submitted by MyRWA] in Mar 2006 (historic n=1), MyRWA\_WIB005 [No description submitted by MyRWA] in Mar 2006 (n=1), and MyRWA\_WIB001 [Winn's Brook at Little Pond in Belmont; outlet from Pond, downstream side of the bridge; sample from the top of concrete structure] in 2006 and 2008 (historic n=2-12/yr). These data were either similarly indicative of poor water quality (WIB001) or did not have sufficient data to be evaluated according to the 2024 CALM (all the other upstream stations).

### Monitoring Stations

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_WIB001	Mystic River Watershed Association	Water Quality	Winns Brook	Winn's Brook at Little Pond in Belmont; outlet from Pond, downstream side of the bridge; sample from the top of concrete structure	42.399400	-71.161090
MyRWA_WIB005	Mystic River Watershed Association	Water Quality	Winns Brook	No description submitted by MyRWA	42.398253	-71.166769
MyRWA_WIB009	Mystic River Watershed Association	Water Quality	Winns Brook	No description submitted by MyRWA	42.399078	-71.173158
MyRWA_WIB012	Mystic River Watershed Association	Water Quality	Winns Brook	No description submitted by MyRWA	42.401678	-71.175083

Station Code	Organization	Type	Water Body	Station Description	Latitude	Longitude
MyRWA_WIB013	Mystic River Watershed Association	Water Quality	Winns Brook	No description submitted by MyRWA	42.401758	-71.176783
MyRWA_WIB015	Mystic River Watershed Association	Water Quality	Winns Brook	No description submitted by MyRWA	42.401850	-71.179725
MyRWA_WIB018	Mystic River Watershed Association	Water Quality	Winns Brook	No description submitted by MyRWA	42.403261	-71.181775

## Bacteria Data

### Bacteria Data Collected by MassDEP (1997-2020) and External Data Providers (1997-2022) (90-day Interval Analysis)

(MyRWA 2019) (MassDEP Undated 1)

[Result units are CFU/100mL or MPN/100mL]

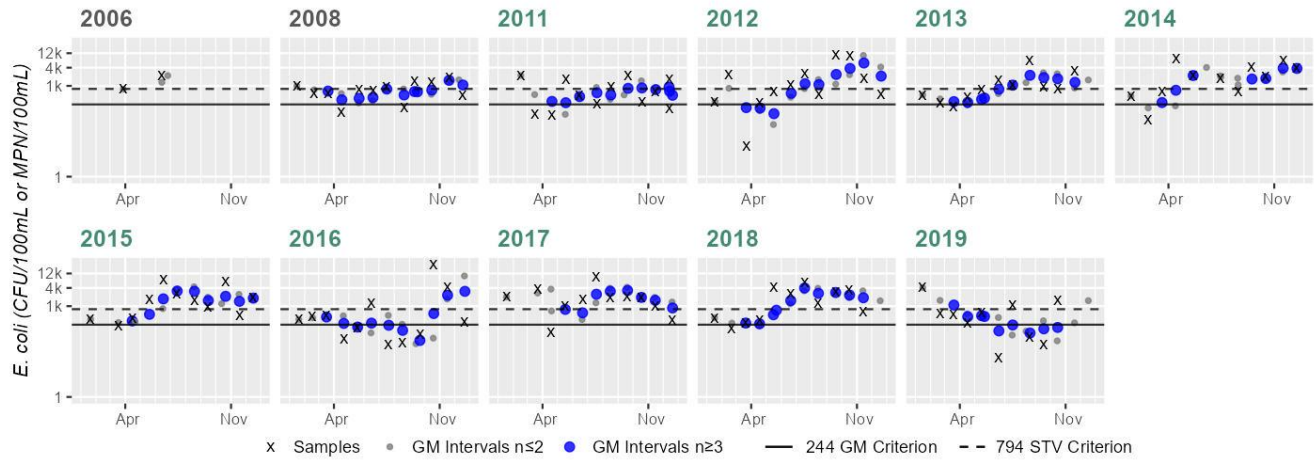
Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_WIB001	Mystic River Watershed Association	E. coli	03/28/06	06/14/06	2	780	2187	1306
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/16/08	12/17/08	12	135	1860	659
MyRWA_WIB001	Mystic River Watershed Association	E. coli	02/16/11	12/14/11	12	109	2250	548
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/18/12	12/19/12	12	10	10500	858
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/16/13	11/20/13	11	201	6870	867
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/15/14	12/17/14	11	74	7700	1510
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/21/15	12/16/15	11	226	7700	1231
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/20/16	12/21/16	12	52	24200	406
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/18/17	12/20/17	11	132	9210	1392
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/17/18	11/14/18	11	185	6130	1128
MyRWA_WIB001	Mystic River Watershed Association	E. coli	01/16/19	10/16/19	10	20	4110	362

Station Code	Organization	Indicator	Start Date	End Date	Sample Count	Minimum Sample Result	Maximum Sample Result	Seasonal Geometric Mean
MyRWA_WIB005	Mystic River Watershed Association	E. coli	03/28/06	03/28/06	1	2069	2069	2068
MyRWA_WIB009	Mystic River Watershed Association	E. coli	03/28/06	03/28/06	1	97	97	97
MyRWA_WIB009	Mystic River Watershed Association	E. coli	12/13/11	12/13/11	1	34	34	34
MyRWA_WIB012	Mystic River Watershed Association	E. coli	03/28/06	03/28/06	1	21	21	21
MyRWA_WIB012	Mystic River Watershed Association	E. coli	07/29/09	07/29/09	1	104	104	103
MyRWA_WIB013	Mystic River Watershed Association	E. coli	03/28/06	03/28/06	1	16	16	15
MyRWA_WIB013	Mystic River Watershed Association	E. coli	07/29/09	07/29/09	1	102	102	101
MyRWA_WIB015	Mystic River Watershed Association	E. coli	07/29/09	07/29/09	1	95	95	95
MyRWA_WIB018	Mystic River Watershed Association	E. coli	03/28/06	03/28/06	1	236	236	236



# Station MyRWA\_WIB001 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	2
SeasGM	1306
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	50%

Variable*	Result
Samples	12
SeasGM	659
#GMI	11
#GMI Ex	11
%GMI Ex	100%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	12
SeasGM	548
#GMI	12
#GMI Ex	12
%GMI Ex	100%
n>STV	5
%n>STV	41%

Variable*	Result
Samples	12
SeasGM	858
#GMI	10
#GMI Ex	7
%GMI Ex	70%
n>STV	6
%n>STV	50%

Variable*	Result
Samples	11
SeasGM	867
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	6
%n>STV	54%

Variable*	Result
Samples	11
SeasGM	1510
#GMI	7
#GMI Ex	7
%GMI Ex	100%
n>STV	7
%n>STV	63%

Variable*	Result
Samples	11
SeasGM	1231
#GMI	9
#GMI Ex	9
%GMI Ex	100%
n>STV	7
%n>STV	63%

Variable*	Result
Samples	12
SeasGM	406
#GMI	10
#GMI Ex	6
%GMI Ex	60%
n>STV	3
%n>STV	25%

Variable*	Result
Samples	11
SeasGM	1392
#GMI	8
#GMI Ex	8
%GMI Ex	100%
n>STV	9
%n>STV	81%

Variable*	Result
Samples	11
SeasGM	1128
#GMI	10
#GMI Ex	10
%GMI Ex	100%
n>STV	6
%n>STV	54%

Variable*	Result
Samples	10
SeasGM	362
#GMI	9
#GMI Ex	4
%GMI Ex	44%
n>STV	3
%n>STV	30%

Cumulative %GMI Exceedance  
 Historic (1997-2010)  
 100%

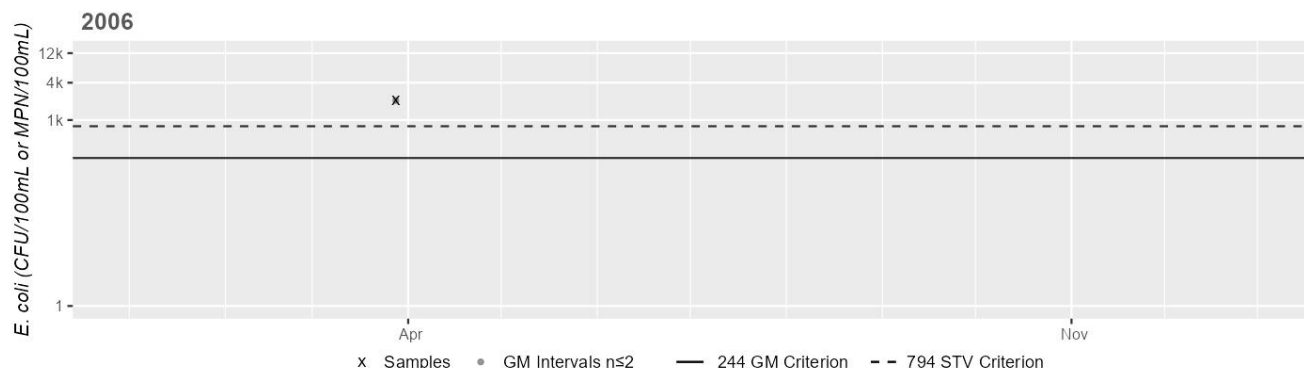
Cumulative %GMI Exceedance  
 Current (2011-2022)  
 85%

Cumulative %GMI Exceedance  
 Current (Recent 5 Years)  
 80%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WIB005 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



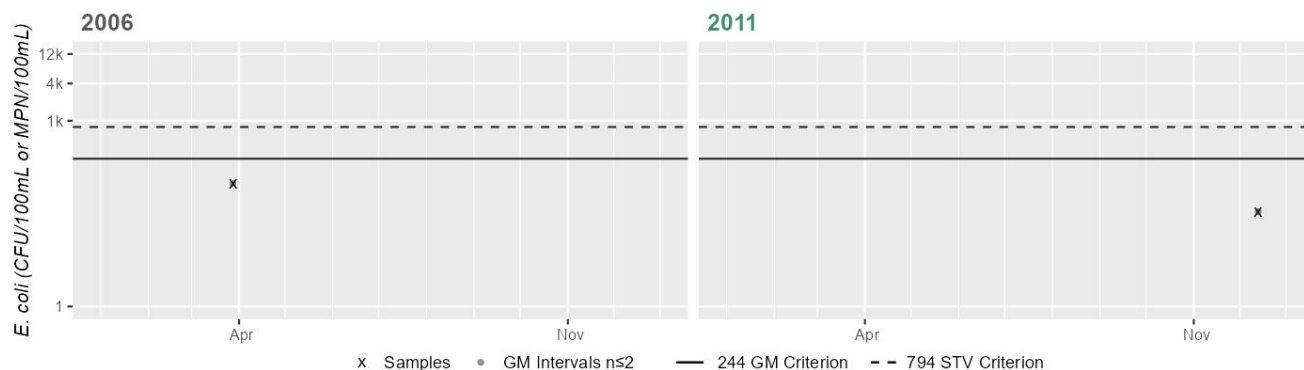
Variable*	Result
Samples	1
SeasGM	2069
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	1
%n>STV	100%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WIB009 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	97
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Historic (1997-2010)  
0%

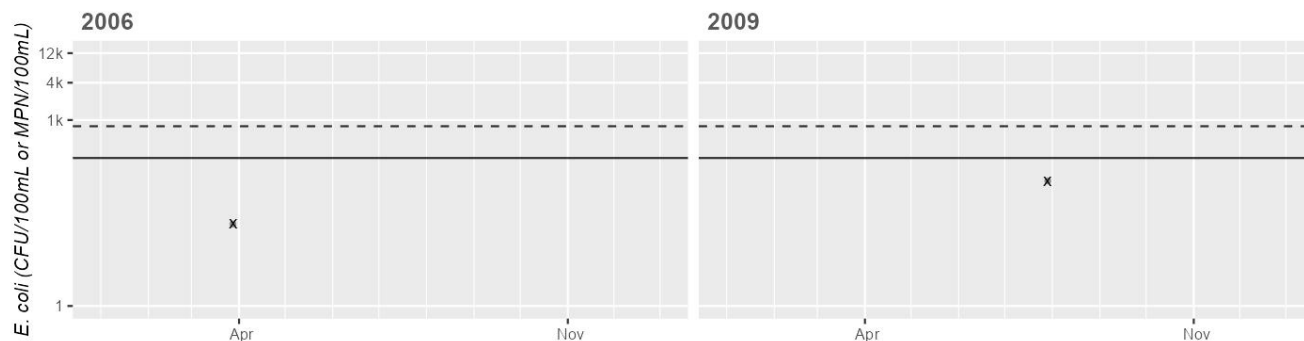
Variable*	Result
Samples	1
SeasGM	34
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance  
Current (2011-2022)  
0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
%GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
"Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WIB012 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result
Samples	1	Samples	1
SeasGM	21	SeasGM	104
#GMI	0	#GMI	0
#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	0%
n>STV	0	n>STV	0
%n>STV	0%	%n>STV	0%

Cumulative %GMI Exceedance

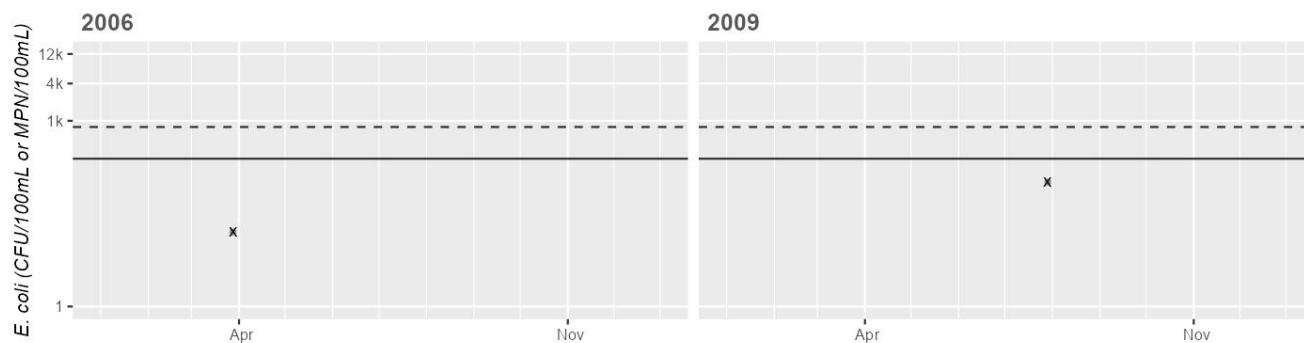
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WIB013 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result	Variable*	Result
Samples	1	Samples	1
SeasGM	16	SeasGM	102
#GMI	0	#GMI	0
#GMI Ex	0	#GMI Ex	0
%GMI Ex	0%	%GMI Ex	0%
n>STV	0	n>STV	0
%n>STV	0%	%n>STV	0%

Cumulative %GMI Exceedance

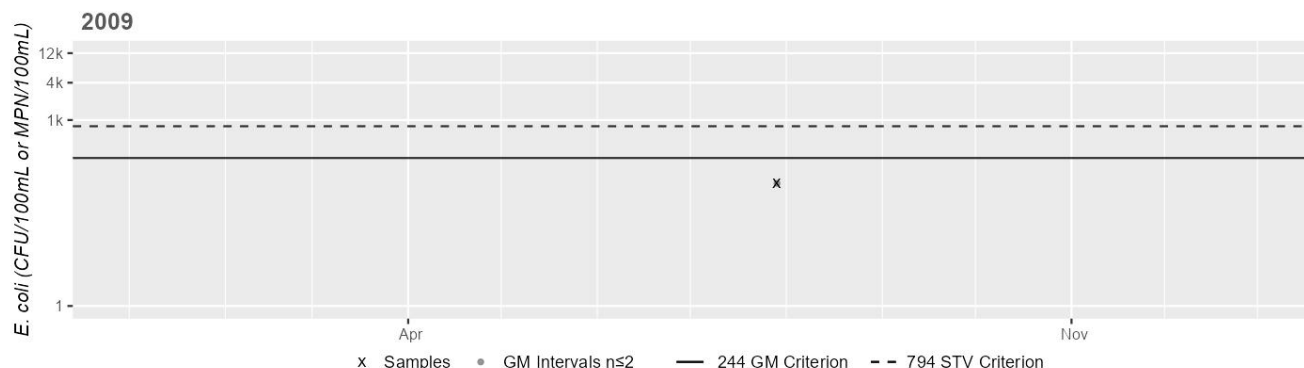
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WIB015 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	95
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

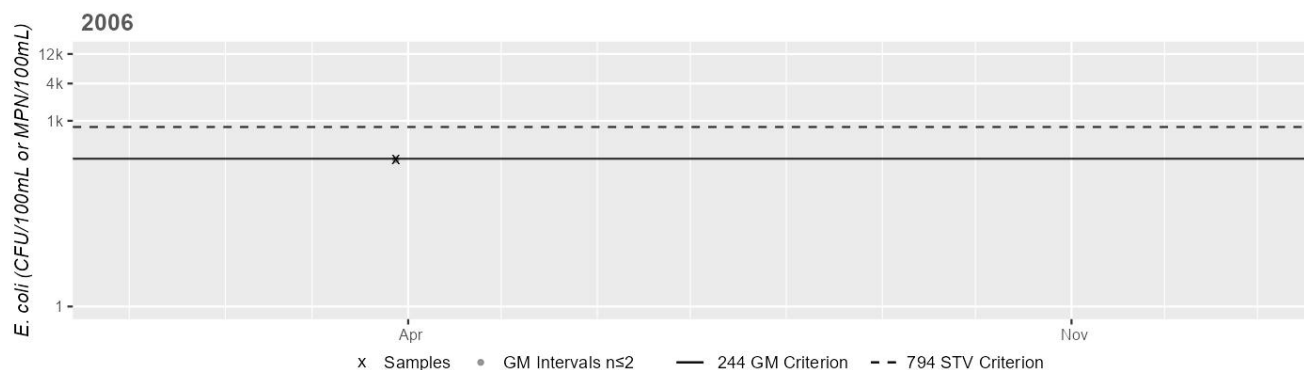
Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

### Station MyRWA\_WIB018 - Escherichia coli

Daily Maximum Samples & 90 Day Geometric Means within the Secondary Contact Recreation Season



Variable*	Result
Samples	1
SeasGM	236
#GMI	0
#GMI Ex	0
%GMI Ex	0%
n>STV	0
%n>STV	0%

Cumulative %GMI Exceedance

Historic (1997-2010)

0%

\*Samples = # of samples; SeasGM = Seasonal Geometric Mean (GM); #GMI = # of GM Intervals; #GMI Ex = # of GMI Exceedances;  
 %GMI Ex = % GMI Exceedances; n>STV = # of samples > Statistical Threshold Value (STV); %n > STV = % of samples > STV;  
 "Recent 5 Years" may not be consecutive as the analysis excludes years without GMI meeting the minimum sample size.

## Winter Pond (MA71047)

<b>Location:</b>	Winchester.
<b>AU Type:</b>	FRESHWATER LAKE
<b>AU Size:</b>	19 ACRES
<b>Classification/Qualifier:</b>	B

No usable data were available for Winter Pond (MA71047) for the 2024/26 Integrated Reporting cycle, therefore its category, use attainments, impairments, associated actions, and sources remain unchanged from the previous cycle.

<b>AU Category 2022</b>	<b>AU Category 2024/26</b>	<b>Impairment</b>	<b>ATTAINS Action ID</b>	<b>Impairment Change Summary</b>
5	5	(Non-Native Aquatic Plants*)	--	Unchanged
5	5	Nutrient/Eutrophication Biological Indicators	--	Unchanged

<b>Impairment</b>	<b>Source (Confirmed Y/N)</b>	<b>ALU</b>	<b>FC</b>	<b>AES</b>	<b>PCR</b>	<b>SCR</b>
(Non-Native Aquatic Plants*)	Introduction of Non-native Organisms (Accidental or Intentional) (Y)	X	--	--	--	--
Nutrient/Eutrophication Biological Indicators	Source Unknown (N)	X	--	X	X	X

## Data Sources

- Bailey, Logan. "DPH 2022 freshwater beach posting data provided to Laurie Kennedy and Dan Davis (MassDEP Watershed Planning Program) via Excel file (FreshwaterBeachPostings\_2022) attached to email (RE: DPH Beach Posting information update needed for 2024 IR)." Additional 2020-2022 freshwater/marine beach posting data downloaded from the Mass Environmental Public Health Tracker tool or EPA BEACON tool, respectively, Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, Sept. 10, 2023.
- Bailey, Logan. "Email providing Harmful Algal Bloom advisory data (2015-2022) in the attached spreadsheet "CyanoHAB\_Advisories.csv"." Email to Dan Davis and Laurie Kennedy (MassDEP Watershed Planning Program) with subject line "RE: DPH Beach Posting information update needed for 2024 IR", Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, April 26, 2023.
- Bailey, Logan. "RE: Beaches Bill reporting data." Email to Dan Davis (MassDEP Watershed Planning Program) providing an Excel file (DEP\_BeachDataRequest) with 2014-2019 data for marine and DCR freshwater beaches, Environmental Toxicology Program, Bureau of Environmental Health, Massachusetts Department of Public Health, Boston, MA, Feb. 2, 2021.
- Google Earth Pro. "Satellite Imagery of selected stream and lake/pond segments." Massachusetts, Undated.
- MA DPH. "Freshwater Fish Consumption Advisory List." Bureau of Climate and Environmental Health, Massachusetts Department of Public Health. January 2025.  
<https://www.mass.gov/doc/public-health-freshwater-fish-consumption-advisories-2025-0/download> (accessed January 2025).
- MassDEP. "2015 Scanned Project Files, "BH-Mystic WQ survey data, 2009," D28-04.pdf." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, 2009.
- MassDEP. "Open file analysis of external water quality data (potential date range 1997-2022) using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 1.

MassDEP. "Open file analysis of external water quality data (potential date range 2011-2022) using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 2.

MassDEP. "Open file analysis of MassDEP WPP water quality data collected between 1997 and 2020 using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 3.

MassDEP. "Open file analysis of MassDEP WPP water quality data collected between 2011 and 2020 using 2024 CALM guidance." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 4.

MassDEP. "Open file analysis of shellfish growing area classifications using 2024 CALM guidance." Data published June 2024 and available on MassGIS website, Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 5.

MassDEP. "Open files of fish toxicity testing data, metadata, and GIS datalayers in development." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 6.

MassDEP. "Open files of repository documents for the 2016 Integrated Report cycle." Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 7.

MassDEP. "Open files of unpublished, validated water quality monitoring data, field sheet data, and GIS datalayers in development." Watershed Planning Program, Massachusetts Department of Environmental Protection, Worcester, MA, Undated 8.

MassGIS. "MassGIS Data: Designated Shellfish Growing Areas, Data provided by Massachusetts Department of Fish and Game's Division of Marine Fisheries." Bureau of Geographic Information, Boston, MA. June 2024. <https://www.mass.gov/info-details/massgis-data-designated-shellfish-growing-areas> (accessed July 2024).

Murphy, Jennifer. "RE: Checking in on Wedge Pond." Email to Jennifer Sheppard (MassDEP Watershed Planning Program) regarding the status of harmful algal blooms in Wedge Pond, Director of Public Health, Winchester Health Department, Winchester, MA, January 31, 2025.

MWRA. "Bacteria data from Boston Harbor and tributary rivers 2011-2022." Massachusetts Water Resources Authority. 2024. <https://www.mwra.com/our-environment/download-environmental-data> (accessed Sept 11, 2024).

- . "Environmental Data from Boston Harbor and Tributary Rivers 2011-2022." Massachusetts Water Resources Authority. 2025. <https://www.mwra.com/harbor/download-environmental-data> (accessed January 2025).
- MyRWA. "2011-2019 bacteria data submitted to MassDEP WPP portal on 12/31/2019." Mystic River Watershed Association, Arlington, MA, 2019.
- O'Brien, Katie, Mollie Weinstein, and Richard McVoy. "Boston Harbor 1999 Water Quality Assessment Report." CN 49.0, Division of Watershed Management, Massachusetts Department of Environmental Protection, Worcester, MA, 2002.
- USGS. "USGS 2011-2022 bacteria data downloaded from WQX 10/21/2024." United States Geological Survey, 2024.